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PAKISTAN POPULATION SITUATION ANALYSIS

2020

UNFPA

Government of Canada

PAKISTAN POPULATION SITUATION ANALYSIS

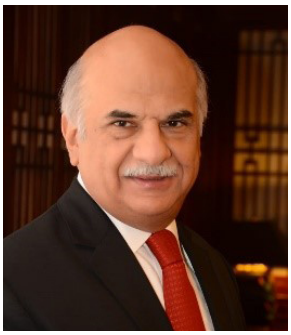
2020

CONTENTS

LIST OF TABLES

LIST OF FIGURES

FOREWORD



Population directly affects the entire gradient of development sector. Despite some progress in last few years, the Government of Pakistan's serious efforts stand undermined due to the sheer size of the population we are trying to serve. Addressing population issue is the single most important and cost-effective strategy to alleviate poverty.

We have a time-limited opportunity here. Today Pakistan is hosting the largest population of young people ever recorded in its history. This two thirds of the population under the age of 30 has the potential to spur economic growth, enabling the state to meaningfully education, employ and engage youth. However, it is critical that we capitalize on this demographic dividend and reap the economic gains accruing from it. This entails reducing fertility rates and engage maturing young populations before this boom generation reaches non-working age. Reduced fertility rate will alter the proportion of working age to dependent population, changing the structure of economic activity. In order to be able to do this, we needed much richer insights into our population dynamics.

The Ministry of Planning, Development and Special Initiatives, Government of Pakistan in collaboration with UNFPA undertook this Population Situation Analysis (PSA) to establish the latest evidence around population dynamics in Pakistan's context. Capturing this information, its implications and decision considerations for reproductive health, youth, gender, climate change and socioeconomic parameters is imperative, for responsive policy formulation and implementation for sustainable development.

The Government of Pakistan strongly realizes that as time goes by, we are plunging deeper into complex intersecting puddles of climate change securitization, sustainable development and population control. Planning for population is no longer the agenda of a single ministry or department, but an intersectoral and integrated priority exacting co-created consensual solutions. This is critical to advance Pakistan's progress towards FP2030 goals for a stronger nation.

It is also under this premise that federal and provincial task forces have been established under the chairmanship of the President and the provincial Chief Ministers' respectively, and population planning highlighted as a top priority. Population planning to benefit from demographic dividend needs a focused effort by all, governments, private sector, academicians, researchers, educators and people. This PSA is helping us set a policy environment needed to benefit economically from the transition to lower fertility rates and create conditions for robust economic growth.

On behalf of the Government of Pakistan, I take this opportunity to thank our development partners particularly UNFPA and Global Affairs Canada for their financial and technical support for the PSA. We are also deeply appreciative of all the efforts that have been invested in putting together the PSA report, and all the experts who have richly contributed to this.

It is hoped that the PSA contributes to design and implementation of effective, responsive and informed policies, ensuring that Pakistan reaps timely outcomes like sustainable development through its demographic dividend.

MOHAMMAD JEHANZEB KHAN

Deputy Chairman, Planning Commission

FOREWORD

The Population Situation Analysis (PSA) report is an outcome of the active collaboration between the United Nations Population Fund (UNFPA) and the government of Islamic Republic of Pakistan. UNFPA's collaboration with the Government of Pakistan is based on national development priorities and strategies in line with the Plan of Action of the ICPD and SDGs framework.

The main objective of this joint effort was to assess the demographic, population and reproductive health dynamics including opportunities and challenges and their linkages and impacts on poverty, socio-economic inequality as well as the human development.

The report outlines key recommendations on how Pakistan can adopt long-term policies and programmes to speed-up the demographic transition in order to improve socioeconomic conditions and to harness the benefit from the demographic dividend. It will contribute to more efficient and evidence-based programming to achieve the national development goals. It is also an important undertaking to enhance domestic capacity in evidence generation/data for development to inform policy and programme, advocacy; and programme support to reproductive health, including family planning services, youth development and gender equality, focusing on prevention and protection against gender based violence. Most importantly, the report will provide comprehensive evidence on the importance of integration of population dimensions into socioeconomic development plans to achieve balanced population growth and to gain full benefits from the once in a lifetime demographic window of opportunity.

It is very encouraging that the Government of Pakistan is taking progressive policy and programme actions recognizing the significant effect of population dynamics on the country's socioeconomic and human development. The remarkable achievements since last two years including a historic National Symposium on Population in December 2018 under the leadership of H.E. the Prime Minister of Pakistan, adoption of compressive sets of recommendations by the Council of Common Interest (CCI) on population dynamics and population growth, establishment of the Federal Task force under the chairmanship of His Excellency the President of Pakistan, provincial Task Forces under the chairmanship of the respective provincial Chief Minsters, endorsement of the new National Narrative on Population, establishment of the Parliamentary Forum for Population and the ICPD25 national commitment show the high-level political commitment to population and development agenda in the country.

It is important to note that Pakistani's level of economic wellbeing is very closely related to differences in population dynamics showing high fertility level and alarming annual population growth rates. To this end, the country should adopt long-term vigorous policies to speed-up the demographic transition, which will gradually have the potential of creating positive effect on socioeconomic conditions and allow Pakistan to fully benefit from the demographic dividend. Expanding right-based quality RH/FP programmes, leading to reduced fertility for various domains, would be contributing, among other things, in tackling the obstacle to more rapid economic and human development. Pakistan need to adopt a fully integrated national population policy with a multi-sectoral approach in addressing the high population growth issue. It should be incorporated within comprehensive socioeconomic development plans to ensure that all are working in harmony to reach the planned goals. Lack of coordination in designing and implementing population policy and socioeconomic development plan with its broader framework, may fail to provide the highly important desired results.

This integration would allow reducing population growth and gain full benefits of the demographic dividend through adopting development strategies that enhance overall quality health services, and specifically reducing infant and child mortality to lessen concern about child survival, raise education opportunities, especially for girls, and ease the pressure on the education system at various levels to allow clear focus on quality aspects. Moreover, expand employment generation in well-paying jobs, which is directly related to GDP growth, to absorb about two million young people annually entering the labour force in Pakistan. Encourage girls, with rising educational levels, to enter the workforce, thus contributing to various efforts for women empowerment. According to a 2018 IMF estimate, Pakistan's GDP could increase by 30% if women were able to participate freely in the labour force.

I would like to thank the local and international team that was involved in drafting the report for their time and commitment under the leadership of Prof. Hussein Sayed. I am grateful to the Planning Commission, Ministry of Planning, Development and Special Initiatives, especially Honorable Deputy Chairman Mr. Muhammad Jehanzeb Khan and Dr. Shabnum Sarfraz, Member Social Sector for their valuable contributions and steadfast technical guidance throughout the PSA process. I am also grateful to our development partners especially Global Affairs Canada for their financial support, and all other stakeholders and experts who provided inputs. I urge all stakeholders to enhance their support to the Government of Pakistan in implementing the PSA recommendations.

LINA MAHMOUD MOUSA

UNFPA Country Representative

ACKNOWLEDGMENTS

The PSA final report is the outcome of an intensive collaborative work among a highly dedicated professional group of experts and a thorough well-planned consultative process with stakeholders at the successive stages of developing the report, to ensure that all inter-related topics are well covered. The successful realization of such objectives was made possible through the positive contribution and feedback provided by many persons, notwithstanding the special circumstances resulting from the prevailing COVID-19 pandemic and its impact on the modalities of work.

Sincere gratitude goes to the PSA team for their hard work, commitment, and devotion to produce an evidence-based policy document. The team included Prof. Hussein Sayed, lead international consultant, Prof. Gavin Jones, international consultant, Dr. Sajid Amin Javed, national consultant, Dr. Ayesha Khan, MPH, national consultant, Dr. Ghulam Muhammad Arif, national consultant, Dr. Ali Tauqeer Sheikh, national consultant, Mr. Muhammad Ali Raza, national consultant, Dr. Iqbal Shah, Department of Global Health and Population, Harvard University, and, Prof. David Canning, Department of Global Health and Population, Harvard University.

The instrumental role of the Ministry of Planning, Development & Special Initiatives is appreciated for their continuous technical guidance, support, and advice throughout the process. Specifically, we are grateful to Mr. Muhammad Jehanzeb Khan, Deputy Chairman, Planning Commission for his consistent support and Dr. Shubnam Sarfraz, Member Social Sector & Devolution for her commitment in following up the process as well as her technical feedback on the inception report and summary report. Helpful comments by Mr. Qamar Abbas, Chief, Population Section and Mrs. Rizwana Siddique, Deputy Chief, Population & Social Planning Section, were also appreciated.

Valuable and objective comments by the participants to the virtual Consultative Workshop on Population Situation Analysis, are also acknowledged. The meeting was held on June 10, 2020 and was attended by over 50 stakeholders including representatives from concerned Federal & Provincial ministries & departments, development partners and individual experts on Population Situation Analysis. Moreover, further valuable comments received from participants in the presentation event on 9 December,2020, were especially useful in the finalization of the PSA report.

The work also benefited from the efficient contribution of the group of peer reviewers who enriched the report with their constructive comments. The list includes Dr. Durr-e-Nayab, Dr. Tauseef Ahmed, Dr. Shama Dossa, Dr. Khawar Mumtaz, Dr Saeed Shafqat, Dr. Naushin Mahmood, Dr. Rizwan-ul-Haq, Dr. Zeba Sathar, Dr. Mohammad Ali Mir, Dr. Nizamuddin, Dr. Bakhtior Kadirov, Mr. Yilma Alazar, Dr. Muhammad Asif Wazir, and Mr. Muqaddar Shah.

Finally, the work of the PSA team was assigned high-level support from the committed, and enthusiastic UNFPA/PSA team under the leadership of Ms. Lina Mousa, UNFPA Representative.

LIST OF ABBREVIATIONS

ACO	*Agricultural Census Organization*
ADB	*Asian Development Bank*
AJK	*Azad Jammu & Kashmir*
ANC	*Antenatal Care*
AOR	*Adjusted Odds Ratio*
AQLI	*Air Quality Life Index*
ARI	*Acute Respiratory Infection*
ART	*Antiretroviral Therapy*
ASRH	*Adolescent Sexual and Reproductive Health*
BCSW	*Balochistan Commission for the Status of Women*
BEOE	*Bureau of Emigration and Overseas Employment*
BHU	*Basic Health Unit*
BISP	*Benazir Income Support Program*
BMI	*Body Mass Index*
CAPI	*Computer Assisted Personal Interviewing*
CATI	*Computer Assisted Telephonic Interviewing*
CBD	*Convention on Biological Diversity*
CCI	*Council of Common Interest*
CCTs	*Conditional Cash Transfers*
CDR	*Crude Death Rate*
CEDAW	*Convention on the Elimination of All Forms of Discrimination Against Women*
CHW	*Community Health Worker*
CI	*Confidence Interval (95%)*
CIA	*Central Investigation Authority*
CMI	*Census of Manufacturing Industries*
CMW	*Community Midwives*
CNIC	*Computerized National Identity Card*
COVID	*Corona Virus Disease*
CPR	*Contraceptive Prevalence Rate*
CRVS	*Civil Registration and Vital Statistic*
CYP	*Couple-Year of Protection*
DAC	*Development Assistance Committee*
degrees C	*Degrees Centigrade*
DHIS	*District Health Information System*
DHS	*Demographic and Health Survey*
DoH	*Department of Health*
DoPW	*Department of Population Welfare*

DRA	*Drug Regulatory Authority*
EPA	*Environmental Protection Agency*
EPI	*Expanded Programme of Immunization*
FAO	*Food and Agriculture Organization*
FATA	*Federally Administered Tribal Areas*
FBR	*Federal Board of Revenue*
FBS	*Federal Bureau of Statistics*
FDI	*Foreign Direct Investment*
FFC	*Federal Flood commission*
FP	*Family Planning*
FTF	*Federal Task force*
FWW	*Family Welfare Worker*
FY	*Financial Year*
GB	*Gilgit- Baltistan*
GBV	*Gender Based Violence*
GCC	*Gender Crime Cell*
GCISC	*Global Center of International Change*
GDP	*Gross Domestic Product*
GHG	*Greenhouse Gas*
GIS	*Geographic Information System*
GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*
GLOFs	*Glacial Lake Outburst Flooding*
GOP	*Government of Pakistan*
HED	*Housing, Economic and Demographic Survey*
HIES	*Household Integrated Economic Survey*
HIV/AIDS	*HIV/AIDS - Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome*
HKH	*Hindu Kush, Karakorum and Himalayas*
HQ	*Headquarter*
ICPD	*International Conference on Population and Development*
ICT	*Islamabad Capital Territory*
IDP	*Internally Displaced Persons*
ILO	*International Labour Organization*
IMF	*International Monetary Fund*
IMNCI	*Integrated Management of Newborn and Childhood Illness*
IMR	*Infant Mortality Rate*
IOM	*International Organization for Migration*

IPCC	*Intergovernmental Panel on Climate Change*
IRSA	*Indus River System Authority*
IUCN	*International Union for Conservation of Nature*
IUD	*Intrauterine Device*
km	*Kilometers*
KP	*Khyber Pakhtunkhwa*
KPCSW	*Khyber Pakhtunkhwa Commission for the Status of Women*
LEAD	*Leadership for Environment and Development*
LFPR	*Labour Force Participation Rate*
LFS	*Labour Force Survey*
LHV	*Lady Health Visitor*
LHW	*Lady Health Worker*
LMIS	*Logistical Management Information System*
LULUCF	*Land-Use, Land-Use Change and Forestry*
mCPR	*Modern Contraceptive Prevalence Rate*
MDG	*Millennium Development Goals*
MFPs	*micro-finance providers*
MICS	*Multiple Indicator Cluster Survey*
MMR	*Maternal Mortality Ratio*
MNCH	*Maternal, Newborn and Child Health*
MOCC	*Ministry of Climate Change*
MOE	*Ministry of Environment*
MOPHRD	*Ministry of Overseas Pakistanis and Human Resource Development*
MOPW	*Ministry of Population Welfare*
MoWD	*Ministry of Women Development*
MPI	*Multidimensional Poverty Index*
MSS	*Marie Stopes Society*
MWRA	*Married Women of Reproductive Age*
NADRA	*National Database and Registration Authority*
NAP	*National Adaptation Plan*
NCCP	*National Climate Change Policy*
NCSW	*National Commission on the Status of Women*
NDCs	*Nationally Determined Contribution*
NDMA	*National Disaster Management Authority*
NFC	*National Finance Commission*
NGO	*Non-Government Organizations*
NHDR	*National Human Development Report*
NHSR&C	*National Health Services Regulations & Coordination*
NIO	*National Institute of Oceanography*
NIPS	*National Institute of Population Studies*
NPB	*National Police Bureau*

NSER	*National Socioeconomic Registry*
NSS	*National Statistical System*
NTF	*National Task Forces*
NWFP	*North Western Frontier Province*
ODA	*Official development assistance*
OPM	*Oxford Policy Management*
PAI	*Population Action International*
PBS	*Pakistan Bureau of Statistics*
PCO	*Population Census Organization*
PCRWR	*Pakistan Council for Research on Water Resources*
PCSW	*Punjab Commission for the Status of Women*
PCSW	*Provincial Commission on the Status of Women*
PDHS	*Pakistan Demographic and Health Survey*
PDMA	*Provincial Disaster Management Authority*
PDS	*Pakistan Demographic Survey*
PEPA	*Pakistan Environmental Protection Agency*
PES	*Post Enumeration Survey*
PKR	*Pakistan Rupee*
PMD	*Pakistan Meteorological Department*
PMDS	*Pakistan Medical and Dental Council*
PMMS	*Pakistan Maternal Mortality Survey*
PNC	*Postnatal Care*
PPC	*Pakistan Penal Code*
PPP	*Public Private Partnership*
PSA	*Population Situation Analysis*
PSDP	*Public Sector Development Programme*
PSLM	*Pakistan Social and Living Measurement Survey*
PTI	*Pakistan Tehreek –e-Insaaf*
PWA	*Protection of Women Act*
PWD	*Population Welfare Department*
RH	*Reproductive Health*
RMG	*Ready Made Garments*
RWS	*Report Writing Section*
SC	*Supreme Court*
SCSW	*Sindh Commission for the Status of Women*
SDGs	*Sustainable Development Goals*
SDNA	*Sindh Disaster Needs Assessment*
SRHR	*Sexual and Reproductive Health and Rights*
STIs	*Sexually Transmitted Infections*
SUN	*Scaling Up Nutrition*
TFR	*Total Fertility Rate*
TVET	*Technical and Vocational Education and Training*

UAE	*United Arab Emirates*
UIB	*Upper Indus Basin*
UIS	*UNESCO Institute of Statistics*
UK	*United Kingdom*
UN	*United Nations*
UN IGME	*United Nations Inter-Agency Group for Child Mortality Estimation*
UNAIDS	*Joint United Nations Programme on HIV/AIDS*
UNCCD	*United nation Convention to Combat Desertification*
UNCTAD	*United Nations Conference on Trade and Development*
UNDP	*United Nations Development Programme*
UNESCO	*United Nations Educational, Scientific and Cultural Organization*
UNFCC	*United nation Framework Convention on Climate Change*
UNFPA	*United Nations Population Fund*
UNICEF	*United Nations Children's Fund*
UNSD	*United Nations Statistics Division*
US$	*United States of America 'Dollar' currency*
USAID	*United States Agency for International Development*
WAF	*Women's Action Forum*
WASA	*Water and Sanitation Agency*
WB	*World Bank Group*
WESW	*Women's Economic and Social Well-being Survey*
WHO	*World Health Organization*
WMO	*World Meteorological Organization*
WSEW	*Women's Social and Economic Well-being Survey*

EXECUTIVE SUMMARY

The current assessment of the population situation in Pakistan points to the prevailing rapid population growth, amounting to 2.4 percent annually for the period (1998-2017) as was shown by the findings of the 2017 population census. The population of Pakistan increased six-fold during the period 1951-2017, from 34 million in 1951 to 208 million in 2017. This alarming trend is also expected to persist in the future; the United Nation's Population Division's medium projection shows that Pakistan's projected population will reach 263 million by 2030 and 383 million by 2050, i.e., an increase by about 84% during the 2017-2050 period, unless serious actions are undertaken to halt population growth and rationalize population dynamics.

This rapid population growth results from the delayed and slow decline of fertility at national and provincial levels. The Pakistan Demographic and Health Survey (PDHS, 2017-2018) documents the high level of fertility where on average a woman would have 3.6 children by the end of her reproductive period, a decline of about 1.3 children (27%) since 1990-1991. It also indicates that fertility levels differ by area of residence, region, and background characteristics (education and wealth). There is a difference of one child between urban and rural areas (2.9 children compared to 3.9 respectively), while by Provinces/regions, fertility levels range between 3.0 children per woman in ICT Islamabad and 4.8 children per woman in FATA. In between, fertility levels vary between 3.4 in Punjab, 3.6 in Sindh and 4.0 children per woman in KP and Balochistan. Childbearing begins at an early age: the percent of adolescents aged (15-19) who are mothers or pregnant with their first child amounts to 8% and increases to about 9% in rural areas.

The slow decline of fertility levels during the last one and a half decades delayed the onset of demographic transition, affected the age-structure of the country, and created the population momentum that in turn re-contributed to the high population growth rates. Universal marriage and low level of contraceptive prevalence are the major contributors to high fertility levels.

Overview of Pakistan's Population and Development & Political Landscape

Background

Population pressure remains one of the leading factors behind lower per capita income, poor health and education outcomes, higher unemployment, inequality and dwindling of common resources in poor countries. Consensus exists that improved economic outcomes-such as decent jobs and higher income- affect population outcomes through influencing individual choices, decisions, and attitudes. Changing population growth and structure in turn affect economic outcomes.

Pakistan's population policy, therefore, must be framed within the country's broader socioeconomic context. The desired economic policy outcomes, such as decent employment opportunities, improved income, and higher female labour force participation rate, influence population outcomes including contraception uptake and fertility decisions which consequently affect the overall population growth rate. Along with improved awareness, higher female labour force participation in quality jobs can increase the opportunity cost of having a child which, in turn, may lower the fertility rate.

Trends in economy, poverty, and human development

Economic growth in Pakistan is mainly financed by consumption. It is not creating enough employment opportunities for middle and higher skills. A middle class is emerging, but a narrow stratum of elite families maintains extremely disproportionate control over the nation's wealth and has frustrated efforts to bring reform. A large peasant class subject to control by landlords is a persistent feature of Pakistan's class divide. Pakistan has a high prevalence of social exclusion, which differs by gender, age, and region. Being aged, a woman and living in Balochistan or Khyber Pakhtunkhwa increases the severity of exclusion. Broadly speaking, social exclusion seems to be rooted in cultural aspects and is reflected in the

economic disparities. The political system seems to be struggling to address these subtle disparities and variations.

The status of women in Pakistani society remains a challenging issue and the country ranks near the bottom of the world's countries on indicators such as women's health and survival, women's educational attainment and equal economic participation and opportunity. Although the female labour force participation rate in Pakistan has increased from 13.7 per cent in 1990 to 20.3 per cent in 2020, the rate of growth was very slow. The country has the lowest female labour force participation in the region.

Despite that fact that Pakistan ranks lowest amongst the comparator countries in its human development index and human capital index, and has far lower school enrolment rates, it continues to spend very little on education and health. The country has one of the highest malnutrition, undernourishment, and childhood stunting levels in the world. Women and children are particularly affected by malnutrition and only 15 per cent of children consume a minimally acceptable diet. Compared to India, Bangladesh and Sri Lanka, Pakistan has the highest percentage of population experiencing dietary energy consumption poverty. In 2019, 24 per cent of Pakistan's population had insufficient food intake to meet dietary energy requirements.

Structural inequalities affect population outcomes. Being poor, unemployed, or living in rural areas of deprived and backward regions is associated with lower contraceptive uptake and a higher fertility rate. Pakistan had a human inequality coefficient of 30 for the year 2010, which was almost unchanged at 30.2 in 2018. In contrast, India, Bangladesh and Sri Lanka have improved dramatically and in 2018 had lowered their inequality coefficients to 16.8, 23.6, and 11.8, respectively.

The debate on inequality and poverty in Pakistan suffers a fundamental error. In focusing only on inequalities of outcome such as income inequality, the debate ignores the processes and factors which shape and produce these inequalities and poverty. Pakistan must focus on structural inequalities of access to health, education and employment opportunities. Inequitable distribution of these opportunities not only results in income inequality but affects household decision making and ability to afford maternal and child health care. In other words, structural inequalities shape the demographic transition and convergence, and should be a key focus of population policy.

Despite a slowdown in its spread, COVID-19 continues to impact all aspects of life in Pakistan. GDP growth, which turned -.04 percent in 2019-20, is expected to remain the lowest in South Asia in 2020-21. According to the Pakistan Economic Survey 2019-20, millions of workers are likely to lose their jobs because of COVID-19 related effects.

Population and development guiding principles, strategies, and priorities

The Government has increased its focus on lowering population growth and balancing it with resources. As stressed in the National Narrative on Population Growth, "Pakistan must lose no further time in joining the countries of the region and the Muslim world in achieving a rate of population growth that is sustainable. This will have to be much lower than the current (1971-2019) average high growth rate of 2.7 per cent". The main agenda of the Federal Task Force (FTF), constituted in November 2018 on the recommendation of the Supreme Court, is to create a Pakistan Population Fund and to arrange funds for it to address the issue of high population growth. Though three meetings of FTF have been held so far (as of October 2020), it must be noted that it took almost one year for FTF to have its first meeting. FTF needs to be more active.

It is encouraging to note that Pakistan is giving immense importance to achieving the SDG targets. It has established an SDG section within the Planning Commission, not only at the national level, but also within the provincial Planning and Development Departments. The progress on meeting most of the SDG targets however is not encouraging. A priority focus on targets in the areas of health (SDG 3), education (SDG 4), women's empowerment (SDG 5), decent jobs (SDG 8) and reducing inequalities (SDG 10) on a priority basis can accelerate the decrease in Pakistan's fertility rate.

Population Dynamics / Demographic Transition in the Context of Socio-Economic Development

The population dynamics of Pakistan needs to be examined in a holistic way, covering all three components of population change – fertility, mortality, and migration – and focusing on provincial and rural-urban differentials over time. The overall growth rate of Pakistan's population increased from 2.4 percent in 1951 to 3.6 percent during the 1961-72 period; it then gradually declined to 2.4 percent for the 1998-2017 inter-censal period. The delay in onset of fertility transition, the slow pace of decline in fertility during the last one and a half decades, and the resulting population momentum are the major factors contributing to the high population growth rates. Provincial growth rates vary, depending upon their respective fertility levels and patterns of internal migration. Consequently, over the long term, the distribution of population across the provinces has changed, with increased shares for Sindh and Balochistan and a decline in Punjab's share. In the absence of significant changes in policies and programmes, the total population is projected to increase to 338 million by 2050, over half of this growth attributable to the population momentum inherent in the population's young age structure. This highlights the need to meet the Action Plan targets of increasing the contraceptive prevalence rate of 34% to 50% by 2025 and to 60% by 2030, thus lowering the population growth rate substantially. Achieving a sustainable rate of population growth through three inter-related principles – rights, responsibilities, and balance – as recommended in the "Narrative on Population Growth" should be possible if appropriate policies are pursued.

The proportion of women in the total population has gradually increased in all four provinces. In terms of age structure, Pakistan is a very young country, and it will remain so until at least 2040. Pakistan has belatedly entered into the phase of potential demographic dividend, experiencing a secular decline in the share of children and a rise in the working age groups. These changes in age structure are universal across all provinces. As the combined share of adolescents (10-19) and youth (10-24) is 32 percent, Pakistan still has an opportunity to capitalize on the demographic dividend, but it needs to promptly formulate and implement effective policies. Young people must be provided gainful employment opportunities. COVID-19 has intensified the employment challenge because of the slowdown of economic activities.

There are currently 15 million older persons (aged 60+) in Pakistan. Future trends in population ageing show that the older population will continue to grow, although its percentage share of population will remain low because of the very rapid increase in the working-age population.

A rise in age at first marriage is witnessed in rural and urban areas of all provinces, and among both women and men. Many marriages may have been postponed because of the outbreak of COVID-19. Extended or joint families make up about half of the households in rural as well as urban areas. Pakistan has one of the highest reported levels of consanguineous marriage in the world.

The decline in fertility, starting in the late 1980s, has been very slow since 2006-07; only 0.5 children per woman in 11 years, from 4.1 in 2006-07 to 3.6 in 2017-18. No region or province is close to replacement level fertility. Since 2006-07, there is no indication that women in Pakistan are moving away from a four-child ideal, despite actual fertility having fallen; acceptance of a two-child norm appears limited. Fertility is negatively associated with women's education in all provinces of Pakistan. However, Sindh is the only Province where a linear relation between education and total fertility rate (TFR) is observed. In Khyber Pakhtunkhwa (KP), for example, women with higher education have more children than women with secondary education. The persistence of high desired family size in Pakistan appears to be the major barrier to achieving replacement level fertility. Child mortality is an important driver of fertility desires, both to replace those who die and to insure against future losses.

Regarding mortality transition, Pakistan compares well with other countries of the region in both levels and changes in crude death rate (CDR) between 1950 and 2020. Life expectancy in Pakistan has

gained 7 years on average for both men and women since 1990. In 2018, life expectancy was 67.1 years; 68.1 years for women and 66.2 years for men. But though the infant mortality rate (IMR) declined from 94 per 1000 live births in 1990-91 to 65 in 2017-18, it is more than double the IMR in Bangladesh and Nepal, and more than seven times higher than Sri Lanka. Two thirds of infant deaths in Pakistan occur in the neonatal period (the first month of life). Childhood mortality has declined between 1990-91 and 2017-18 in all four provinces; it remains higher in rural than in urban areas. The maternal mortality ratio (MMR) declined between 2006-07 and 2019 in rural as well as urban areas and in all provinces. The MMR (deaths per 100,000 live births) in 2019 was 157 in Punjab, 165 in KP, 224 in Sindh and 298 in Balochistan.

In 1951, every fifth person in Pakistan was a lifetime migrant and more than 80 percent of them were born abroad, primarily in India. After immigration from India ended in the 1960s, the overall incidence of migration gradually declined to 8 percent in 1998 with only a 20 percent contribution by immigrants. At present, the incidence of migration is 10.3 percent; it is much higher in urban (17%) than in rural areas (7%). The highest incidence of migration is reported in urban Punjab (20%), followed by urban Sindh (13%), urban Balochistan (11%) and KP (8%). Females are more likely than males to change their residence during their lifetime, because of marriage. The share of intra-province mobility in total internal migration has gradually increased, with a corresponding decline in inter-province movement. One-third of all migrants moved from rural to urban areas, followed by rural to rural (30%), urban to urban (25%) and urban to rural (14%) moves. The level of urbanization in Pakistan has increased from about 18 percent in 1951 to 36 percent in 2017. More than half of the urban population (54%) is living in the 10 largest cities – Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Peshawar, Multan, Hyderabad, Islamabad and Quetta. Approximately half of the urban population (45.5%) live in informal settlements/katchi abadis.

There are about 8.84 million Overseas Pakistanis living around the globe as of 31st December 2017, over half in the Middle East, but many also in Europe and the Americas. The Bureau of Emigration and Overseas Employment (BEOE) placed over 11 million Pakistani workers abroad between 1971 and December 2019, mainly in the Middle East (96%). A jump in this placement has been observed during the last decade, peaking in 2015, then declining, but increasing again to 625,000 in 2019; in the first three months of 2020, just before the breakout of COVID-19, 177,000 workers found jobs abroad. The placement of Pakistani workers abroad in 2015 and 2016 constituted more than half of the annual addition to the domestic labour force. However, COVID-19 is having a major impact on labour migration. It is estimated under different scenarios that for the remaining period of this year, it will result in the loss of 500,000-880,000 overseas jobs, and 0.9 million to 2.2 million workers may return home, equal to 1.3 to 3 percent of the domestic labour force.

Reproductive Health and Family Planning

The situational analysis of reproductive health (RH), including family planning (FP), covered in this chapter highlights the current levels, progress made and identifies areas for concerted efforts to improve reproductive health. The public sector continues to be the major source of services for RH, FP and immunization, especially for the low-income groups and for those living in rural areas. The reliance on public sector services is also higher in Balochistan and Khyber Pakhtunkhwa (KPK) than in Sindh and Punjab, where the private sector and non-governmental organizations (NGOs) have expanded over the years. However, the ratio of health providers to population remains sub-optimal and other structural issues thwart provision of timely and quality services. Below are key highlights.

Family Planning: Knowledge of family planning and contraceptive methods is nearly universal, but contraceptive practice is a different story. Contraceptive prevalence rate (CPR) of any method remains low at 34.2% in 2017-18, down from 35.5% in 2012-13. CPRs range from a high of 38% in Punjab to a low of 20% in Balochistan. Overall, 25% of married women in reproductive age were using a modern method of contraception (mCPR) in 2017-18, three percentage points higher than in 2006-07, but one percentage point lower than in 2012-13. The use of modern methods (mainly condoms and short-term methods) was 27% in

Punjab, 24% in Sindh, 23% in KPK and 14% in Balochistan. The use of modern methods was 29% in urban compared to 23% in rural areas. Method mix continues to be narrow and does not evolve with age, socio-economic status or geographic areas – thus depicting a narrow range of methods commonly available and perhaps a very limited role of the couples/women's preference in method choice. One-third of all use is accounted for by traditional methods.

Discontinuation of contraceptive use is high. By 12 months, 30% discontinue using the method with high discontinuation rates for pills and injectables (47% each), the male condom (33%), and the IUD (23%). Method failure accounts for 5% and health concerns and side effects for 7% of discontinuation. Unmet need for family planning has declined from 31% in 1990-91 to 17% in 2017-18, but remains high, especially in Balochistan (22%) and KPK (21%) compared to Punjab (16%) and Sindh (18%).

Both demand and supply factors must be tackled if contraceptive prevalence is to be increased to the aspired level of 50% by 2025 and 60% by 2030.

Induced Abortion: The 2019 Pakistan Maternal Mortality Survey (PMMS) indicates that induced abortion accounted for 2% of pregnancies ending in the three years preceding the survey. However, direct information on induced abortion is generally under-reported. Using the indirect method, 2.25 million (95% confidence interval: 1.84-2.68 million) abortions are estimated to take place annually. This corresponds to an abortion rate of 50 per 1,000 women aged 15-49. The estimated abortion rate per 1,000 women aged 15-49 was higher for Balochistan (60) than for Sindh (57), Punjab (51) and KPK (35). It is estimated that 623,000 (95% confidence interval: 506,000-739,000) women seek care for abortion-related complications each year.

Maternal Health and Survival: The maternal mortality ratio (MMR) based on deaths in the three years prior to the PMMS was estimated for Pakistan (excluding Azad Jammu and Kashmir and Gilgit-Baltistan) at 186 (95% confidence interval: 138-234) per 100,000 live births. Balochistan had the highest MMR of 298 and Punjab the lowest at 157 while Sindh had 224 and KPK had 165 maternal deaths per 100,000 live births. The MMR for urban areas was 158 compared to 199 for rural areas. Obstetric haemorrhage was the leading cause (41%) of maternal deaths, followed by hypertensive disorders (29%).

Antenatal care (ANC): ANC from a skilled provider increased from 26% in 1990-91 to 86% in 2017-18. ANC visit in the first trimester and 4+ visits also improved. However, 45% of women still do not visit a facility for ANC and 49% have fewer than the recommended four visits. While 71% of women in urban areas had 4+ ANC visits, only 42% of women in rural areas did so.

Institutional deliveries: Institutional deliveries are critical for improving maternal and newborn health. Significant progress has been made in the proportion of births that took place in health facilities during the five years prior to the survey - from 13% in 1990-91 to 66% in 2017-18 (81% in urban areas, 59% in rural areas). The percent of institutional deliveries is 72% in Sindh, 69% in Punjab, 62% in KPK and 35% in Balochistan.

Skilled attendant at delivery: The proportion of births attended by skilled health personnel rose from 18% in 1990-91 to 69% in 2017-18. The proportions for various provinces are: Sindh: 75%; Punjab: 71%; KPK: 67%; and Balochistan: 38%. The proportion for urban areas was 84% compared to 63% in rural areas.

Postnatal care: First check-up within two days among those who had birth in the last two years was 62% overall. The figures were 76% for urban compared to 55% for rural areas. Provincial figures are: Sindh: 71%; Punjab: 67%; KPK: 43%; and Balochistan: 38%.

Stillbirths: Pakistan Demographic and Health Survey (PDHS) 2017-18 indicates that 2% of pregnancies in the five years prior to the survey ended in stillbirths, while PMMS shows that stillbirths accounted for 3% of pregnancies ending in the three years preceding the survey. However, another study (UNICEF, et.al, 2020) estimated the stillbirth rate of Pakistan in 2019 at 30.6 per 1,000 total births and that the decline in the stillbirth level for the period 2000-2019 amounted to 23.2 percent. Irrespective of this decline, the current level places Pakistan amongst the countries with a high stillbirth rate.

Fistula: No recent national estimate is available. However, a survey in Punjab indicates that 3% of women suffer from fistula with women in poor wealth quintile and in rural areas being more affected than those in other income groups and living in urban areas.

Nutritional status: The proportion of women underweight was high in Sindh (23%), compared to Punjab (12%); KPK (8%); and Balochistan (15%). The percentage overweight was high in KPK (43%) and Punjab (40%), compared to Balochistan (34%) and Sindh (30%). In 2018, 42% of women age 15-49 had moderate anaemia, down from 49% in 2011.

Newborn and child health: Perinatal mortality rate was 57 per 1,000 pregnancies of 7+ months with high rates of 62 for Punjab, 52 for Sindh, 53 for KPK and 54 for Balochistan. The rate was higher in rural (60) than in urban (50) areas.

Stunting (height-for-age): The proportion stunted declined from 54% in 1990-91 to 38% in 2017-18. Stunting was the lowest in Punjab (30%) compared to Sindh (50%); KPK (40%) and Balochistan (47%). The level of child malnutrition is twice as high as the rate of 5% noted for low-income countries in general.

Breastfeeding: The initiation of breastfeeding during the first hour after birth increased from 40% in 2011 to 46% in 2018. The proportion of babies who were exclusively breastfed for the first six months also increased from 38% in 2011 to 48% in 2018. While 61% initiated breastfeeding within the first hour after birth in Balochistan, 44% were exclusively breastfed for six months. In Gilgit-Baltistan, however, 20% initiated breastfeeding within the first hour after birth, but 55% were exclusively breastfed for six months. The median duration of total breastfeeding in Pakistan was 19 months in 2017-18 and has remained mostly unchanged from 2006-07, but a month shorter than in 1990-91. The median duration of exclusive breastfeeding has however increased by one month from 0.6 month in 1990-91 to 1.6 months in 2017-18.

Immunization: The coverage of basic vaccination for 12-23 months old increased from 35% in 1990-91 to 66% in 2017-18. All age-appropriate vaccinations were received by 56% in urban compared to 49% in rural areas. The age-appropriate immunization rates range from 66% in Punjab; 35% in Sindh; 37% in KPK to a low of 19% in Balochistan. Pakistan and Afghanistan are the only two countries worldwide that continue to experience poliovirus transmission. Significant progress was made in tetanus toxoid protection - 63% of women with a birth in the three years before the 2017-18 PDHS had received two or more doses of tetanus toxoid injections compared to 25% before the 1990-91 PDHS. However, the coverage ranges widely in 2017-18 from a low of 21% in Balochistan to a high of 74% in Punjab.

Diarrhea and acute respiratory infections (ARI) in last two weeks: Overall, one in 5 children (22%) experience diarrhea and 11% (Balochistan) to 16% (KPK) an incident of ARI.

STIs/HIV/AIDS: Prevalence of HIV is low (<0.1%) with an estimated 165,000 people in 2019 living with HIV/AIDS. Only 13% were registered with ART Programmes. Accurate national or provincial estimates of STIs are not known other than for the selected high-risk behaviour groups (for example, sex workers and drug users) and through sporadic surveillance surveys.

Conclusions: Pakistan has made slow progress in FP and modest improvements in other components of RH. The progress has been uneven according to the component of reproductive health and across region, urban-rural area, income groups and other important age and parity sub-groups. Progress in contraceptive use has been especially lagging in comparison with Pakistan's regional neighbours and other Muslim majority countries. However, the prospects for revitalization are now improved with the creation of national and provincial Task Forces by the Council for Common Interests (CCI). Concerted efforts are needed, particularly to connect supply side services to demand creation among younger couples, assist women who discontinue contraceptive use due to unexpected side effects in timely switching to another method, and perhaps by focusing on quality of iterative counseling and by expanding task sharing in FP service provision as well as improving the quality of services. At the current pace, Pakistan will be short of reaching the CCI aspiration of 16 million additional new couples practicing FP.

Demographic Dividend; Education and Employment

The issue of demographic dividend was examined in the context of ongoing fertility transition, child mortality, female education, and employment. The main findings of the analysis are as follows:

Fertility transition in Pakistan is slow, and it is in line with a continued high level of desired fertility. A large reduction in fertility requires changing the more distal factors that are driving the high level of desired fertility. An important driver of fertility desires is child mortality, which remains high in Pakistan. Each additional child death is associated with over 2 additional births, making reductions in child mortality an important factor in promoting fertility decline.

The decline in fertility in Pakistan has been associated with rising female education levels. However, even among the most highly educated women fertility remains substantially above the replacement level of 2.1 children per woman. This contrasts with many other high fertility countries where we see below replacement fertility in women with high education levels. The rise in education levels in Pakistan has lagged behind the levels seen in comparator countries, and in addition, educated women in Pakistan lack employment opportunities and have low labour market participation.

While work on these distal determinants of desired fertility is needed if there is to be a large decline in desired fertility in the longer run, there is still an unmet need for family planning that could be addressed and lead to declines in fertility in the shorter term.

The ratio of dependents to working age population has fallen in Pakistan due to the fall in fertility that has occurred, but this fall is much more modest than in the comparator countries. There is some variation in the ratio of working age to dependent population across the provinces of Pakistan, with Punjab having the highest ratio and Balochistan the lowest, but overall, progress has been slow.

The high fertility rate and large numbers of young people entering the labor force has put enormous pressure on the economy to create new jobs. While the unemployment rate has risen over the last decade in Pakistan, it is very low by international comparisons. However, underemployment is high and workers in Pakistan are being forced into low productivity and low wage jobs in agriculture and the informal sector. Pakistan has a relatively weak industrial and manufacturing sector, with little capacity to absorb new entrants into appropriate jobs. The situation of the service sector is not very different, although it should be providing many opportunities for absorbing educated workers.

Changes in the fertility rate can influence economic growth through reduction in youth dependency ratios, change in the ratio of working age to dependent population increasing labor supply per capita, increase in saving rates, investment in health and education, and changes in the structure of economic activity. There are two major challenges to realizing the demographic dividend in Pakistan. The first is in terms of speeding the fertility transition along with associated changes in age structure, and the second is in terms of policies to harness the extra potential resources that are produced by the fertility transition.

Linking population with environment and climate change

The two biggest challenges confronting Pakistan in the twenty-first century are climate change and growing population-poverty nexus. They are intertwined and hold Pakistan back from economic development and prosperity. Despite an early start in tackling both, Pakistan did not continue with its focus on environmental protection and met only limited success in restraining population growth.

The rapid and unplanned increase in population adversely affects the physical environment, erodes the carrying capacity of ecosystems and increases the exposure to climate-induced disasters in both urban and rural settings. Since most poor people live on marginal lands and in fragile ecosystems, they are often least prepared to manage multi-tiered challenges. At the same time, keeping a healthier physical environment would have served as an adaptation strategy to protect the population from growing climate vulnerabilities by strengthening resilience. The absence of clear focus on protecting the environmental resources has been costly for human health, adversely impacted agriculture,

encouraged outward migration to cities, and reduced the productivity of ecosystems.

The slow onset of climate change and resulting extreme climate events have both placed the population, particularly the poor and marginalized, in a challenging bind. Further, since two-thirds of Pakistan is an arid and semi-arid land we observe that land degradation and water stresses have become very acute, adding to the vulnerability of local populations, and often threatening their lives and livelihoods. In the absence of any national or provincial adaptation plans, communities have exercised autonomous adaptation, propelling outward migration to urban settlements that have been growing at a faster rate than the population as a whole. Finally, we have seen that cities have inadequate infrastructure, and such an unplanned growth adds an additional set of climate challenges, adding both to their vulnerabilities as well as a bigger carbon footprint. There is no urban adaptation policy in place and this void has added to the complexity of challenges for policy-makers. This calls for a renewed focus on protecting the physical environment that can help Pakistan have a long-term adaptation strategy integrating population dynamics, environment, and climate change. Water, air, and forests can serve as the centerfold of an adaptation strategy to protect urban and rural population from climate vulnerabilities. This will also have co-benefits of reversing land degradation and managing water stresses in arid and semi-arid land while delivering climate mitigation and well-being of the population.

Pakistan needs to adopt a fully integrated approach to link environment, population & climatic changes more clearly, directly, and strongly with national development planning. This policy coherence will help in improving health indicators, enhancing agricultural sustainability, reducing pressure of outward migration on urban settlements, and increasing economic productivity of ecosystems. Further, Pakistan will need to develop adaptation strategies that strengthen its ecosystems and physical environment – air, water and forests – as the primary determinants of the population's health, agriculture, migration, and productivity and their impact on vulnerability and resilience. Such factors as urbanization, migration, concentration of vulnerability, and poverty are intertwined and shortcomings in dealing with them hold Pakistan back from economic development and prosperity. The government, therefore, needs to devise, in partnership with key stakeholders, a medium to long-term strategy, based on the 13 recommendations presented in the last chapter of this report, to overcome the inaction on Pakistan's climate and population challenges and the co-benefit of synchronized actions.

Population Dynamics, Inequalities and Relevance to National Policies

This chapter focuses on the relationship between population dynamics and three key dimensions of inequality: inequalities related to poverty, generational inequality, and gender inequality, addressing the way these relationships play out in advantaging or disadvantaging different groups in society.

Pakistani's level of economic wellbeing is very closely related to differences in population dynamics. Those living in poverty have higher fertility and higher mortality than better-off sections of the population, and different patterns of migration, both within the country and abroad. In the first part of this chapter, the relationship between poverty and social inequality on the one hand, and demographic indicators on the other, is addressed, showing how poverty and social inequality work through demographic forces to limit opportunities for economic and social betterment.

Disadvantaged socio-economic groups suffer more from avoidable mortality, unintended pregnancies and adolescent births, early marriage, and reproduction and as a result an age structure that is burdened by heavier child-rearing responsibilities and more rapid growth as a group. The demographic behaviours associated with lower socio-economic status tend to be correlated with lower levels of education. Enabling those in lower socio-economic groups, particularly girls/women, to continue further with their education should help narrow the differentials, but not totally eliminate them, because there are other aspects of their disadvantage that holds their demographic behaviour back from converging with that of higher socio-economic groups.

Various examples are provided of the ways in which social inequality limits demographic convergence, at both the micro and macro levels. While many such interactions can be identified, the aim should not be an exhaustive list of interactions, but to isolate those areas where the linkages between demographic variables and important aspects of development are likely to be crucial.

It is clear that poverty has adverse effects on reproductive health outcomes, and unwanted fertility and unmet need for family planning are higher among the poor than among the better-off. However, while common sense suggests that poor reproductive health outcomes would increase the chance of remaining poor, there is no conclusive evidence that this is the case. In Pakistan, preferred family size is much higher among the poor than among the well-off, so whether or not a larger family size actually disadvantages the poor, there is no evidence that they see this as an overriding factor favouring a small family. Child labour may tend to dilute the relationship between large family size and poverty.

The age structure of households is certainly linked to poverty. Three age related indicators are often used in the analyses: age of the head of household, dependency ratio and change in age structure over time. An increase in the age of head of household tends to first empower households through the head's economic activities, but as the head reaches old age this empowerment weakens, and the household may fall into poverty. As for the dependency ratio, if a high proportion of population is of working age then households are likely to have a high rate of earnings and savings, improving household well-being. Clearly, household structure is dynamic and its relationship to poverty can shift sharply over time.

Migration, internal or international, of an adult household member, particularly from rural areas, enables the concerned households to diversify their sources of income through domestic or overseas remittances. According to the 2017-18 PDHS, around a quarter of households with an out-migrant within Pakistan reported the receipt of some remittances, as did 43 per cent of households with an emigrant. In both cases, the percentage of households receiving remittances was higher in rural than in urban households.

It is not common in Pakistan to consider the importance of demographic factors either for economic growth or for poverty reduction. Yet the importance of the association between poverty dynamics and the demographic variables - family size, dependency ratio and change in age composition - as discussed above, has some clear implications for economic growth and development.

Both the SDGs and the Ehsaas program are accorded great importance in Pakistan and are crucial in Pakistan's poverty reduction efforts. SDGs 1 and 10 are directly targeted at reducing poverty and inequality, while SDGs 2-5 and 8 are aimed at improving socio-demographic outcomes, which if successful should also contribute to lowering poverty and inequality. Ehsaas aims to assist the extreme poor, orphans, widows, the homeless, the disabled, those who risk medical impoverishment, the jobless, poor farmers, labourers, the sick and undernourished, students from low-income backgrounds and poor women and elderly citizens. Ehsaas also aims to lift lagging areas where poverty is higher. Its links with the UNFPA Ninth Country Programme should be pursued.[1] The common thread in these two programmes is turning the ongoing demographic transition into a dividend for the country and its population. Table 8.2 identifies programmes under each of the four pillars of Ehsaas which can provide a base for developing a strategic partnership between the UNFPA and the Division of Poverty Alleviation and Social Safety.

Turning to gender issues, various indices locate Pakistan near the extreme end of gender inequality among the world's countries, indicating a great challenge in moving towards a situation in which women are given equal opportunities with men to realize their full potential. The societal paradigm in Pakistan is patriarchal with deeply embedded biases and discriminatory practices towards girls and women. Changing these discriminatory gender practices will require a combination of long term and immediate interventions.

[1] The Ninth Country Programme focuses on (i) sexual and reproductive health; (ii) adolescents and youth; (iii) gender equality and women's empowerment; and (iv) population dynamics.

Child marriage – though lessening – remains prevalent. The Pakistan DHS 2017-18 found that 18 per cent of women aged 20-24 had been married before age 18, and 3.6 per cent before age 15. Child marriage is closely linked to poverty and to girls' educational opportunities and is driven by social norms and expectations and gendered discrimination that devalues women and girls and their right to make choices for themselves. It is also driven by limited choices for poor families. Many disadvantages are faced by girls who are married off early: early termination of education; early initiation of childbearing, which puts the health of both mother and baby at risk, and cuts short the possibility of gaining satisfying employment, thus curtailing their possibility of emerging from poverty; and linked to the typically wide age gap with their husband, a subordinate role in the household and probably greater risk of gender-based violence.

Between 2013 and 2020, several bills to restrict child marriage were introduced at both federal and provincial levels; however, Sindh is the only province that managed to raise the marriageable age for girls to 18 – at least on paper. Experience in many countries indicates that proposing, and even enacting, laws to raise minimum marriage age without working in parallel on advocacy for social change to curb such practices is unlikely to have much effect on actual practices.

The wide gap between males and females in educational attainment is one of the most striking aspects of inequality in Pakistan. PDHS 2017/18 data show that in the age group 15-49, half of women and one fourth of men have no education. Of men in this age group, 70 per cent are literate, but only 50 per cent of women. The highest proportions of women with no education are found in FATA (90 per cent), followed by Balochistan and rural Sindh (both over 80 per cent).

Women's labour force participation in Pakistan is well below that of men, and considerably lower than in countries such as Bangladesh and Indonesia. According to a 2018 IMF estimate, Pakistan's GDP could increase by 30% if women were able to participate freely in the labour force. Fostering women's entrepreneurship could have a ripple effect: higher GDP, decreased poverty and unemployment, healthier and better educated families, and more equitable societies. But there are many obstacles, including mobility restrictions on women and lack of access to credit.

Gender based violence (GBV) of all kinds is prevalent in Pakistan, nurtured by a climate of male dominance, gender inequality, and lack of serious political-bureaucratic will to take action. Domestic violence – by far the most common form throughout the country, but especially in Khyber Pakhtunkhwa and Balochistan - has serious ill-effects on the physical and mental wellbeing of a great many women, traumatic effects on children, and generally disruptive effects on households. Reporting and seeking help for domestic violence is not common in Pakistan. Government and civil society need to be seriously committed to reducing GBV, and accountability must be demanded of and by the state institutions that manage the medico-legal-judicial processes and systems.

The Government of Pakistan (GOP) is signatory to almost all International conventions and agreements on violence against women and GBV. Pakistan acceded to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996 but has yet to translate the provisions of the CEDAW convention into implementation and enforcement at the grass-roots service delivery level. The Government of Pakistan has taken various steps in the last two decades to infuse human rights principles into its statutes as well as policies and action plans, but despite these measures, there remain laws, policies and practices that fail to address women's issues and work to their detriment. Discriminatory legislation and a dysfunctional criminal justice system have put women at grave risk of continued violence and lack of accountability for the perpetrators.

Many specific groups in Pakistan find themselves in vulnerable situations. The following groups are given specific attention in this chapter: people with disabilities, the elderly, women-headed households, widows and orphans, street children, the urban poor, and child labourers/domestic helpers. All these groups deserve special attention by government and civil society if the accepted goal of "leaving nobody behind" is to be reached.

Data Issues and Challenges

Regular and systematic assessment of the population situation should be carried out to evaluate the changes in the population dynamics and their impact on the wellbeing of the people as well as the overall national and provincial sustainable inclusive development plans. To this end, the national and provincial statistical systems need strengthening to provide timely, accurate and reliable data to estimate various demographic, socio-economic and environmental indicators. Enhancing accessibility to various data sources, especially the full returns of the 2017 population census, would be important to increase utilization of various data sets and this would also allow assessment of data quality, a field that needs to be intensified in Pakistan.

The system should also provide data to enable Pakistan to honor its commitment about the SDGs and the need to periodically report on progress.

The Impact of COVID-19 pandemic

It is an unprecedented public health crisis that affected all countries of the world. Confirmed cases in Pakistan reached a total of 469 thousand cases and 9,816 confirmed deaths (on 26 December 2020). The pandemic may affect Pakistan's hard-won gains on poverty reduction and social indicators. GDP is projected to contract by 1.5% in FY2020 and there is a real risk that poverty might increase. Serious economic implications might be expected including slashing consumption, investment, international trade, remittances and private capital flows, and agriculture may be hard hit. The Pakistan Socio-Economic Framework is developed to support the Government to minimize, mitigate and manage the effects of the pandemic, to save lives, protect people and enhance the chances for better recovery. It will enable Pakistan to implement new economic priorities, protect jobs and economic activity, ensure food security, and meet the social and health needs of vulnerable groups in a cohesive, collaborative manner.

Covid-19 has also provided opportunity for decision-makers to reassess policies and allocation of resources and for individuals and couples to consider their fertility desires and fertility regulation trajectories. However, the pandemic is likely to result in reduced budgets for reproductive health and family planning and potentially a shift of resources to other areas. With the economic downturn globally, the international funding for reproductive health and family planning may also drop.

Key Recommendations

Based on this assessment of the population situation of Pakistan, the main objective of the recommendations is to speed the demographic transition through reducing fertility levels and reaching a balance between population growth and environmentally sustainable social and economic development.

Adoption of a multi-sectoral approach to population policy is crucial. Population policy should be fully integrated within comprehensive socioeconomic development plans. Effective population policy must deal not only with the proximate causes of high fertility – early marriage and low contraceptive prevalence - but with the distal factors, including poverty, social exclusion, and lack of education and economic opportunities for women and girls. Provision of educational opportunities for girls must give due attention to rural areas, where enrollment of girls lags far behind that of boys.

Investment in child health should be increased to ensure that the rising generation will suffer less from stunting and wasting and become more productive adults. Moreover, reduced child mortality is a necessary condition for promoting small family norms.

Both in order to improve child health and provide more effective reproductive health and family planning services, the way public and private health services are organized will be very important. The proportion of government budgets going to health services should be increased; of these total expenditures, more needs to be allocated to public health and within public health, more needs to be allocated to family planning.

The more detailed recommendations in the main report are presented under each of the chapter headings.

1

Introduction

1.1 Preface

Important political, demographic, and socio-economic development changes have taken place in recent years in Pakistan. These mainly resulted from the wealth of information and various indicators obtained from the recent data sets, specifically the 2017 Population and Housing Census, the 2017/2018 Pakistan Demographic and Health Survey (PDHS), the 2019 Multi-Indicator Cluster Survey (MICS), the 2019 Maternal Mortality Survey, the 2018/2019 Pakistan Social and Living Standards Measurement Survey (PSLM) and Household Integrated Economic Survey (HIES), the 2019 Pakistan Labor Force Survey, and the National Nutrition Survey (2018). Moreover, several research studies were carried out including the 2019 political economy assessments on FP, studies on child marriage, gender-based violence and unmet need for family planning from the 2017/18 DHS and the national transfer accounts report.

These changes would have their bearing on Pakistan's population situation and required undertaking an integrated appraisal of the population dynamics and their linkages with and impact on inclusive development, specifically poverty and inequality, and climate and environmental changes, in order to assess the country's ability and progress in achieving the national and provincial goals as well as its renewed commitment to ICPD/Program of Action and the Sustainable Development Goals 2030. This study will also be considered as a follow-up to the meta-analysis on population dynamics and development at the national level, carried out in 2016 and considered as a light PSA.

To this end, the Ministry of Planning, Development & Special Initiatives in collaboration with UNFPA initiated the Population Situation Analysis (PSA), based on a sound methodology that followed the UNFPA's PSA manual, which elaborates on the expected emphasis and context. This manual, however, is merely a guide, and should be customized to Pakistan's circumstances including its political, socio-economic, and cultural background, environmental circumstances, policy issues, and data availability.

The current PSA study was carried out by a multi-sectoral team of national and international consultants and entails extensive dialogue among key stakeholders, where national and provincial priorities are the main focus of the analysis concerning the population and development nexus. This is to ensure ownership and commitment at various levels. However, the COVID-19 pandemic forced some changes on the modalities of work where local consultants have been assigned a particular responsibility to engage with key provincial officials to ensure that their issues are adequately addressed in the PSA, while the contribution and interaction of the international consultants has to be carried out remotely. Fortunately, the available technology enabled meetings to be held fairly effectively and allowed continuous contacts among the PSA team.

1.2 Objectives, Scope, Background and Guiding Principles of the Pakistan Population Situation Analysis.

The purpose of undertaking a PSA in the context of the changing economic, social, cultural, and environmental conditions of the country is to provide a sound basis for making appropriate policy and programme interventions for better development outcomes.

Specifically, the objectives of the PSA exercise are:

1. Provide an integrated appraisal of population dynamics, sexual and reproductive health, gender and youth issues and their relationship with social, economic, political and cultural processes in the country, taking into consideration the significant development and changes in the country, environmental and climate change issues, the recent new sets of data and the impact of COVID-19 pandemic.
2. Evidence-based analysis of national and provincial stakeholders' contributions on key population challenges facing the country.
3. Identify reasons for ineffectiveness of interventions/programmes in the human development area that have not achieved their stated objectives.
4. Identify opportunities for action with strategies and programmatic recommendations to inform the appropriate policy interventions and a national development strategy for 2020-2023 - with provincial disaggregation as feasible (since different provinces are in varying stages).
5. Identification of sectoral priority areas from population perspectives to develop roadmaps and annual development plans that provide firm rationale for developing subsequent programs and projects. Specifically shed light on priority areas for the UNFPA 10th Country program.

The process is to be guided by a set of principles that aims to create a supportive environment for the PSA exercise and its concluding findings and recommendations. These are:

- *Ownership:* through adopting a participatory approach and ensuring national participation in the process from all segments of the population: government at federal and provincial levels, population experts and academia, private sector, civil society, and NGOs, as well as commitment of national resources.
- *Sustainability:* secure participation in all stages of the process (planning, implementation, and assessment) to ensure responding to the needs and that required resources are within their financial management capacity to operate and maintain, as well as building needed national capacity,
- *Good Governance and accountability:* to identify measurement tools to assess progress at national and provincial levels.
- *Strong advocacy strategy* to enhance awareness and commitment at various levels,
- *Addressing Poverty, Inequality, and the Exercise of Rights* – to be clearly built-in throughout the process.

The PSA is a comprehensive exercise covering various aspects of the population dynamics and sustainable development nexus to provide a set of actionable recommendation at federal and provincial levels. It provides an integral and coherent thematic analysis of the population situation and its interaction with overall inclusive development as well as national priorities. The undertaken evidence-based analysis would lead to identifying challenges, opportunities and developing appropriate policy interventions at various levels (national, provincial, and sectoral).

The PSA is timely envisaged in view of the current population situation of Pakistan showing a high-level population growth that would have its impact on all development issues including health, education, employment, and other dimensions as well as having direct adverse implications

for climate change, environmental degradation, deforestation, and exacerbation of Pakistan's water stress situation. This is clearly demonstrated by the fact that although Pakistan was classified as a Lower Middle-Income Country (MIC) since 2008, its demographic and socio-economic indicators are comparable to those of least developed countries.

The prevailing high fertility level shown by the PDHS (2017-18), amounting to 3.6 children per woman, point to the delay in the demographic transition which is noticeable at both national and provincial levels. Although the current level shows a decline of about 1.3 children (27%) since 1990-1991, it is still high. The survey also show that fertility levels differ by Provinces/regions and background characteristics. A difference of one child is noticed between urban and rural areas (2.9 children compared to 3.9 respectively), while fertility levels range between 3.0 children per woman in ICT Islamabad to 4.8 children per woman in FATA. It varies between 3.4 in Punjab, 3.6 in Sindh and 4.0 children per woman in KP and Balochistan. Fertility levels also differ by education and wealth.

The demographic profile is showing a low level of contraceptive prevalence, of about 34% for married women (15-49) in 2017-2018, or only 25% if restricted to use of modern methods. There is a high level of unmet need for family planning, estimated to be about 17% of married women, 10% wanting to delay childbearing and the balance wanting to stop childbearing. Only 49% of the total demand for family planning methods is satisfied by modern methods, and discontinuation rates are high.

The method mix shows that the most popular methods are male condoms (9%), female sterilization (9%), and withdrawal (8%), which cannot bring the desired reduction in fertility because female sterilization is generally obtained when desired fertility has been achieved or exceeded and both condoms and withdrawal are characterized by high failure rates leading to unintended pregnancies and unwanted births. Creating demand for FP is essential since the PDHS indicates that out of married women age 15-49 who are not currently using contraception, only a third (33%) intend to use FP at some future time, almost half (46%) do not intend to use family planning in the future, and 21% are unsure. Among those who do use, FP use tends to start only at the 3rd or 4th child.

These demographic indicators do not lend support to the potential decline in fertility level and speeding the transition process to harness the possible demographic dividend. Harnessing the dividend would require intensive intervention on both sides, namely the demographic transition to secure long-term fertility reduction as well as investing in human capital and enhancing the performance of the economy for the next 2-3 decades, to benefit from the changes in the age-structure leading to an increase in the size of the working age group (15-64) years at the expense of the younger age group below 15 years of age.

At the same time, some development indicators are documenting the unfavorable situation of Pakistan concerning human capital investment. Estimated value of the human development index ranks the country as 151 in 2018, while it also ranks as 141 in the human capital index (2020). For other indicators, female LFPR in 2018 amount to 22%, net enrolment rate for primary education in 2019, 67.6% while net enrolment rate for secondary education is 37.4% in 2019. Similarly, health indicators are low compared to other countries in the region, under 5 mortality rate 2015-20 is estimated at 75 death per 1000live births, maternal mortality ratio in 2019 is 186 per 100,000 live births, % of children aged 12-23 months fully vaccinated (66%), and % of deliveries in health facility amount to 66%.

There is an interlink between population growth and various economic issues, especially labor market dynamics, unemployment and inequality, especially the three critical issues that characterize the current Pakistani economy: a) a low growth trajectory which is shaky, volatile and any improvements short lived; b) expanding labor force with a weak industrial and manufacturing sector which is vital for creating jobs, particularly for higher and middle skills; and, c) non-inclusive economic growth, indicating that Pakistan suffers inequitable distribution of economic growth and associated opportunities of education, employment and income, taking into consideration that about one quarter of the population live below the poverty line.

There are major environmental issues linked to population trends in Pakistan. Alternating flood and drought conditions are frequent, and farmers are resilient in dealing with them. However, extreme events are beyond the ability of either individuals or, frequently, the government, to cope effectively with them. Both floods and droughts tend to have their most serious adverse effects on the poorest members of the community, who have few resources to cope with such adversity. Water stress is an increasingly recognized critical issue. As the Supreme Court Task Force Report noted, "The rapidly growing population has direct negative implications for adverse climate change, environment degradation, deforestation and above all the decline in water availability per capita, putting Pakistan in water stress situation. It will exacerbate food security and threaten the country's sustainable development prospects."

> *This background stresses the need for enhancing positive aspects of the population and development nexus to revitalize the demographic transition and allow the country to further create the conditions to profit from the demographic window of opportunity, while at the same time intensifying initiatives and efforts to advance human capital, especially for health, education, and the empowerment of women, within the context of an enabling environment ensuring equality and rights.*

1.3. Rationale of the Population Situational analysis in the current situation

High level political level engagement, task force

The population dimension was clearly noticeable in various policy documents in the last 15-20 years. The government seems to be fully aware of the demographic opportunity resulting from sustained fertility decline, since the early 1990s. Poverty Reduction Paper-II, Vision 2025, and 11th Five-year Plan, have addressed the issue of demographic dividend, with at least some steps, primarily concerning skills development and employment, which was considered a key mechanism through which the benefits of the growth can be distributed to the society.

National priorities were highlighted in Pakistan vision 2025, launched in 2014, where its first pillar is

> *"putting people first- developing human and social capital" and "become one of the largest 25 economies in the World, leading to Upper Middle Income country status"*.

However, the 2017 census findings and the PDHS (2017/2018) documenting the prevailing high-level population growth and fertility and the impact of population dynamics on socio-economic development, led the Chief Justice of Pakistan to launch a Human Rights case and constitute a Task Force to formulate a set of recommendations for national population and FP programmes. It identified 8 broad sectors and 33 specific recommendations for implementation by Provincial Governments, regions and the Federal Government which were approved by the Supreme Court in July 2018. These were also endorsed by the Council of Common Interest (CCI) under the Prime Minister's leadership and comprising Chief Ministers and key members of the Cabinet in November 2018. Federal and provincial task forces, which are chaired by the President and Chief Ministers respectively, have been established to steer, oversee, and take critical decisions to advance population and FP programmes across the country. Housing the Population Task Force under the direct supervision of the Prime Ministers Secretariat and ensuring universal access to family planning predicated on the understanding that population is the denominator of poverty alleviation.

The goals defined by the Task Force and approved by the government aim to enhance the Contraceptive Prevalence Rate to 50%, thereby lowering the total fertility rate to 2.8 children per woman by 2025, and to further raise CPR to 60% and reach a total fertility

rate of 2.2 children per woman by 2030. This would lower the population growth rate to 1.5% by 2024 and to 1.1% by 2030.

At the same time, the Prime Minister launched "Ehsaas" program in March 2019. It spelled out Government priorities and directives. It aims to reduce inequality, invest in people, and lift lagging districts. It includes four pillars that highlight actions to be taken for its implementation. These are: a) Addressing elite capture and making the government system work for equality; b) Safety net; c) Human capital development; and d) Jobs and livelihood. The challenges to the adoption of the program, however, relate to the devolution, the diversity of the population situation, the lack of capacities for data analysis and the absence of a supportive environment.

The Prime Minister also launched the National Youth Development Programme, in 2019. It aims at integrating youth voices, perspectives, aspirations and gainful opportunities into national development policies and processes to advance youth employment and economic empowerment, civic engagement, societal protection, health and wellbeing. The programme is the first-ever national framework to fulfill Pakistan's global commitments through engagement of youth for achieving SDGs, with the main focus on mainstreaming marginalized youth groups. This complements some Government initiatives to provide employment opportunities especially to the unemployed youth including: a) Youth Entrepreneurship Scheme (YES); b) Hunarmand Pakistan Programme (Skills for all); c) Green Youth Movement; d) Startup Pakistan; e) National Internship; and, Jawan Markaz.

Lately the Government endorsed (May 2020) the National Narrative on Population Growth that aims at balanced population growth to ensure wellbeing, prosperity, safety and security. It emphasizes that this goal can only be secured and sustained by actively seeking behavioral change in the target groups through shared responsibility by every citizen in Pakistan. This balanced population growth can be attained through three inter-linked principles:

- *Rights:* all citizens have the fundamental rights to adequate shelter, nutrition, health and family planning, education, employment opportunities and gainful livelihoods to improve the quality of life,
- *Responsibilities:* to attain these rights, individuals and parents as well as the state have distinct responsibilities to fulfill,
- *Balance-Tawazun:* recognizes the need to strike a balance, or tawazun in all aspects, especially between rights and responsibilities which implies tawazun between population growth and available resources and regenerative capacity.

This National Narrative was the most recent Government response to the noticeable deceleration of the Country's progress in improving demographic, health, and education indicators, which led to worsening inequalities and imbalances due to the shrinking resources as well as endangering the country's future viability and stability.

Moreover, Government commitment to SDGs and ICPD +25 was clearly spell out and an agreed list of priority indicators, baselines and targets for SDGs is endorsed and similarly Government is committed to accelerate actions to meet the ICPD +25 goals.

COVID-19 implications at various levels

The PSA is being carried out with the prevailing pandemic COVID-19 which will have its impact on all aspects of life in Pakistan. This is reflected on the outlook of GDP growth turning negative for FY2020, for the first time in seventy years. Furthermore, this impact covers every aspect of life including health system, education activities, and trade, transport, manufacturing, and construction sectors of the economy. According to the Pakistan Economic Survey 2019-20, millions of workers are likely to lose their jobs because of the COVID-19 related effects. It may have an impact on the pattern of internal migration as well; many migrants may have returned to their communities of origin in rural areas. It may also affect overseas employment opportunities for Pakistani workers as well as foreign remittances. Before the outbreak of COVID-19, about 9 million Pakistanis were working or living in different parts of the world, mainly in Gulf countries, Europe (UK) and North America. These workers send home

more than US$20 billion per annum. A reduction of more than 20% in foreign remittances is projected by different sources.

Another study carried out in collaboration between all UN organizations and other international organizations in Pakistan sets out the framework for immediate socio-economic response to COVID-19 in Pakistan[2]. It concludes that without urgent response measures, COVID-19 might push back hard-won gains in poverty reduction and social indicators. It indicated that the GDP is projected to contract by 1.5% in FY2020 and there is a real risk that poverty will increase. The study aims to support the government to save lives, protect people and recover better. It covered the situation for five pillars:

1. Health: focusing on protecting the health system during the crisis – both community and facility-based responses,
2. Social protection and helping people cope through relief packages, basic services, and food security,
3. Protecting jobs vulnerable productive actors and micro, small and medium size enterprises (MSMEs) through economic recovery programmes,
4. Macroeconomic response and multilateral collaboration; and,
5. Cross-cutting aspects of the COVID-19 response, focusing on social cohesion and community resilience.

In sum, COVID-19 represents a major challenge that affected the country in various areas as well as the PSA exercise as previously explained.

[2] COVID-19: Pakistan Socio-Economic Framework (version 14 May 2020), UN Pakistan.


VICTORIA

2

Methodology and Data Issues

2.1 Introduction

This chapter presents the methodological approach that will be adopted through the whole PSA exercise, and elaborates the sources of data utilized for the PSA. However, the discussion on methodology is confined to outlining the guiding principles applied for the analysis of the population situation in Pakistan. The choice of datasets for the PSA is based on their statistical soundness and representativeness at the province and regional (rural/urban) levels, and no attempt has been made to evaluate different datasets. Moreover, this chapter gives a brief description of the national statistical system and outlines the major data limitations and gaps as well. Impact of COVID-19 on the national statistical system and the way forward, i.e. future plans of the Pakistan Bureau of Statistics (PBS) – and some recommendations are also given at the end of the chapter.

2.2 Methodology

Pakistan's PSA has followed the UNFPA's PSA methodology, which postulates the assessment of population dynamics, their relationship with social, economic, political and cultural processes and their short and medium-term repercussions. The UNFPA's methodology also places emphasis on highlighting inequality, so the ways in which social, gender, age-related and ethnic differences and their demographic repercussions feedback upon each other through various pathways and mechanisms should be underscored (UNFPA, 2010). However, this methodology is merely a guide and recognizes that each country has different requirements and circumstances regarding policy issues; political priorities; data availability; and with regard to socio-economic and cultural background. For instance, the current pandemic of COVID-19 was not foreseen when the UNFPA's PSA manual was designed and prepared. This event requires a significant attention in the PSA exercise, although it will take time to know its real impact on Population dynamics.

Considering the importance of country-specific requirements, the major theme of the Pakistan PSA and its contents (outline) were shared and discussed extensively with the stakeholders and were finalized with their consultation. The approach used for the Pakistan PSA can broadly be divided into three components. First, it analyses the socio-economic and political situation in Pakistan, highlights the national goals and presents the international commitments and goals related to the International Conference on Population and Development (ICPD), Nairobi Summit on ICPD 25 to accelerate the implementation of the goals, and the SDGs. Second, it examines the dynamics of population, reproductive health and family planning, changes in age structure, fertility, mortality, migration, maternal and new-born heath, maternal morbidity, malnutrition, STI, and HIV/AIDS. Third, the PSA investigates the status and prospects of demographic dividend focusing on education and employment, explores linkages between population and climate change and presents poverty and inequality dimensions of population. To the extent possible, all data and indicators were triangulated to ensure their consistency and increase confidence in research findings.

The PSA is an intensive participatory exercise including all stakeholders at various levels to accommodate their priorities. Based on this deliberation with stakeholders, provincial and regional (rural/urban) differentials are made an integral part of the Pakistan PSA methodology. The key socio-demographic indicators of Pakistan have also been compared with the situation of other regional countries including Bangladesh, India, and Sri Lanka. Iran, being a Muslim neighboring country, has also been included in the comparison.

Moreover, all components of the PSA have used historical data, covering the last several decades, to see changes over time.

The data requirements for the PSA are immense, but it had to rely on the available data sources such as population censuses, demographic and labour force surveys, national accounts, and climate change statistics. Pakistan is rich in demographic, social, economic and environment related data sources, although nothing is perfect.

2.3 Overview of data: Sources, coverage, and validity

Pakistan's National Statistical System (NNS) is a combination of both centralized and de-centralized systems. It is made up of four building blocks of statistics namely, (1) Pakistan Bureau of Statistics (PBS) at the federal level, (2) four Bureaus of Statistics functioning at the provincial level, (3) Federal and Provincial Ministries/Departments/ Regulatory bodies which collect statistics on different aspects, including the State Bank of Pakistan, and (4) other stakeholders including NGOs, donors, etc. The PBS, which is the official agency at the federal level, is presently attached to the Planning and Development Division, Islamabad. Before this attachment, the PBS was attached to the Statistics Division, which has been abolished. The Provincial Statistical Bureaus are attached to their respective Planning and Development Boards/ Departments.

Two main developments should be highlighted at the beginning of this section because of their impact on the NSS:

- First, the 18th Constitutional Amendment, passed by the parliament in 2010, devolved concurrent list of state functions to the provincial governments, which now need more elaborate provincial and regional statistics for effective planning and governance. However, it is important to note that the 18th amendment has not affected the functioning of federal or Provincial Statistical Bureaus/authorities.
- Second, in 2011, the Parliament passed the General Statistics (Reorganization) Act, 2011, which extends to the whole of Pakistan. At present, both the PBS and Provincial Statistics Bureaus or authorities are managed under this Act. The present PBS is a merger of the former Federal Bureau of Statistics (FBS), the former Agricultural Census Organization (ACO) and the former Population Census Organization (PCO), according to the Statistics Act 2011. The Act has not only reorganized these federal level statistical authorities, but also has assigned responsibilities to the PBS and provincial Bureaus of Statistics (see following section for detail).

After the 18th amendment, it is a challenge to generate data at different levels that are comparable across time and different regional/provincial levels. However, this comparability of data across provinces and regions is more a requirement of the federation than of the provinces, which may seek and generate consistent statistics primarily for their respective provinces and/or districts. Therefore, the PBS can better manage the generation of comparable statistics across provinces than other authorities can. For instance, all household surveys of the PBS are representative at the province level.

The PSA is a data-intensive report that requires a comprehensive and holistic approach. It requires data not only at macro level, but also on individual key sectors of the economy and society, and at the micro level (Individual or household). Moreover, the data should be comparable across time and regional level, especially with the stakeholders' suggestion that provincial dimensions should be emphasized within the PSA.

2.3.1 The national statistical system: Structure and coverage

Pakistan Bureau of Statistics (PBS)

The Statistics Act 2011 empowers the PBS to collect, compile, analyze, abstract, publish, market and disseminate statistical information relating to the commerce and trade, industrial, financial, social, economic, demographic, agricultural and any other area to be specified by the Federal Government and conditions of the people of Pakistan. PBS is working based on annual plans approved by its Governing Council and all efforts are made to implement such planned activities.[3]

In response to society's pressing needs, the PBS can take initiatives to foster the evolution of product lines. The key functions of PBS include:

- collection, compilation, and analysis of statistical data relating to various sectors of the economy
- publication of statistical data
- supply of statistical information to Federal Ministries, Provincial Governments, and other organizations
- research with a view to improving statistics
- exchange of statistical information with foreign countries
- technical advice and statistical coordination with other departments
- evaluation and introduction of standard concepts, definitions and classifications pertaining to national statistical series
- clearance of statistical projects undertaken by different organizations
- evaluation of efficient computation methods for statistical estimation
- implementation of policy laid down by the Ministry/Division by suitably adopting the Statistical System of Pakistan to conform with the policy, and
- Undertaking National censuses and surveys.

The PBS collects data through primary and secondary sources and government administrative records. Its data through primary sources include the Price Statistics, Labour Force Statistics, Demographic Statistics, Household Income & Expenditure Statistics, and Statistics on Social & Economic status of household, Private Building Construction Statistics, Population & Housing Census, Agriculture and Livestock Censuses. The data from secondary sources include Statistics of Manufacturing Industries, Social Statistics like Education, Health, Sports and Culture, Mining and Electricity Undertakings Statistics, and Business and Communication. The administrative records managed by the PBS include the Foreign Trade Statistics, and Public Finance Statistics. A major function of the PBS has been the preparation of National Accounts, following the international standards.

Over the years, the PBS has built its capacity to collect data from all areas of the country, especially remote areas. It has 34 regional offices covering all areas of the country, with a strong team of enumerators and supervisors, both male and female. It has developed its rural and urban sampling frame. It also has an efficient system of data processing to handle large datasets like the census of population and housing. The PBS publishes the statistical data and supplies statistical information to Federal Ministries, Provincial Governments and other National and International Organizations. It also provides advice in technical matters like sample design and preparation of questionnaires to other agencies/departments in both public and private sectors. The PBS provides on-the-job-training to the working statisticians of various federal/provincial organizations.

[3] In 2016, PBS prepared a draft document for the development of National Statistical System including the formulation of National Strategic Plan, but it was not finalized.

PBS is also concerned with the quality of various outputs and the timeliness of its products. It adopts different tools to ensure such goal and certify that estimates produced by PBS are on a par with international standards. This is confirmed by International Agencies that are reviewing the methodology adopted and continuously using the data and indicators produced by PBS. These include World Bank (WB), International Monetary Fund (IMF), Asian Development Bank (ADB), Food and Agriculture Organization (FAO), International Labour Organization (ILO), United Nations Statistics Division (UNSD). The quality initiatives adopted by PBS include:

- Digitalization of PBS surveys (electronic data collection through tablets linked to GIS system) for reliable, timely and authentic data.
- Enhance accurate coverage, increase data reliability and monitoring of data collection through digitizing all urban blocks and currently digitization of rural blocks is in progress.
- Ensure the efficiency field staff through organizing relevant training before launching any Survey or Census.
- Undertake pilot surveys to identify and fix any problems and avoid problems.
- Design communication mechanism between HQ staff and fieldworkers (dedicated WhatsApp groups and helplines) to ensure continuous communication to clarify concepts and accurate data collection.
- Monitoring fieldworks physically through field visits by various layers of the Bureau as well as through exclusively designed customized dashboards (linked with GIS) for ensuring data quality.
- Built in validation checks/rules in data entry application also ensure collection of quality data.

Provincial Bureaus

The Statistics ACT 2011 authorizes the provincial authorities (bureaus) to collect and compile data for their respective provinces. In fact, the key functions of Provincial Bureaus are not different from the PBS, as discussed above, but are restricted to their provinces. Accordingly, the four Provincial Bureaus generate useful data through the Census of Manufacturing Industries (CMI), Monthly Survey of Industrial Production and Employment, Directory of Registered Factories, Education and Health Statistics, and district-level representative surveys like the Multiple Indicator Cluster Survey (MICS).

The Statistics ACT 2011 guides the provincial authorities (Bureaus) to adopt the standards provided by the Pakistan Bureau of Statistics (PBS) and to ensure harmonization at Federal and Provincial level. However, it is important to clarify how this harmonization in statistics is ensured, and to explore the possibilities of overlap in data collected by the PBS and Provincial Bureaus.

Provincial Bureaus in general follow the standards set by the PBS for data collection. For example, the former uses the urban sampling frame developed by the latter to draw their samples for household surveys. Training activities for the statistical workers are open for the professionals working in both the PBS and Provincial Bureaus. Only the PBS also ensures harmonization through the generation of national statistics. Similarly, there is no serious overlapping in data collection, although the MICS collects data on some socio-demographic indicators, which are also part of the PBS surveys e.g., PSLM. However, the focus of MICS remains the generation of statistics representative at the district level. For provincial comparison, policymakers, researchers, and other stakeholders commonly use the statistics generated by the PBS.

Although Provincial Bureau of Statistics (BOS) and Crops Reporting Service (CRS) are independent in their functions, whenever required technical support and full cooperation is extended by PBS. This includes support and the development of their sample designs and sample selection for different data collection exercises. PBS also supports them for implementation of international standards and definitions.

Others public sector organizations

A strong department of statistics is functional at the State Bank of Pakistan, generating statistics on

several macro-economic indicators such as balance of payments, workers' remittances etc. In addition, some provincial ministries, particularly health and education, have also developed their information systems to generate data for monitoring as well as policy purposes. At the federal level, Federal Board of Revenue (FBR), Ministry of Overseas Pakistanis and Human Resource Development (MOPHRD) and Ministry of Foreign Affairs generate data for public use. In this PSA (Chapter 4), the registration data of the Bureau of Emigration and Overseas Employment (BEOE), a department of the MOPHRD, has been used to examine the trends in overseas migration for employment. More than 100 observation stations of the Pakistan Metrological Department (PMD) generate climate data covering temperature, rainfall, and snow. Data on these indicators has been available since the 1960s from at least 55 stations spread over all provinces/ regions of the country. The Pakistan Economic Survey, which is published annually by the federal Finance Ministry before the budget announcement reports the major statistics generated by the PBS, State Bank of Pakistan, Provincial Bureaus, and other government departments.

Civil Registration

Civil registration is defined as the continuous, permanent, compulsory, and universal recording of the occurrence and characteristics of vital events (live birth, death, marriage, divorce, migration etc.) and other civil status events pertaining to the population in accordance with the law. Records of vital events from civil registration are the critical source of vital statistics. In Pakistan, civil registration takes place in local union councils throughout the country. The legally defined period for birth registration is 1 month, and 60 days for death registration. Both registrations are free of charge in most cases. However, only a small proportion of births are being recorded, with almost no death registration mechanisms. The PDHS 2017-18 shows that at the national level only 42 percent of births were registered, with considerable variation at provincial level - Punjab 58%, Sindh 28%, Khyber Pakhtunkhwa 19%, Balochistan 38%, FATA 2%, and Islamabad 82% (National Institute of Population Studies, 2019). Cause of death information is lacking as well. Accordingly, very little vital statistics information is presently generated from the civil registration system in Pakistan.

The civil registry system is not only weak, but it also does not cover all vital events. The National Database and Registration Authority (NADRA) was established in 2000, as an independent body with autonomy to operate independently. The registration of births, deaths, marriages, and divorces is mandatory, and NADRA was given the responsibility to establish a Civil Responsibility Management System (CRVS). In October 2017, a technical support unit for CRVS was established in the Planning Commission, Islamabad. In addition to this, Pakistan recently launched a new project for registration of births. The project is a joint effort between UNICEF and the Punjab and Sindh provincial governments. The project is designed to increase the birth registration rate in targeted districts, and furthermore, Sindh and Punjab governments committed to achieve universal birth registration and vital statistics by 2024. The Punjab government has also introduced CRVS for the issuance of death certificates in the province. Currently, Pakistan does not produce a vital statistics report from civil registration data as coverage of civil registration is too low. The statistical offices at national and provincial levels are using the census and other survey data like MICS and DHS for the reporting of demographic information/data on fertility, child mortality, marital status.

2.3.2 Main sources of data used in the PSA

Population and Housing Census

The first housing and population census of 1951 was held four years after partition and the enormous migration of population that took place between India and Pakistan. The 1951 census followed the same pattern and method set by the British, and special emphasis was placed on the enumeration of displaced persons and their characteristics[4] (Jillani, 2003). The census was conducted under the

[4] The detailed census data provide the information on claims for property and employment by displaced persons.

supervision of Mr. E. H. Slade who had a background in statistics, which explains the soundness of that census. The data for displaced persons made it possible to analyze the impact of migration on socio-economic characteristics. The process of urbanization just started after the large-scale migration by refugees and the first census provided the benchmark data about the development of cities and towns. However, not much research and analytical work has been done on the changes brought by the 1947 migration. In the 1951 census no clear instruction was given about the counting of temporarily absent persons (Jilani, 2003).

The second census of population was conducted in 1961 and was the first census which was totally a Pakistani effort; at the time of enumeration, a number of Pakistanis had been trained in demography. The 1961 census was conducted by a member of the elite civil services of Pakistan, and the convention of appointing a senior civil servant as head of census continued until the latest census. The population census office was located in the Ministry of Interior or the Home Department and results of some areas remained classified. In the 1961 census some information was gathered about the enumeration of absent persons, but it was observed that during the enumeration some were counted at their normal residence and some were at their present residence. The 1961 census was a good quality census, and its results were widely accepted.

The third census was scheduled to be held in 1971, but due to unrest in East Pakistan, the census was held in 1972 after the East Pakistan debacle. The 1972 census had two phases; in the first phase the big count took place, and in the second phase the Housing, Economic and Demographic Survey (HED) was held in 1973. The phase-2 HED survey consisted of 10 percent of the total population; it obtained the data on those variables which were not covered by the big count of phase one, and the big count questions were also included in the survey. As compared to the previous census, no improvement was made regarding coverage (Chaudhry, 1998).

The fourth census was undertaken in 1981, and it had short and long questionnaires. The short questionnaire was used for the big count, while the long questionnaire, applied to 10 percent of the population, had questions related to sex, age, marital status, religion, literacy, education, employment, migration etc. In the 1981 census the question about literacy was asked in a more meaningful manner, "Whether a person can read a newspaper and write a simple letter", and this definition is closer to functional literacy while in earlier censuses e.g. the 1972 census, it refers to those who could read and write with understanding. The other two major contributions of the 1981 census were the clarity in the definition of labour force and working population, and the streamlining of procedures for tabulation of information obtained from the big count and the survey of 10 percent of population. The census of 1981 was held in a calm environment, and the quality of data was accepted to be better as compared to the previous census. However, the census organization faced difficulties collecting data from Tribal Areas or FATA, because the people were reluctant to share their information and it became a cause of delay in publication of results. The census organization published many reports without the FATA figures. In the 1981 census, instructions were given about the coverage of people who were living at their normal residence. However, there was no instruction in the manual about people who were staying in sanatoria, mental hospitals, jails, and other such places; armed forces personnel living in barracks and civilians working with them; persons staying in hotels, motels and at other such places; homeless people, mobile and seasonal migrants and people living in mobile residential units. According to Chaudhry (2003) Afghan refugees who were not living in refugee camps were counted without identifying them as refugees.

The fifth census was conducted in 1998, after a gap of 17 years. It was scheduled in 1991 and was postponed because some serious distortions were observed in the house listing, carried out in November-December 1990, especially in Sindh, Balochistan and FATA. The operation was called off and it was decided to proceed afresh (Khan, 1998). The census then took place in 1998, with the involvement of the army. Regarding the coverage of the 1998 census, Chaudhry (2003) stated that "in the absence of post evaluation survey, nothing precisely can be said about the coverage accuracy

of the 1998 census". However, comparing de jure and de facto counts of the population that emerged through the census, it appears that the 1998 census suffers 2.04 per cent misreporting". For the 1998 census, in addition to the maps prepared for the 1981 census, sketch maps of blocks in rural areas were also prepared. The changes in mapping work, together with delimitation of census areas, helped in improvement of coverage of the head count over time. Like the previous census (1981), short and long questionnaires were used in the 1998 census. The short questionnaire was used for the big count, and the long questionnaire gathered information on employment, migration, and fertility. In the 1998 census, all aliens, except Afghan refugees, were enumerated but as a policy decision, they were excluded from the census count in published data. The question on migration could not provide any information about rural/urban residence of the individual migrant to determine from where migrants had come.

The sixth census was scheduled to be held in 2008, but due to the uncertain law and order situation and lack of political will, it was not held until 2017. The Supreme Court of Pakistan took a Suo Moto notice in July 2016 regarding delay in conducting the sixth population census and directed the Government of Pakistan to carry out the census as soon as possible. The 2017 census was conducted in 2 phases. The first phase lasted from 15 March 2017 to 13 April 2017 and covered 63 districts of the country. The second phase began on 25 April 2017 and lasted until 24 May 2017, covering the remaining 88 districts. The House Listing and Population & Housing Census were conducted in one go i.e., the first three days for the house listing followed by 10 days for census operation and one day for homeless population. The PBS made all institutional and administrative arrangements, from its head office in Islamabad to the enumeration block level to carry out the census activities. The census was conducted by 91,000 enumerators from various government sectors, with the support of army personnel. Among all censuses carried out in Pakistan since 1951, the sixth census (2017) had the longest period of enumeration process. Population was counted during the 2017 census at usual place of residence (de-jure method). It is worth noting that the 2017 census did not use the long questionnaire to gather information on disability, fertility and migration. In other words, only the short questionnaire was administered to collect data on basic demographic and some other social indicators e.g., employment and housing. All persons residing in the country except diplomats and refugees living in camps were counted in the census process. The PBS also managed timely processing of the census forms received from the field. The Council of Common Interests (CCI) has not yet approved the results of the 2017 census and only results of the big count are available as provisional results. The quality issue and reasons for not releasing the 2017 census results are discussed in a later section of this chapter.

Household Surveys

Pakistan has a long history of conducting different household surveys. Their importance for policy formulation as well as research purposes has increased manifold over time in the context of inadequate/incomplete civil registration system and failure to conduct timely population censuses. The PBS (or FBS) has been conducting periodically different household surveys since the 1960s e.g., Household Income and Expenditure Survey (HIES), Pakistan Labour Force Survey (LFS). MICS is the more recent initiative of the Provincial Statistical Bureaus. Pakistan has also conducted four rounds of the Demographic and Heath Surveys (DHS). All these surveys have largely filled the data gaps created by the weak vital registration system and the irregularity in conducting population censuses. The data generated by the household surveys have also enabled social scientists to examine a wide range of issues, including natural increase in population, education, employment, poverty, health, nutrition, and housing.

Pakistan Demographic Survey (PDS)

The Pakistan Demographic Survey (PDS), initiated in 1984 by the PBS (FBS), has been a major source on demographic indicators particularly on crude birth rate, crude death rate and natural increase. Feeney and Alam (2003) claim that 'the most important evidence of fertility decline [in Pakistan] comes from the PDS, which seems not to have received

the recognition (or the dissemination) that it merits'. Unfortunately, the PBS stopped the PDS temporarily in 2007 in order to conduct the population census in 2008, which even could not be conducted on time, but the PDS remained suspended for a long time. The PBS has now planned to restart the PDS series soon. The present PSA has used the PDS-generated information in analyzing the demographic transition. The main objectives of the PDS are to collect statistics of births and deaths in order to arrive at various measures of fertility and mortality for Pakistan and its rural and urban areas. Moreover, to estimate the current rate of natural increase of population at national level; and to collect information on other selected characteristics of population to assess the impact of family planning and other socio-economic development programs. The universe consists of all urban and rural areas of all four provinces of Pakistan. In the early years, PDS sample households were visited at quarterly intervals and information on births and deaths during the six months prior to the interview were recorded. The reports on events for the earlier 3 of the 6 months were then matched against the reports for the same period from the preceding survey. Later this scheme was modified to 2 visits per year with a 6-month recording period.

Pakistan Demographic and Health Survey (PDHS)

The Demographic and Health Surveys (DHS) Program, which is a global initiative, has collected, analyzed, and disseminated accurate and representative data on population, health, HIV, and nutrition through more than 400 surveys in over 90 countries. Under this program, four rounds entitled "Pakistan Demographic and Health Survey (PDHS)" were carried out in 1990-91, 2006-07, 2012-13, and 2017-18. The National Institute of Population Studies (NIPS) is the implementation agency for the PDHS. All four rounds of the PDHS give the statistics representative at the national as well as province level. The last round of PDHS 2017-18, for example, is representative for 13 domains including four provinces Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan with urban/rural breakdown, Islamabad, Azad Jammu and Kashmir with urban and rural domain, Gilgit-Baltistan, and Federally Administrative Tribal Area (FATA). The response rate of PDHS 2017-18 was around 96 percent. The DHS also report the quality of tables, and design effect, relative standard errors, and confidence intervals of all major indicators at domain level. The PDHS is considered as one of the most reliable sources for demographic indicators, particularly for fertility and contraceptive prevalence rate (CPR). The Pakistan Economic Survey regularly reports the findings of the PDHS. For example, the 2017-18 PDHS reported a stagnation in CPR and no major decline in fertility (total fertility rate). The findings of the 2017 Population Census - the inter-censal annual population growth rate as 2.4 percent – reinforced the PDHS results on CPR and fertility. The PSA has used the four rounds of PDHS data extensively while analyzing the population dynamics and reproductive health issues.

The PDHS for year 2006-07 had detailed data on maternal mortality, cause of maternal deaths, adult and age specific mortality deaths. The following rounds of the PDHS, 2012-13 and 2017-18, were not designed for the estimation of maternal mortality ratio (MMR). A special survey named Pakistan Maternal Mortality Survey (PMMS) was carried out in 2019, with a very large sample of more than 100,000 households, based on a methodology comparable with previous PDHS of 2006-07 (for results on MMR see chapter 4). The PMMS also has a detailed section on maternal morbidity that has provided new insights for Pakistan.

Multiple Indicator Cluster Survey (MICS)

At provincial level, the Multiple Indicator Cluster Survey (MICS) was carried out at different points of time for each province. It is representative at district level. In Punjab, the MICSs were carried out in 2011, 2014, and 2017-18, in Sindh it was carried out in 2014 and 2018-19 but the results of Sindh 2018-19 have not been released because of the delay in data processing. In Khyber Pakhtunkhwa, the MICS was carried out in 2016-17, and 2019, and the results of 2019 MICS have not yet been released. In Balochistan, the MICS was held in 2010, and 2019-20, and the results of 2019-20 have not yet been released. All MICS surveys report the confidence intervals and relative standard errors for indicators at domain level.

These surveys are designed to generate statistics representative at the district level for the monitoring of some social indicators. However, the utilization of its results is irregular and varies by provinces. As an example, the Punjab Government has been effectively using the MICS generated statistics on education, health, nutrition, and demographic indicators.

Pakistan Social and Living Standard Measurement (PSLM) survey

The Pakistan Social and Living Standard Measurement (PSLM) project was designed to provide data on social and economic indicators at national, provincial, and district levels; it is executed by the PBS. It has been conducted at provincial and district level respectively in alternate years. At district level, it only covers social aspects, whereas PSLM provincial level covers data on social, income and consumption patterns of households and is known as HIES (Household Integrated Economic Survey). There are twelve survey sets of PSLM from 2004 to 2018; out of which six are representative at district level (2004-05, 2006-07, 2008-09, 2010-11, 2012-13, and 2014-15). The other six data sets are representative at provincial level (2005-06, 2007-08, 2011-12, 2013-14, 2015-16, and 2018-19) with urban rural breakdown. There are nine available HIES/PSLM (2001-02, 2004-05, 2005-06, 2007-08, 2010,11, 2011-12, 2013-14, 2015-16, and 2018-19) which are provincial representative with urban/rural breakdown. It is worth noting that HIES has been a major economic data source since 1963. To determine the reliability of each indicator the PSLM computes the confidence interval and standard errors of main indicators. For the present PSA, the PSLM is the main data source for the analysis of educational achievements in Pakistan in the context of demographic dividend (Chapter 6).

Pakistan Labour Force Survey

The Labour Force Survey (LFS) is also representative at provincial level with urban/rural breakdowns. The first LFS was conducted in 1963, and since then it has been a regular survey of the PBS. The LFS questionnaire was revised in 1990 and it included the marginal activities mostly carried out by women. The questionnaire was further revised in 1995 to include composition of migration and the informal sector. In 2001-02, the occupational safety and health of employed person's module were included. From 2005-06 onward, the LFS was quarterly representative to capture the effect of seasonality on the labour market. The LFS also reported the confidence intervals and coefficient of variation for some key indicators to access the quality of survey and indicators. LFS has been the key data source for the employment component of the demographic dividend (Chapter 6).

Time series data

Time series data is a set of observations on the values that a variable takes at different times. Such data are required particularly for Chapters 3, 6 and 7 to examine the relationships between population and development, to analyze the demographic dividend and to assess population and climate change linkages. The PSA has used the time series data on macroeconomic indicators e.g., GDP growth, FDI, data on climate change, produced by the PDM and emigration statistics generated by the BEOE. As noted earlier, for regional comparison, the PSA has focused on Bangladesh, India, Iran and Sri Lanka, covering the 1980-2020 period. International data sources have also been used for this comparison. For example, the United Nations Inter-Agency Group for Child Mortality Estimation (UN IGME) was formed in 2004 to share data on child mortality, improve methods for child mortality estimation, report on progress towards child survival goals, and enhance country capacity to produce timely and properly assessed estimates of child mortality. UN IGME updates its child mortality estimates annually after reviewing newly available data and assessing data quality. Similarly, the PSA has used the twenty-sixth round of official United Nations population estimates and projections that have been prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. It is important to note that the NIPS is officially responsible for the projections of population. However, the NIPS has not produced the latest projections, based on the 2017 census, because its full results are not available.

Administrative records

The following statistical series based on administrative records are kept, updated, and disseminated regularly in Pakistan. However, the PBS website includes only Foreign Trade Statistics and Public Finance Statistics. Some of these statistics have been used in the PSA, particularly in Chapters 3, 4, 5, 6 and 7:

1. Public Finance
2. Exports/Imports
3. Direction of External Trade
4. Balance of Payments
5. Foreign debt and debt services
6. Foreign remittances
7. Transport & Communication
8. Education
9. Health
10. Stock Exchange/Capital Market
11. Production of manufacturing items
12. Crimes
13. News Papers/Periodical/cinema Films
14. Climate
15. River inflows
16. Rain Fall
17. Production of crude oil
18. Production of Natural Gas
19. Electricity generation
20. Traffic Accidents
21. Visitors to Museums in Pakistan
22. Visitors to Heritage sites in Pakistan

In short, the PSA has used extensively all the datasets discussed above including population censuses, household surveys, such as four rounds of PDHS, recent survey of PMMS 2019, all rounds of PSLM, LFS since 2001, PDS and MICS to some extent. In developing countries, most of the demographic surveys are prone to incompleteness and have quality issues like inconsistency between responses to different questions. To avoid these problems, these surveys adopted a policy of primary and secondary editing and imputation, which results in a data file that accurately reflects the population studies and may be readily used for analysis. Most surveys like PDHS, MICS, PSLM report the data quality tables, and standard error, design effect, relative error, and confidence intervals for each indicator at domain level. However, no research is found in the public domain for quality control and validity for LFS, PSLM, and HIES.

2.4 Data limitations and gaps

It is beyond the scope of the PSA to assess the national statistical system in Pakistan including the overall quality of data, which is an extensive independent exercise. However, it seems appropriate here to give a very brief overview of the past assessments of the system by three sources: IMF Statistics Review, 2009, Users' views of data 2006 and 2010 (national accounts mainly) by GIZ and gap analysis, as reported in the PBS's 2016 National Strategy for the Development of Statistics (NSDS).

First, the enactment of the General Statistics Act 2011 is timely, and it would demonstrate the authorities' serious intent to improve the statistical system to the international standard, especially on transparency and independence of statistical compilation. The gap analysis shows that there has been a general perception of lack of confidence in the reliability of national statistical data, with accusation of Government's interference to manipulate data to meet political objectives. Therefore, the new Act provides functional autonomy to the PBS with a Governing Council comprising majority representation from the private sector and a professional Chief Statistician and Members. Second, the National Statistical System is responsive to needs articulated by donor agencies, especially when they agree to fund the respective surveys. But the system is neither responsive nor relevant to the expanding needs of policy makers and other stakeholders. There has been a lack of knowledge of these needs. Third, there is a need for strengthening the national statistical system to develop a coherent, coordinated, and sustainable system of data collection, analysis, and dissemination in the context of the 18th Constitutional Amendment whereby the Concurrent List of state functions has been devolved to the Provincial Governments, which now need more elaborate Provincial/Regional statistics for effective Governance. The Provincial Bureaus may not be able to meet these requirements due to capacity constraints. For the PBS it is a challenge to extend its statistics by disaggregation of data at Provincial/ Regional/ District levels and also to provide leadership, guidance and coordination and support in establishing a system which would have chain linkages, both vertical and horizontal, which must meet the increasing needs of all levels of Government. Finally, timeliness of data is essential for an effective national statistical system; and the data generated at different levels need to be comparable both across time and space.

The rest of this section discusses the limitations and gaps in the data sources used for the PSA. It also gives the way-forward and some recommendations for improving the national statistical system and quality of data.

2.4.1 Population and housing censuses

The quality of the six population and housing censuses, carried out over the 1951-2017 period, has not been assessed in any systematic manner. The scientific studies on the subject are very limited as well. Based on available information in the form of comments, observations, assessments, and scientific studies, one broad conclusion is that over- or under-enumeration has been reported or discussed for all population censuses except the 1951 census, which, according to Jilani (2003) was comparatively objective and honest.

For the next four censuses, carried out in 1961, 1972, 1981 and 1998, Feeney and Alam (2003), based on their census-projection comparisons pointed to three conclusions:

i. The 1961 and the 1998 censuses enumerated the population with approximately equal accuracy,

ii. The 1972 and the 1981 censuses also enumerated the population with approximately equal accuracy, and,

iii. The accuracy of enumeration in 1961 and 1998 differed from the accuracy of enumeration in 1972 and 1981 by approximately 10 percent, with the 1961 and 1998 censuses indicating a smaller population and the 1972 and 1981 censuses a larger population.

They argued that these observed differences could be accounted for by: (1) accurate enumeration in the 1972 and 1981 censuses and approximately 10 percent under-enumeration in the 1961 and 1998 censuses; (2) accurate enumeration in the 1961 and 1998 censuses and approximately 10 percent over-enumeration in the 1972 and 1981 censuses; or (3) any combination of under-enumeration in the 1961 and 1998 censuses and over-enumeration in the 1972 and 1981 censuses that gives a 10 percent difference in level between (a) the 1961 and 1998 censuses and (b) the 1972 and 1981 censuses. After a thorough review of the evidence, Feeney and Alam (2003) concluded that the total population size at each census (1961, 1972, 1981 and 1998) is uncertain, because of the uncertainties about the accuracy of the four census enumerations. The best chance for resolution, they argue, will undoubtedly be a future population census enumeration, carried out with rigorous measures to detect and control any tendencies to over-enumeration and followed by a census evaluation survey to measure under-enumeration.

Unfortunately, the latest sixth population census carried out in 2017 could not settle the uncertainties. The provincial results of the 2017 census have raised many concerns and controversies from Sindh and Balochistan provinces. Only provisional results are available for the 2017 population census, including the number of households, population (gender wise), sex ratio, and population growth rates by province and districts. The detailed tables like age distribution, religion, mother language, marital status, education, literacy, occupation, housing characteristics, and modes of communication etc. are not available. The release of this detail requires the formal approval of the 2017 census results from the CCI. The provisional results raised disagreements among some political parties and provincial governments, especially related to the sub-national results for Sindh and Balochistan, in particular the population of Karachi. The Council of Common Interests (CCI) has not approved the final census results due to the disagreement.

Census results are never perfect, either in developed or developing countries, and under or over counting of people does happen. To check the validation of census results, a Post Enumeration Survey (PES) is highly recommended by the United Nations. The sub-committee of the 2017 census, national and international experts, also recommended a PES, but the PBS could not conduct it. The PES exercise in many countries shows varying results. For example, In the sub-continent, the 2011 Bangladesh census missed 4 percent of population (Bangladesh Institute of Development Studies, 2012); the Indian census of 2011 missed 2.3 percent of population, with wide regional variations and higher underreporting in urban areas (Registrar General and Census Commissioner, 2014).

A recent study by Wazir and Goujon (2019) analyzed the quality of the 2017 population census at sub-national level using the dataset of the 1998 census and all available inter-censal surveys by applying the cohort-component method of population projection. The study arrived at an estimated figure of 212.4 million as compared to 207.7 million by the 2017 census at the national level. The difference is 2.3 percent at the national level, which is in an acceptable range. At the national level, the reconstructed results were close to the census results, but there are differences at the provincial level and the variation leads to larger population in Punjab, Sindh, and Islamabad (ICT) and lower population in KPK, Balochistan and FATA as compared to the 2017 census. The difference of 2.3 percent for the 2017 census estimated by Wazir and Goujon (2019) is much lower than the difference pointed out by Feeney and Alam (2003) for the earlier four censuses, 1961, 1972, 1981 and 1998, as discussed above.

In addition to not holding the PES, the other major issues and reservations concerning the 2017 census process are as follows:

- First, there was confusion about whether the 2017 census was counting de jure or de facto residents. The census was planned to record usual residents (de jure) but the questionnaire had the following statement, "Please do not include members of the household, who are absent for education, employment etc." The questionnaire did not collect the information on the duration of stay in place and it is difficult to know whether the person is living permanently or living for some time (Karim, 2018).

- Second, the pilot census was not conducted due to security concerns, so the census was carried out without a validation mechanism of tools and process.
- Third, it was decided that the CNIC (Computerized National Identity Card) number of the head of household or any other household member would be recorded to check validity for the verification purpose. The UNFPA Observer Mission Report mentioned that mostly information about household members on CNIC was used by enumerators (UNFPA, 2017). However, if an enumerator relied on the information available on CNIC, the migrant population who had not changed their addresses in CNIC are likely to have been excluded from counting due to the use of de jure methodology (Karim, 2018).
- Fourth, the UNFPA Observers' Mission Report also pointed out that in some areas, maps were not available and households were not marked properly (UNFPA, 2017).
- Fifth, the census ignored basic standards like breach of universality by not enumerating the refugee camps/villages.
- Sixth, there was a lack of coordination among the national bodies during the census process.

However, it is difficult to determine the impact of all these issues/reservations on the accuracy of the 2017 census results. Political motivations behind the census controversies are commonly reported, because the census affects the allocation of national and provincial assembly seats across the provinces, and the distribution of resources from federal to provincial governments through the NFC (National Finance Commission) award. For example, after the provisional results of the 2017 census, the Election Commission of Pakistan readjusted these seats.

The first NFC Award was announced in 1974, with the distribution ratio between federal government and provinces as 20:80, respectively. The criterion for horizontal distribution among provinces was decided to be population. Punjab, being the biggest in population, was advantaged, while the other three provinces suffered. The Seventh NFC Award announced in 2010 is a milestone in the history of Pakistan, which introduced improvements and variation in the resource distribution criteria. The demands of Sindh, Balochistan and KPK were recognized. It has followed multi-dimensional revenue distribution criteria. In addition to population (82%), other parameters have also been included - poverty (10.3%), revenue collection (5%), and inverse population density (2.7%), as demanded by Sindh, KPK and Balochistan. Balochistan being the largest in area and scattered in population, demanded the criteria of inverse population density to be included in the revenue sharing formula. However, despite these changes, population remained the single key factor in resource distribution. A large population seems to be desirable for the political forces to attract a higher share from the divisible pool for their respective provinces.

The delay in the release of detailed 2017 census data has serious implications for the development efforts of the country. All tiers of the government need full census statistics to serve the population better.

The impact of COVID-19 in Pakistan varies across regions/provinces/districts, gender, and age groups. The availability of data by age and gender would have helped policymakers and health practitioners to better manage the pandemic. Its implications for the PSA are noteworthy as well. The ongoing demographic transition has influenced the age structure and the census was the best source to assess such changes. In the absence of census data, the PSA has relied on the representative surveys e.g., PDHS. The official population projection has not been prepared by the NIPS. Therefore, the PSA has no other option than using the latest projections of World Population Prospects prepared by the United Nations Population Division (2019). The census data would have served the local governments better to improve their respective education systems to minimize the number of out of school children.

2.4.2 Household surveys

Different household surveys carried out by the PBS have been a major data source to examine population dynamics/demographic transition, employment, poverty, socio-economic development, and monitoring the progress in MDGs in the past and

SDGs. These surveys largely follow the international standards in sampling, questionnaire design, data collection techniques and data processing. Some gaps in household surveys are noteworthy, however.

- The major source for information on mortality and causes of death has been the Pakistan Demographic Survey (PDS), which was discontinued in 2007 because the sixth census was initially planned in 2008. After a gap of more than 13 years, the PBS has planned to restart the PDS. In the absence of PDS, causes of death analysis are not possible. Information on crude death rates and life expectancy can only be used from secondary sources.
- Information on disability and migration could not be collected through the 2017 population census, because the long questionnaire was not administered. These modules have only recently been made part of the ongoing 2019-20 PSLM survey. Results are still not available for public use. The PSA uses the disability module of PDHS 2017-18 in Chapter 8.
- The surveys/information related to assessment of health facility services are not available, and due to this limitation, the PSA has relied on other secondary sources.
- The recent Pakistan Maternal Mortality Survey (PMMS) by NIPS (National Institute of Population Studies) is available after a gap of about 15 years while in other countries of the region e.g. Bangladesh it has been administered after 10 years.
- MICS is the main initiative of provincial Bureaus. There is a lack of coordination across the provinces and between the PBS and Provincial Bureaus in making the MICS a comparable data source representative at the district level.

2.4.3 Civil registration and vital statistics

The civil registration system and vital statistics are weak and unable to cover all the events. The data of civil registration and vital events are in the domain of local governments, and currently the Government of Pakistan is making efforts on digitization and standardization of data. Due to data standardization and low level of reporting, it is not possible to include vital statistics and civil registration in the PSA, which as reported earlier, has relied on other data sources including censuses, surveys, and national accounts.

2.5 The impact of covid-19 on the national statistical system and the way-forward

2.5.1 COVID-19 and National Statistical System

The impact of COVID-19 can be examined in two ways. First, how has it affected the data collection, compilation and dissemination activities of the PBS and Provincial Bureaus? Second, COVID-19 has negatively influenced economic activities globally as well as in Pakistan. A large number of people lost their jobs because of the lockdown and sluggishness in economic activities. Has the PBS examined this impact on the labour market and wellbeing of people?

The PBS has recently released its sixth News Bulletin for the April-June 2020 period. It is encouraging to see that the activities of PBS regarding data collection, compilation and dissemination continued largely uninterrupted throughout the year 2020 despite the outbreak of COVID-19. Specifically, PBS managed the impact on planned activities, like other national statistical organizations, as follows:

1. PSLM 2019-20 and Mouza Census were in progress when COVID-19 cases were observed in March 2020. By that time, about 92% of the fieldwork was completed and for the remaining blocks (550 out of 6500) in overall Pakistan (mostly in Balochistan), 150 blocks were completed in June 2020, after the relaxation

of the lockdown, while the remaining were dropped based on the fact that the National and Provincial estimates might not be affected. Data processing, though delayed for a couple of months, continued as well.

2. The report of the Pakistan Labour Force Survey was disseminated during this period.

3. Price data collected on weekly and monthly basis to measure inflation in the country, continued to be electronically collected during the lock down using tablets and was regularly published during the whole COVID period by following all the SOPs defined by government. In extreme lock down conditions, enumerators also used telephone approach to collect prices of essential items from designated shops and markets.

PBS benefited from its previous efforts, within the previous two years, to develop software and dashboards that allowed professionals to successfully deploy "Work from Home" software for data editing and cleaning. This was successfully adopted for PSLM 2019-20 and Mouza Census at Headquarter and ACO office Lahore. Therefore, the target dates for completion of activities have not been affected and the work was timely completed. The advantage of that initiative was not only limited to saving time but also resulted in improved quality output.

The PBS staff worked very efficiently from their homes when they were not allowed to commute to their workplace. The sixth News Bulletin provides all the statistics generated recently by the PBS.

The PBS will soon launch a survey primarily to assess the impact of COVID-19 on the domestic labour market. The questionnaire and sample design have been shared with the stakeholders and a zoom meeting was also organized to get feedback. In addition to impact on the job market, the questionnaire is designed to gather information on food security during the pandemic and the financial support the sampled households received from the Government as well as private sources. A set of questions will also gather information on return migration of household members from abroad or from within the country.

2.5.2 Way forward: future plans of the PBS

After successful completion of data processing activities of the sixth Population & Housing Census – 2017, Report Writing Section (RWS) of PBS has started work for the preparation of Census Reports. The Report writing of National Census Report, Provincial Census Reports, Regional Census Reports and District Census Reports has been completed. However, composing of the said reports is in progress.

As noted earlier, a household survey to assess the effect of COVID-19 on the labour market, food security and financial support received has been planned by the PBS. It has formally been approved by the competent authority and its questionnaire has also been finalized. It will be completed in a short period and its results are likely to be available in the next three months.

Data processing of the PSLM-district level 2019-20 survey is in progress and 57% of data is cleaned, according to the 6th Bulletin of PBS.

The PBS is assigned to monitor 66 SDG indicators. The PSLM survey (Provincial/District) of the PBS is designed to monitors 30 SDG indicators. The remaining SDG indicators will be monitored through other statistical sources of the PBS.

Change of base year from FY2007-08 to FY2015-16 has been adopted by the PBS for the reporting of Prices Statistics in future.

Although PBS is running smoothly to cope with day-to-day activities and to complete planned as well as new assignments, it is facing several challenges that are important to be dealt with. These are:

1. Financial constraints for large-scale assignments and difficulty to search out the donors.

2. Malfunctioning of old IT equipment and slow digital transformation. Minimum regional and field offices and lack of enumerators.

3. Lengthy decision-making process delays implementation.

4. Lack of experts and issue of non-response delays data collection and releases.

5. Lack of statistical literacy among the public at large.
6. Lack of career progression and inappropriate service structure.
7. Lack of facilities for capacity building and meager chances of foreign training.
8. Non-availability of updated sampling frame for establishment and business surveys due to absence of an Economic Census.
9. No centralized data bank to get secondary data from other sources.
10. Nonuse of big data to produce official statistics.

However, the future PBS plan, based on the lessons learned from COVID-19 like situation, is to shift data collection activities from Face-to-Face interviews to relevant electronic approaches. Besides shifting the data collection method from computer assisted personal interviewing through tablet (CAPI), PBS plan to adopt computer assisted telephonic interviewing (CATI), to manage any similar situation in future and also to save resources and reduce nonresponse. For this purpose, PBS is also planning to develop land and mobile phone numbers' database for its future surveys. PBS is also planning to use different techniques, such as small area estimation, to obtain relevant indicators from previously collected data within large surveys.

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3 Overview Of Pakistan's Population And Development & Political Landscape

3.1 Introduction

> *The prevailing consensus is that improved economic outcomes relating to employment, poverty, and inequality affect population policy outcomes through influencing the individual choices, decisions and attitude towards fertility, reproductive health, and family planning. The improved population dynamics outcomes then feed into improved economic development.*

Against this background, this chapter discusses the overall development and political landscape of Pakistan and assesses its socioeconomic situation. It argues that economic growth in Pakistan by its very structure was not able to produce the socioeconomic opportunities – employment and skills development - in desired quantity and quality, and that the available opportunities were not equitably distributed. All these factors have potential to affect the individual choices for population policy outcomes.

The systemic social exclusion of marginalized segments of the society exacerbated the poverty and inequality. Lower developmental spending further limited the access of poor to health and education leading to lower intergenerational social mobility.

Overall, the chapter argues that the Population Situation Analysis (PSA) must be framed within the broader socioeconomic context for a better understanding. It provides an overarching background at the macro level to the discussion that follows in the subsequent chapters of the Population Situation Analysis (PSA). This can positively contribute towards development of coherent population welfare and development policies.

The chapter is structured as follows. Section 3.2 analyzes the socioeconomic and political situation and draws implications for population policy. Section 3.3 outlines the population and development priorities and strategies. Section 3.4 highlights the role of social protection/social safety in some selected themes. It also draws lessons from the experiences of other countries in the region, cross country comparison with Bangladesh, India and Sri Lanka is provided. Finally, broader conclusions are reported in section 3.5.

3.2 Socioeconomic and political situation of Pakistan

3.2.1. Geography and climate; trends in temperature and precipitation

Pakistan is situated at the western end of the great Indo-Gangetic Plain. Of the total area of the country, about three fifths consist of rough mountainous terrain and plateaus, and the remaining two fifths constitutes a wide expanse of level plain. The land can be divided into five major regions: the Himalayan and Karakoram ranges and their subranges; the Hindu Kush and western mountains; the Balochistan plateau; the submontane plateau (Pothowar Plateau, Salt Range, trans-Indus plain, and Sialkot area); and the Indus River plain. Within each major division, there are further subdivisions, including several desert areas.

Aridity is the most pervasive aspect of Pakistan's climate, and its continental nature is apparent in the extremes of temperature. Precipitation throughout the country generally is erratic, and its volume is highly variable. As a result, serious floods and droughts frequently occur. The rainy monsoon winds blow in intermittent bursts, and the efficiency of the monsoonal precipitation is poor because most rainfall comes in the summer when high temperatures maximize loss through evaporation.

Large areas of Pakistan are desert, and smaller, but quite large areas, are mountainous. For this reason, population density figures do not reveal much about the pressure of population on the agricultural resource base. Most of Punjab and much of Sindh are densely populated, and these are connected by a densely populated belt along the Indus River joining Punjab with the Hyderabad area of Sindh, with a densely populated outlier in Karachi.

By contrast, densities are very low in the largely desert areas of Balochistan and the mountainous areas of Gilgit-Baltistan. These two provinces cover almost half the land area but contain only 7 per cent of the population. If the sparsely populated parts of Sindh are added to them, it can be concluded that well over half of Pakistan's land area supports less than 10 per cent of the population.

Has there been a significant change in temperature and rainfall patterns over time in Pakistan? As far as temperature is concerned, a significant warming trend of about 0.57 degrees C was observed in the century from 1901 to 2000, a little lower than the increase for South Asia as a whole (0.75 degrees). A more accelerated trend of warming, with a rise of 0.47 degrees C, was observed from 1961 to 2007. The warming is mainly due to increase in winter temperature. Heat wave days per year increased by 31 days in the period 1980 to 2007 (Chaudhry, 2017).

As far as rainfall is concerned, over the past century, both winter and summer rainfall have decreased in the arid plains and coastal areas, but summer rainfall has increased over the core monsoon region of Pakistan. Variability of rainfall is indicated by a decrease of 17 per cent to 64 per cent in rainfall observed during the seven strong El Nino events in the last 100 years (Chaudhury, 2017: 13). One study of the 30-year period 1976-2005 showed a significant decrease in rainfall all over the country, a trend strongly influenced by the severe drought conditions in 1998-2001 (Salma, Rehan and Shah, 2012).

Alternating flood and drought conditions are frequent in Pakistan, and farmers are used to dealing with them. However, extreme events are beyond the ability of either individuals or, frequently, the government, to cope effectively with them. The floods of July-August 2010 were particularly devastating, destroying homes, crops and infrastructure and leaving millions vulnerable to malnutrition and water-borne disease. Likewise, the extended drought of 1998-2001 – severest in Balochistan and Sindh Provinces – is considered the worst in 50 years. Both floods and droughts tend to have their most serious adverse effects on the poorest members of the community, who have few resources to cope with such adversity.

3.2.2. History

Pakistan came into being as a haven for the Muslim population of the Indian sub-continent at the time of partition in 1947. Pakistan was originally a country of two wings – West and East Pakistan, separated by 1,600 km. of Indian territory. But cultural and linguistic differences between the two wings outweighed any religious unity. Resentment in East Pakistan over the West's political and economic dominance, and particularly over the issue of language policy, led finally to the outbreak of war, and in 1971 to the formation of the new state of Bangladesh from what was formerly East Pakistan.

A state of near war between Pakistan and India has been maintained because of the Kashmir dispute. Pakistan has always been in a position of relative economic and military weakness compared to India, and the breaking away of Bangladesh exacerbated this sense of relative weakness, often expressed in terms of India's six-fold "advantage" in population size and its almost eight-fold larger economy. The aim of achieving military parity with India, involvement in the War on Terror for over 10

years and governance by military regimes over long periods have distorted Pakistan's spending priorities.

Pakistan has alternated between rule by an elected government and military rule ever since its formation. However, since 2008, it has been under civilian rule, and during that period there have been two changes of government because of elections, the first time in Pakistan's history that this has happened. The most recent election, in July 2018, saw the Pakistan Tehreek –e-Insaf (PTI) gain a majority in the parliament through alliance with several other political parties; its leader, Imran Khan, became Prime Minister.

In April 2010, under the Pakistan People Party government, the parliament approved the eighteenth amendment to the constitution, a package of wide-ranging constitutional reforms, including removing the power of the President of Pakistan to dissolve the parliament unilaterally, turning Pakistan from a semi-presidential to a parliamentary republic. The North West Frontier Province was re-named Khyber Pakhtunkhwa. Significant power was devolved from the centre to the provinces "and was lauded as a necessary step to overcome Pakistan's authoritarian legacy of excessively centralized governance." (Ali, 2018: 3).

The amendment also required the creation of local governments by the provinces to bring government closer to the people, although it did not specify an overarching framework or time frame for formulating them. Lack of political will among ruling political elites delayed local elections, and even after they were held in 2015, the provinces did little to facilitate the process of making the local governments truly functional (Ali, 2018: 4). As a result, many of the hoped-for benefits of local government did not eventuate.

Terrorism has had a major adverse impact on Pakistan's development. It originated in the Soviet-Afghan war in the 1980s, when the Mujahideen were trained by American CIA and other western intelligence agencies to fight a proxy war against Soviet forces. After the war ended, the Mujahideen found safe places in tribal areas of Pakistan near the Pakistan-Afghanistan border. After 9/11, both internal and external-funded terrorists carried out terrorism activities in Pakistan in the name of Islam, as Pakistan was playing the role of a front-line state against terrorism.

Between 2003 and 2016, there were more than 61,000 fatalities in terrorist violence in Pakistan, of which slightly more than half were the terrorists/ insurgents themselves (Zakaria et al, 2019, Table 3). The direct and indirect economic losses have been estimated at US$127 billion (Zakaria et al., 2019, Table 2). Since 2001, the country has also hosted millions of Afghan refugees who fled the civil war in Afghanistan.

The security situation in Pakistan has improved in recent years. The government launched a military operation against terrorists in its territory near the Afghanistan border in June 2014, and later that year began a National Action Plan to take preventive measures against terrorism, following the killing of more than 170 innocent students and teachers in Peshawar by terrorists. Both have been successful and have improved security conditions in the country.

3.2.3. Social and cultural context

Pakistan society, while overwhelmingly Muslim, is ethnically diverse. Civil society is largely hierarchical, emphasizing local cultural etiquettes and traditional Islamic values that govern personal and political life. The extended family is the basic family unit, although there has been a growing trend towards nuclear families for socio-economic reasons. Consanguineous marriage is favored.

There is immense regional diversity in Pakistan. Pakhtuns, Baloch, Punjabis and Sindhis are all Muslim, yet they have diverse cultural traditions (which influence behavior relating to demographic variables such as marriage, fertility, health seeking behavior and migration), and speak different languages. Punjabis, the most numerous ethnic groups, predominate in the central government and the military. The other ethnic groups find the Punjabi preponderance at odds with their own aspirations, and this was a major reason for the move towards devolution. Ethnic mixing within each province further complicates social and political relations.

A middle class is emerging, but a narrow stratum of elite families maintains extremely disproportionate control over the nation's wealth. A large peasant class subject to control by landlords is a persistent feature of Pakistan's class divide. Feudal relations–where a relatively small group of politically active and powerful landowners control the lives of a large labouring class, is characteristic of rural Sindh, Balochistan and some parts of southern Punjab.

The power of landlords may be based on control over local people through debt bondage, passed down over generations, power over the distribution of water, fertilizers, tractor permits and agricultural credit, and influence over the revenue, police and judicial administration of local government. These landowners are among a group the World Bank has concluded are involved in "elite capture" of the institutions of governance.

According to the World Bank, Pakistan's economy is captured by four influential groups that have frustrated efforts to bring reform. These are civil servants, landholders, industrialists, and the military. The Bank states that there is evidence that Pakistan's elite has used this power to undermine reforms that would have reduced their influence (World Bank, 2019).

The status of women in Pakistani society remains highly problematic, notwithstanding the prominence of many women in Pakistani history, including Benazir Bhutto as Prime Minister. Pakistan ranks 151 out of 153 on gender equality as measured by the World Economic Forum's Global Gender Gap Index in 2020. Pakistan ranked near the bottom of the world's countries on indicators such as women's health and survival, women's educational attainment and equal economic participation and opportunity. Women's labour force participation is very low[5].

In Pakistani society, women are considered subordinate to men, and are assigned gender roles in the domestic sphere, while men are considered the breadwinners and decision makers in the family. While some changes are taking place, with some women in urban areas taking up professional roles and contributing to family economics, not only does the proportion of women working outside the home remain very small but also the fields of work open to them remain very restricted.

Social and religious norms and traditions are powerful reasons for women's exclusion and lack of empowerment in Pakistani society, particularly in poor and rural areas. Lack of government resources for tackling the issues, high poverty levels and low levels of literacy all result in a society in which few women are aware of their rights, and where the implementation and enforcement of reforms required to improve their situation is difficult to achieve.

A study in seven villages, spread across socio-cultural and agro-economic zones of Pakistan, examined the concept of social exclusion, and found that, although social exclusion applies across the board, it is particularly striking in the case of women.

"… if one were to consider the right to political expression, the dignity of being counted as a citizen, or the basic right to mobility, a man from even the poorest family is able to cast a vote, own an identity card, and walk freely through his village. All three of these rights do not apply to most of the women surveyed, regardless of social group or village. Women in all the seven villages were not mobile outside their immediate Mohallah and the homes of their closest relatives; a majority did not own an identity card and were, therefore, not listed or counted as citizens with inalienable rights; and in Dir, Mardan, and Thatta, along with significant numbers in the other four villages, they did not vote. (Mohmand and Gazdar, 2007: 27) "

Women were not expressly forbidden to vote at the time of the election. Instead, as one woman put it, "We did not vote because no one asked us to". Women cannot make the decision to vote independently; if no man invites them to accompany him to the polling station on election day, the question of their right to vote never comes up. In one of the villages, where no woman had ever voted, female respondents were unaware of the fact that women voted anywhere in the country.

3.2.4. Political and institutional context (devolution implications)

The devolution of power to the provinces in 2010 has had major implications for all aspects of

[5] Refer to Table A.1 in appendix A for details on crude and refined labour force participation rate by gender.

development planning in Pakistan, including human development and, specifically, family planning. Devolution was a fundamental political change brought about by a Constitutional Amendment passed by the National Assembly in 2010 (the 18th Amendment), which resulted in the abolition of 43 departments and 18 ministries in 2011/12, the functions of which were transferred to the provinces, while a new resource distribution formula, worked out prior to approval of the 18th Amendment, shifted greater funding to the provinces, though not backed by funding transferred to provinces in the NFC Award.

Devolution, described as a political move by the party then in power, was brought in very quickly, though a longer lead time was needed to sort out the issues involved in complex areas such as education and health services. It has been argued that when devolution was enacted, the political will to guide and support education, health and population welfare did not emerge. Another concern is that the 18th Constitutional Amendment really stops at the province level and did not lead to effective empowerment at the local government level.

As in many other countries which have devolved functions of government to province and/or district level, in Pakistan a key issue is whether the resource distribution formula adopted meant that devolution of responsibility was appropriately accompanied by the devolution of finances, or of the ability to raise finances, needed to carry out these functions effectively.

Another issue is whether the administrative capabilities at the provincial level are always sufficient to manage the diverse responsibilities that have fallen to the provinces when they inherited the administrative and planning functions and responsibilities previously residing at the Federal level in the 43 departments and 18 ministries. A third issue is whether the provinces can effectively take ownership of some of the international commitments made by the federal government, of which the SDG targets are a clear example.

The limited allocation of budgets to health, education and other aspects of human development and poverty alleviation in Pakistan (to be discussed in detail below) can be related to the composition of its parliaments. These are dominated by the elites, and their vested interest ensures that they pay little tax, have privileged access to public resources, services and bank credits, and minimal control by regulatory agencies. The burden of taxation in Pakistan is imposed on the poor through a raft of indirect taxes (Malik, 2018; Pasha, 2018).

Government resources for social development programmes are constrained by the resultant limitation of funds. The pernicious influence of corruption also cannot be ignored. Specifically addressing the family planning programme, Dr. Sania Nishtar, Chairperson of the EHSAS Program, called out the "institutional rent seeking and corruption that has plagued the family planning program over the years" (Nishtar, 2018).

In relation to provision of family planning services, which is an important element of this PSA, technically the provinces have always been responsible for implementation. Nevertheless, devolution had direct effects. The federal Ministries of Health and Population Welfare, which had ineffectual collaboration, were abolished, and a federal Ministry of National Health Services, Regulation and Coordination was established to play a supporting and facilitative role in the provinces.

It took some years for the hasty devolution to gain strength in terms of provinces taking full responsibility for family planning. It can be argued that it would have been useful to have had a strong institutional mechanism at the Federal level to oversee/facilitate/monitor the provincial level implementation and data collection and analysis.

3.2.5. Economic Context:

Economic Growth

Size and growth rate of population in relation to economic growth determines the development trajectory of a country or region. One of the highest in South Asia, Pakistan' population growth rate has been well above 2 per cent for many decades, leading to a more than six-fold increase in population

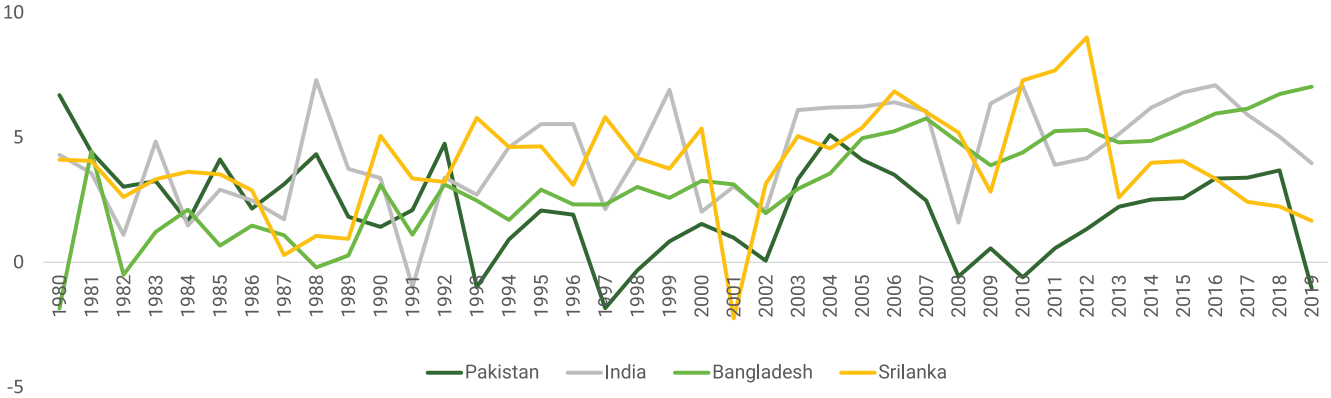
since 1951. In contrast to Pakistan, average population growth rate for India, Bangladesh, and Sri Lanka over the last four decades stood 1.7 per cent, 1.9 per cent, and 1per cent, respectively.

A higher population growth rate affects economic policy outcomes through multiple channels. Not only does the higher population growth lead to excess labour supply and higher unemployment but it also exacerbates inequality (Rodgers, 1983). The evidence from low income countries suggests that higher population growth adversely affects economic growth. It slows the growth in per capita output/income which, in turn, affects the capacity to access health, education and other services. This is particularly true in a country having poor public service delivery system.

On the other hand, the importance of economic growth for population development cannot be overemphasized. A growing economy is a pre-requisite for rising living standards. In his important book on inequality, Piketty (2014) observes that economic growth "...always includes a purely demographic component and a purely economic component, and only the latter allows for an improvement in the standard of living" (as reported in Peterson, 2017; p. 72).

Figure 3.1.

GDP Per Capita Growth Annual % (1980-2019)

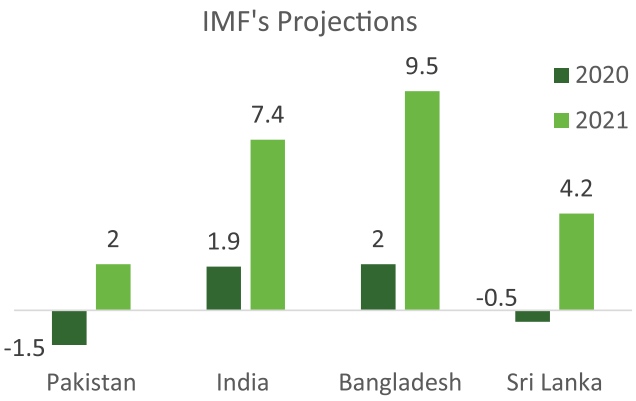


Source: World Development Indicators, World Bank

Along with a higher population growth, Pakistan has a low economic growth trajectory. Owing to these factors, it has one of the lowest GDP per capita growth rates in South Asia (Figure 3.1). It is expected to fall further in the short to medium run. IMF projections show that Pakistan's GDP is most likely to contract by 1.5 per cent in FY2020 and grow by 2 per cent in FY 2021 (Figure 3.2).

Figure 3.2.

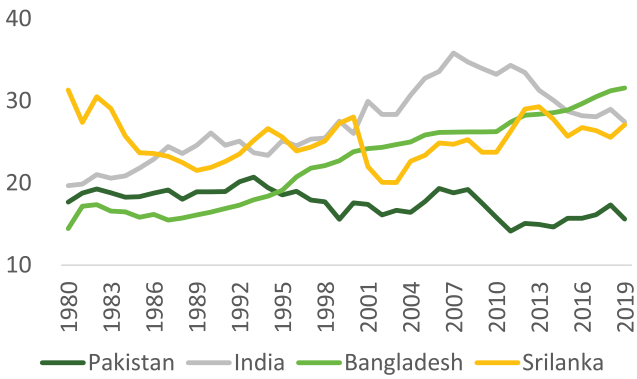
IMF's Estimates of Real GDP Growth (Annual %) (2020 - 2021)[6]



Source: IMF Estimates, World Bank

Figure 3.3 A.

Total Investment as % of GDP (1980-2019)[7]



Source: World Development Indicators, World Bank

[6] IMF Data Mapper, April 2020, https://www.imf.org/en/countries#I
[7] Total Investment constitute domestic and foreign investments in an economy.

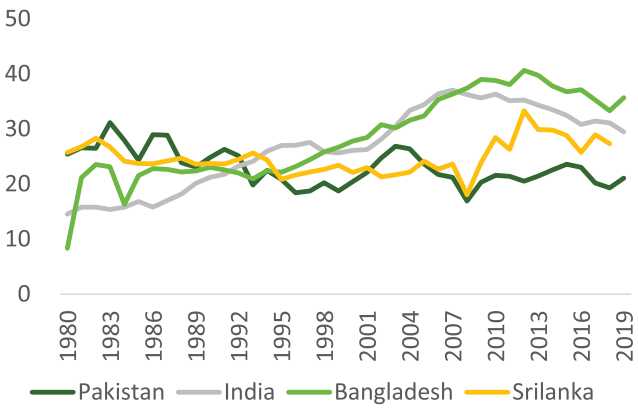
Because of its structure, economic growth in Pakistan is shaky, volatile and short lived. One of the key reasons is the overwhelming share of consumption in GDP rather than investment. Final consumption constituted 93.8 per cent and 94.6 per cent of GDP in financial year 2018 and 2019 respectively compared to 82.6 per cent in FY 2003-04 (Government of Pakistan-Economic Survey of Pakistan, 2020). The respective numbers for India and Bangladesh were around 70.4 percent, 77.2 percent and 77.2 percent for the FY2018 and 72 percent, 75.3 percent and 78.8 percent for FY 2019, respectively. Consequently, the investment share to GDP in Pakistan is not only the lowest in the region but has marginally declined over time (Figure 3.3A).

A predominantly consumption based economic growth is volatile and unsustainable. Evidence suggests that economic growth based on consumption in general, and private consumption in particular, is short lived as the consumption has a short-term effect (Radulescu et al., 2019). Most importantly, economic growth achieved on the back of private consumption 'does not support the job creation process, in the same way as the savings rate can't determine positive effects on the employment".

This is obvious from Figure 3.3 B where Pakistan not only has the lowest savings as ratio to GDP currently, but the ratio is also declining over time. The trend is strikingly different for India, Bangladesh and Sri Lanka. This may partially explain lower domestic investment capacity for Pakistan compared to other countries.

Figure 3.3 B.

Total Savings as % of GDP (1980-2019)[8]



Source: World Development Indicators, World Bank

Further, the nature and composition of GDP shapes the employment outcomes and inclusiveness of growth. Growth mainly financed by consumption instead of investment is jobless and leads to lower employment opportunities, inflating unemployment, particularly in countries like Pakistan which have an expanding labour force due to higher total fertility rate and population growth, with a relatively weak industrial and manufacturing sector[9].

Sectoral share in GDP is very critical to create job opportunities which employ the right mix of skills. Economic development backed by manufacturing has a positive impact on a country's export level and employment which defines a way to a rich human capital (Shaukat & Zhu, 2020). The role of the manufacturing sector is vital in creating jobs, particularly for higher and middle skills.

With a large population base and rapid population growth, every year large numbers of young people aged 15-29 enter the job market: a likely number of 1.3 million each year until 2024 (UNDP's NHDR, 2018). The weak manufacturing sector makes it difficult to absorb these new entrants into appropriate jobs, particularly those with higher and middle skills.

The composition of employment of Pakistan shows that the agriculture sector is still the largest employer with 43 percent of employed labour force despite having a much lower share in GDP, around 20 per cent on average. In comparison, industrial and service sectors absorb 21 per cent and 36 percent of employed labour force respectively, with higher shares in GDP. This reflects unproductive employment in the agriculture sector. Over time, India, Bangladesh, and Sri Lanka witnessed a steeper drop in the agriculture share in employment (Figure 3.4A), largely replaced by the services sector (Figure 3.4C).

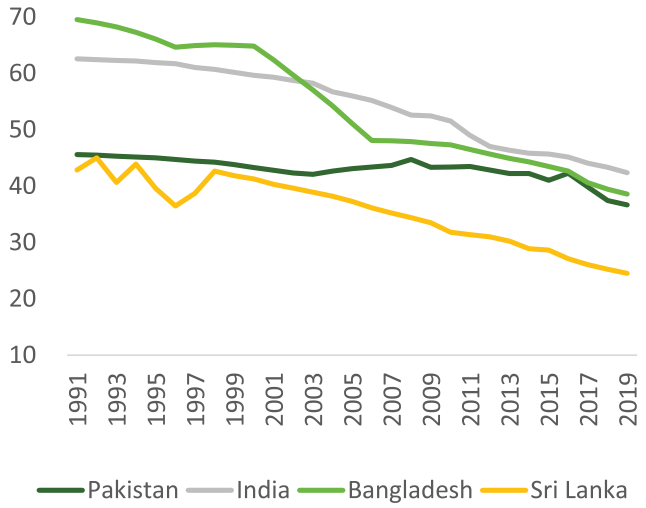
Contrary to the situation in the agriculture sector, a slight upward trend is documented for the share of industry in total employment (Figure 3.4 B). The trend is common for all the countries, with India having a steeper rise.

The share of employment in the services sector shows some interesting trends (Figure 3.4 C). Pakistan witnessed a stagnant share hovering around 35%.

[8] Total Savings refer to gross national income less total consumption, plus net transfer
[9] Refer to Table A.2 in appendix A for details on overall employment statistics for Pakistan

Figure 3.4 A.

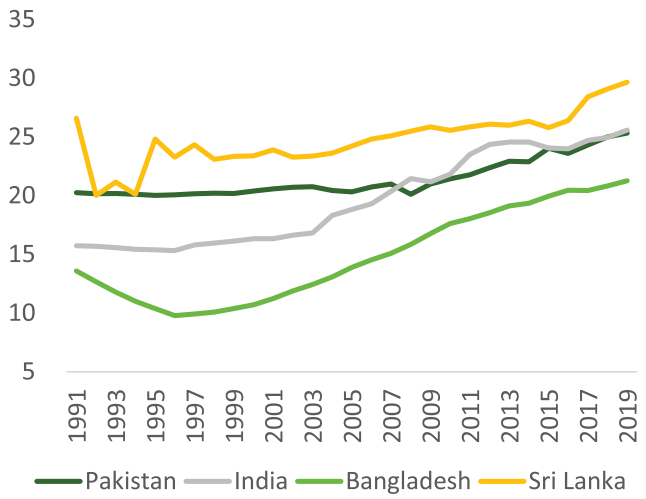
Share of Agriculture Sector in Total Employment (%), 1991-2019)[10]



Source: ILO Estimates - World Development Indicators, World Bank

Figure 3.4 B.

Share of Industry Sector in Total Employment (%), 1991-2019)[11]

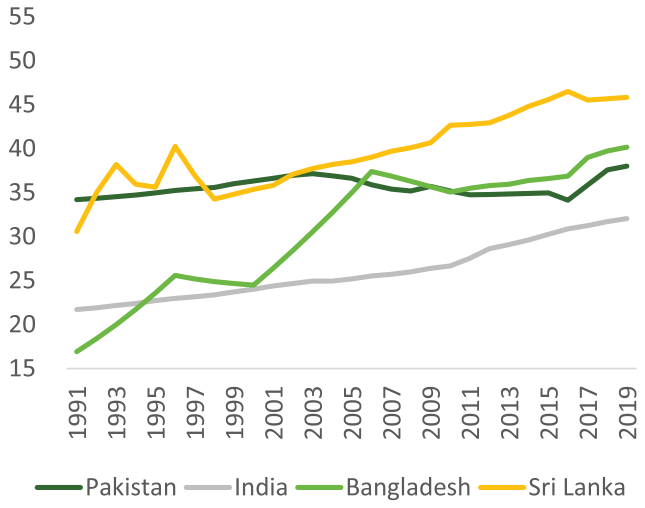


Source: ILO Estimates - World Development Indicators, World Bank (multiple years)

In contrast, the share of the services sector in total employment increased for India, Bangladesh, and Sri Lanka. The rise was much steeper for Bangladesh, surpassing India in 1995 and Pakistan in 2009-10. It is important to note however that the manufacturing and services sectors in South Asia are predominantly informal.

Figure 3.4 C.

Share of Services Sector in Total Employment (%), 1991-2019)



Source: ILO Estimates - World Development Indicators, World Bank

External Sector:

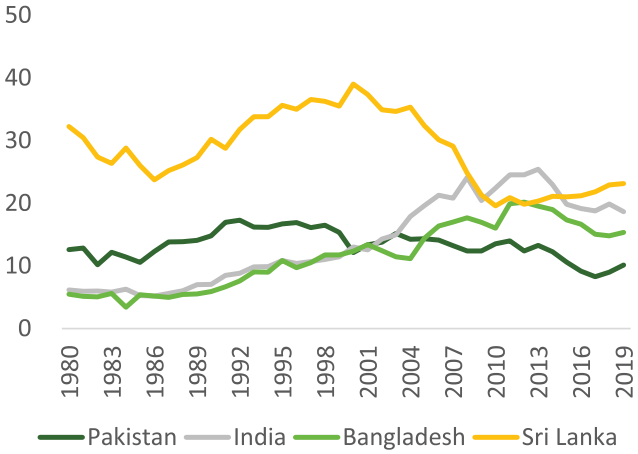
The external sector is a major determinant of economic activity in any country. It shapes productivity, (un)employment opportunities, and nature of skills to be supplied through multiple channels. Figures 3.5 A to 3.5 D show the trends of Pakistan's Exports, FDI inflows and remittances as % of GDP, and foreign aid in US$ billion in comparison to India, Bangladesh, and Sri Lanka.

Pakistan has a dwindling export sector. The weak manufacturing sector, lower productivity, and unfavorable economic policies such as artificial overvaluation of the rupee led to lower external competitiveness and subsequently lower exports. Pakistan failed to integrate into any regional and global value chains, mainly because of poor human capital, lower R&D, and lack of consistent policies. Exports gradually eroded and in 2000, India and Bangladesh surpassed Pakistan in share of total exports in GDP. Pakistan had the lowest exports to GDP ratio of 10.1 per cent in 2018 compared to 18.7 per cent, 15.3 per cent and 23.1 per cent in India, Bangladesh, and Sri Lanka, respectively (Figure 3.5 A).

[10] Refer to Table A.3 in appendix A for details on employment in formal and informal sector by gender,
[11] Refer to Table A.2 in appendix A for details employment by industry by gender

Figure 3.5 A.

Total Exports (as % of GDP -1980-2019)

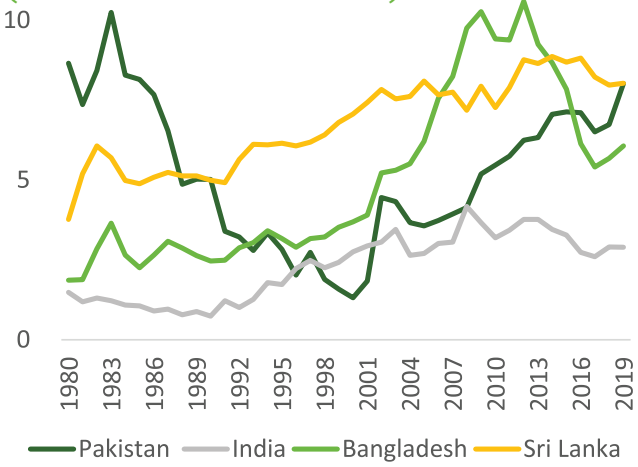


Source: World Development Indicators, World Bank

This increased Pakistan's dependence on remittances to cure chronic balance of payment problems, funds for development planning and stabilization of the financial sector. Remittance peaked in 1983, reaching around 10 per cent of GDP (Figure 3.5 B). Lower remittance inflows to Pakistan compared to Bangladesh and Sri Lanka despite a larger number of workers abroad may be associated with the predominance of the unskilled or semi-skilled among Pakistan's labour migrants to the Gulf region.

Figure 3.5 B.

Total Remittances
(as %of GDP -1980-2019)



Source: World Development Indicators, World Bank

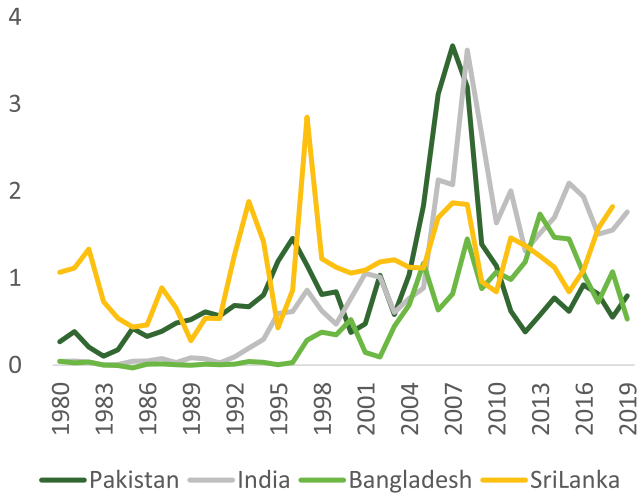
FDI inflows to South Asia remain lower when compared with East Asia and South East Asia (WIR, 2019).

According to UNCTAD's World Investment Report 2020[12], South Asia attracted higher flows and FDI to the region reached US$57 billion in 2019, up from US$52 billion in 2018, increasing South Asia's share in total global FDI flows from 3.5 percent in 2018 to 3.7 percent in 2019. India received the largest share of US$ 51 billion. Inflows to Bangladesh were $1.6 billion, a fall of 56 per cent compared to 2018. According to report, "the decline reflects an adjustment from a record-high level in 2018".

Most importantly, FDI flows to Pakistan grew by 28 per cent in 2019 compared to 2018. Inflows reached $2.2 billion, after a deep fall of 30 per cent in 2018. Most importantly, the nature of FDI inflows has not been able to contribute significantly to long-term job creation and development activities. Lower FDI inflows to FDI are also associated with an inefficient labour market. In contrast to Bangladesh and India, Pakistan fails to attract efficiency seeking FDI inflows (Jaleel and Javed 2020). UNCTAD report of 2020 confirms that "the growth [in FDI inflows] was driven by equity investments in the energy, financial, and textiles industries, with major investors from China and the United Kingdom".

Figure 3.5 C.

FDI (as %of GDP -1980-2019)



Source: World Development Indicators, World Bank

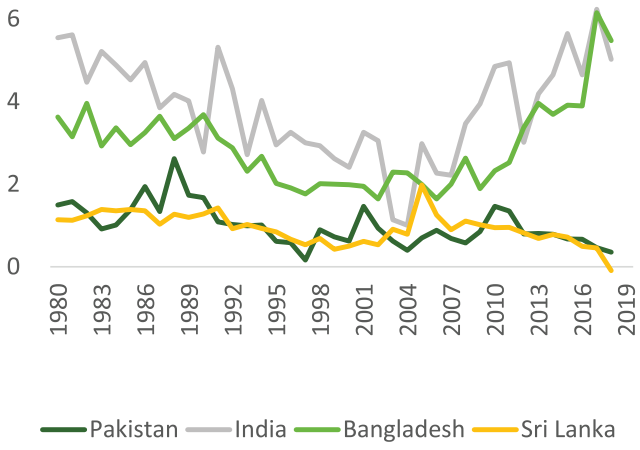
International aid which is composed of net aid from total bilateral aid from DAC donors, UNAIDS, and ODA received, has a slight declining trend over time and a sharp fall after year 2013 (Figure 3.5 D). Pakistan received around 15 times less foreign aid

[12] Available at https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2769

in 2018 (US$0.36 billion), than what was received by India (US$5 billion) and Bangladesh (US$5.5 billion). Most importantly, foreign aid to India and Bangladesh has been rising since 2004[13].

Figure 3.5 D.

Total Aid (US$ Billion -1980-2019)



Source: World Development Indicators, World Bank

Pakistan's Labour Export

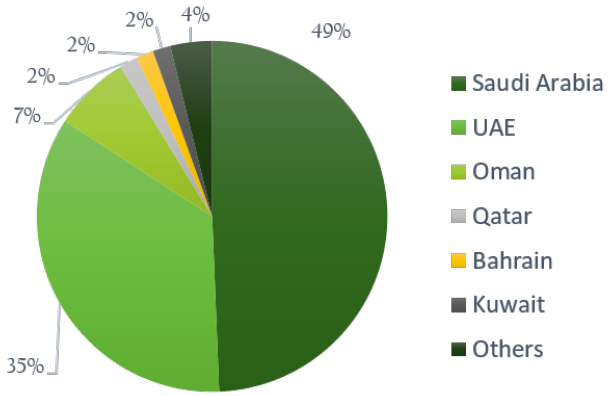
A portion of Pakistan's labour force is also being exported and allocated in different destinations. According to the Bureau of Emigration and Overseas Employment (BEOE) data, 97 per cent of Pakistan's total labour export between 1971 and 2020 went to the Middle East (around 11 million people out of a 11.3 million total labour force abroad). Figure 3.6 A shows that Saudi Arabia and UAE hold 49 per cent and 35 per cent of Pakistan's exported labour, respectively.

Data on regional composition of labour force exports shows that Punjab has the highest share in workers abroad at 5.5 million people over the last decade followed by KP, Sindh and AJK with 3.3 million, 1 million, and 0.7 million people, respectively. The trend over the last 10 years shows a steady increase till FY 2016 and then a sudden drop showing the impact of the gulf oil prices crisis (Figure 3.6 B).

Pakistan has been a major exporter of unskilled and semi-skilled labour (Figure 3.6 C). Unskilled labour predominated, followed by semi-skilled. There is both a supply and demand side explanation. The Gulf region in general and Saudi Arabia and UAE in particular demanded labour imports for sectors, such as construction, which require unskilled or semi-skilled workers. Also, Pakistan's Technical and Vocational Education and Training (TVET) sector has been mainly able to provide low and elementary skills. Finally, Covid-19 caused a dramatic decline in labour export during the year 2020 and inflated return migration.

Figure 3.6 A.

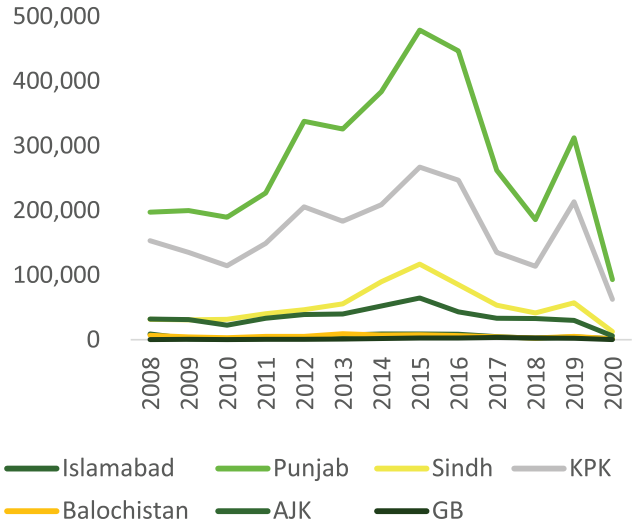
Pakistan Labour Exports by Destination as % of Total Labour Exports (1971-2020)



Source: Bureau of Emigration and Overseas Employment. (2018). Analysis of Manpower Export. Islamabad, Pakistan. https://beoe.gov.pk/reports-and-statistics

Figure 3.6 B.

Pakistan Labour Exports by Region in Persons (1981-2020)

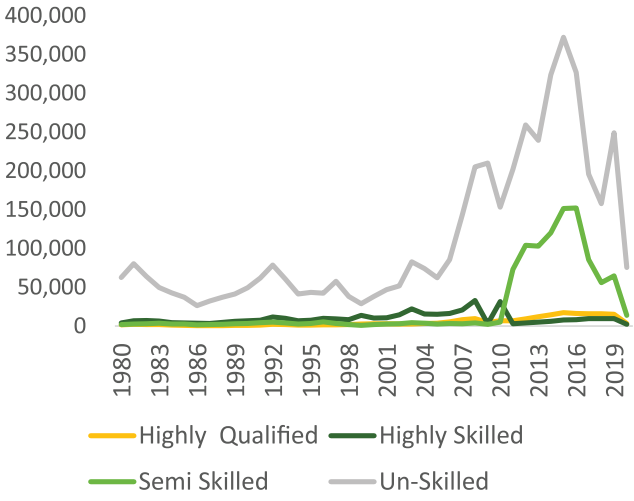


Source: Bureau of Emigration and Overseas Employment. (2018). Analysis of Manpower Export. Islamabad, Pakistan. https://beoe.gov.pk/reports-and-statistics

[13] The literature on economic development shows that aid received by low income countries has a significant impact on population dynamics, such as the fertility rate. Wang & Hong Zhuang (2019) show that "foreign aid helps to lower the total fertility rate in recipient countries in general". The results further suggest that "development assistance is most effective in lower-income countries or countries with a lower level of human capital".

Figure 3.6 C.

Pakistan Labour Exports by skills level (1980-2020)



Source: Bureau of Emigration and Overseas Employment. (2018). Analysis of Manpower Export. Islamabad, Pakistan. https://beoe.gov.pk/reports-and-statistics

Growth Structure, labour market and population welfare:

Higher employment in elementary occupations, such as agriculture, is associated with lower income, which in turn leads to poverty and lower wellbeing. Working in elementary occupations is also associated with insecure contracts and low productivity. This has intergenerational effects wherein the parent generation is either not able to send the children to school or they opt for low quality education. All these factors lead to systemic exclusion of these children from labour market and income opportunities, strengthening these inequalities and poverty over the generations.

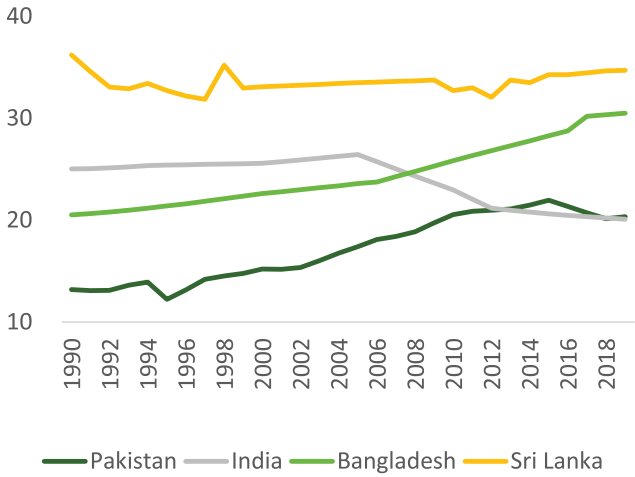
Demographic structure and the composition of economic growth shape the employment outcomes for any country or region. They drive the gap between number of jobs produced and the number required to employ the new entrants in labour market. A higher gap means higher unemployment. Also, the job elasticity of growth determines the minimum growth rate needed to employ the labour force. Lower job elasticity of growth requires a higher growth rate to create a given number of jobs. Continuing population growth, at a high pace like Pakistan, changes the labour force participation and adult unemployment rates through shifts in the population's age and gender composition (Bloom, et al., 2018).

Economic development requires a combination of economic growth and fair distribution: inclusive economic growth. While the former leads to increased opportunities - for employment, education, and health - the latter determines how these opportunities are distributed across the different segments of the population. Pakistan suffers from both a low rate of economic growth, and an inequitable distribution of the gains from economic growth and associated opportunities of education, employment, and income. This is particularly true for the female population. While it has improved over the time, the labour market participation of females is very low in Pakistan.

Figure 3.7 A and 3.7 B show the trend of female and male labour market participation during the last three decades. For female labour force participation, Sri Lanka led throughout, and Bangladesh showed a substantial rise, related to RMG employment. Pakistan's female labour force participation rate, although lower than that of its counterparts in the region, shows the greatest relative increase of 54 per cent from 13.7 per cent in 1990 to 20.3 per cent in 2020. Nevertheless, the female labour force participation rate in Pakistan remains the lowest in South Asia (Najeeb et al., 2020).

Figure 3.7 A.

Female Labour Force Participation Rates (1991-2019)



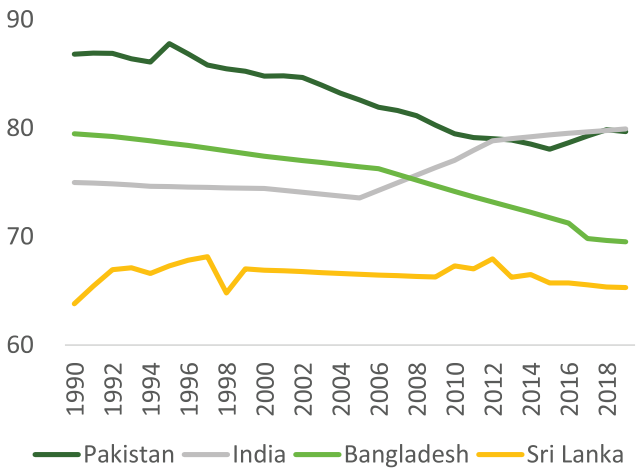
Source: ILO Estimates - World Development Indicators, World Bank

Interestingly, female labour force participation in India has declined since 2005. One of the possible reasons may be changing production and employment structure. India gradually shifted to export promotion and organized production sectors which require a different set of skills. According to the Deloitte report entitled 'Empowering Women & Girls in India', "the range of challenges for women and girls echoes across Asia and India - lack of education, access to quality education, digital divide, which limits them from gaining employable skill sets and entering the workforce or establishing an enterprise." This comment is relevant to Pakistan as well.

The male labour force participation rate in Pakistan fell slightly by 8.2 per cent over the past three decades, from 86.8 per cent in 1990 to 79.7 per cent in 2020, although throughout the period it was higher than Sri Lanka and Bangladesh and over most of the period, higher than India.

Figure 3.7 B.

Male Labour Force Participation Rates (1991-2019)



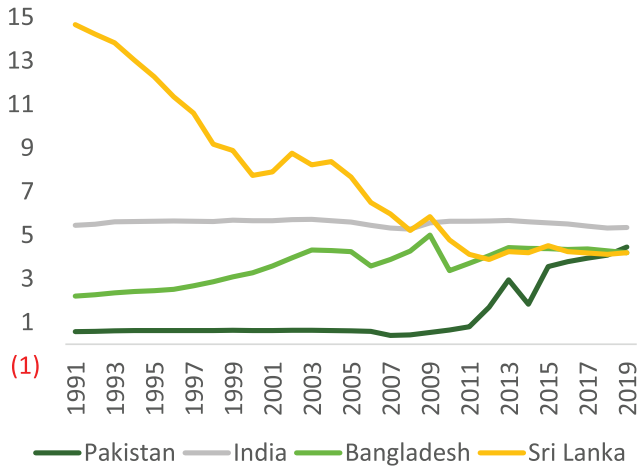
Source: ILO Estimates - World Development Indicators, World Bank

Despite lower economic growth and higher population growth, the unemployment rate has surprisingly remained lower in Pakistan than in the peer countries (Figure 3.8). The higher unemployment in Sri Lanka over the period may be an outcome of the prolonged Civil War (1982-2009).

The higher unemployment rate in India, compared to Pakistan, may be attributed to the enormous supply of labour due to the much bigger population, the shift towards capital intensive production over the last decade, and lower growth of jobs in the organized sector because of tough labour protection laws.

Figure 3.8.

Unemployment Rates as % of Respective Labour Force (1991-2019)



Source: ILO Estimates - World Development Indicators, World Bank

3.2.6 Poverty, inequality, and social exclusion (levels, drivers, and dimensions).

Poverty and unemployment are interlinked. While unemployment leads to economic hardships and poverty through loss of income, poverty may lead to unemployment or low productivity employment through multiple channels. Poor workers are not able to invest in on-the-job training, limiting their career growth and trapping them in low productivity work.

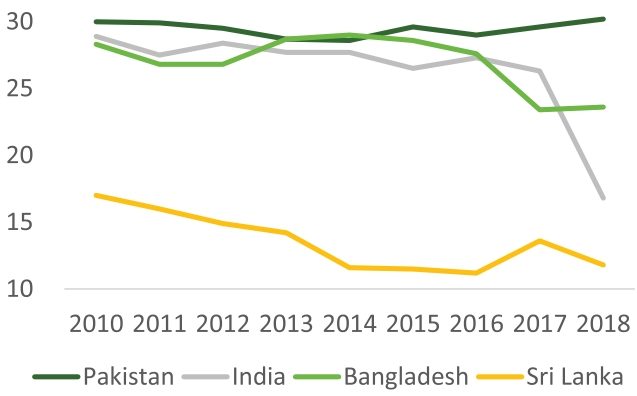
Poor workers are also not able to invest in quality education for their children, which limits the labour market opportunities of the next generation. Children belonging to poor families will have a lower income trajectory than their counterparts born to rich parents. Social networking, which is lower amongst the poor, affects the returns on education even if the level of education is similar.

According to UNDP's Human Development Report, Pakistan had a human inequality coefficient of 30 for the year 2010, which was almost unchanged at 30.2 in 2018. By contrast, India, Bangladesh and Sri Lanka have improved dramatically and in 2018 had lowered their inequality coefficients to 16.8, 23.6, and 11.8, respectively (Figure 3.9)[14].

Poverty, social and income inequality, and unemployment are interrelated. A disconnect between macroeconomic and social policy can lead to structural inequalities of access to health, education, productive jobs, and other income opportunities. Low social mobility - inequitable distribution of opportunities - creates systemic deprivation of marginalized and poor which translates to low productivity, poor schooling, and health trap through intergenerational mechanisms.

Figure 3.9.

UNDP's Human Development Reports for Coefficient of Human Inequality (2010-2018)



Source: UNDP, Human development reports estimates (http://hdr.undp.org/en/indicators/135006#)

The clustering of the inequalities around regional, urban-rural residence, gender, and socioeconomic characteristics is systemic. Data from PSLM shows that education, employment, and income outcome for a son depends upon the socioeconomic status of his father. If you are born to a poor family, have an illiterate father who works in an elementary occupation, there is more than 50 per cent probability that you will end up with the same fate (Javed & Irfan, 2014). This suggests highly inequitable distribution of opportunities for social and economic progress. These inequalities of access to economic opportunities harbor inequalities of access to health services, including reproductive health, and influence behaviour relating to health care.

The debate on inequality and poverty in Pakistan suffers a fundamental error. Limited only to inequalities of outcome - income, consumption, caloric intake - the debate ignores the processes and factors which shape and produce these inequalities and poverty (Javed, 2016). Further, social policy has been limited to residual social safety nets correcting only a small part of the inequalities created by economic forces (Javed, 2017). Economic policy, such as the structure of taxation, perpetuates inequalities. Indirect taxation contributes more than 60 per cent to total government revenues (62.2 percent of total tax revenues for FY2019-20, up from 60.6 percent in FY2007-08). While easier to administer, indirect taxation is fundamentally regressive (Malik 2018). The largest share of indirect taxes comes from sales taxes which contributed around 61.2% in FY2019-20. Sales tax puts an undue burden on the poor.

We need to understand that poverty and inequality of outcomes have a common foundation: social exclusion, which systemically deprives individuals or groups of participation in social development processes, including but not limited to, education, improvement in living standard, and social and political activities. Framed in this context, poverty and inequality are the output while the exclusion is a cause.

A recent study (Shirazi et al, 2018) shows higher prevalence of social exclusion in Pakistan by its different dimensions - material resources, education and skills, health and disability, personal safety, social security - that can affect the life chances and outcomes of an individual and families.

Findings show that gender, age, and region best explain incidence and spread of social exclusion in Pakistan. For example, around 79 per cent of male population suffers minor exclusion - exclusion in at least one of the dimensions listed above-while this ratio is 83 per cent for women. Those facing exclusion in any two of the said dimensions -

[14] We dropped the analysis of the World Bank's GINI Index estimates because they only consider income inequality, whereas the Coefficient of Human Inequality is constructed as the arithmetic mean of three inequalities i.e. life expectancy, education and income. Hence the human development reports' human inequality coefficient is more relevant for the present study.

marginal exclusion - are 53.7 per cent and 64.7 per cent, respectively. The study also finds that being aged, a woman and living in Balochistan or Khyber Pakhtunkhwa increases the severity of exclusion.

Persistence of these structural inequalities in employment, education, health, and other spheres of life are strengthened by systemic social exclusion of the marginalized and deprived. The evidence suggests that rather than income and consumption, old age, low education, and gender contribute to multidimensional social exclusion. Multidimensional social exclusion refers to meeting more than two out of six indicators. Overall, "exclusionary processes create inequitable distribution of resources and unequal access to capabilities and rights necessary for human development" (Popay et al., 2008)

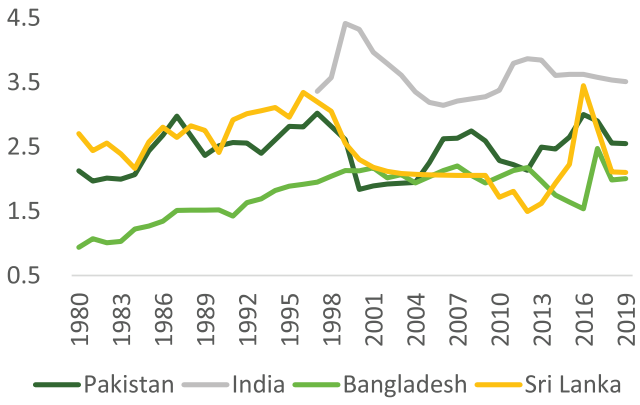
3.2.7 Social and human development expenditures, with an emphasis on education and health

Developmental Expenditures:

Expenditures on education and health are two fundamental investments in human capital. These drive long term human capital formation and productivity growth in an economy. Pakistan spends 1.5 -2.5 per cent of its GDP on education (Figure 3.10 A). This is higher than Bangladesh but lower than India.

Figure 3.10 A.

Final expenditure on Education % GDP (1980 - 2019)

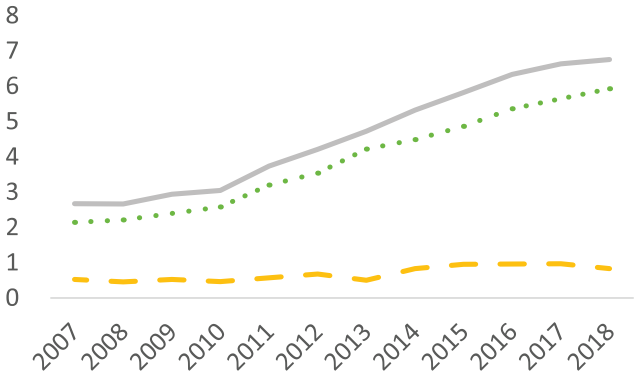


Source: World Development Indicators, World Bank.

Most of the budgetary allocations for education however go to current expenditures. Figure 3.10 B clearly shows an increasing gap between current and development expenditure. Pakistan fares even worse when it comes to public sector spending on health. The budgetary allocations for health have remained below one percent of GDP over the last two decades. This is far below Sri Lanka and generally below India (Figure 3.11 A). Though the health sector was prioritized by provincial governments after the devolution, "effective translation remained impeded by weak institutional capacity, feeble federal–provincial coordination and vulnerability to interference by local elites" (Zaidi SA, Bigdeli M, Langlois EV, et al. 2019).

Figure 3.10 B.

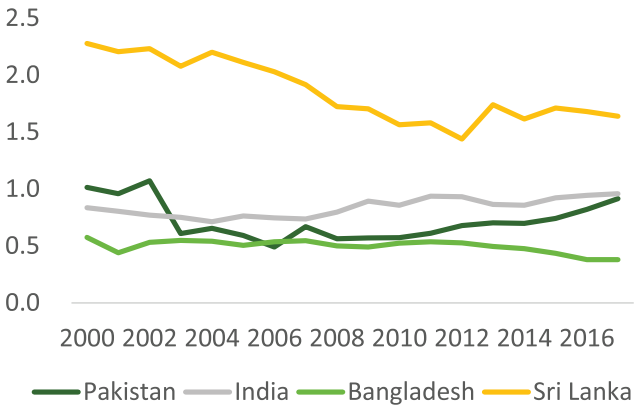
Pakistan's Expenditure on Education US$ Billion (2007 - 2018)



Source: PRSP Budgetary Expenditures, External Finance Policy Wing, Finance Division, Islamabad

Figure 3.11 A.

Total Public Expenditure on Health: % of GDP (2000 - 2017)

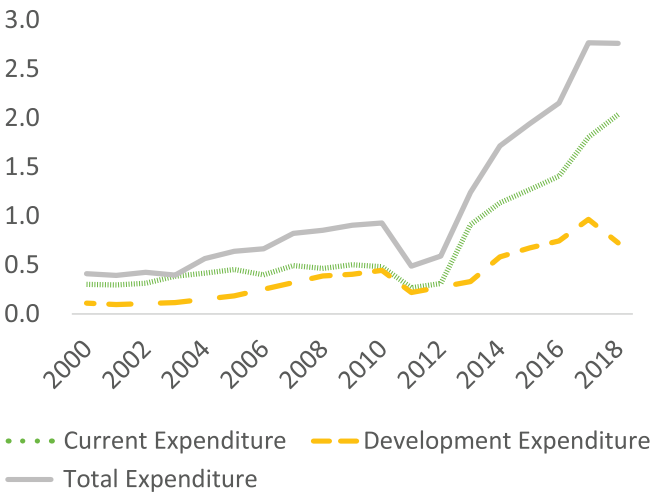


Source: World Development Indicators, World Bank

If we look into the composition of total expenditure on health, current expenditure is 3 times higher (US$ 2.04 billion) than development expenditure (US$ 0.74 billion) in year 2018. The rate of increase in current expenditures after devolution in 2008/09 was higher than that of development expenditures (Figure 3.11 B).

Figure 3.11 B.

Pakistan's Expenditure on Health US$ Billion (2000 - 2018)



Expenditures on health, education (including skills development), and other social indicators not only improve the wellbeing of the society, but also set the foundation of human capital accumulation and long-term productivity growth. Better health and education lead to accumulation of human capital at a higher productivity level which, in turn, is fundamental for long term sustained economic growth and development and employability.

3.2.8 Overview of Pakistan's development indicators in regional context

Where does Pakistan fit in its regional context in terms of a number of development indicators? This is examined in Table 3.1. Among the countries compared, Pakistan's per capita GDP, along with Bangladesh, is the lowest. It also ranks worst in its human development index and human capital index.

Pakistan's fertility rate is far higher than the comparator countries; so too is its early childhood mortality rate, though its maternal mortality ratio is

Table 3.1.

Various development indicators for Pakistan, Bangladesh, India, Sri Lanka, and Iran

Indicators	Pakistan	Bangladesh	India	Sri Lanka	Iran
Per capita GDP (USD) PPP 2019	4,884	4,950	7,034	13,620	14,536
Human Development Index 2018 (rank)	151	*136*	*129*	*72*	*63*
Human capital Index 2020 (rank)	141	*119*	*113*	*66*	*73*
Under 5 mortality rate 2015-20	75	*32*	*39*	*9*	*15*
Maternal mortality ratio 2017	140*	*173*	*145*	*36*	*16*
TFR 2015-20	3.55	*2.05*	*2.24*	*2.21*	*2.15*
% of deliveries in health facility	66	*50*	*79*	*100*	*95*
% of births attended by trained personnel	69	*53*	*81*	*100*	*n.a.*
% of children aged 12-23 months fully vaccinated	66	*89*	*62*	*99*	*99*
Female LFPR 2018	21.9	*36.3*	*20.8*	*34.5*	*17.5*
Poverty rate (World Bank below $1.90 per day)	3.9%	*14.8%*	*21.2%*	*0.8%*	*0.3%*
Net enrolment rate, primary education, 2019	67.6	*n.a.*	*92.3*	*99.1*	*99.7*
Net enrolment rate, secondary education, 2019	37.4	*66.6*	*61.6*	*91.0*	*81.4*

Source: Per capita GDP, poverty rate, human capital index: World Bank; human development index from UNDP; TFR and under 5 mortality from UN Population Division; MMR estimates from WHO et al, 2019; Delivery and vaccination information from DHS surveys around 2017 or, for Iran, UNICEF data. ; female LFPR from ILO, ILOSTAT database; enrolment data from UNESCO UIS statistics. *The figure for Pakistan estimated from the Maternal Mortality Survey in 2019 was higher – 186.

much the same as India and lower than Bangladesh.[15] One positive indicator is the poverty rate, which is much lower than Bangladesh or India. However, the female labour force participation rate is very low (along with India and Iran) and Pakistan's school enrolment rates are far lower than any of the comparator countries.

The higher GDP per capita in Sri Lanka and Iran no doubt help explain the stronger performance of those countries in many of the other indicators. But income levels cannot explain all the differentials. Pakistan's key dilemma was clearly stated by the then Minister for Planning, Development and Reform, Prof Ahsan Iqbal, in his Prelude to the document Pakistan 2025: One Nation – One Vision, when he wrote: "In terms of economic indicators, Pakistan is a middle income country but in social indicators it falls amongst the least developed countries."

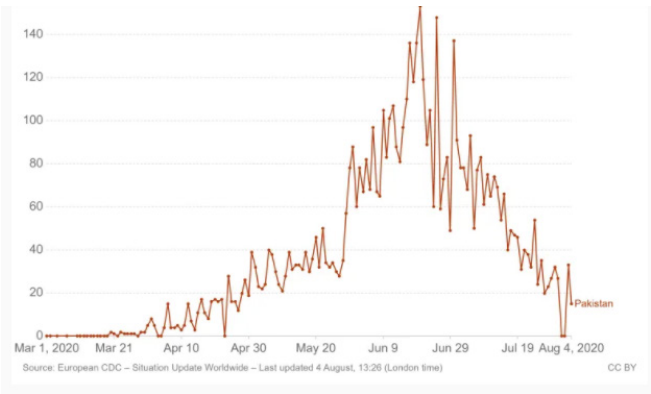
3.2.9. The impact of COVID-19 in Pakistan

The outbreak of COVID-19 in Pakistan began in mid-March 2020. Things got steadily worse, but after mid-June, both daily recorded case numbers and daily deaths declined steadily to a very low level (see Figure 3.12 for confirmed deaths). The decline was sharp and sustained; whereas average daily deaths peaked at over 100 a day in mid-June, by mid-July this was down to about 40, and by early September was averaging fewer than 20. Under-testing casts some doubts on the figures, but the proportion of positive cases among those tested also declined, suggesting that the situation really was improving (Afzal, 2020).

Table 3.2 shows how the deaths per million population in Pakistan compare with those in other parts of the world (as of 27 December 2020). While it is clear from this table that the death rate from COVID-19 in South Asia is far lower than in the COVID-19 epicentre, which was in Europe, then moved to USA and Latin America, before resurging again in Europe. However, Pakistan is not doing as well as East Asian and many Southeast Asian countries. Within South Asia its recorded COVID-19 death rate is well below that of India and Nepal, but well above Sri Lanka. Pakistan's case fatality rate of 2.1 per cent is in line with the Asian average and slightly below the world average of about 2.2 per cent.

Figure 3.12.

Pakistan: Daily new confirmed COVID-19 deaths, March-August 2020.



The strategy of avoiding a nationwide lockdown and allowing mosques to open during Ramadan and allowing markets to reopen too quickly toward the end of Ramadan in March were major reasons behind the spike in cases in June, which seems to have been successfully countered by enforcing "smart" lockdowns in hundreds of COVID-19 hotspots across the country, and keeping restaurants and large indoor venues closed. In August, Pakistan authorities lifted most of the country's remaining coronavirus restrictions based on the steady fall in number of new cases. Schools and universities reopened later in September.

Unfortunately, in early November a "second wave" showed signs of breaking out in Pakistan, and on November 16 it was announced that on each of the previous four days the largest number of COVID-19 infections since July had been recorded. Both cases and deaths were rising, and the number of confirmed cases amongst those tested rose. Further restrictive measures were being considered.

COVID-19 continues to impact all aspects of life in Pakistan. GDP growth is expected to turn negative in FY2020, for the first time in 70 years. According to the Pakistan Economic Survey 2019-20, millions of workers are likely to lose their jobs because of COVID-19 related effects. Internal migration will be affected, as will overseas employment opportunities

[15] The 2019 NIPS Pakistan Maternal Mortality Survey, however, estimated a higher figure for Pakistan's MMR – 186 per 100,000 live births.

Table 3.2.

COVID-19 deaths per million population, various countries and territories (27/12/2020).

The West And Latin America		East Asia		South Asia		South East Asia	
BELGIUM	*1,650*	JAPAN	25	INDIA	106	PHILIPPINES	83
ITALY	*1,185*	S. KOREA	*16*	NEPAL	*62*	INDONESIA	*77*
UK	*1,034*	CHINA	*3*	AFGHANISTAN	*55*	MYANMAR	*47*
USA	*1,024*	TAIWAN	*0.3*	BANGLADESH	*45*	MALAYSIA	*14*
MEXICO	*942*			**PAKISTAN**	**44**	SINGAPORE	*5*
BRAZIL	*895*			SRI LANKA	*9*	THAILAND	*0.9*
GREECE	*438*					VIETNAM	*0.4*
GERMANY	*359*					CAMBODIA	*0*

and foreign remittances, which different sources project will fall by more than 20 per cent. There is a real risk that the percentage of population living in poverty will increase (UNDP 2020: 4).

To deal with the COVID-19 emergency, the Ministry of National Health Services, Regulations and Coordination prepared a National Action Plan for Corona virus disease (COVID-19) Pakistan. A main objective was to "ensure that the current outbreak of COVID-2019 is contained and responded timely and efficiently to prevent its further spread. To strengthen country and community emergency response to potential events due to CIVID-2019 including local, regional and national outbreaks that can have a significant impact on the health of Pakistan's population" (p. 9). The plan identifies the principles and elements of effective emergency preparedness and lays out the planning process by which provincial governments can determine their priorities and develop or strengthen their operational capacities for an efficient response. Specific hospitals were designated for admission and management of suspected and confirmed cases based upon availability of quality isolation wards at Federal, provincial and regional levels.

As far as the United Nations response is concerned, in May 2020 a document entitled COVID-19: Pakistan Socio-Economic Framework was issued, which "aimed to support the Government to minimize, mitigate and manage the effects of the pandemic – to save lives, protect people and 'recover better'" (UNDP 2020: 5). It included an analysis of resource requirements, pinpointing where technical and financial resources need to be mobilized through government sources, donor assistance and development partners' engagement. The framework covers five workstreams: health, social protection, jobs, macroeconomic response and multilateral collaboration, and cross-cutting aspects of the COVID-19 responses, focusing on social cohesion and community resilience.

3.2.10 Water-Energy-Food Nexus

Water-food-energy nexus has recently emerged as an alternative perspective on sustainable development. In addition to challenges of education and health, Pakistan faces water-food and energy challenges. Water waste is common. Despite the availability of food, food insecurity is high. According

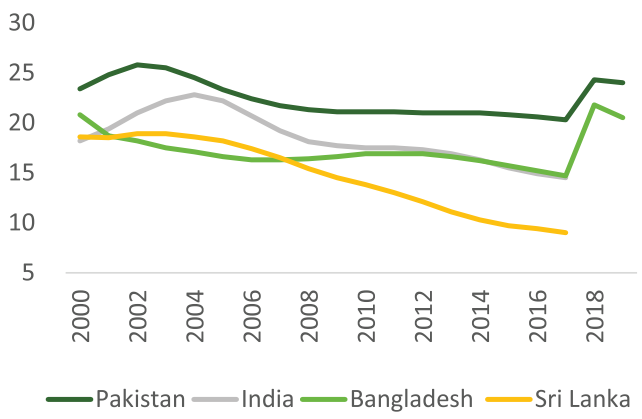
to the Global Hunger Index (GHI), Pakistan ranks 94th out of 117 qualifying countries in 2019. With a score of 28.5, Pakistan suffers from a serious level of hunger (Global Hunger Index, 2019).

The situation is expected to worsen in FY2020 and 2021. Recent rise in food prices leaves many people food insecure. The country has one of the highest malnutrition, undernourishment, and childhood stunting in the world. Women and children are particularly affected by malnutrition and only 15 per cent of children consume a minimally acceptable diet (Sleet, 2019). Poverty is one of the most significant predictors of food insecurity in Pakistan. Sluggish economic growth, poor economic outlook, and absence of political constituency for food security reforms hinder implementation of the proposed food security. Further, the rising poverty can leave the reforms ineffective.

Figure 3.13 shows a regional comparison of percentage of population below the respective poverty line by dietary energy consumption. Pakistan has the highest percentage of population experiencing dietary energy consumption poverty, compared to India, Bangladesh, and Sri Lanka. In 2019, 24 per cent of Pakistan's population had insufficient food intake to meet dietary energy requirements.

Figure 3.13

Hunger Statistics as % of Population below minimum level of dietary energy consumption (2000-2019)

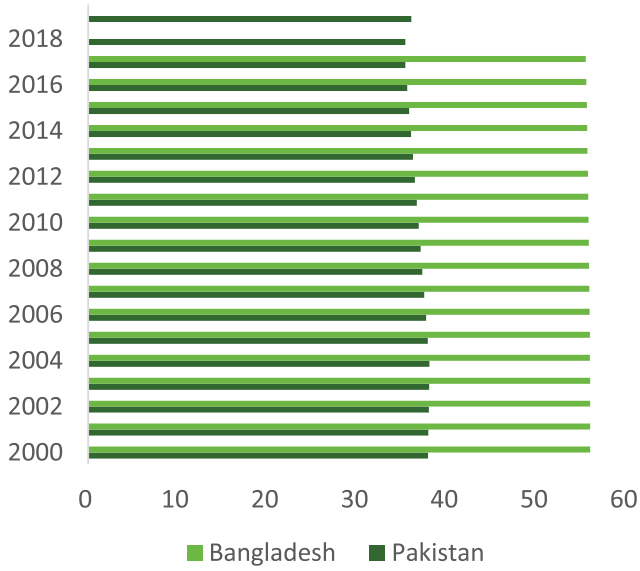


Source: World Bank estimates via Macrotrends (https://www.macrotrends.net/)

Lock down to flatten the COVID-19 curve led to non-accessibility of health services to mothers, lack of family planning services, and a possible increase in unintended pregnancies and abortions. It also raised food insecurity further through i) disrupted supply of food at the local level because of transportation lockdown, ii) fall in income of particularly poor segments of society as they were not able to work and iii) significant job layoffs. Unfortunately, discussions on food security in Pakistan and associated policy measures are limited mainly to "food supply" with key focus on increasing the production mainly though "increased area under cultivation". Much less has been done to "increase productivity of the agriculture sector".

Figure 3.14

Percentage of Population Consuming Clean Drinking Water (2000-2019)



Source: World Bank estimates via Macrotrends (https://www.macrotrends.net/)

Similarly, on average 36 per cent of Pakistan's population has access to clean and improved drinking water. Around 64 per cent of population is consuming uncleaned water (Figure 3.14). In Bangladesh, 56.5 per cent of the population has access to clean drinking water.

These figures require careful interpretation, however. Pakistan Demographic and Health Survey data for 2017/18 show that 95 per cent of households had access to an improved source of drinking water

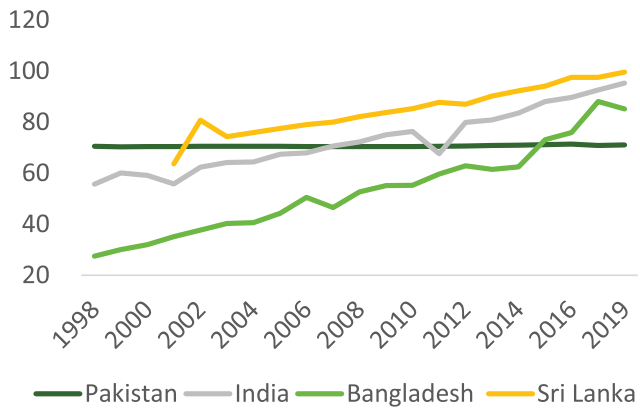
(up from 93 per cent in 2011/12), but that 90 per cent of households in both years gave the water no treatment prior to drinking, and only 7 per cent used an appropriate treatment method.

According to the World Bank data (Figure 3.15), Pakistan also shows no improvement over the last two decades in providing access to electricity. Despite large scale investments in the electricity sector, the share of population having access to electricity has stagnated; there has been less than one percentage point increase in the last two decades, from 70.5 per cent in 1998 to 71.1 per cent in 2019. One of the key factors is the multifold increase in population. By contrast, provision of electricity improved by 71 per cent, 210 per cent and 57 per cent in India, Bangladesh, and Sri Lanka, respectively (Figure 3.15).

Again, however, the Pakistan DHS data show a very different situation: that 93 per cent of households had electricity in 2017/18 (up from 89 per cent in 2006/07). Possession of electronic goods at home has also increased rapidly in Pakistan. One thing the PHDS data do not show is the actual accessibility of the electricity, because frequent blackouts have long been a feature of electricity supply in Pakistan.

Figure 3.15

Percentage of Population Having Access to Electricity (2000-2019)



Source: World Bank estimates via Macrotrends (https://www.macrotrends.net/

Other than provision of electricity, affordable energy has been a major challenge to Pakistan. Reliance on imported furnace oil to produce energy increased the energy costs. Higher energy prices transmitted to higher cost of agricultural production mainly through cost of extracting underground water.

It is important to note here that energy subsidies to agriculture are mainly concentrated on larger scale farming and hardly reach marginal and small farmers who generally take "water hours" from the owners of tube wells and they have to pay a higher price. Further, across the board subsidies are leading to water wastage through undue water extraction.

Energy, water, and food are interlinked. Crop production heavily relies on energy-consuming groundwater pumps. The reliance is directly proportional to the increase in irrigated area under cultivation. More pumps are required to meet irrigation needs. A million tube wells are reportedly installed in Punjab alone, and energy use in pumping and farm operations may account for up to one-fifth of the province's energy consumption (Sidiqqi, 2014). This link between energy, irrigation water and agriculture must be explored for effective policy actions.

It is however encouraging to see a recent shift where solar power generation for water pumps has become quite popular and a new area of investment. The government provides farmers with a subsidy for improved On-Farm Water Management: a 50% subsidy is provided on the total costs of an agricultural solar energy solutions installation for running a High Efficiency (Drip/ Sprinkler) Irrigation System (HEIS)[16]. Evidence in this regard suggests that on-farm solar system is the "most environmentally friendly and economically viable power source for drip irrigation" (Akram and Asif ,2020)

The federal government has put energy security at the top of its development agenda in its Vision 2025. It is however important to note that the priority focus on energy must be framed within the "water-food-energy" nexus. Policies to promote energy security must be integrated with the country's water and food security. Managing each sector separately will compromise the gains from the other sector

[16] https://www.ebr-energy.com/how-can-farms-benefit-from-becoming-solar-powered-in-pakistan/

and make investments less effective. Increased focus is required on water-food-energy nexus as a sustainable development indicator.

Given the path stagnancy, excessive focus on GDP as an indicator of wellbeing and welfare and meeting the revenue targets as indicator of success of fiscal policy, a stronger commitment is needed to place the issues discussed in this chapter on the priority list of the development agenda. Pakistan's commitment to international development agenda, such as Sustainable Development Goals (SDGs), can provide a framework, for two major reasons. First, Pakistan is signatory of SDGs and many other UN and non-UN charters to ensure welfare and wellbeing of people. Second, these charters provide a common framework across the provinces. Commitment to these global agendas may provide the required strategic directions to place the above highlighted issues at the heart of development policy. Take the example of Pakistan One United Nations Programme III (OP III) 2018-2022 which lays out Pakistan's commitment to the SDGs. The program also provides "the collective vision and response of the UN system to Pakistan's national development priorities, highlighting activities to be implemented in partnership with the Government of Pakistan, as well as in close cooperation with international and national partners and civil society" (UNESCO, 2018).

3.3 National population and development guiding principles, strategies and priorities as well as complying with international agreements and goals

3.3.1 Country's documents for development priorities.

Like any other country, Pakistan has come up with a set of documents which guide the country's strategy to overcome its development challenges. The following relevant and significant documents need to be considered:

- Pakistan 2025 One Nation One Vision, 2018 (Ministry of Planning, Development and Reforms, Government of Pakistan)
- Pakistan's Implementation of 2030 Agenda for Sustainable Development- Voluntary National Review, 2019 (Government of Pakistan)
- Sustainable Development Goals-National Framework, 2018 (Ministry of Planning, Development and Reforms, Government of Pakistan)
- The multi-sectoral and multi-stakeholder Ehsaas Strategy, 2019 (Government of Pakistan)
- United Nations Sustainable Development Framework for Pakistan, 2018-2022 (United Nations)
- Pakistan's Annual Development Plan 2020-2021, 2020 (Ministry of Planning, Development and Reforms, Government of Pakistan)
- Long Term Plan for China-Pakistan Economic Corridor 2017-2030, 2017 (Ministry of Planning, Development and Reforms, Government of Pakistan)
- Pakistan's Yearbook 2018-19, 2019 (Ministry of Planning, Development and Reforms, Government of Pakistan)
- Pakistan's Fiscal Responsibility and Debt Limitation Act 2005, Amended in 2016 as a part of Finance Bill, 2016 (Government of Pakistan)
- Public Sector Development Program 2020-2021, 2020 (Ministry of Planning, Development and Reforms, Government of Pakistan)

3.3.2 The National Task Force: Outcome review & analysis

The adverse population and development indicators in Pakistan drew the attention of high-level political leadership to constitute a Task Force (July 2018) to address the issues posed by the prevailing high population growth. Its recommendations were endorsed by the Supreme Court and approved by the Council of Common Interest (CCI) chaired by the Prime Minister in November 2018 and the Ministry of National Health Services Regulations & Coordination (NHSR&C) was requested to prepare an Action Plan with financial modalities to operationalize such recommendations.

The implications of the CCI decision were profound. The CCI actions gave legitimacy at the highest level of government to addressing unfavourable population dynamics and the strengthening of the family planning program. Continued efforts will be needed, however, to build a strong consensus, drawing many individuals, political parties, arms of government, the bureaucracy, private agencies, NGOs, and media commentators, together in common cause. Otherwise, momentum could be easily lost.

The Federal Task force (FTF) to oversee population issues in Pakistan, was constituted on the recommendation of the Supreme Court (SC) in November 2018. However, there was a considerable delay before it held its first meeting in December 2019. That meeting highlighted the "alarming population growth in Pakistan" (Government of Pakistan-Press Information Department, 2020). Consistent with the SC recommendation to reserve Rs.10 billion for population control measures, including access to and provision of information related to mother care and family planning, the main agenda of FTF is to create a revolving Pakistan Population Fund to assist in overcoming the issue of rapid population growth. The third meeting of the FTF held on 07 August 2020 focused on the issue of increasing the funds to take optimal measures for decreasing the population growth rate.

On the directive of CCI, the Population Planning Wing of the Ministry of Health Services Regulations and Coordination prepared an action plan.

The action Plan aims to:

a. Increase the present Contraceptive Prevalence Rate of 34% to 50% by 2025 and 60% by 2030.

b. reduce the present Fertility Rate of 3.6 births per woman to 2.8 by 2025 and 2.2 by 2030, and

c. lower the present average population growth rate of 2.4% to 1.5% by 2025, and to 1.1% by 2030.

3.3.3. Other key national task forces

Among other key national task forces (NTF), the NTFs on Education, Technology, Food, and Women's Rights are of high importance from a development perspective. The National Commission on Status of Women was established in 2000 after international commitments made in the 1995 Beijing Declaration and in 1998 after the National Plan of Action. Its sole objective is to evaluate and analyze Government efforts to develop policies and initiate programs regarding women's welfare and gender equality. Further it reviews rulings, laws and regulations which have an (adverse) impact on women. In terms of public and provincial coordination, the commission's role is to design and maintain interaction dialogue among stakeholders at regional and national level.

Similarly, at provincial levels these commissions are also performing independently. The Punjab Commission for the Status of Women (PCSW), established in 2014 monitors the implementation of policies affecting women in the society, focusing on women's equality, empowerment, and prosperity. The Sindh Commission for the Status of Women (SCSW) was established in 2015 to promote social, political, and economic rights of women according to the Constitution of Pakistan.

The Khyber Pakhtunkhwa Commission for the Status of Women (KPCSW) was the first ever advisory body at provincial level which was established in 2009 through a legislation which was further amended in year 2016. It focuses on the socio-economic and cultural condition of women in addition to gender equality. Similarly, in Balochistan, the BCSW came into existence through an act in

2017 with an ambition to promote women's legal rights as per Pakistan's constitution.

In the context of economic development and coordination among provinces two key ministries play a role. The Ministry of Planning Development & Special Initiative which manages Pakistan's socio-economic development in a strategic and sustainable manner is headed by ministers from Ministry of Planning, Development and Reforms. The Ministry of Inter Provincial Coordination approved by the Prime Minister after legislation in 2008 works to improve the coordination among the provinces on significant polices in the country and to implement them at grass roots level. It serves as secretariat for the Council of Common Interests (CCI), which is the apex constitutional body established under Article 153 of the Constitution of Pakistan. Currently, the Ehsaas program assigns the ministry a very important role and mandates it for Need-based system of National Finance Commission Award (Javed and Ahmed, 2019)[17] and Need-based system of Provincial Finance Commissions (Government of Pakistan-EHSAAS, 2019).

3.3.4 National Narrative on Population Growth

As a key follow-up to the recommendation s of the National Task Force constituted by the Supreme Court and approved by the Council of Common Interest (CCI) chaired by the Prime Minister, a National Narrative on Population Growth was issued in 2019 by the Government of Pakistan, the UNFPA and the Population Council. Among other things, the Narrative states: "as a key measure, Pakistan must lose no further time in joining the countries of the region and the Muslim world in achieving a rate of population growth that is sustainable. This will have to be much lower than the current (1998-2017) average high growth rate of 2.4per cent."

The Narrative stresses that the achievement of balanced population growth is possible through three inter-linked principles: rights, responsibilities, and balance – Tawazun – that needs to be struck in all aspects, especially between rights and responsibilities. The National Narrative goes on to stress that "As per CCI recommendations, the State must act on an emergency footing, especially for the 7 million Pakistani couples who want to practice family planning but do not have access and for others who are unsure or still planning their families, as well as the millions of married women who have had to resort to unsafe abortions". However, exactly what needs to be done to achieve these goals on an emergency footing needs to be clearly defined.

3.3.5 Commitments and progress in complying with international agreements and goals

Pakistan is signatory to many international agreements: among others, the ICPD Programme of Action in 1994; Global Agenda of Sustainable Development Goals; International Covenant on Civil and Political Rights; The International Covenant on Economic, Social and Cultural Rights. Pakistan has also concluded many international economic agreements. Given the nature and scope of this chapter, we mainly focus on the SDGs agenda., which covers all the major aspects of the international commitments Pakistan has made.

Looking back, Pakistan did not fare well on MDGs - the predecessors of SDGs. When the deadline for achievement of the MDGs was reached, Pakistan had met none of the goals (UNDP, 2015: 2). Most of the population-related targets were far from being reached. Along with others this applied to: the under-5 mortality rate; the infant mortality rate; full immunization of children aged 12-23 months; immunization of less than one-year old against measles; the coverage of Lady Health Workers; the maternal mortality rate; the proportion of births attended by skilled birth attendants; the contraceptive prevalence rate; and the percentage of women giving birth who had at least one antenatal consultation.

As noted in the Pakistan Millennium Development Goals Report 2013, there was a common thread of weakness in many of these policies and programs. Most of them lacked in-built robust frameworks for monitoring and evaluation during implementation. Any need for mid-way course correction and fine

[17] Javed and Ahmed (2019) argues that Pakistan may need to shift to efficiency-based NFC from need-based system.

tuning of interventions from lessons learned became administratively and politically difficult. But Pakistan's failure to achieve the MDGs had a much more basic cause than the inability to fine tune interventions over time.

The key problem was that the goals adopted in the first place were unrealistic. As discussed by Akhtar (2015), Pakistan adopted the United Nations MDG goals as national goals, without adaptation to Pakistan's human or financial capacity. While goals no doubt need an element of ambition and optimism in order to galvanize planning authorities, they also need to be grounded.

The SDGs are a far more complex set of goals than the MDGs, and there is considerable interaction between them. The political ownership now is much stronger for SDGs. The Pakistan government is giving great importance to meeting the SDG targets. It has established an SDG section within the Planning Commission, not only at the national level, but also within the provincial Planning Commissions. SDGs units have been set up and are working very closely with government and other stakeholders. Steps have been taken to localize the SDGs. The data gaps have been identified, priority SDG targets have been listed and required resources to meet these targets have been assessed.

Federal and provincial governments now have SDGs frameworks in place. Task forces in the National and Provincial Parliaments have been established to review progress and facilitate legislative support for implementation. SDG Support Units facilitate vertical and horizontal coordination among the stakeholders.

Examining the SDGs from a population policy perspective, it is clear that there is complex interaction between many of the variables targeted, and that these variables will, separately and in combination, impact population growth and in turn be impacted by population growth. For example, the targets in the health (SDG 3), education (SDG 4) and women's empowerment areas (SDG 5) are all likely to affect fertility rates.

In the reverse direction, managing population dynamics effectively has positive sustainable development outcomes, in social, economic and environmental terms – outcomes which should assist in achieving targets not only in SDGs 3, 4 and 5 but also in SDG 1 (poverty), SDG 11 (sustainable cities), SDG 7 (energy), SDG 8 (productive employment), SDG 10 (inequality), SDG 13 (climate change), and SDG 15 (sustainable ecosystems).

In the area of family planning, the failure of Pakistan to meet its internationally announced commitments is clearly evidenced by a comparison of the commitments made at two international summits: the London Summit on Family Planning in 2012 and the Nairobi Summit in November 2019. At the London Summit, Pakistan pledged to work towards achieving universal access to reproductive health and increase CPR to 55 per cent by 2020 (later revised downwards to 50 per cent).

Unfortunately, even the revised target was far from being achieved. At the Nairobi Summit in 2019, the same target of CPR of 50 per cent was again stated – but the target year had been put back by five years – to 2025 (see Pakistan, Ministry of National Health Services Regulation and Coordination, 2019). Lower economic growth, poor inter provincial coordination has already been challenging Pakistan's progress on SDGs. COVID-19 may test the country's performance on SDGs. But the crisis may offer a window of opportunity for a sustainable transition if Pakistan's policy responses to the pandemic are tailored with the SDGs agenda.

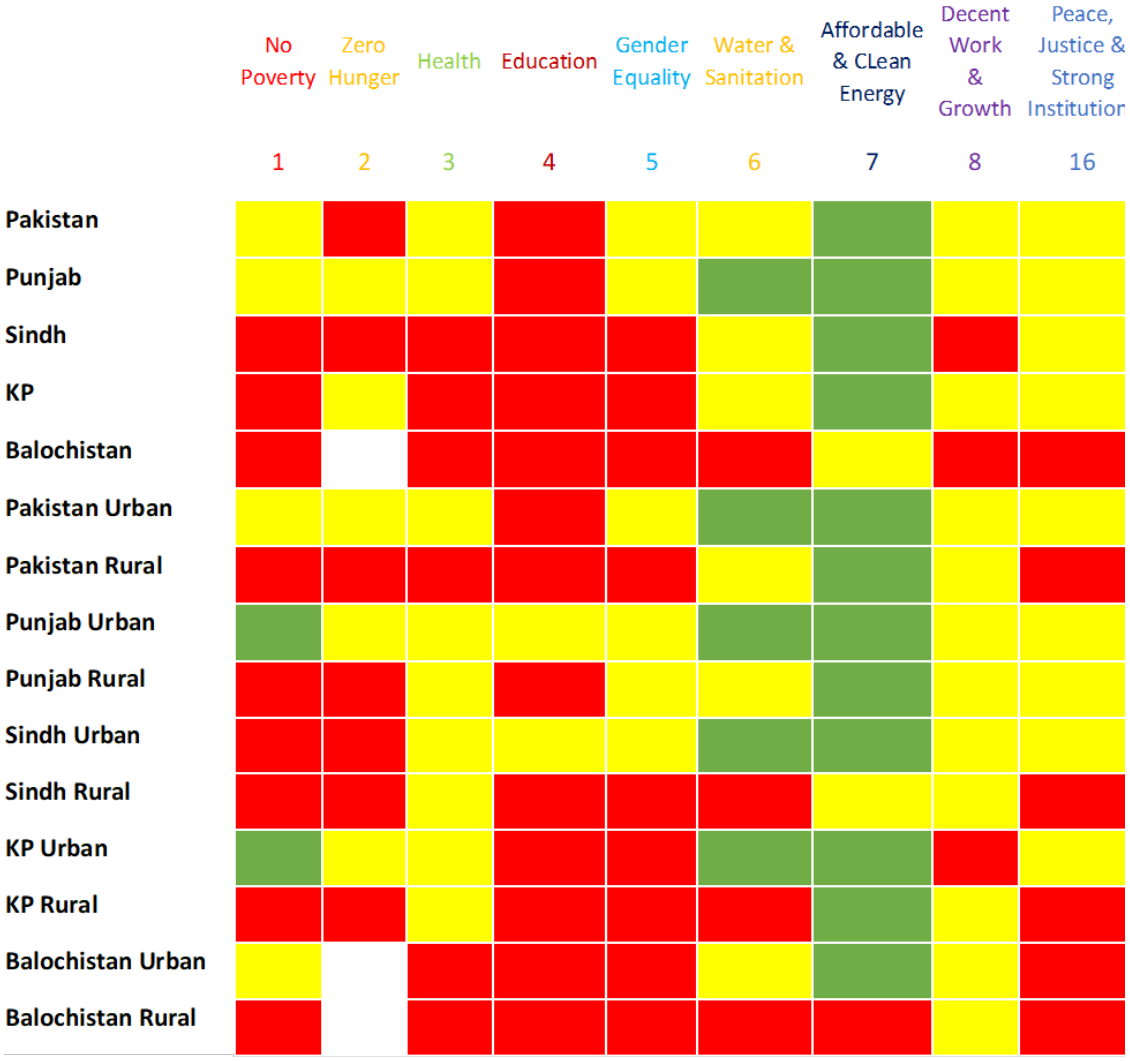
Umar, Maida and Asghar (2018) use an SDG Index Heat Map to assess Pakistan's progress on SDGs [Figure 3.16]. Meeting Poverty (SDG1), health (SDG3), education (SDG4), gender equality (SDG5), water & sanitation (SDG6), decent work & growth (SDG8) and peace, justice & strong institutions (SDG16) will be a key challenge for Pakistan. The progress on the majority of SDGs is far from being on track (red bars, Figure 3.16). For the other goals, significant efforts are required to achieve them (yellow bars, Figure 3.16). Green shows the performance is on track or the goals have been achieved already. Of the priority SDGs, Pakistan has only one green bar for SDG 7; affordable and clean energy.

Unavailability of data may seriously hamper progress on the SDGs agenda. Take the example of Balochistan where data for more than 85 per cent of SDG targets is not available[18]. This has serious implications for SDG planning. Capacity of respective governments and departments to implement the SDG agenda will be critical. Currently, the related departments lack the required capacity. Active engagement of local government will be important if the country is to achieve the SDGs agenda.

Stakeholders need to mount serious efforts to end all forms of discrimination against women [SDG targets 5.1 and 5.C], early age and forced marriages (target 5.2) and violence against women in any form and promoting women's equal participation and leadership opportunities in socio-economic and political life (targets 5.3 & 5.5). The evidence that this is a serious issue is readily available. Around one fourth (24.8%) of married women and girls aged 15 years and older were subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months (PDHS 2017-18). One fifth (20%) experienced psychological violence. Women age 30-49 (36%) are more likely than women age 20-24 (25%) to have experienced physical, sexual, or emotional violence committed by their current or most recent husband (PDHS 2017-18). The prevalence of violence is higher in rural areas where 36% of women and girls had to face domestic violence compared to 30% in urban areas.

Figure 3.16

SDGs Comparison at National and Provincial level



Source: Umar, Maida and Asghar, 2018 https://mpra.ub.uni-muenchen.de/id/eprint/83997

[18] Draft SDGs Localization Framework for Balochistan, prepared by Sustainable Development Policy Institute (SDPI).

3.4 Social Issues: role of social protection/social safety

Programs under social protection also encourage equality in life expectancy (via health facilities and access), equality in education (by way of facilities and cheap access), and equality in income (through a powerful labour market), especially in deprived economies with high population growth.

In this regard, the Government of Pakistan has created multiple channels to address the issues, including creation of a Poverty Alleviation and Social Safety Division, launching of Ehsaas, introduction of Relief Package of Rs.144 billion considering the coronavirus crisis, re-orienting the Public Sector Development Programme (PSDP) to include less developed areas, expansion of Sehat-Insaf Card Scheme to provide free health care up to 80 million people, finalization of National Nutrition Program to upscale people's nutrition, constructions of Panahgahs to shelter the homeless, and capitalizing Tele-health and Tele-education facilities to expand their coverage (Economic Survey of Pakistan, 2020).

Pakistan's first large scale social protection program named Benazir Income Support Program (BISP) was established in 2008, leading to a multi-fold rise in fiscal allocation for social protection. In its first five years, almost 4.7 million deprived households were under the BISP umbrella in Pakistan. Total expenditure on social assistance through this program was Rs. 179 billion in 2012-2013, comprising almost 0.8 per cent of Pakistan's GDP (Nasim, 2014). The National Socioeconomic Registry (NSER) was established in 2010-11"to ensure objectivity in identifying beneficiaries and for transparency in implementing interventions, effective targeting of` BISP beneficiaries" (Government of Pakistan-BISP, 2019). The NSER 2010-11 is being updated and the work has been in progress since 2019.

The evidence on performance of BISP is positive. Even though many experts believe that it is not a poverty reduction program by design and is mainly meant to smoothen the household consumption of the poorest 20%, the Benazir Income Support Programme: Evaluation Report (2020) by Oxford Policy Management (OPM)[19] finds that "The BISP has already produced impressive poverty reduction results over the period 2011 to 2019, which has produced real improvements in welfare".

The report further states that "The BISP continues to have a strong impact on women's empowerment in a wide range of dimensions including greater mobility, increased autonomy in decision making, increased personal savings, increased political participation, and a reduction in some forms of gender based violence". The conditional cash transfers (CCTs) have been positively affecting the education attainment of the children from beneficiary families.

In terms of the long run gain, the report concludes that "This evaluation does not find evidence that the BISP is leading to productive investments. Whilst it is positive that the BISP does not reduce labour supply that would be indicative of a "dependency syndrome, the BISP does not lead to an increase in savings or an increase in households who set up household businesses". BISP, according to the OPM report fails to i) increase the proportion of households having household business ii) increase the households who have livestock iii) exert positive effect on increasing the proportion of households that are able to save. This may show absence of any long-term sustainable poverty reduction and social mobility gains from BISP.

The "Ehsaas" programme was initiated in March 2019. Much broader in coverage and scope than BISP, Ehsaas strategy or program includes all mandatory sub programs which shape social protection in the society. "Mazdoor ka Ehsaas" focus on the usually ignored segment of workers in social protection and the informal labour force. "Ehsaas Kaffalat" focuses on the financial inclusion of women through a monthly stipend of Rs.2000 to the poorest women segment of society, and "Ehsaas Emergency Cash" is a financial assistance to overcome the hardships after Covid-19 to enable access to daily food.

[19] Report can be extract from https://bisp.gov.pk/SiteImage/Misc/files/BISP_EvaluationReport_Ver%20without_FINAL.pdf

"Ehsaas Nashonuma" is a health and nutrition conditional program for stunted children under 23 months of age. "Ehsaas Amdan" is an assets distribution program to pull deserving populations up from poverty. "Ehsaas Interest free Loans" is financial assistance in terms of loans with zero interest. "Ehsaas Langars" is meant to provide meals to poor workers and population who don't have a one-time meal a day, and "Ehsaas Undergraduate Scholarship Program" supports the needs-based undergraduates to attain education.

Overall, Ehsaas is fundamentally different from BISP. This can be Pakistan's first poverty alleviation program and goes beyond just cash transfers. In contrast to BISP - exclusively a public sector program - Ehsaas is open to the private sector, philanthropic community, international agencies and civil society organizations to contribute through financial and/or in-kind expertise in Pakistan[20]. Further, it has a diverse set of interventions which include human capital development, jobs and livelihoods, safety nets and equitable systems.

3.5 Conclusions

This chapter has argued that Pakistan's population policy must be framed within the country's broader socioeconomic context. The desired economic policy outcomes, such as decent employment opportunities, improved income, and higher female labour force participation rate, influence population outcomes which include contraception uptake and fertility decisions which consequently affect the overall population growth rate. Higher female labour force participation in sectors offering quality jobs can increase the opportunity cost of having a child which, in turn, may lower the fertility rate.

However, the acquisition by females of quality jobs in the labour market depends critically on the nature and composition of economic growth. Economic growth achieved on the back of consumption – the current situation in Pakistan - is unable to produce quality jobs. Consumption-stimulated growth is not creating enough employment opportunities for middle and higher skills. Pakistan has to shift towards investment-based economic growth. Revival of the manufacturing sector will be critical as this is the sector which creates quality jobs in good numbers. Presently, the composition of economic growth is creating demand for elementary skills. The export share in GD needs to be increased if Pakistan is to create quality jobs for its youth.

Pakistan suffers not only from a low rate of economic growth, but also an inequitable distribution of the gains from economic growth and associated opportunities of education, employment, and income. This is particularly true for the female population. While it has improved over time, the labour market participation of females is very low.

Structural inequalities affect the population policy outcomes. Inequitable distribution of education, health and employment opportunities influence household decisions regarding family size. Being poor, unemployed, or living in rural areas of deprived and backward regions is associated with lower contraceptive uptake and a higher fertility rate. Persistent poverty influences family size decisions through lower opportunity cost and the motive of having more earning hands. These households end up with lower human capital accumulation for the next generation, forming a vicious circle of lower social mobility.

It can be questioned whether the current political and economic environment is supportive of the achievement of the country's population goals. The Ehsaas programme is a step in the right direction. But until serious attention is given to raising the critically low share of government revenues devoted to health and education, moving from a regressive

[20] Poverty alleviation and social safety division website https://www.pass.gov.pk/Detailded16035-febc-4590-90c0-3905c6235818

to a progressive taxation system, and taking other steps to improve the lives of disadvantaged Pakistanis, rapid attainment of the key goals of lowering early childhood mortality and lowering fertility is unlikely.

While it is critical to ensure equitable distribution of education, health and labour market opportunities, the debate on inequality and poverty needs to go beyond inequality of outcome and focus on production of inequalities. This will require ending the separation between economic and population policies as this is creating structural inequalities. Broadly, to have an effective population policy and desired outcomes such as higher contraceptive uptake and lower fertility rate, economic and social policies need to reduce the exclusion of the marginalized population from socioeconomic opportunities. Conversely, the broader agenda of economic and social policies must aim to lessen social exclusion, the common foundation of poverty and inequality of outcomes.

Designing and implementing population policy separately from economic policy may fail to provide desired results; population policy should be integrated in inclusive development policies, including economic policy. For example, economic policy should focus on improved female labour force participation, not only because of its clear contribution to economic growth but also because this will help to slow the population growth through backward and forward linkages. It will require improved education and skills development of female population on the one hand, reducing the respective social inequalities, while increasing the opportunity cost of having a child on the other hand. The joint impact will be improved income and lower population growth.

An integrated approach is therefore needed with a focus on

- Efficient investments in education – especially secondary level – and health and skills development
- Undertaking effective policy reforms to ensure equitable distribution of socioeconomic opportunities
- Promoting export led growth backed by public and private sector investments in the manufacturing sector to produce quality jobs demanding middle and higher skills.

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4 Population Dynamics/ Demographic Transition In The Context Of Economic And Social Processes

4.1 Introduction

Demographic transition is a change from a situation of high fertility and high mortality to one of low fertility and low mortality, and typically starts with a decline in mortality, particularly among infants and young children. The process of transition affects the total size and age structure of the population. These changes (e.g. the surge in the size of the working-age population) in turn are determined by the size and structure of the population at the beginning of the transition and the speed of change (population momentum). Population dynamics is about changes in the size of population, the structure of population (particularly age distribution), the distribution of population across provinces and regions (rural and urban), and the factors leading to those changes. Thus, the two concepts, demographic transition and population dynamics, are interlinked. Changes in both are influenced by social and economic processes, which play a vital role in shaping the society. 'Social processes' refer to the pattern of social interaction that has a changing effect on society over time. 'Economic processes' include activities, actions, and operations that involve the production and sale of goods and services. Social and economic factors – education, income, expenditure, employment status, housing etc. – affect demographic outcomes through their influence on health behaviors and access to health and social care services, as well as influences on desired fertility and access to family planning.

The demographic transition in Pakistan has not only been delayed but its current pace is very slow. Pakistan has undergone a mortality transition since the 1950s by reducing the crude death rate to a single digit (around 7 deaths per 1000 population in 2019) and improving life expectancy from 34 years in the 1950s to 67 years at present, but its performance has not been satisfactory by international and regional standards. The infant mortality rate (IMR), which is one of the drivers of fertility behavior, remains high, at 62 per 1000 live births (NIPS, 2019). High child mortality in the community is a barrier towards the promotion of small family norms (Canning, 2013). The fertility transition was only initiated in the late 1980s or early 1990s (Sathar and Casterline, 1998). The total fertility rate (TFR) declined only marginally in the 11-year period 2006-07 to 2017-18 - from 4.1 to 3.6, resulting in a very high inter-censal (1998-2017) annual population growth rate of 2.4 percent. The pace of population growth has been much higher than was anticipated (forecasts were of a rate of 1.9 per cent - Goujon et al., 2020). According to the United Nations Population Division's medium projection, Pakistan's population will reach 338 million by 2050, an increase of more than 50 per cent over its current figure.

Population dynamics have been the subject matter of some recent studies, which have utilized the 2017 Population Census and 2017-18 Pakistan Demographic and Health Survey (PDHS) (Karim, 2018; Nayab et al., 2019; Goujon et al., 2020). This chapter, however, examines the dynamics in a holistic way covering all three components of population change – fertility, mortality and migration - which have rarely been studied jointly, by focusing on provincial and rural-urban differentials over time.

This chapter has the following objectives:

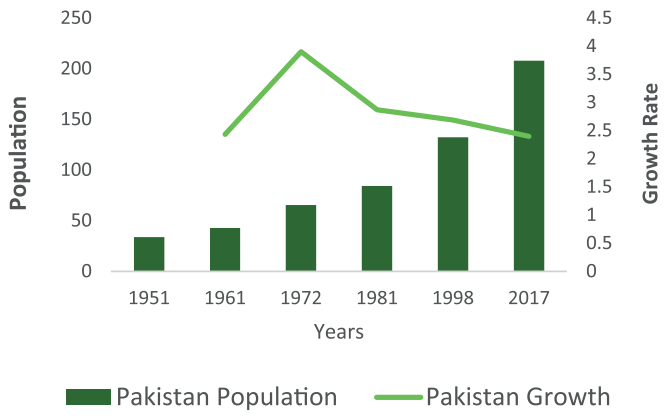
- To give an overview of the population growth since 1950s, with provincial and urban-rural differentials, and also present the projected population to 2050;
- To analyze the changes in population age structure and their implications, with specific attention to adolescents and youth as priority groups, and potential aging trends;
- To explore the marital status of population in reproductive ages and changes in age at marriage;
- To examine the fertility transition in Pakistan, reasons for its slow pace and prospects of speeding the transition to achieve the goal of replacement level fertility;
- To determine the individual level determinants of fertility, including the role of female education and wealth status.
- To give an assessment on the mortality transition, focusing on neonatal, post-neonatal, infant and under-five (U5) mortality rate, maternal mortality and life expectancy at birth; and
- To assess the magnitude of internal and international migration, changes in settlement patterns and urbanization, and discuss humanitarian emergencies (natural disasters, COVID-19 Pandemic etc.).

The chapter is organized as follows. An overview of the population growth since the 1950s and projections to 2050 is provided in section 4.2. Changes in the population gender and age structure are examined in section 4.3 while the analysis of marriage, divorce and family patterns is presented in section 4.4. The next three sections, 4.5 to 4.7, discuss the fertility transition, prospects of achieving replacement level fertility and infertility. Mortality transition is analyzed in section 4.8, whereas internal and international migration are the subject matter of sections 4.9 and 4.10 respectively. Section 4.11 discusses the prospects of achieving the CCI goals while the conclusions are presented in section 4.12.

4.2 Overview of population growth, 1951-2020

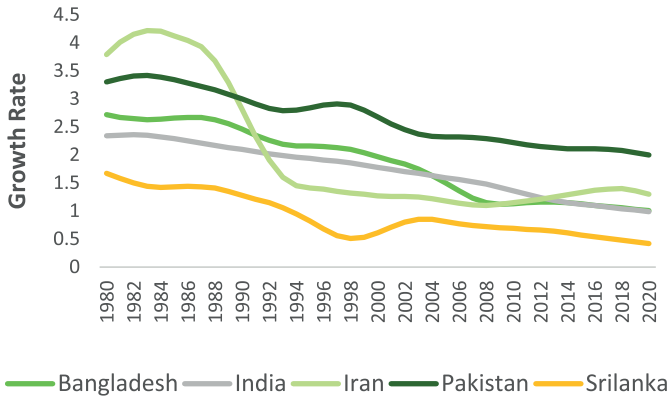
The overall growth rate of Pakistan's population has been well above 2 per cent per annum ever since 1951. It reached a peak of 3.6 percent during the 1961-72 period, since then it has gradually declined to 2.4 percent for the 1998-2017 inter-censal period (Figure 4.1). The population has increased six-fold in six and a half decades, from 34 million in 1951 to approximately 208 million in 2017. The delay in the onset of fertility transition, which started in the late 1980s or early 1990s, the slow pace of decline in fertility, particularly in the most recent period, and population momentum are the major factors contributing to high population growth rates during the last seven decades. In fact, no major change in demographic behavior of the population could be observed particularly during the last one and a half decades: fertility and child mortality levels remained high.

Figure 4.1
Changes in Pakistan's population size and inter-censal growth rates, 1951-2017



Source: Pakistan Bureau of Statistics

Figure 4.2
Annual population growth rate for Bangladesh, India, Iran, Pakistan and Sri Lanka, 1980-2020

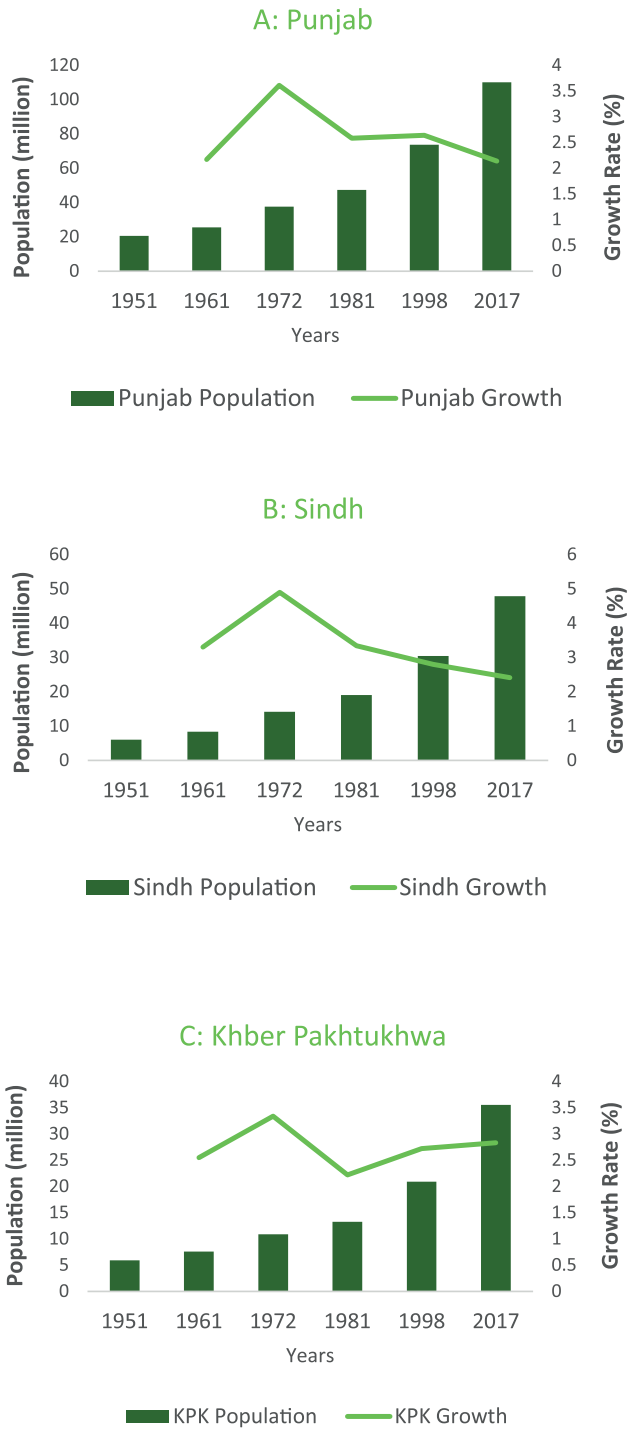


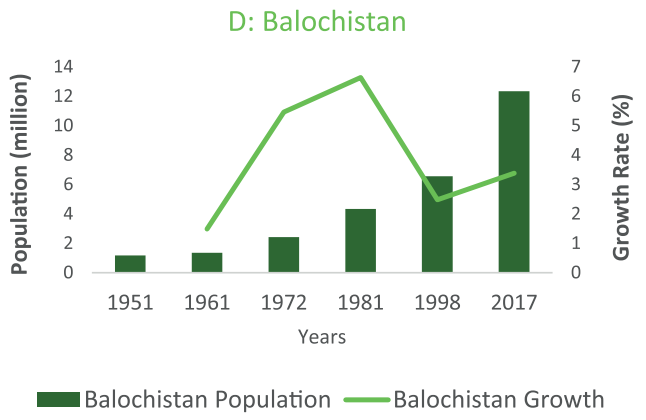
Source: United Nation (2019); World Population Prospects

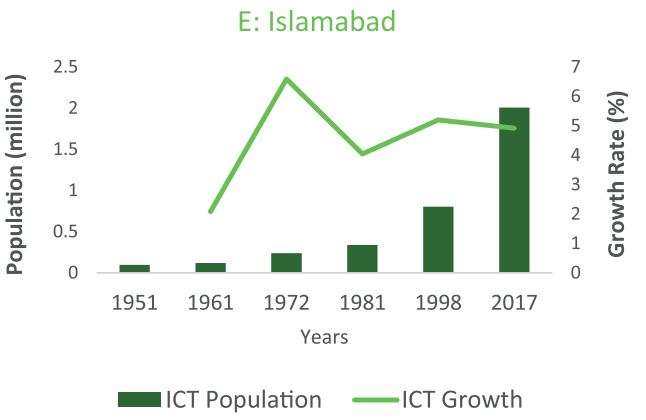
Demographic transition in Pakistan lags behind other regional and many Muslim countries. Pakistan's current population growth rate is much higher than the corresponding rates in other South Asian countries – Bangladesh, India and Sri Lanka – and Iran, a neighboring Muslim country (Figure 4.2), and is also much higher than many other Muslim countries e.g. Indonesia, Malaysia, Turkey and Egypt. The desired family size in Pakistan remained relatively high, around 4 children. It is likely that high levels of child mortality, poverty, and social exclusion affect demographic outcomes in Pakistan through their influence on fertility desires and the demand for health and social care services (for detail see Section 4.5).

Since the 18th constitutional amendment, passed by the National Assembly of Pakistan in April 2010, the provinces have been given responsibility for issues related to population. Thus, a review of the distribution of population across provinces, which is influenced by their respective growth rates, has direct policy relevance for the PSA. Moreover, it also has economic (financial) and political implications since population is the key factor for NFC award and allocation of number of seats for the national and provincial assemblies e.g. the readjustment of some seats after the 2017 census provisional results. Historically, the population growth rates have been relatively higher in Balochistan, Sindh and Islamabad, the capital territory, than in Punjab and Khyber Pakhtunkhwa (KP) (Figure 4.3), particularly during the inter-censal periods of 1961-72 and 1972-81.

Figure 4.3
Changes in population size (million) and inter-censal growth rates (%) by province, 1951-2017







Source: Pakistan Bureau of Statistics

To some extent, the figures show the effect of net inter-province migration to Balochistan, Sindh and Islamabad from Punjab and KP. (Internal migration is addressed in detail in section 4.9 of this chapter). However, the results of the 2017 census show a higher growth rate for KP than for Punjab and Sindh (Figure 4.3). Surely the relatively high fertility level in the former explains the difference in growth rates, but it is also likely that the net inter-province migration from KP to Sindh or Punjab has slowed over time.

Between 1951 and 2017, the population of Balochistan increased about 11 times from 1.2 million to more than 12 million. The corresponding increase is eight times in Sindh, from 6 million to about 48 million. The population of KP jumped from 6 million to about 36 million, a six-fold increase. The population of Punjab increased five times, from 21 million to 110 million. In all provinces, urban growth has been higher than the growth in their rural areas, because of net migration from the latter to former. In short, high population growth is reported in every corner of the country, though a modest variation exists in growth rates of provinces and regions.

The distribution of population across the provinces has changed over time. The share of Punjab has declined from 61 percent in 1951 to 53 percent in 2017 while the share of Sindh has increased from 18 percent in 1951 to 23 percent in 1998, with no change in its share in the 2017 census (Table 4.1). The KP share in Pakistan's total population first declined from around 18 percent in 1951 to 16 percent in 1981, but has increased to 17 percent, primarily because of the recent merger of Federally Administered Tribal Areas (FATA) with KP. Balochistan has increased its share of Pakistan's population from only 3.5 per cent in 1951 to 6 percent in 2017. One percent of the country's population now lives in Islamabad, the capital territory, the fastest growing city of the country.

Table 4.1
Percentage distribution of Pakistan's population by province, 1951-2017

Province/ region	1951	1961	1972	1981	1998	2017
Pakistan	100	100	100	100	100	100
Punjab	60.9	59.4	57.6	56.1	55.6	52.9
Sindh	17.9	19.5	21.7	22.6	23.0	23.0
Khyber Pakhtunkhwa[1]	17.5	17.7	16.7	15.7	15.8	17.1
Balochistan	3.5	3.2	3.7	5.1	5.0	5.9
Islamabad	0.3	0.3	0.4	0.4	0.6	1.0
Total population (million)	**33.74**	**42.88**	**65.31**	**84.25**	**132.35**	**207.77**

Source: Pakistan Bureau of Statistics (PBS)

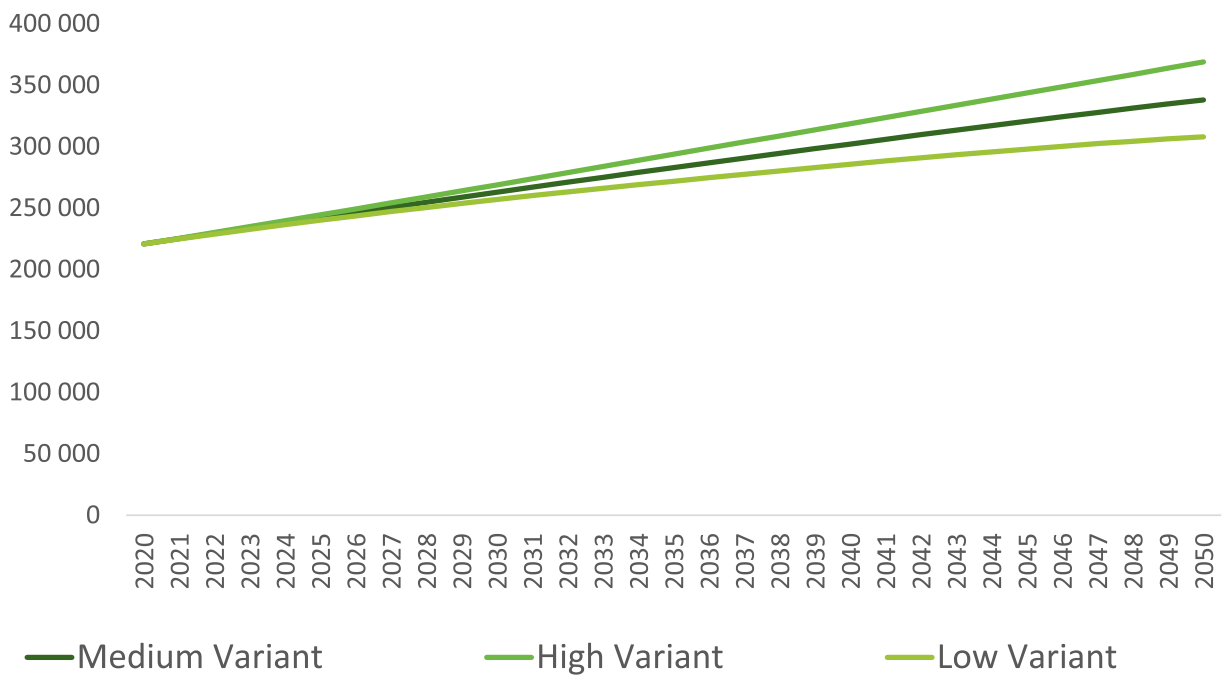
1. Khyber Pakhtunkhwa includes the population of merged districts of FATA.

How much is population expected to increase in Pakistan over the coming decades? An infinite number of projections can be carried out, with varying assumptions. The United Nations Population Division's most recent projection for Pakistan for the year 2050 (using the medium variant) is 338 million (Figure 4.4). However, Pakistan would remain the 5th most populous country in 2050, with changes in the position of Nigeria, moving up to 3rd place and Indonesia dropping to 6th position. The current growth rate in Pakistan is close to 2 percent, but this is expected to halve to less than 1 percent by the year 2050.

The high population growth in Pakistan over the last several decades resulted in increasingly larger cohorts of women in the reproductive age bracket. The population momentum[21] created by these cohorts explains why the number of children in Pakistan will not decline rapidly even if the fertility rate drops sharply. Over half of all projected population growth between 2010 and 2050 is attributable to the population momentum inherent in the population's young age structure (Bongaarts et al., 2013). The absolute contribution of population momentum between 2010 and 2100 will be between 50 million and 100 million (Andreev et al. 2013). Population momentum thus is an unavoidable fact of life, indelibly imprinted on Pakistan's age structure; it will drive growth forward, irrespective of what happens to fertility.

The three major factors contributing to the high population growth rates in Pakistan, then, are: (i) the delay in onset of fertility transition, (ii) the slow pace of decline in fertility during the last one and a half decades, and (iii) the resulting population momentum. The total population is projected to increase to 338 million by 2050, and over half of this increase will be attributable to the population momentum inherent in the population's young age structure. Because of inter-province variations in fertility levels and internal migration dynamics, the distribution of population across the provinces has changed over time, with increased shares for Sindh and Balochistan and a decline in Punjab's share. This change in provincial share in total population has financial and political implications through the NFC award and allocation or readjustment of number of seats in national and provincial assemblies.

Figure 4.4
Pakistan Population Projection 2020-2050



Source: United Nation (2019); World Population Prospects

[21] Fertility or the number of births per woman in the reproductive age bracket is only one of two drivers that matter for population growth. The second one is the 'population momentum'. If there were few women in the reproductive age bracket the number of births will be low even when the fertility rate is high. At times when an increasing share of women enter the reproductive age bracket the population can keep growing even if the fertility rate is falling (Roser, 2019).

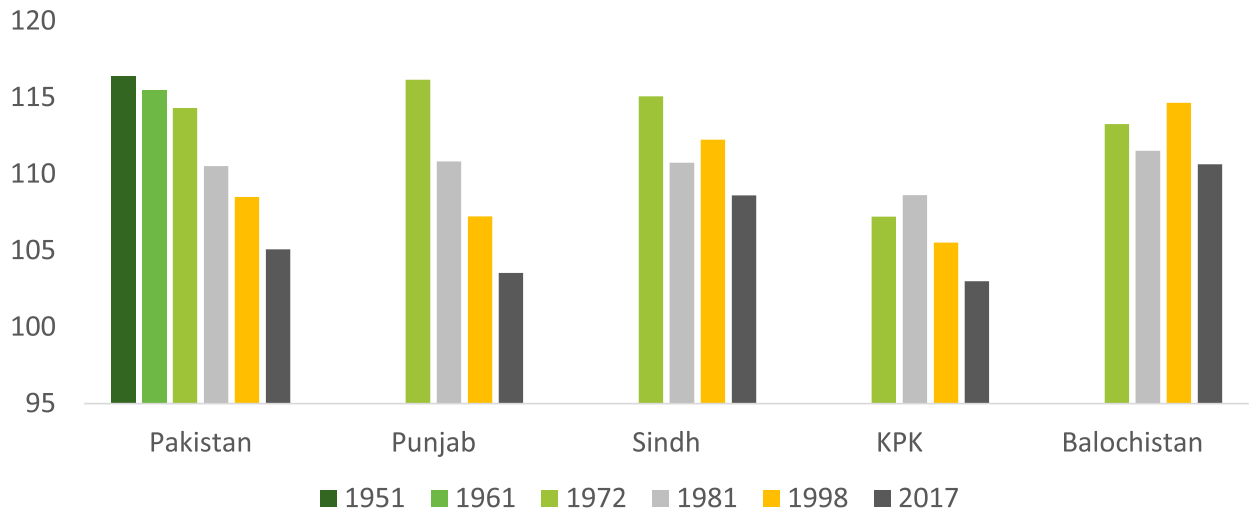
4.3 Changing population gender composition and age structure and its implications

4.3.1 Changes in gender composition

The composition of population by gender is one of the primary demographic characteristics around which meaningful analysis is developed. The sex ratio (defined as the number of males per 100 females) is a widely used tool for cross sectional analysis to measure gender balance. According to Pakistan's 2017 census, out of a total population of 207,774,520 persons, 106,449,322 are males and 101,314,780 females, giving a sex ratio of 105.07. For the first time, the 2017 census gathered information on the transgender population, counted as 10,418 persons. The province-level distribution of transgender population is as follows: 6,709 persons in Punjab, 2,527 persons in Sindh, 940 in KP[22], 103 persons in Balochistan and 133 persons in Islamabad.

The sex ratio at the national level has declined by 11 points, from 116 in 1951 to 105 in 2017 (Figure 4.5). The decline in sex ratio or improvement in the proportion of women in total population has been observed in all four provinces of the country. At present the sex ratio is highest in Balochistan (110.6), followed by KP (108.6), Punjab (103.5) and KP (103) (Figure 4.5). In addition to fertility levels across provinces, the pattern of internal migration may be a strong reason for variations in sex ratios across provinces (see section 4.9 on internal migration).

Figure 4.5
Sex Ratio by Province, 1951-2017



4.3.2 Changes in age structure

The decline in fertility leads to a demographic opportunity with the potential to be turned into a demographic dividend with the right economic and human development policies – to be discussed in Chapter 6. Countries where fertility declined earlier than Pakistan -- for example, Sri Lanka, Bangladesh, India, and Iran - experienced significant changes in their age structure, with slow growth in the number of child dependents and continuing rapid growth in the working-age population. The benefits of these changes were substantial, and were even more evident in the East Asian countries, whose economic development was boosted by investing wisely in educating the more slowly growing number of young people and providing employment for the rapidly growing workforce.

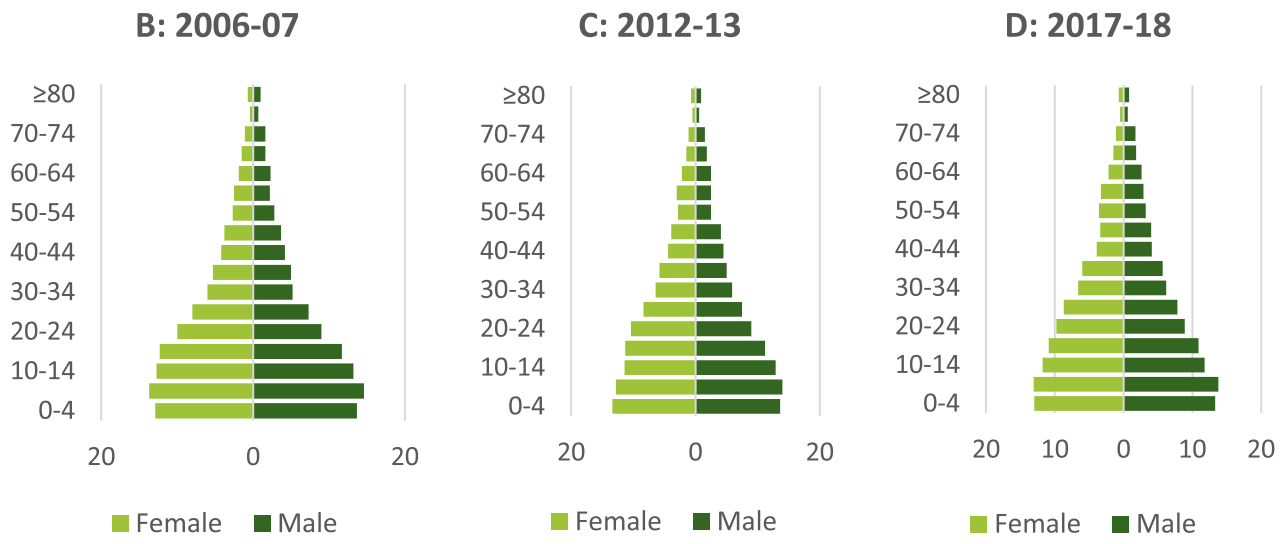
The delay in fertility decline in Pakistan and its slow pace during the recent past postponed the potential demographic dividend. Pakistan's population had

[22] It includes 27 transgenders from FATA.

a classical or typical pyramid shape till the late 1980s, when the share of child (0-14) population continued to rise, thereby creating a bulge in young age population while the share of working age (15-59) continued to decline. The number in the 0-4 age group doubled from approximately 10 million to around 20 million between 1970 and 2000 (Nayab et al., 2019). Because of the slow decline in fertility, the number of children aged 0-14 in Pakistan increased by 43 per cent between 1990 and 2015, compared with 14 per cent in India and 6 percent in Bangladesh.

With the fertility decline since the 1990s, Pakistan appears to have entered the second phase of demographic transition, where the child dependency rate falls, while the absolute number of children, and number of young people entering working age, will continue to grow. Pakistan has witnessed a secular decline in the share of young population and a rise in working age groups, with no change in the share of old ages (Figure 4.6). Because of the slow pace of fertility decline, Pakistan is not only a very young country, but it will remain a young country for another couple of decades, until at least 2040 (UNDP, 2017).

Figure 4.6
Distribution of population (%) by age and gender, 1990-2017



Source: NIPS (2008, 2013, 2019)

Changes in the share of three commonly used age groups, 0-14 (the young), 15-64 (working age) and 65+ (elderly), are reported in Figure 4.7 at both the national and province levels. Overall, a six-percentage point decline is witnessed in child dependent groups (0-14 year old) between 1990-91 and 2017-18 and a corresponding increase in the working age population (15-64). There is no change in the elderly population share, which remained at 4-5 percent of the total population.

All four provinces of the country have also witnessed a change in the age structure of their population during the 1990-2018 period, but with a different magnitude. In Punjab, for example, the share of the 0-14 age group declined by 3.4 percentage points during this period but the gain to the working age group was 7.4 percentage points. A similar situation is found in Sindh. In KP, the share of the 0-14 age group declined by 4.5 percentage points, offset by an increase in the working age group's share of 4.9 percentage points. The share of young population in Balochistan declined by 6.7 percentage points during 1990-2018 period while the gain to the working age population was 7.1 percentage points.

Despite these variations in changes in age structure across the provinces of Pakistan, the decline in the share of child population and an increase in the working age population (Figure 4.7A to 4.7D) are universal across all provinces. Gains can be reaped if appropriate human capital investments and economic policies are adopted.

Figure 4.7
Pakistan's Changing Population Age Structure

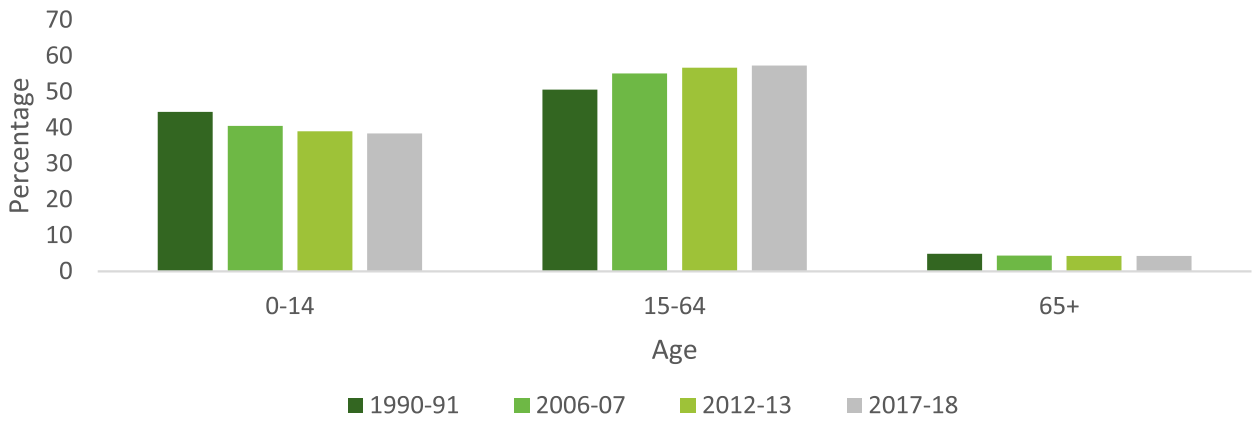


Figure 4.7A
Punjab's Changing Population Age Structure

Figure 4.7B
Sindh's Changing Population Age Structure

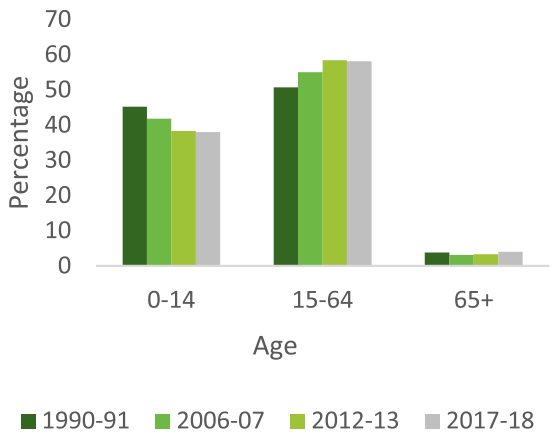


Figure 4.7C
KPK's Changing Population Age Structure

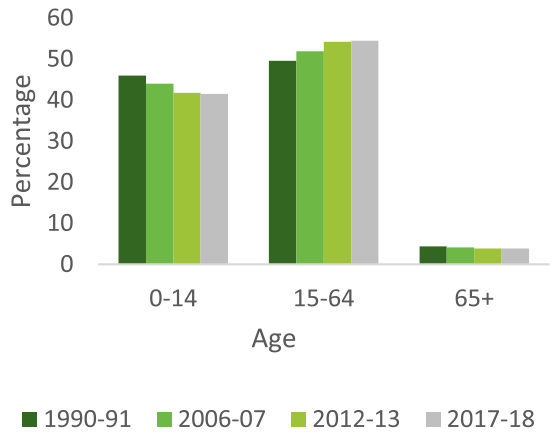
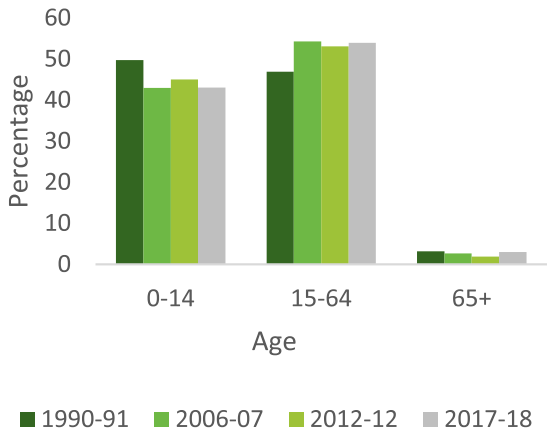


Figure 4.7D
Balochistan's Changing Population Age Structure



Source: NIPS (1992, 2008, 2013, 2019)

4.3.3 Adolescents (10-19) and youth (15-24) as a priority group

The Government of Pakistan is fully aware of the changes in age structure and their implications for the country. All policy documents that have appeared during the last 15-20 years, such as Poverty Reduction Paper-II, Vision 2025, and 11th Five-year Plan, have addressed the issue of demographic changes, with at least some appropriate policies, primarily concerning skills development and employment. Employment is considered as a key mechanism through which the benefits of growth can be distributed to the society. The demographic behavior of today's adolescents and youth will provide the context for achieving the target of replacement level fertility.

According to the 2017-18 PDHS, the share of adolescents (10-19) in the total population is about 23 percent while the share of youth (15-24) is one-fifth. The combined share of adolescents and youth (10-24) is 32 percent, or one in every three persons.

During the present phase of demographic transition, which started in the 1990s, the share of adolescents in the population declined marginally by 1.2 percentage points while the share of youth witnessed an increase of 2 percentage points between 1990 and 2018 (Table 4.2). Punjab, Sindh and KP followed the national pattern with respect to changes in the share of adolescents and youth. In Balochistan, however, the share of adolescents increased from 22 percent in 1990-91 to 27 percent in 2017-18, reflecting the persistence of high fertility in this province.

Adolescents and youth have emerged as a priority group, at least in the policy documents and statements of political leadership. Thoughtful and immediate investment in youth development is the need of the hour. The National Human Development Report (NHDR) 2017 'posits that although dire, the situation is salvageable, and identified three Es – education, employment and engagement – as the main drivers of transitions for youth' (UNDP, 2017). School enrolment in Pakistan has improved slightly over the past decade, but millions of children end up never going to school. To enable the youth to make the right choices for the future, the quality of formal education must be improved besides improving and integrating technical education and vocational training in the existing system of education, to generate effective links and spillovers for youth employment and engagement. The second major driver of change for youth is employment, as identified by the 2017 NHDR, providing equitable opportunities for youth to engage in the economic activities of their choice. The quality of employment is essential to define the trajectory of economic and social development that the nation's youth will follow. Under the third driver of change for youth, the 2017 NHDR advocates provision of meaningful opportunities for socio-economic and political engagement. Youth face unique issues in Pakistan. In a hierarchical culture where age seniority counts for much, the ability of youth to speak out on issues that concern them is limited. The engagement process begins when the youth start to become fully involved with society as they attain physical and emotional maturity (UNDP, 2017).

Table 4.2
Change in share (%) of adolescents (10-19) and youth (15-24) by province, 1990-2018

Province	1990-91		2006-07		2012-13		2017-18	
	10-19	15-24	10-19	15-24	10-19	15-24	10-19	15-24
Pakistan	23.9	18.2	25.0	21.5	23.4	21.0	22.7	20.3
Punjab[1]	23.4	18.3	24.6	21.3	23.0	21.0	21.2	19.9
Sindh	24.7	18.5	24.9	22.0	23.1	21.1	22.8	20.5
Khyber Pakhtunkhwa	25.7	18.5	26.9	21.8	25.2	21.1	25.2	20.5
Balochistan	22.1	15.4	25.1	21.3	24.7	20.1	27.2	21.5
Islamabad	N/A	N/A	N/A	N/A	21.2	21.0	19.6	20.4

1. The Punjab values for year 1990-91 and 2006-07 include Islamabad.
Source: Pakistan Demographic and Health Survey for 1990-91, 2006-07, 2012-13, and 2017-18.

4.3.4 Old age population

It is estimated that there are currently 15 million older men and women (aged 60+) in Pakistan, placing it among the group of only 15 countries worldwide that have more than 10 million older people. The population of older persons is predicted to increase to 44 million (16 per cent of the population) by 2050 (Zaidi et al., 2019). Yet the older population's share of the total population remains low. It declined from 8.2 per cent in 1951 to 5.3 per cent in 1985 due to a growing young population. As fertility started declining in the late 1980s, the percentage of older people in the total population started to rise again, reaching six percent by the year 2000 and 6.6 percent today. This level is similar to Bangladesh which has around 7 percent of its population over the age of 60, but is lower than India (8.9 percent) (Table 4.3).

Future trends in population ageing as forecast by the UN show that Pakistan's older population will continue to grow, although in percentage terms it will remain lower than the rest of the region except for Afghanistan. This is largely due to a slower decrease in the fertility rate and lower life expectancy at birth.

Table 4.3
Projected proportion (%) of people 60 years and over across South Asia

Country	2015	2030	2050
Bangladesh	7.0	11.5	21.5
India	8.9	12.5	18.4
Pakistan	6.6	8.4	12.8
Sri Lanka	13.9	21	28.6

As life expectancy is predicted to rise above 70, the issue of an ageing population is of increasing concern in Pakistan, though ageing will be much less rapid than in Bangladesh, India, or Sri Lanka.

An ageing population increases the demand for health services. Only 2.3 percent of the population older than the statutory pensionable age in Pakistan actually receive an old-age pension (contributory, noncontributory or both). Malnutrition and infectious disease are extremely prevalent amongst the poor in Pakistan. The elderly population of Pakistan lives largely with their families (99%), but with high levels of poverty and other pressures on families, intergenerational support may become more difficult to sustain.

Zaidi et al. (2019) conducted Focus group discussions (FDGs) with older men and women in all provinces and in Islamabad with the aim of gaining an understanding of how older men and women perceive their human rights, their interdependence, which rights they think are most protected and which ones most violated, and what they think should be done to ensure their rights are respected. The rights identified by the elders include: (1) right to an adequate standard of living; (2) right to work; (3) right to social protection; (4) right to health; (5) right to social care; (6) right to participation and self-fulfillment; and (7) right to dignity and protection. The Ministry of Human Rights is presently engaged in formulating a policy for protecting human rights of elderly people.

To round out the discussion in this section about changes in sex-age structure, it can be emphasized that despite the concerning picture of a delayed and slow fertility transition, Pakistan still has an opportunity to capitalize on the demographic dividend. An immediate investment in youth development is the need of the hour. The country must be positioned to provide young people gainful employment opportunities. Given Pakistan's poor quality educational system, training and educating the ever increasing population is a daunting challenge for the country's policy makers (USAID, 2012). Covid-19 has intensified this challenge because of the slowdown of economic activities and rising level of unemployment. Human rights of elderly people need to be protected through strong familial support, enabling environment and better health services.

4.4 Marriage, divorce and family patterns

4.4.1 Marriage and divorce

Family is the fundamental unit of Pakistani society. It is the basic institution responsible for the growth of human beings through conjugal relationship. With all local and regional variations, marriage in Pakistan generally follows Islamic shariah. In Islamic law marriage is a legal bond and social contract between a man and a woman and is highly recommended where the individuals feel financially and emotionally ready (Sultan and Baqai, 2008). Marriage is not only seen as a union between a husband and a wife (or a determinant of fertility level), but also an alliance between their respective families. It gives a social context to childbearing. Marriage is more or less universal in Pakistan; a very small proportion of women (just over 2%) or of men (about 3%) remain unmarried in their 40s, proportions that have risen slightly since 2012/13.

Household surveys in Pakistan usually gather information on the marital status of the adult population. The focus of this section is on the reproductive ages. Child marriage will be discussed in more detail in Chapter 8. The proportion of never married women aged 15-49, according to the PDHS rounds, has gradually increased from 26 percent in 1990-91 to 35 percent in 2017-18. The proportion of never married women (15-49) in 2017-18 is much higher in Balochistan and KP (51.8% and 45.6% respectively) than in Punjab and Sindh (28% and 37%), apparently because of their younger age structure. Women marry younger than men: a much higher proportion of teenage girls age 15-19 (13.5 percent), were married in 2017-18 than teenage men (2.6 percent). As for child marriage (marriage before age 18), according to the PDHS 2017-18, this had declined from 36 per cent for women currently aged 40-44 to 18 per cent for women currently aged 20-24.

Changes in the proportion of unmarried women aged 15-29 by province and rural-urban areas for all four PDHS rounds, covering the 1990-2018 period, are shown in Figure 4.8. This variable measures the proportion of young women who were unmarried at the time of the survey, effectively precluding their exposure to childbearing. A delay in marriage affects fertility levels during reproductive ages. The proportion of unmarried women age 15-29 increased between 1990 and 2006-07 in rural and urban areas as well as four provinces of the country. But the change after 2006-07 cannot be considered substantial except in Balochistan and to some extent in KP. A higher proportion of women age 15-29 have been unmarried in KP than in other province of the country for all PDHS survey years.

Wide age differences between spouses have important implications for women's autonomy. This difference at the time of marriage remained more than five years in both rural and urban areas. In fact, as Figure 4.9 shows, it has increased by 0.4 years in urban areas between 2012-13 and 2017-18 while a decline of 0.1 years is observed in rural areas.

Figure 4.8
Proportation of Unmarried Women Age 15-29

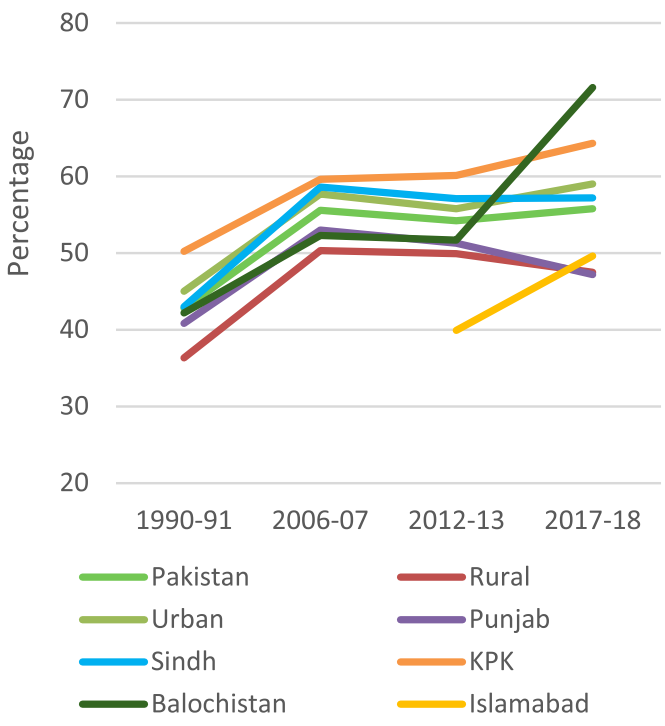
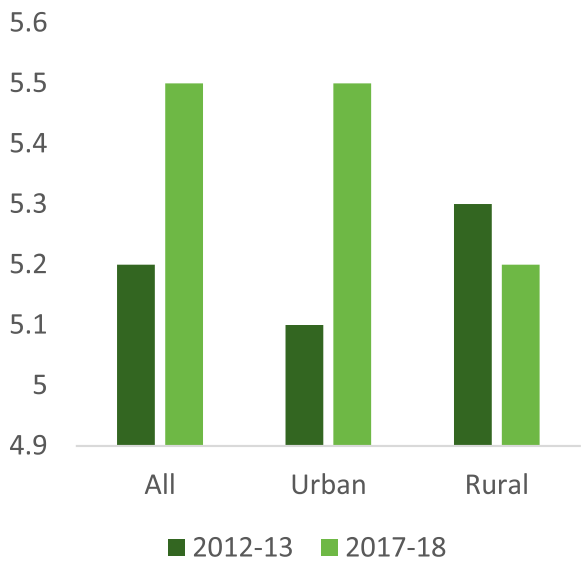


Figure 4.9
Age difference between male and female at the time of marriage (years)



Source: NIPS; (1992, 2008, 2013, 2019)

The rise in age at marriage is not just a matter of less child marriage, but also a slight shift towards considerably delayed marriage. Almost 10 per cent of mature age women (age 25-49) now remain single, a 1 percentage point increase since 2006/07, and the rise has been almost 2 percentage points for women in their 30s. Almost 20 per cent of mature age men (age 25-49) now remain single.

Marriages are rarely broken in Pakistan (Sultan and Baqai, 2008); divorce and separation are socially discouraged. Although the 2017-18 PDHS shows that only a small proportion of women age 15-49 are divorced (0.7%), it has jumped from 0.2 percent in 1990-91 (Figure 4.7). The trend of taking Khula (a right given by Islam to women to take divorce if they are not happy with their marriage) in Pakistan is rising; for example, the number of reported Khula cases in Punjab increased from 13,299 in 2012 to 18,901 in 2016. The major reasons given for divorce in Pakistani society are: short temper, lack of patience, lack of trust, joint family system, forced marriages, difference in social status, extramarital affairs, and second marriage of the husband (Ramzan et al. 2018). The incidence of separation has been higher than the occurrence of divorce, but with no change between 1990-91 and 2017-18. The proportion of separated women remains less than 2 percent.

4.4.2 Age at first marriage

The minimum legal age at marriage in Pakistan is 18 years for males and 16 years for females (NIPS, 2013). Pakistan's Senate passed a bill which proposed the marriageable age for girls, under the Child Marriage (Restraint) Act, 1921, be raised to 18. However, the bill would have to be approved by the National Assembly. Only then can it be passed at the provincial level. The median age at first marriage for women age 25-49 increased by 1.8 years, from 18.6 years in 1990-91 to 20.4 years in 2017-18 (Figure 4.10). The decline for men during this period is of one year (Figure 4.11). The percentage of women age 25-49 who were married by age 18 declined from 39.5 percent in 2006-07 to 29 percent in 2017-18. These patterns indicate a trend towards marrying at relatively older ages. The rise in age at first marriage is witnessed in rural and urban areas of all provinces, and among both women and men (Figures 4.9 and 4.10). However, there is a difference of about 2 years in median age at marriage for women in rural and urban areas. The median age at first marriage among women ranges from 19.1 years in KP to 22.7 years in Islamabad. Women with higher education marry 6.2 years later than women with no education. Women in the highest wealth quintile are also more likely to marry at a later age than women in the lowest wealth quintile (NIPS, 2019). There is a strong possibility that many marriages have been postponed because of the outbreak of COVID-19.

How much late marriage and non-marriage is there in Pakistan? According to the 2017-18 PDHS, almost 10% of mature age women (aged 25-49) are now never married. The percent never married declines with age to 2.6% for women aged 40-44. It is likely that most of these women will never marry. It is worth noting that in this age group, 7.7% of women are widowed, divorced, or separated (mostly widowed), meaning that a total of 10 per cent of women aged 40-44 are not currently married.

Figure 4.10
Median age at first marriage among women age 25-49

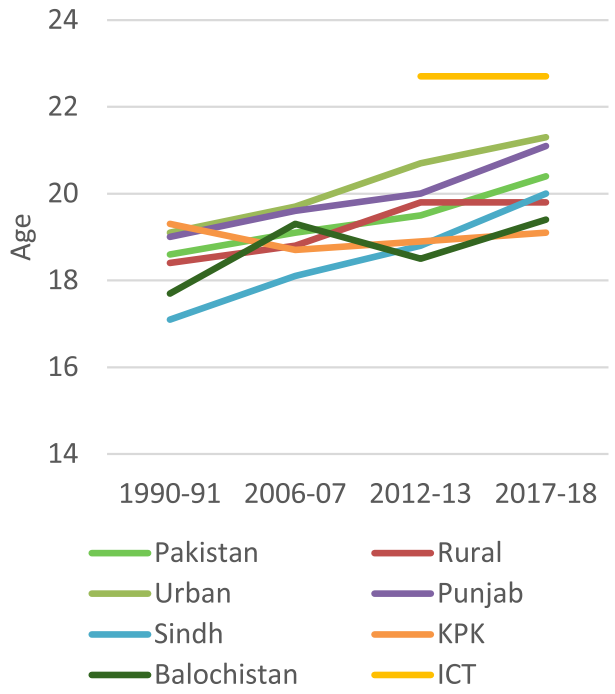
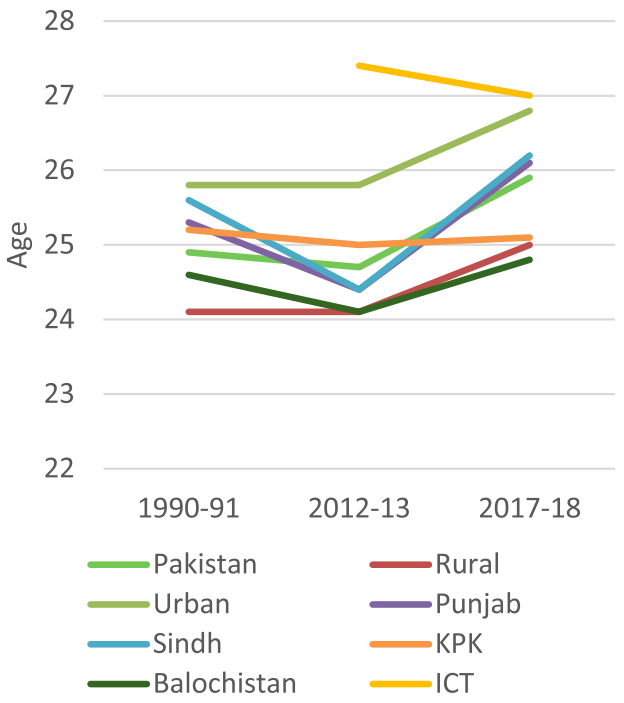


Figure 4.11
Median age at first marriage among men age 30-49



Source: NIPS; (1992, 2008, 2013, 2019)

4.4.3 Family Patterns

About half of the households in rural as well as urban areas are found in extended or joint family system (Table 4.4). Overall, the proportion of nuclear households declined from 58 percent in 1990-91 to about 52 percent in 2017-18. Living in a joint family system also declined during this period. The extended family type increased from 28 percent in 1990-91 to 39 percent in 2017-18 (Table 4.4). This change is witnessed in rural and urban areas of all provinces. Economic pressure can force middle or low middle income families to live in extended families because they cannot afford to build or rent separate dwellings (Sheraz and Zahir, 2008).

Pakistan has one of the highest reported levels of consanguineous marriage in the world. In rural areas more than half (52%) of all marriages were between first cousins in 2017-18. The decline in first cousin marriage in rural areas between 1990-91 and 2017-18 is only slight - 2 percentage points (Table 4.4). Interestingly, this decline is witnessed in Punjab and Balochistan while in rural areas of Sindh and KP consanguineous marriages have increased over time. In urban areas marriage with first cousin on father's side increased modestly in Punjab, Sindh and KP while it decreased in Balochistan . Marriages with non-relatives have declined in urban areas of all provinces. Between 2012-13 and 2017-18 there was no change in the percentage of women who reported being in a polygamous union (4% in each survey). Older women are generally more likely than younger women to have co-wives. Women with no education are more likely to be in a polygamous union than women who are educated. Polygamy is most prevalent in FATA and least in Gilgit-Baltistan (G-B).

To summarize the discussion in this section, the family system of Pakistan is pro-natalist, characterized by universal marriages, high prevalence of consanguineous marriages and living in extended families/households. A gradual increase in age at marriage, observed during the last three decades, is the outcome of legal restrictions introduced by the Government of

Pakistan, urbanization, and education. Childbearing and rearing appear to be a joyful norm of the family system of Pakistan. Thus, the promotion of small family norms – the two child family - is a challenge for policy makers.

Table 4.4
Family type, marriage between relatives and number of men's wives (age 15-49) by province and rural urban areas, 1990-91 and 2017-18

Province/ Region	% of women living in nuclear household				% of women married with first cousin			
	Rural Areas		Urban Areas		Rural Areas		Urban Areas	
	1990-91	2017-18	1990-91	2017-18	1990-91	2017-18	1990-91	2017-18
Pakistan	58.0	51.6	55.1	52.7	54.5	52.3	41.1	44.8
Punjab	56.6	52.2	53.4	51.1	56.5	50.5	44.3	43.8
Sindh	66.2	52.0	58.6	55.7	62.2	71.3	35.8	46.9
KPK	54.7	49.1	53.5	52.2	37.9	43.7	40.3	46.1
Balochistan	52.7	54.4	48.3	47.3	55.4	52.2	51.1	48.8
Islamabad		52.1		57.0		39.5		41

Source: NIPS (1992, 2019)

4.5 Fertility transition in Pakistan, changes, and differentials

4.5.1 Fertility trends

As noted earlier, fertility decline in Pakistan began in the late 1980s and proceeded rapidly during the 1990s and some early years of the 21st century (Sathar and Casterline, 1998). The average level of TFR in the 1984-87 period was 6.9 children per woman. A decline in TFR of nearly 2 children per woman occurred over the 1988-2000 period. The four rounds of the PDHS (1990-2018) show that TFR declined from 4.9 births per woman in 1990-91 to 4.1 in 2006-07. However, the decline in TFR has been very slow since 2006-07, from 4.1 in 2006-07 to 3.6 in 2017-18 – a decline of only 0.5 children per women in 11 years (Figure 4.12). Shockingly, the 2019 PMMS, completed about one year after the 2017-18 PDHS, shows a rise in the TFR to 3.9 births per woman (NIPS, 2020). Is Pakistan back to the fertility level of 2012-13? Although the 2019 PMMS was not designed for fertility estimation, it adopted a fertility module similar to the one used in the 2017-18 PDHS and applied to a very large representative sample, so its finding of a rise in TFR is of great concern. The rise in fertility, according to the 2019 PMMS, is everywhere – in all provinces and rural/urban areas (NIPS, 2020, Table 3.13). The PMMS-based TFR is not included in the trend analysis of fertility in this chapter. It needs further investigation of the data to verify the results.

When fertility began to decline in Pakistan in the 1990s, it had already declined significantly in Bangladesh, India, Iran, and Sri Lanka. Thus, Pakistan's demographic disadvantage stems both from its delay in the onset of fertility decline and a very slow pace of decline during the recent period.

According to PDHS (2017-2018), no region or province of the country is close to the replacement level fertility. The lowest fertility level - reported for urban Punjab and urban Sindh - is around 3 (2.9) children per women. In rural areas of the country, it is still close to 4 children (3.6-4.7) per woman. The highest TFR, 4.7, is witnessed for rural Sindh. The TFR for rural Sindh in (2017-18) is lower than the TFR in 2006-07, but higher than the TFR in 1990-91 (Figure 4.12). Figure 4.13 presents trends in age specific fertility rates for successive five-year periods preceding the four surveys. The pattern of age specific fertility rates in the four five-year periods preceding the survey is similar, with only modest decreases in recent years.

There is a growing interest in linking the actual fertility levels with the desire for children (or fertility). Goujan et al. (2020), for example, argue that "fertility preference in Pakistan match rather precisely the actual fertility, decreasing from six to four children on average between 1975 and 1991. However, since 2006-07, there is no indication that women in Pakistan are moving away from a four child ideal, and acceptance of a two-child family size appears limited". Why is it so? Several explanations can be extended; one of them is feeling or being insecure. Political instability since the late 1990s, the war against terrorism, weak public institutions, tension at borders, poor economic performance and poor governance have contributed to making the Pakistani population insecure in their economic as well as social context. Successive governments failed to invest in people to make them secure and safe. Family is the key institution which not only maintains the well-being of its members but also offers them safety and security to face challenges. As the basic unit for meeting the needs of its members, family provides a sense of protective boundaries for performing tasks in a safe environment, ideally builds a person into a functional adult, transmits values, and ensures continuity of cultural norms. This family institution in Pakistan in the broader socio-economic-political context makes for slow fertility transition. A better and safer environment will influence their willingness to accept the small family norm and through this, their demographic behavior.

Figure 4.12
Total fertiltiy rate by region and province, 1990-2018

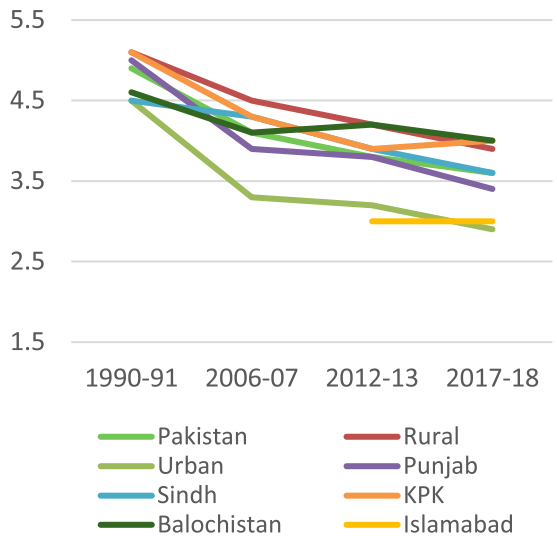
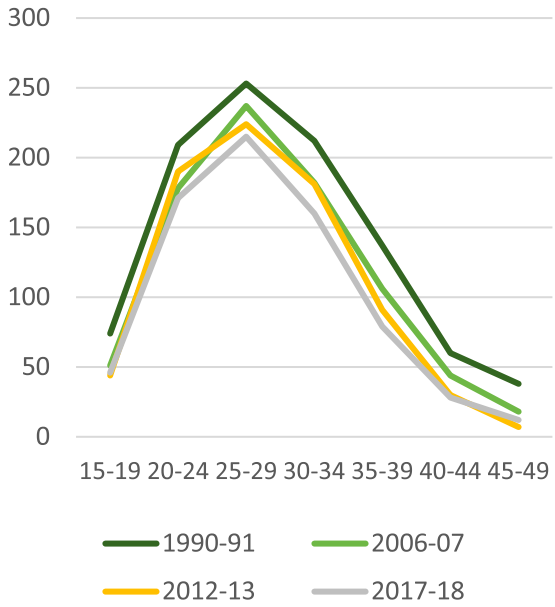


Figure 4.13
Pakistan's Trends in Age Specific Fertility Rate, 1990-2018



Source: NIPS; (1992, 2008, 2013, 2019)

Fertility is negatively associated with women's education in all provinces of Pakistan. This association is found in all four rounds of the PDHS (Figures 4.14 and 4.15). However, Sindh is the only Province where a linear relation between education and TFR is observed. In Punjab, Balochistan and Islamabad, TFR for women with secondary education is higher than the TFR for women having middle-level of education. In KP women with higher education have more children than women with secondary education.

The TFR by education helps understand Pakistan's fertility behaviour. Why does the acceptance of a two-child family size appear to be limited in Pakistan? A close look at Figure 4.14 shows that in 2006-07 women with "higher" level of education had on average 2.3 births. This increased to 2.5 children in 2012-13 and further to 2.6 children in 2017-18. So educated women now have closer to 3 than to 2 children on average. It appears that the opportunity cost of an additional (third) child for an educated woman in Pakistan is not so high as to limit the family size to two children. In addition to the persistence of high child mortality, living in joint/extended family system and marrying close relatives help explain Pakistan's fertility behavior. The family institution in Pakistan is not supportive of limiting the family size to two children.

The largest difference in TFR is observed by wealth status. Women in the lowest wealth quintile have 2.1 more births in 2017-18 than women in the highest wealth quintile (4.9 versus 2.8). This difference in Punjab is similar to the national figure of 2.1 children but for Sindh it increases to 2.5 children. The difference of 2 children between the highest and lowest wealth quintile is observed in KP while it is only 1.3 children in Balochistan (Table 4.5). Thus, poverty has a role in shaping Pakistan's demographic behavior.

How has COVID-19 influenced fertility behavior? On the one hand, it is possible that the supply of contraceptives is negatively affected by the lockdown during the pandemic, depressing their use. On the other hand, as noted earlier, it is likely that the COVID-19 has delayed many marriages, thus precluding women's exposure to childbearing. Pandemic-related stress may also have a depressing effect on fertility; even if contraceptive supplies are unavailable, more people may use traditional methods.

Figure 4.14
Total Fertility rate by the level of educational attainment of women (15-49), 1990-91 to 2017-18

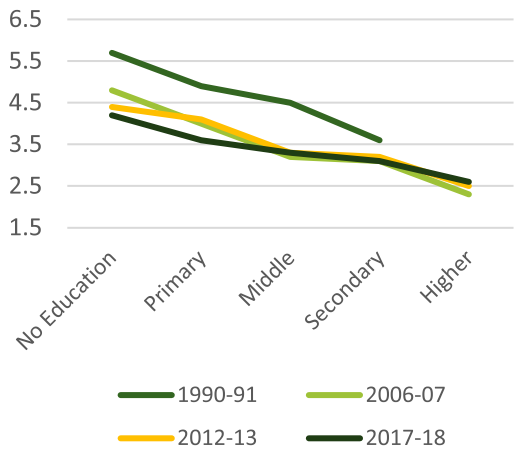


Figure 4.15
Total fertility rate by the level of educational attainment of women (15-49) and province, 2017-18

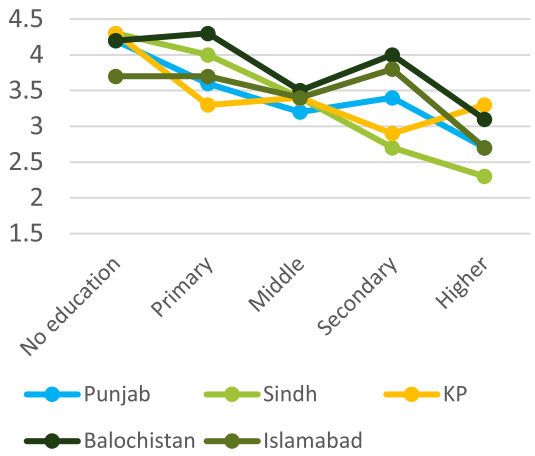


Table 4.5
TFR by province and wealth quintile, 2017-18

Quintile	Pakistan	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Islamabad
Lowest	4.9	5.1	4.8	4.9	4.9	*
Second	3.6	3.5	4.2	3.5	3.2	4.7
Third	3.8	3.6	3.6	4.5	3.7	3.5
Fourth	3.0	2.9	3.0	2.9	4.2	2.8
Highest	2.8	3.0	2.3	2.9	3.6	3.0

Source: NIPS (2019)

4.5.2 Age at first birth

The age at which a woman bears her first child has important demographic and health consequences. On the demographic side, early initiation into childbearing is generally a major determinant of large family size and rapid population growth, particularly in countries in which family planning is not widespread. On the health side, bearing children at an early age entails significant risks to the health of both the mother and child. Early childbearing also tends to restrict educational and economic opportunities for women (NIPS, 1992). The median age at first birth per woman age 25-49 increased from 21.3 years in 1990-91 to 22.8 years in 2017-18.

Additional insights into initiation of childbearing can be gained by examining the percentage of women who had their first birth by given exact ages for various age groups of women. It is found that the proportion of women having their first birth by age 18, for instance, is lower among younger women than older women, indicating a rising age at first birth. According to the 2017-18 PDHS, around 2 percent of women aged 40-44 had their first birth before age 15, compared to less than one percent of women aged 20-24.

Median age at first birth increases with increasing education, from 21.4 years among mothers with no education to 24 years for women with secondary education. This relationship is observed in all provinces (Table 4.6). Wealth has a relatively stronger influence than education on the age at birth. Median age at first birth is 21.2 years among women in the lowest wealth quintile and 24.8 years among women in the highest quintile. The influence of wealth on age at first birth is observed in all provinces, with a relatively stronger influence in KP (Table 4.6).

Table 4.6
Median age at first birth, women age 25-49 by province and background characteristics

Characteristics	Pakistan	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Islamabad
Education						
No education	21.4	21.5	21.7	20.8	22.2	20.8
Primary	21.9	22.2	21.8	20.7	19.9	22.7
Middle	22.8	22.8	23.1	21.9	(21.8)	22.6
Secondary	24	24.4	23.4	23.5	23.1	24.4
Higher	a	a	A	a	a	a
Wealth quintile						
Lowest	21.2	21	21.6	20.2	22.3	a
Second	21.9	22	22.7	21.1	22.6	23
Third	22.3	22.8	22.5	21	21.4	23.2
Fourth	23.3	23.8	23.1	22.1	21.6	23.5
Highest	24.8	a	24.2	23.7	24.5	a

a = Omitted because less than 50% of the women had a birth before reaching the beginning of the age group
Note: Figures in parentheses are based on 25-49 unweighted cases.
Source: Pakistan Demographic and Health Survey for 2017-18.

4.5.3 Teenage childbearing

The percentage of childbearing among women age 15-19 decreased from 16 percent in 1990-91 to 8 percent in 2017-18. However, the decrease happened mainly between 1990-91 and 2006-07, after which there has been no major change in this percentage. Similarly, the main decline in percentage of women age 15-19 who have had a live birth is witnessed between 1990-91 (12%) and 2006-07 (7%) (Table 4.7). The pattern of changes in teenage childbearing in Punjab and Sindh is similar to the overall Pakistan pattern. In KP, however, not only is the change relatively small but also the percentage of women age 15-19 who have begun childbearing has increased slightly from 14 percent in 1990-91 to 15 percent in 2017-18. An increase in proportion of women who have begun childbearing during the recent time period, 2012-13 and 2017-18, is observed in Sindh and Balochistan as well. In all provinces, teenage childbearing is higher in rural areas than in urban areas. Both education and wealth have negative association with early (teenage) childbearing.

Table 4.7
Teenage pregnancy and motherhood, 1990-2018

Year	Percentage of women age 15-19 who:		Percentage who have begun childbearing
	Have had a live birth	Are pregnant with first child	
1990-91	12.2	3.5	15.7
2006-07	6.5	2.6	9.1
2012-13	5.4	2.5	7.9
2017-18	5.7	2.4	8.1

Source: NIPS (1992, 2008, 2013, 2019)

To summarize the discussion about fertility transition in Pakistan presented in this section, it is clear that the country is presently passing through a slow fertility transition, and the acceptance of a two-child family size appears to be limited, even among the women with higher level of education. However, both the rise in age at first birth and the decline in teenage childbearing over time are positive signs of some change in Pakistan's high-fertility regime.

4.6. Prospects of achieving replacement level fertility in Pakistan: challenges and policy options

There is a long way to go in moving from a total fertility rate of 3.6 as measured for the 3 year period preceding the 2017-18 PDHS (or indeed, even higher, at 3.9, according to the 2019 PMMS), to one of 2.1, indicating replacement–level fertility. To realistically assess the prospects for achieving replacement-level fertility, following a rights-based approach that prioritizes enabling couples to achieve their desired number of children, it is necessary first to be aware of the desired family size, the unmet need for family planning, and the likelihood that these will change.

At the moment, it would appear that there is little prospect of achieving replacement level fertility in Pakistan, because the desired family size remains relatively high. Ideal family size in Pakistan has remained remarkably stable over recent decades, despite actual fertility having fallen (Wazir, 2018). Thus, whereas actual family size exceeded ideal family size in the early 1980s and 1990s, the two moved into equilibrium in the early 2000s. Has this remained the case in the 2017-18 PDHS? It is apparent that ideal family size now somewhat exceeds actual family size; the TFR is 3.6, whereas the ideal family size among women is 3.9. Among men, ideal family size is 4.3 children. It is common in countries with lower levels of fertility for ideal family size to exceed actual family size[23], but Pakistan is not in the low fertility group of countries. On the other hand, the difference between ideal and actual (at least for women) in Pakistan is very small. Perhaps the most relevant observation is that neither actual fertility nor desired fertility has changed very much in recent years.

Stated ideal family size is well known to increase with the actual number of children the respondent has. So it is important to note that ideal family size among women with 0 to 3 children is less – 3.5 or 3.6. It is also somewhat less for younger women than for older women. At age 15-34, ideal family size is 3.7 or 3.8.

Stated ideal number of children and stated desire for more children are rather different indicators of desired fertility. So it is important to examine the stated desire for more children according to the number of living children. Table 4.8 shows this information for Pakistan compared with a number of other Asian countries. It is clear that at any parity level, a far lower proportion of women and men in Pakistan want to avoid having more children than is the case in Bangladesh, Indonesia, Nepal or Vietnam.

[23] This is typically because a proportion of women are unable to bear children or are sub-fecund, and are therefore not able to achieve their desired family size; and also because of circumstances (work situation, cost of living, etc.) that make it difficult for many women to have the number of children they think are ideal.

It is important to note, however, that the data for Pakistan on which Table 4.8 is based shows a high "undecided" group – over 10 per cent for all women with one or more children, and reaching around 13 per cent for the key groups with parity two and three (see Figures 4.16 and 4.17). Men showed much less ambivalence than women in response to this question in the 2017-18 PDHS; only 3.4 per cent were undecided. The percentage of women who were undecided was much lower in 2006-07 and 2012-13.

Table 4.8

Percent distribution of currently married women and currently married men aged 15-49 by proportion wanting no more children, according to number of living children

	Number of living children						
	0	1	2	3	4	5	All
PAKISTAN DHS 2017-18							
Women	0.3	5.3	19.8	47.9	67.3	73.6	39.3
Men	0.6	4.7	17.3	44.8	64.7	69.8	36.0
NEPAL DHS 2016							
Women	2.6	31.6	86.6	90.8	94.6	95.8	65.2
Men	1.4	23.3	83.4	91.1	95.3	93.0	65.2
BANGLADESH DHS 2017							
Women	1.6	15.8	80.2	94.0	96.9	96.6	62.3
INDONESIA DHS 2017							
Women	2.3	12.9	63.5	80.3	86.9	90.6	51.9
Men	2.1	9.1	48.0	63.8	67.7	73.7	45.7
VIETNAM DHS 2002							
Women	1.2	15.1	92.5	93.8	97.6	99.2	75.2

Source: DHS for each country. Note: for Pakistan, respondents who were sterilized or infecund or missing were excluded from the table. This raised the proportion stating that they wanted no more children, but still left it far below the proportions in the other countries.

Figure 4.16

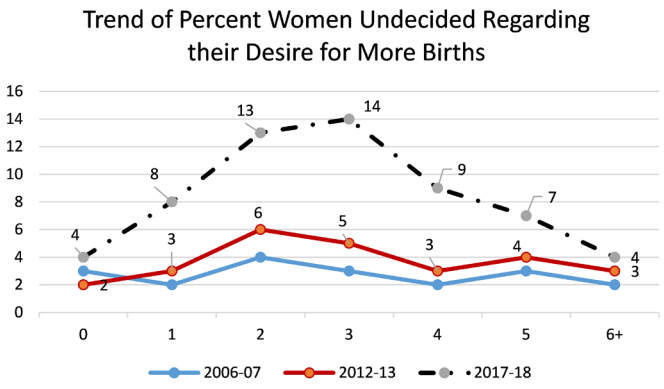
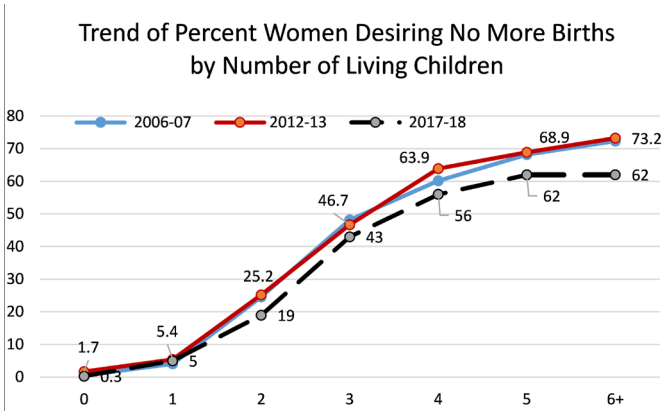


Figure 4.17



What has been the trend over time in the desire for more births by number of living children? Between 2006-07 and 2012-13, at any given parity level, there was very little change in the proportion of women desiring no more births. However, in 2017-18, this proportion actually fell at all parity levels two and above. But the fall can be more than fully explained by the large increase in the "undecided" group

already mentioned. It therefore appears that the level of ambivalence about having more children has greatly increased, and this makes it difficult to interpret the decline in proportion of women desiring no more births.

There is another indicator of unwanted fertility: the difference between the total and the wanted fertility rate, which can be calculated for different sub-groups of the population. Between the PDHS 2012/13 and PDHS 2017/18, the difference between the total and wanted fertility rate fell from 0.9 to 0.7 children. This decline in unwanted fertility was registered for all sub-groups and all provinces and regions except ICT Islamabad and Gilgit Baltistan. Unwanted fertility was somewhat higher among the less educated and the poor, and by region, in rural Sindh, rural KP, rural Balochistan, and Gilgit Baltistan.

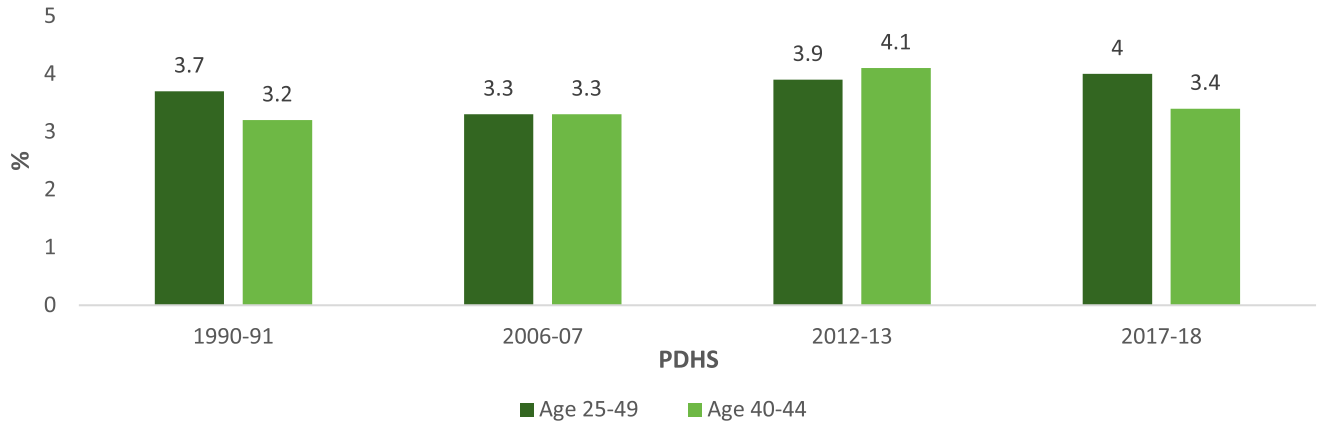
What, then, is the overall prospect of reaching replacement-level fertility in Pakistan? While in 1980, the under 5 mortality rate in Pakistan was lower than in India or Bangladesh, it is now substantially higher. Despite a decline in the maternal mortality ratio, this remains high as well. The lack of improvement in child mortality is a major barrier to achieving lower fertility. Poverty, social exclusion and shortcomings in preventive health services are the major reasons for the slow mortality transition. There are other reasons as well for continuing high desired fertility in Pakistan, which are not fully understood. What is clear from Table 4.8 is the dramatic difference between Pakistan and countries including Nepal, Bangladesh, Indonesia and Vietnam in the proportion of women who already have two or three children who do not want any more. Unless this gap in desire for more children can be closed, replacement level fertility will remain a distant dream for Pakistan.

4.7 Childlessness: levels, trends and differentials

Voluntary childlessness can be considered non-existent in Pakistan. Involuntary infertility and childlessness, though, affect many couples with serious health, social and economic consequences and yet remain the invisible aspects of reproductive health. There are no national surveys or studies on infertility in Pakistan. A few studies have examined the knowledge, perceptions and myths of infertility (Ali et al., 2011), prevalence (Shaheen et al., 2010) and consequences of infertility (Soomer and Dossa, 2019; Sami and Ali, 2006), and the risk factors (Sami et al., 2012; Shaheen et al., 2010). However, these studies were hospital-based and limited to Karachi or Islamabad. One notable exception was the Pakistan Reproductive Health and Family Planning Survey of 2000-01 (Hakim, Sultan and Din, 2001) showing that five percent of women aged 20 or more who were married for two or more years have had no live birth. Data from the Pakistan Demographic and Health Surveys (PDHSs) since 1990-91 can be used to estimate the level and trends in childlessness. However, these data do not permit in-depth analysis of reasons or explanations of trends or differentials given that infertility or childlessness was not amongst the main objectives of these surveys.

The level of childlessness at the end of reproductive years can be examined for women aged 45-49 years. However, this age group is often subject to reporting problems of determining age and fertility. By age 40 to 44 years, most couples have achieved their desired family size or have forgone childbearing. In Pakistan, voluntary childlessness is non-existent. A refined indicator of the inability to produce offspring is the percentage of women married once and married for at least five years who have had no live birth by age 40-44. Three to four percent of women in this age group have had no live birth with the proportions remaining mostly stable from 1990-91 to 2017-18 (Figure 4.18). The percent having had no live birth increased for Sindh and Balochistan from 1990-91 to 2017-2018 (Annex Table 4.1). In Punjab, the level increased until 2012-13, but declined to the 1990-91 level in 2017-2018. Educational differentials are erratic, but in general show high percentage with no live birth among women with higher education, except in 2006-2007. The levels of childlessness in terms of no live birth converge in 2017-18 for women living in urban and rural areas. In 2017-18, percentages of childless in most groups were 3% or 4%, expect in Balochistan (5.1%) and for women with higher education (5.6%).

Figure 4.18
Percentage of women who had no live birth, age group 40-44 years and 25-49 years, by year of Pakistan Demographic and Health Survey (PDHS), 1990-91 to 2017-2018



The second column for each survey in Annex Table 4.1 shows the percentage of women in age group 40-44 who had no living child at the time of the survey. This indicator of childlessness can be the result of having had no live births or having had all children die by the time of the survey. Therefore, the percentages of women with no living children are similar or higher than for no live births. Having no living child is a more consequential indicator than having had no live birth. The patterns of having no living child are broadly similar to those for having had no live birth.

Data for women of ages 25 to 49 years overcome any potential problems such as omission by some of the older women and sampling errors due to small sample size. Annex Table 4.2 shows percentage of currently married women aged 25-49 at survey, married once, and for more than five years, who have had no live birth and no living child. On average, childlessness rates are higher for women age 25 to 49 than for those aged 40 to 44. These differences (shown in Figure 4.19) may reflect omission by women in the latter age group, especially in 1990-91 and 2017-18. In 2017-18, Punjab and KPK may also indicate omissions by older women (age 40-44) while the differences in Sindh and Balochistan may be due to improving health conditions in these two provinces. Overall, the differences by survey year from 1990-91 to 2017-18 are minor.

Figure 4.19
Percentage of women who had no living child, age 40-44 years and 25-49 years, by year of PDHS

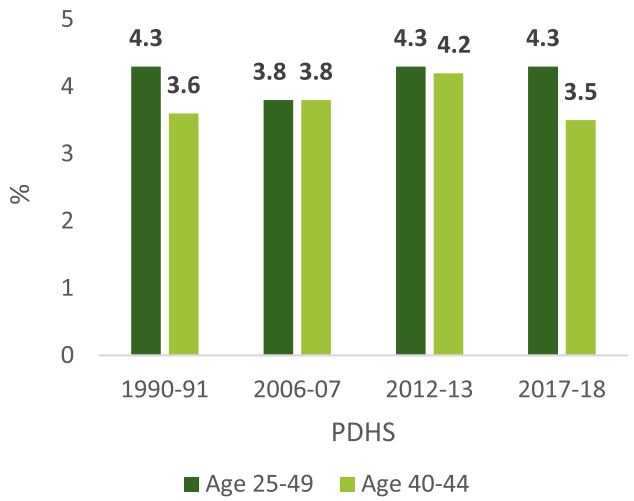
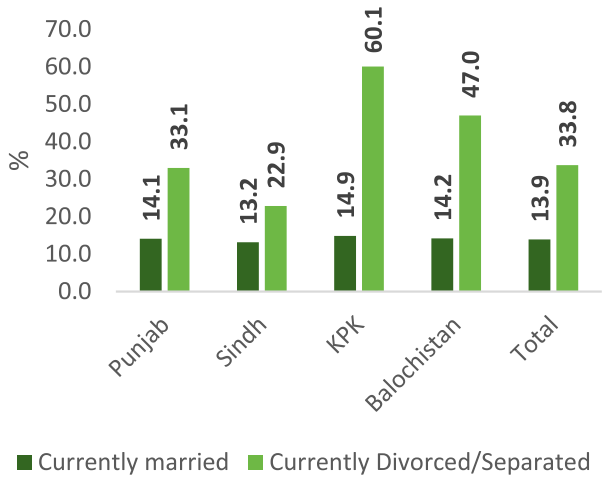


Figure 4.20
Percentage of women with no living child by whether married or divorced/separated at the time of the survey, PDHS 2017-18



In terms of the association between a woman's marital status at time of the survey and childlessness, women who had no living child were more likely to be divorced or separated, especially in KPK and Balochistan (Figure 4.20). In Pakistan as a whole, childless women are 20 percentage points more numerous among those divorced or separated at time of the survey. Other consequences of infertility and childlessness that women may have to endure include co-wives and having to marry more than once. Childlessness therefore has serious implications regarding the risk of divorce or separation or being stigmatized. The childlessness problem needs increased attention from health service providers.

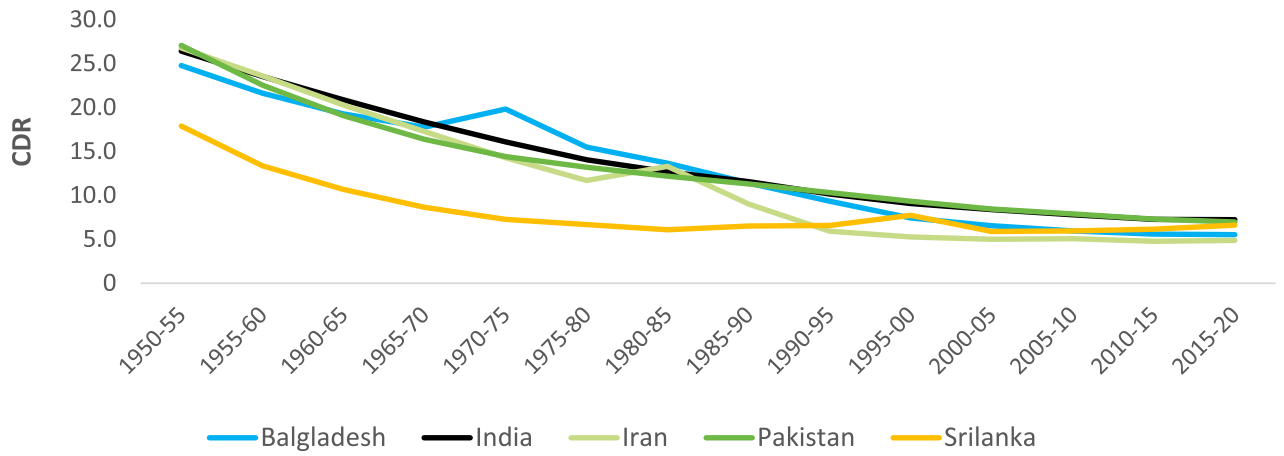
4.8 Mortality transition

As in other parts of the world, Pakistan's demographic transition started with a decline in mortality. In many low-income countries, the decline in mortality began in the early 20th century and then accelerated dramatically after World War II. This section examines the mortality transition in Pakistan through changes in Crude Death Rate (CDR) and life expectancy, age-specific mortality rate, infant and child mortality, and maternal mortality.

4.8.1 General trends in mortality and life expectancy

The 1931 census of India showed the initiation of decline in the crude death rate (CDR), from 49 per 1000 persons for the 1911-21 period to 36 per 1000 persons for the 1921-31 period (Irfan, 1986). The CDR declined gradually to 11 per 1000 persons by the end of 1970s. These declining trends continued and in 2020 the CDR was approximately 7 per 1000 persons. The 2019 PMMS, which has recently been released, shows the mortality rate of population (all ages), which is not conceptually different from the CDR, as 7.37 in 2019 (6.36 for male and 8.11 for female). Pakistan compares well with other countries of the region in both level and changes in CDR between 1950 and 2020 (Figure 4.21). According to the 2019 MMR, the highest mortality rate[24] for all ages, 8.13 per 1000 population, is in Punjab while it is lowest in Balochistan (4.82 per 1000). In terms of general mortality rate, KP and Balochistan are better than Punjab and Sindh. These differentials are difficult to explain considering that Punjab is the most developed province. The corresponding rate in AJK is lower than Punjab but higher than other provinces and G-B. The overall mortality rate in G-B is lower than all provinces and AJK except Balochistan (Figure 4.22). Through recorded history, crude death rates in rural areas of the country have been higher than in urban areas (Irfan, 1986; Sathar, 1991; NIPS, 2020).

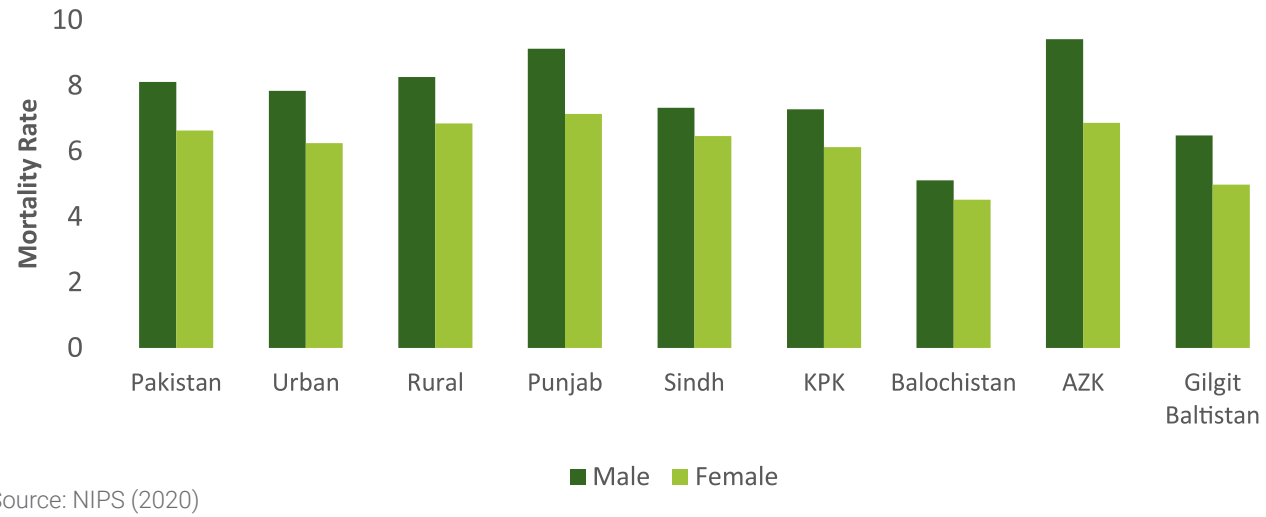
Figure 4.21
Crude Death Rate for Bangladesh, India, Iran, Pakistan and Sri Lanka, 1950-55 to 2015-2020



Source: United Nation (2019), World Population Prospects

[24] This is the same as the crude death rate. To cite the study report it is "also known as the death rate, is a measure of the number of deaths in a particular population during a particular period of time divided by the number of persons at the risk of dying. Typically it is calculated as the number of deaths per one thousand people per year" (NIPS, 2020).

Figure 4.22
Mortality Rate by Residence and Region, Male/Female



Source: NIPS (2020)

Life expectancy at birth, a summary measure of mortality, and unaffected by the age structure of population, is regarded as a better tool than the crude death rate for intertemporal investigation of mortality in a community. Life expectancy showed a gain of 7 years on average for both men and women in Pakistan since 1990. In 2018, life expectancy in Pakistan was 67.1 years; 68.1 years for women and 66.2 years for men (Table 4.9). On the basis of the above results and conclusions, Ali and Audi (2016) argue that by controlling deaths due to chronic diseases, reducing the economic misery and increasing the availability of food to the general public, the level of life expectancy can be increased in Pakistan.

Table 4.9
Life expectancy by sex 1990-2018

Province/region	1990	1995	2000	2005	2010	2015	2018
Pakistan	60.1	61.5	62.8	64.0	65.3	66.6	67.1
Women	60.9	62.3	63.7	64.9	66.2	67.5	68.1
Men	59.5	60.8	62.1	63.1	64.4	65.7	66.2

Source: https://countryeconomy.com/demography/life-expectancy/pakistan

4.8.2 Age specific mortality rate

The typical mortality pattern over all age groups has a J-shape. Mortality is high among infants and young children, after which it declines rapidly, reaching its lower level usually between ages 5-14. As a general rule, mortality rates start to increase exponentially beyond age 35 or so, increasing rapidly after age 65. Mortality transition in Pakistan can be understood through changes in age-sex specific mortality rates over time, particularly since the 1950s. Irfan (1986), based on the mortality data for four periods - 1950-52, 1962-65, 1968-71 and 1976-79 - shows that 'the age curve of mortality in Pakistan was U-shaped with mortality dropping drastically from its high level at age zero to a minimum around age range 10-14, rising steadily through ages 5 to 30 and then sharply until reaching a maximum on old ages'. Sathar (1991), who compared the age-specific mortality

rates for the periods 1976-79, shows that although the curves essentially have the same shape (U), mortality has declined particularly for females between ages 15-64 while gains seem to be least for both sexes at ages under 10.

Child mortality 0-4 (years) is very high in Pakistan, but it has gradually declined. Thus, according to the 2019 MMS, the age curve of mortality is close to J-shape for both males and females (Figure 4.23a-b). A high risk of death is observed in early childhood, dropping to a minimum at age 10-14 years, and then rising steadily into older ages. Mortality rates are generally slightly higher for males than females, the most prominent differences being between age groups 15-19 and 55-59.

Figure 4.23a
Age-specific mortality rate of females by residence and province

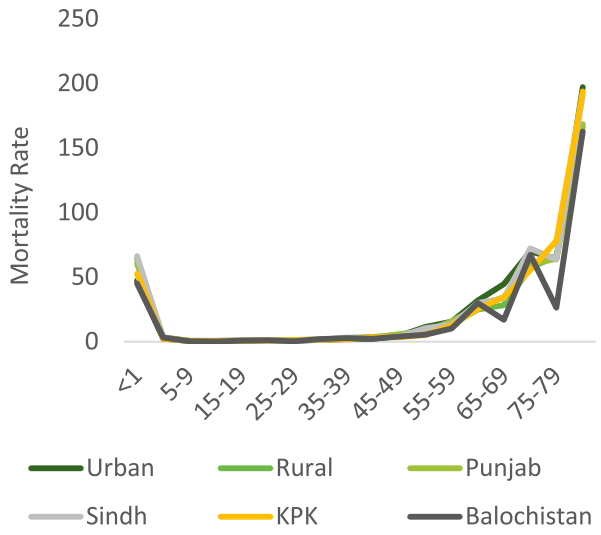
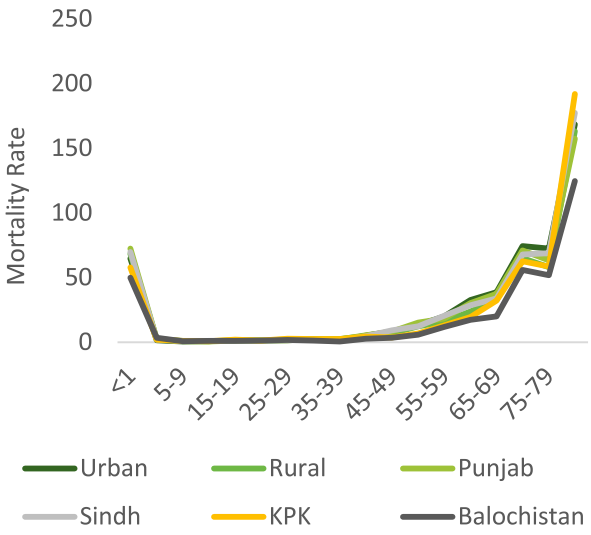


Figure 4.23b
Age-specific mortality rate of males by residence and province



Source: NIPS (2020)

4.8.3 Child mortality

Pakistan experienced a steady decline in infant mortality rate (IMR) from its highest level of 215 in 1901 to a level of 113 during 1968-71, based on the Population Growth Survey (Irfan, 1986 Table 4). But this decline was quite small compared to the extent of decline in some other countries like Taiwan and Singapore, which achieved a reduction of 80 percent during the 25 year period from 1935-39 to 1960-64, and Sri Lanka, Malaysia and Mauritius, which achieved a 60 per cent decline in the same period.

The four rounds of the PDHS show that IMR declined from 94 per 1000 live births in 1990-91 to 65 in 2017-18 (Figure 4.24). However, at present the IMR in Pakistan is more than double its level in Bangladesh and Nepal, and more than seven times its level in Sri Lanka. The sex differential in IMR has always been in disfavour of males with lower female mortality particularly in the neonatal period.

The larger portion of infant deaths in Pakistan occurs in the neonatal period; indeed, well over half of all deaths under age 5 occur in that first month of life. Figure 4.25 shows that all three indicators of childhood mortality have declined over the past three decades. Under-5 mortality declined from 112 deaths per 1,000 live births in 1990-91 to 74 in 2017-18, representing a 34 percent decrease during this period. Infant mortality and neonatal mortality declined by 28 percent and 14 percent, respectively, over the same period. Childhood mortality has declined between 1990-91 and 2017-18 in all four provinces, although a rise is observed in Islamabad from 43 in 2012-13 to 49 in 2017-18 (Figure 4.24). However, despite this decline, child mortality remains very high by all standards in every part of the country.

Figure 4.24
Pakistan's Child Mortality Rates, 1990-91 to 2017-18

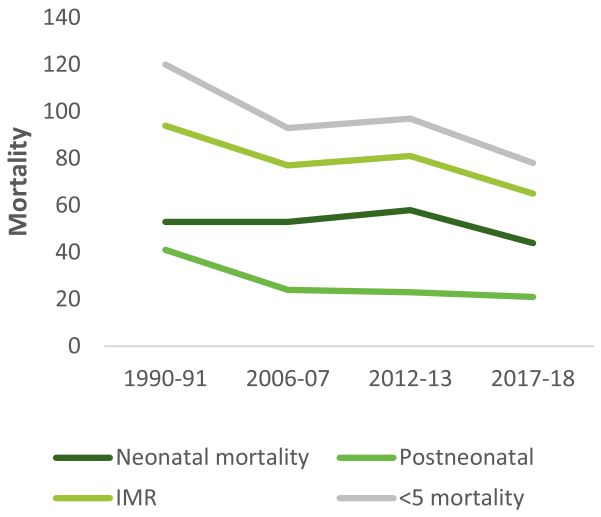
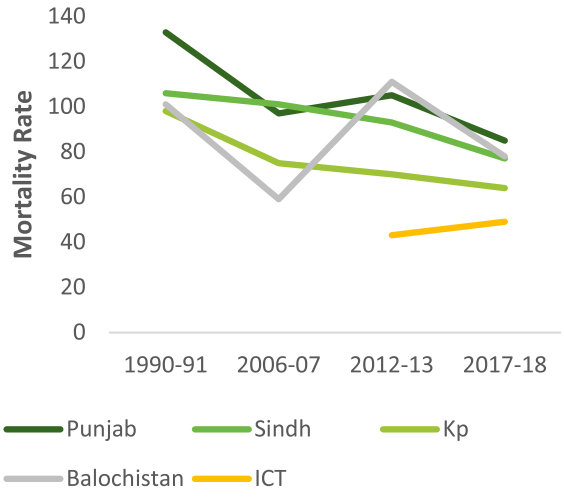


Figure 4.25
Child Mortality Rate by Province, 1990-91 to 2017-2018



Source: NIPS; (1992, 2008, 2013, 2019)

Table 4.10
Under-5 mortality by province and characteristics, 2017-18

Characteristics	Pakistan	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Islamabad
Residence						
Rural	85	92	93	69	80	(53)
Urban	63	69	56	41	74	44
Education						
No education	91	112	92	72	81	(52)
Primary	83	89	81	(49)	*	*
Middle	65	(66)	(69)	*	*	*
Secondary	48	54	(39)	(22)	*	*
Higher	38	(43)	-19	(53)	*	(35)
Wealth quintile						
Lowest	100	123	100	68	105	*
Second	82	90	82	81	67	*
Third	82	92	78	62	77	(52)
Fourth	58	65	50	39	(49)	(36)
Highest	56	65	32	47	*	41
Total	**74**	**85**	**77**	**64**	**78**	**49**

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Source: Pakistan Demographic and Health Survey for 2017-18.

At present, child mortality is highest in Punjab, where neonatal, infant, and under-5 mortality rates are 51, 73, and 85 deaths per 1,000 live births, respectively. Childhood mortality rates are higher in rural areas than in urban areas by 10 deaths per 1,000 live births. Neonatal, infant, and under-5 mortality rates are 45, 68, and 83 deaths per 1,000 live births, respectively, in rural areas, as compared with 37, 50, and 56 deaths per 1,000 live births in urban areas (Table 4.10).

Childhood mortality rates decrease uniformly as mother's education increases. For example, under-5 mortality rates are 91 deaths per 1,000 live births among children whose mothers have no education and 48 and 38 among children whose mothers have secondary and higher education, respectively. Childhood mortality rates also decrease with increasing wealth. For instance, under-5 mortality rates are 100 deaths per 1,000 live births among children born to women in the lowest wealth quintile but 56 among those born to women from the highest quintile, a difference of 44 deaths. It is a matter of great concern that child mortality remains relatively high among the children of educated and wealthy mothers, and probably helps explain the fertility behavior of educated women.

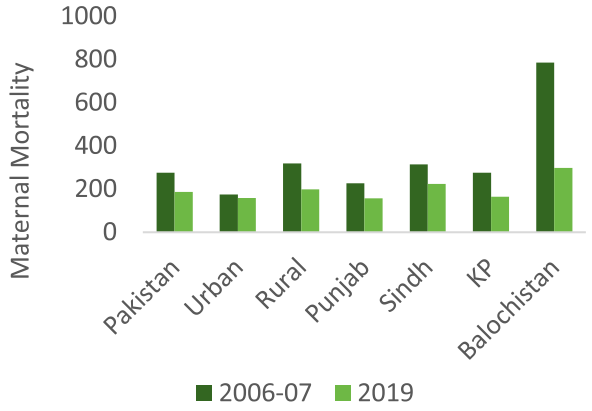
4.8.4 Maternal Mortality Ratio

Maternal mortality is widely recognized as a key human rights issue. It not only shows the quality and accessibility of maternal health services available to women, but also says a great deal about the status of women in a society. The estimates of maternal mortality ratio (MMR) for Pakistan were first calculated in 2006-07 by the National Institute of Population Studies (NIPS) through the PDHS for the 3 years preceding the survey using the verbal autopsy (VA) questionnaire technique (NIPS, 2008). The MMR was estimated as 276 per 100,000 live births in 2006-07. The MMR in rural areas (319) was almost double that in urban areas (175). After a gap of 14 years, the NIPS carried out a specialized Maternal Mortality Survey (MMS) in 2019 to estimate the MMR and found a considerable decline in MMR from 276 per 100,000 live births in 2006-07 to 186 in 2019.

The MMR declined between 2006-07 and 2019 in rural as well as urban areas and in all provinces of the country (Figure 4.26). The MMR in 2019 was 157 deaths per 100,000 live births in Punjab, followed by 165 deaths per 100,000 live births in KP, 224 deaths per 100,000 live births in Sindh and 298 deaths per 100,000 live births in Balochistan. These regional differences are considerable; the MMR is almost twice as high in Balochistan as in Punjab. The ratio in AJK is 104 and 157 in Gilgit-Baltistan. The MMR is highest at age 35-39 and lowest at age 20-24.

These MMR results for 2019 are encouraging and provide reliable data for policy development and programme planning for maternal and child health. But Pakistan has to do more for women who are least likely to receive adequate healthcare, residing in remote areas with lower numbers of skilled birth attendants or health facilities, and must strive to achieve universal maternal health coverage by 2030. Pakistan's quest for improving its Maternal, Newborn and Child Health (MNCH) indicators is only likely to succeed if the federal and provincial leaderships are cognizant of the importance of these investments for national development.

Figure 4.26
Maternal mortality ratio (MMR) by province and rural-urban areas, 2006-07 and 2019



Source: NIPS (2020)

To conclude this section on the mortality situation in Pakistan, the inescapable fact is the high levels of both child and maternal mortality in every part of the country, showing a delayed mortality transition which compares poorly with many other Asian countries. This delay directly affects the capacity and ability of the nation to achieve SDG targets concerning mortality as well as fertility. A considerable and early decline in child mortality is required for bringing down the desired level of fertility.

4.9 Settlement patterns and population Mobility

4.9.1. Internal migration

The concept of lifetime migration is commonly used in Pakistan when assessing the incidence of migration. This concept treats a person is a migrant if the current place of residence is different from the place of birth. The term 'place' here refers to a district, or a country if the person was not born in Pakistan. Within-district movement of population, which could be very large in magnitude, is not considered migration under the lifetime migration concept. All population censuses carried out in Pakistan have used this concept to measure the incidence of migration. Since the last census carried out in 2017 did not include a migration module, the 2017-18 PDHS generated data on lifetime migration.

Figure 4.27 depicts the trends in the incidence of lifetime migration (termed migration for simplicity), for all moves and for only internal migration, which excludes migrants who were born outside the country. In the 1950s and 1960s, people crossed the border between India and Pakistan on a large scale. According to the 1951 Census, more than 20 percent of the population were migrants and more than 80 percent of them were born abroad, primarily in India. Immigration from India was stopped in the 1960s. The overall incidence of migration gradually declined to 8 percent in 1998 with only a 20 percent contribution of immigrants.

At present, the incidence of migration, according to the 2017-18 PDHS, is 10.3 percent; one in every ten persons was born in a district different from his or her current district of residence, meaning that they moved to the current residence sometime during their lifetime. According to the 2017-18 PDHS, 94 percent of all lifetime migrants moved within Pakistan (Figure 4.28).

As expected, the incidence of migration varies between rural and urban areas since the latter are likely to attract migrants from the former. The incidence of migration in urban areas, according to the 1998 population census, was three and half time higher than the incidence in rural areas. In 2017-18, the difference is quite large. Compared to 7 percent of the rural population, 17 percent of the urban population are migrants (one in six urban residents). The highest incidence of migration, 20 percent, is reported in urban Punjab, where every fifth person is a migrant, followed by urban Sindh, with 13 percent. Eleven percent of the urban population of Balochistan consists of migrants whereas the proportion in KP is about 8 percent. Females are more likely than males to change their residence during their lifetime, because of marriage. About a quarter of migrants can be considered as recent migrants because they moved to their current residence for five years preceding the 2017-18 PDHS. More than half, 57 percent, of the migrant population is long stayers, since they moved to the current residence 10 or more years ago (NIPS, 2019).

Figure 4.27
Trends in the incidence (%) of life-time migrants in Pakistan: internal migrants and immigrants

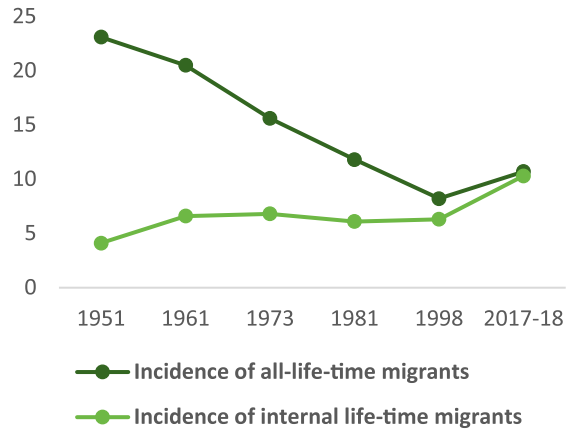
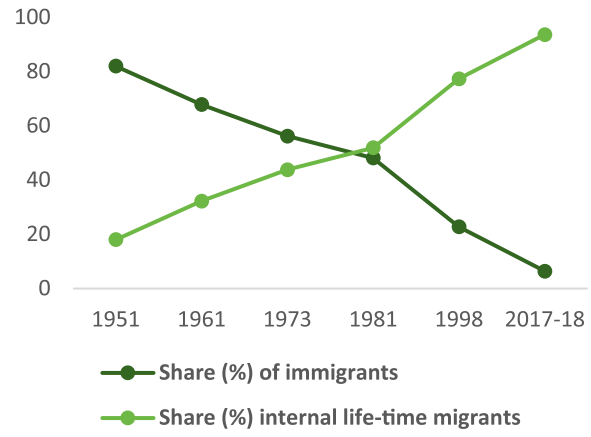


Figure 4.28
Percentage share of immigrants and internal migrants in life-time migration, 1951-2017-18



Source: Population Censuses (1951, 1961, 1981, 1998); HED 1973; and 2017-18 PDHS

The share of intra-province mobility in total internal migration has gradually increased from 58 percent in 1973 to 75 percent in 2017-18 (Figure 4.29), with a corresponding decline in inter-province movement from 42 percent in 1973 to 25 percent in 2017-18. Karachi, Lahore and Quetta are popular destinations for inter-province migrants, but the growth of other cities indicates the preference of potential migrants to move and remain within their province. Inter-province movement is highest in Balochistan (51%), followed by Sindh (43%), KP (24%) including FATA, and Punjab (11%) (Figure 4.30). Sindh attracts migrants mainly from Punjab whereas Balochistan receives migrants from KP, Sindh and Punjab. AJK also is an attractive destination for migrants from Punjab (NIPS, 2019).

Figure 4.29
Share (%) of intra- and inter-province migraiton in total internal life-time migration, 1951-2017-18

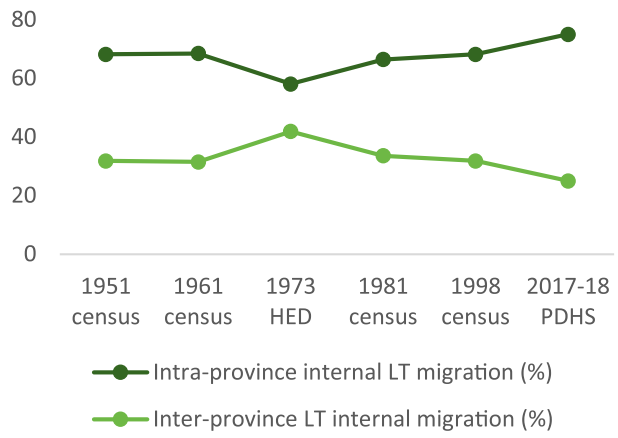
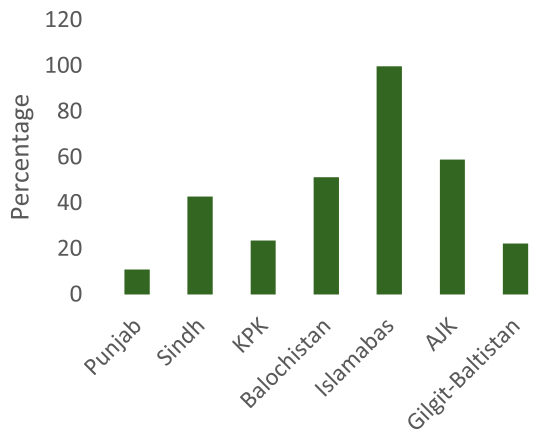


Figure 4.30
Share (%) of inter-province (region) migration by region



Source: Pakistan Bureau of Statistics; NIPS (2019)

In terms of the direction of move, one-third of all migrants moved from rural to urban areas and another 30 percent between rural areas. Approximately one-quarter of migrants moved between urban areas while urban to rural movement is not uncommon either (14%). Provincial differences in directions of move exist. In Sindh the largest move is from rural to urban areas while rural to rural move dominates in KP. In Punjab, movements are from rural to urban (32%) and rural to rural areas (31%). All four types of moves are important in Balochistan. Adult females move primarily for marriage purpose or to accompany their families whereas about half of the adult male, in addition to accompanying families, move because of better economic opportunities at their destinations.

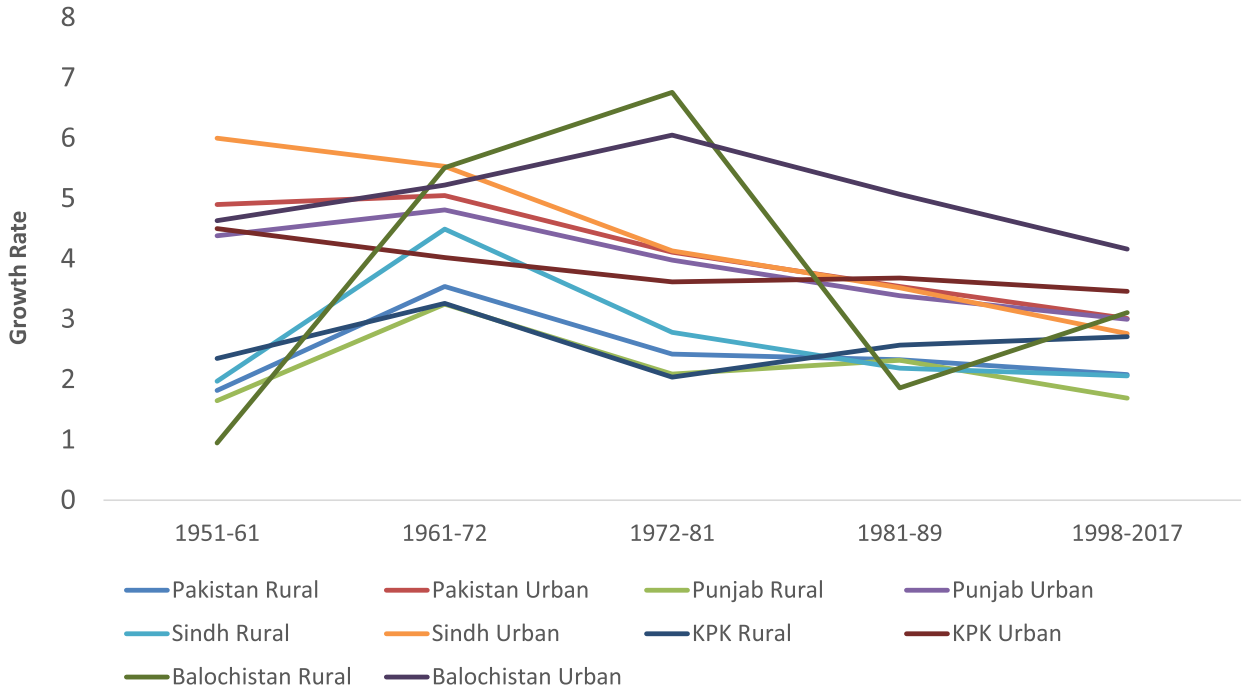
4.9.2. Urbanization and urban growth

The average annual growth rate of urban population declined from 5.0 percent for the inter-censal period of 1951-61 to 3 percent for the 1998-2017 period while the rural growth rate fluctuated substantially between the 1951 and 2017 period. It increased from 1.8 percent for the inter-censal period of 1951-61 to 3.5 percent for the next inter-censal interval of 1961-72. It dropped to 2.4 percent for the 1972-81 period and declined further to 2.3 and 2.1 percent during the 1981-98 and 1998-2017 periods respectively. Province level statistics reveal that the urban population of Balochistan grew at the fastest rate. However, a decline in the urban growth rate was observed in all provinces. Punjab and Sindh experienced this decline since 1972 while in Balochistan and Islamabad, the decline in urban growth is observed since 1981. Interestingly, although urban growth of KP has declined during the 1998-2017 period, it remained much higher than the corresponding growth rates in Punjab and Sindh (Figure 4.31), pointing towards the intra-province movement of population in KP.

The level of urbanization in Pakistan has increased from about 18 percent in 1951 to 36 percent in 2017, the highest in South Asia. Sindh has long been the most urbanized province; its urban share monotonically increased from 29 percent in 1951 to 52 percent in 2017 (Table 4.11). The least

urbanized province is KP, with only 17 percent of total provincial population living in urban areas. The use of administrative-based criterion to define an area as urban has substantially depressed the reported urban population in this province. The shares of urban population in the total population of Punjab and Balochistan in 2017 were 37 and 28 percent respectively, more than double their levels in 1951. The level of urbanization is likely to increase in all province because of rural-urban migration and expansion of urban areas. However, the rise in intra-province mobility may affect the urbanization level more in Punjab and KP than in Sindh and Balochistan because in the past net inter-province rural to urban migration was largely from Punjab and KP to Sindh and Balochistan. Moreover, provinces have the authority to give a (rural) community the status of a town or make it the part of a town or a city. A uniformity across the provinces in using this authority may affect the urbanization level particularly in KP.

Figure 4.31
Growth Rates of rural and urban areas by province, 1951-61 to 1998-2017



Source: Pakistan Bureau of Statistics

Table 4.11
Urban share (%) in population by province, 1951-2017

	1951	1961	1972	1981	1998	2017
Pakistan	17.74	22.52	25.41	28.30	32.52	36.38
Punjab	17.37	21.50	24.42	27.60	31.27	36.71
Sindh	29.23	37.85	40.45	43.32	48.75	52.02
Khyber Pakhtunkhwa[1]	8.58	10.35	11.11	12.56	14.72	16.53
Balochistan	12.43	16.85	16.43	15.63	23.90	27.55
ICT-Islamabad	-	-	32.35	60.00	65.71	50.55

Source: Pakistan Bureau of Statistics

1 The Khyber Pakhtunkhwa includes population of merged districts of FATA.

More than half the urban population (54%) is living in the 10 largest cities, having more than a million population – Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Peshawar, Multan, Hyderabad, Islamabad and Quetta. The share of these cities in total urban population, according to the 1998 census, was about 52 percent, and it increased to 54 percent according to the 2017 population census. The increasing share of major cities in total urban population shows the preference of people to settle in these cities. There are more than 600 urban localities or cities in the country. Thus 18.8 million urbanites or 44 percent of the total urban population is spread around 600 medium and small urban settlements, including districts and tehsils headquarters. Emergence of both the urban communities along the Grand Trunk Road (GT Road) throughout the country and gated housing schemes indicates the new pattern of urban settlement.

4.9.3. Informal urban settlement

More than 40 percent of the urban population (45.5%) live in informal settlements. Thus, an estimated 34 million people in Pakistan live in katchi abadis or urban informal settlements. In Karachi — a city of over 16 million — approximately 60 percent of the population lives in informal settlements with limited or no access to clean water and sanitation. There are about 2300 katchi abadis in the country, more in Sindh (1300) than in other provinces of the country (Table 4.12).

Table 4.12
Provincial Breakdown of Katchi Abadis

Province	Katchi Abadis (No.)	Govt. Land (acres)	Private Land (acres)
Balochistan	55	2,826	0
North Western Frontier	65	1,509	3,434
Punjab	902	8,875	501
Sindh	1300	24,300	1,700
Total	**2322**	**37,510**	**5,636**

Source: Nenova, (2010) in Raza (nd)

Unplanned urban sprawl continues unchecked. Housing schemes built beyond city limits have used up prime agricultural land at a large scale. Both Karachi and Lahore have seen the development of large real estate schemes by private and public-sector developers, particularly along the highways. These ventures are redefining urban limits, further straining service delivery. A pertinent question is whether there is underestimation of urbanization due to growth of slums and unregulated urban expansion. The answer is probably 'yes' because the unregulated urban expansion is usually in rural areas adjacent to a city, a town or a metropolitan. The population of these expanded areas will be counted or considered (sampled) as rural. Similarly, the growth of slums in rural areas adjacent to a city will be a source of underestimation of urban population. The biggest challenges for urban policymakers in Pakistan include (i) poor housing quality and affordability; (ii) unsafe/poor quality drinking water and poor sanitation; (iii) lack of efficient public transport system; (iv) poor condition of basic public health and education services and low utilization of these services, e.g. inverse relationship between public schooling and city size; and (v) poor urban land management because of outdated land use regulations and building codes (Shaikh and Nabi, 2017).

4.9.4. Population and humanitarian emergencies

Pakistan has experienced a wide range of disasters over the past 20 years including floods, earthquakes, droughts, cyclones and tsunamis, which led to the internal displacement of population on a large scale. A recent study by the International Organization for Migration (IOM) reports that the 2010 floods affected 20 million individuals and the

2005 earthquake left 3.5 million people homeless. The drought situation in Sindh and Balochistan is rapidly developing into one of the worst disasters in Pakistan. Upland Balochistan and southern Sindh are the most heavily affected by severe drought. These affected areas of Balochistan and Sindh have been prone to water shortages; rainfall measured over the last many years has reached a record low, with minimal or sometimes no rainfall (IFRC, 2019). Urban flooding seems to be a new form of natural disaster; in August 2020, Karachi, the largest city of Pakistan, received the heaviest rain in more than ninety years.

Pakistan ranks fifth among the most adversely affected countries on the 2020 Global Long-Term Climate Risk Index published by German Watch, and it is expected to be severely impacted by the negative effects of climate change in the future (Eckstein et al., 2020). On average, approximately 3 million people are affected by natural catastrophes each year in Pakistan, which equates to approximately 1.6 percent of the total population. The most recent figures on internal displacement in Pakistan indicate that in 2017, the stock of internally displaced persons was 249,000 – including all causes e.g. conflicts and violence. In the same year, displacement continued in Khyber Pakhtunkhwa and the Federal Administrated Tribal Areas (FATA), causing the new displacement of 75,000 people. By 31 December 2018, numerous individuals were able to return to their place of usual residence, and the stock of IDPs in Pakistan decreased to 119,000 (IOM, 2019).

The data generated by the 2017-18 PDHS also provides useful information on natural disaster/ conflict induced internal migration. Only 1.3 percent of the lifetime migrants moved to their current place of residence (district) to 'escape from natural disaster/violence' (Table 4.13). About half of them moved during the last 10 years. In terms of number, it is estimated that around 150,000 persons migrated due to either natural disasters or violence during the last decade, and the major direction of move was from rural to rural areas.

Table 4.13
Reasons for in-migrating

Main reason for migration	Rural to rural	Rural to urban	Urban to urban	Urban to rural	All
Better economic opportunity	10.8	21.0	13.5	9.6	14.6
Marriage	41.7	23.0	25.3	38.3	31.3
Accompanied family	40.5	48.7	53.1	43,8	46.6
Study	0.6	2.6	1.9	1.6	1.7
Transferred on job	0.8	1.4	2.7	1.0	1.4
Escape from voilence/natural disaster	2.5	1.0	0.7	1.0	1.3
Other reasons	2.8	2.0	2.7	4.2	2.7
Don't know/missing	0.3	0.3	0.2	0.5	0.3
Total	**100**	**100**	**100**	**100**	**100**

Source: 2017-18 PDHS

Is there any impact of COVID-19 on internal migration? COVID-19-induced return migration is possible. The out-migration module of the 2017-2018 PDHS found that 14 percent of the total households reported out-migration of a past household member in the last 10 years (16% of rural and 11% of urban households), more than half of whom moved for better economic opportunities (42%) or studies (8%) (NIPS, 2019 Table 17.13). More than half of the total out-migrants moved from rural to urban areas (NIPS, 2019 Table 17.11).

It is likely that COVID-19 related lockdown pushed many of them back to their place of origin because many migrant workers, who lost their jobs during the COVID-19 related lockdown, probably had no other choice. Most of these economic migrants are aged below 40. What is the possibility of their re-migration? It depends on the type of activity they were engaged in at their previous destination. A revival of economic activities could undoubtedly generate re-migration flows.

To summarize the discussion in Section 4.9, it can be stressed that internal migration in Pakistan is reshaping the socio-demographic context of the country. Urbanization has gradually increased, and it may soon reach 50 percent. More than half of the urban population is living in Pakistan's 10 largest cities. Informal settlements or katchi abadis accommodate approximately half of the urban population. The share of intra-province mobility in total internal migration has gradually increased, with a corresponding decline in inter-province movement.

4.10 International Migration

4.10.1 Stock of overseas Pakistanis and flows of emigrant workers

The stock of overseas Pakistanis or Pakistani diaspora refers to all Pakistanis who live abroad as permanent residents, students or temporary workers, whereas the concept of flows of emigrant workers includes only those Pakistanis who find employment abroad and are registered with the Bureau of Emigration and Overseas Employment (BEOE). There are about 8.84 million Overseas Pakistanis living around the globe as of 31st December 2017 (Table 4.14). The main concentration of Overseas Pakistanis is in Middle East (53%), Europe (24%) and the Americas (15%). The other regions where Pakistanis have settled permanently or living on temporary visas/permits are Africa, Australia and New Zealand.

Table 4.14
Region wise distribution of Pakistani diaspora as on 31-12-2017

Region	Number of Overseas Pakistanis	Percentage Share (%)
Africa	285,271	3.22
Americas	1,353,255	15.3
Asia and Far East	208,259	2.35
Australia & New Zealand	106,000	1.2
Europe	2,123,413	24.0
Middle East	4,761,913	53.0
Others	2,621	0.02
Total:	**8,840,732**	**100**

Source: BEOE (2019)

The BEOE has managed well the registration of migrants who went abroad for temporary employment since the early 1970s. This registration data shows that the BEOE placed 11.115 million Pakistani workers abroad between 1971 and December 2019, mainly in the Middle East (96%).[25]

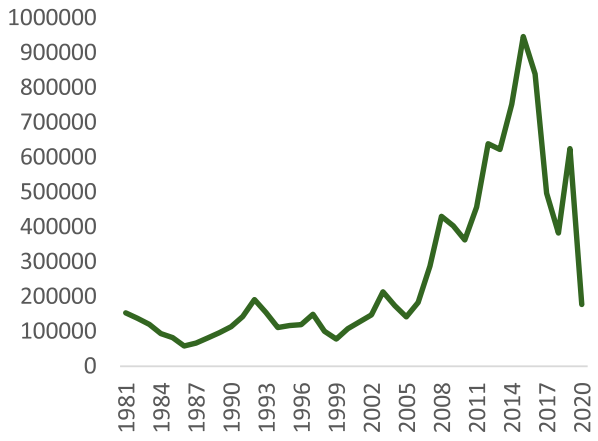
A jump in this placement has been observed during the last decade. The placement of workers processed through the BEOE increased from 287,000 in 2007 to 947,000 in 2015 and 839,000 in 2016, the highest ever numbers of Pakistani workers placed abroad for employment, mainly in

[25] Population, labour Force, and Employment, Chapter 12, Pakistan Economic Survey, 2017-18, Ministry of Finance, Government of Pakistan, 2018.

the GCC countries. However, the number slumped sharply to 496,300 in 2017 (Figure 4.32). The decline between 2015 and 2017 is especially observed in Saudi Arabia, in part because of the slowdown of construction activities in the country.[26] However, the placement of workers in 2019 increased to 625,000, and in the first three months of 2020, just before the breakout of COVID-19, 177,000 workers found jobs abroad, mainly in Saudi Arabia and UAE (Figure 4.32).

Figure 4.32

Annual placement of Pakistanis in overseas markets, 1981-2020

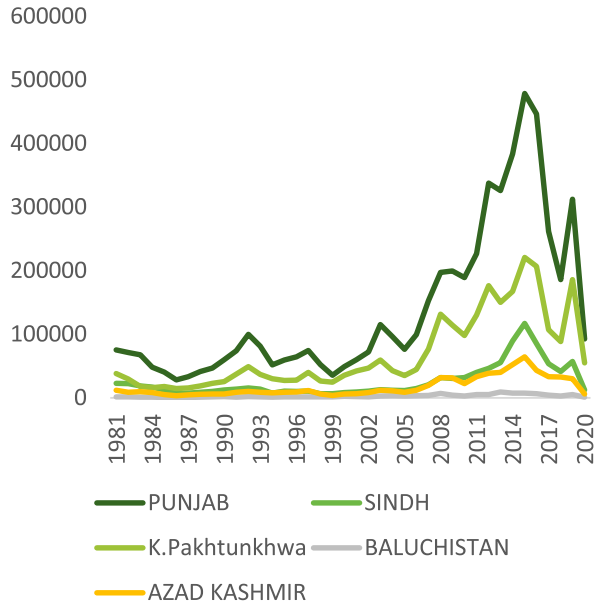


Source: Bureau of Emigration and Overseas Employment

The annual growth rate of Pakistan's labour force is 3.5 percent, suggesting that between 1.5 and 2 million persons are added annually on average to the labour force. The placement of Pakistani workers abroad in 2015 and 2016 constituted more than half of the annual addition to the domestic labour force. The placement of workers in overseas labour markets is thus a major source for the absorption of the growing labour force. Two aspects of labour emigration are noteworthy. First, the GCC countries are the destination of almost all (96%) Pakistani workers. New markets have not been identified for their placement except Korea, which imports only a small number of Pakistani workers. Second, the participation of workers from Sindh and Balochistan in overseas employment remained relatively low, well below their share of Pakistan's population. Emigrant workers are mainly recruited from Punjab, KP and AJK (Figure 4.33).

Figure 4.33

Annual placement of Pakistanis in overseas markets by province/region of origin, 1981-2020



Source: Bureau of Emigration and Overseas Employment

Is the overseas migration of Pakistani workers for temporary employment a form of demographic dividend or a form of dependency on foreign labour markets for the absorption of workers? It can be termed "dividend" because the employment of young workers abroad reduces pressure on the domestic labour market, helps them save money and send home remittances, enhances household investment on human capital and improves the living standard of concerned households. The contribution of foreign remittances to economic growth is well documented in Pakistan as well as other labour-sending countries. How much remittances contribute to human development depends very much on how they are used by the recipients. The dividend from overseas labour migration is partial for two reasons. First, unskilled workers remain the dominant category in the annual placement of Pakistani workers abroad, followed

[26] However, there are also other reasons, which have been reported in the 2017-18 Pakistan Economic Survey, including Gulfization policy adopted by GCC countries to transform the economy from oil based to service sector, Saudization, where Saudi companies are required to hire Saudis nationals up to a certain level, and reduction in work visa validity to one year for expatriates (GOP, 2018).

by skilled, semi-skilled and highly qualified workers. In fact, the proportion of unskilled workers leaving the country rose from 36.8 per cent in 2001 to 52.2 per cent in 2009. After that, it declined to 39.5 per cent in 2017. These workers are less educated and more vulnerable to exploitative recruitment practices. Second, emigration of Pakistani women is negligible, with only some 6,444 female workers going abroad for employment from 2008 to 2013, or 0.12 percent of all migrant workers going overseas. Like their male counterparts, women are placed mainly in the Middle East.[27]

4.10.2 COVID-19 and overseas migration

It is difficult to assess the effect of COVID-19 on overseas migration and return flows of migrant workers. However, some facts are well known. For example, there was zero placement of workers abroad after mid-March 2020, when all types of restrictions on movements were introduced in Pakistan as well as by the overseas governments. In the first three months of 2020, just before the COVID-19 spread, 177,000 Pakistanis found a job abroad, 36 percent more than in the same period in 2019. Based on the increase since 2018, it was expected that outflows in 2020 could be close to a million, the highest ever.

Based on this basic information and some assumptions, the impact of COVID-19 on overseas migration flows is estimated and reported in Table 4.15, including a provincial breakdown. First, the outflows for 2020 in the absence of COVID-19 are estimated under two scenarios; (i) the same level of outflows as reported for 2019 from April to December plus actual flows in first three months of 2020; and (ii) assuming that the outflows in 2020 would increase at a rate similar to the percentage increase between 2018 and 2019. Under the first scenario, around 676,000 Pakistani workers were likely to be placed abroad in 2020, while under the second scenario over a million workers were likely to go abroad (Table 4.15).

From these statistics, the likely impact of Covid-19 on overseas migration for the remaining period of this year is estimated under three variants (Table 4.15). The low scenario shows that the placement would be equal to 50 percent of the placement in 2019 or expected flows for 2020. This assumption is based on two facts; (i) between January and March 2020, 177,000 workers were sent abroad. According to some reports, more than 60,000 workers have had a job offer and their recruitment was in process when the COVID-19 broke out. So with an improvement in the pandemic situation in the Middle East, the demand for Pakistani workers during the next 3-4 months could increase, but 350,000-645,000 would-be workers who would have been placed abroad would not get a job. In the high-scenario, it is assumed that no Pakistani worker would get a job offer in 2020. As a consequence, 500,000-880,000 would-be workers would not go abroad. So, the COVID-19 has a huge implication for Pakistani workers seeking jobs abroad, particularly for KP and Punjab provinces.

Table 4.15
COVID-19, overseas migration and international return flows

Indicators	Pakistan	Punjab	Sindh	KP	Balochistan	Others
2018-No. of emigrants (000)	382	188	42	1130	5	34
2019-No. of emigrants (000)	625	317	57	213	5	33
Share (%)	100	50.7	7.5	38.3	0.5	2.9
% increase - 2018 to 2019	63.5	68.1	37.6	88.6	6.7	-

[27] Labour Migration from Pakistan: 2015 Status Report; Ministry of Overseas Pakistani's and Human Resource Development, Government of Pakistan.

Expected outflows for 2020 (000) – Scenario A	676	343	62	231	6	36
Expected outflows for 2020 (000) – Scenario B	1060	537	97	362	9	55
Impact on outflow of workers in 2020 (000) – Low	350(615)	177(312)	26 (46)	134(236)	2(3)	11 (19)
Impact on outflow of workers in 2020 (000) - Medium (000)	410(722)	208(366)	31 (54)	157(277)	2 (4)	13 (22)
Impact on outflow of workers in 2020 (000) - High (000)	499 (883)	253(447)	37 (66)	191 338)	3(5)	15 (26)
Expected return flows (000) low scenario (000)	927	479	84	308	7	48
medium scenario (000)	1572	816	148	506	13	89
high scenario (000)	2247	1167	214	716	19	130
Labour force impact of return migration – low (% of labour force)	1.2	1.1	0.5	3.4	0.3	-
- medium (% of labour force)	2.1	1.9	0.9	5.6	0.6	-
- high (% of labour force)	3.0	2.7	1.3	7.9	0.9	-

Source: Calculation by the team

4.10.3 COVID-19 and return migration

In the temporary international labour migration system, overseas workers usually cannot stay at their destination permanently. At the end of their employment contract, they have to return to their home countries. That is the case for the Middle East migration system as well. For example, as noted earlier, during the 1971-2020 period, more than 11 million workers went abroad through the BEOE, but the total current stock of Pakistanis in the region is less than 5 million (see Table 4.15), so, more than half of workers who went abroad after 1971 have returned home. However, the COVID-19 is likely to expedite the return flows for three reasons. First, because of the pandemic or health problems many workers may decide to end their overseas employment and return home. Second, the likely scenario is that overseas workers may not get extension in their contract when it expires. Third, workers engaged in economic activities abroad affected by the COVID-19 may lose the job and have no choice but to return home. It has been reported that by May 2020, about 60,000 workers have returned from the United Arab Emirates alone, and about 200,000 were waiting at different destination to return home. The Government of Pakistan has planned for their safe return home. According to media reports, flights have been arranged by the Government of Pakistan.

Three variants are developed to estimate the return flows of Pakistani workers - low, medium and high. Under, the low-variant, it is assumed that 10 percent of workers in the Middle East will return home, with no COVID-19 related return flows from the non-Middle East regions. It is assumed in the medium-variant that 20 percent of workers return home from the Middle East, with 5 percent return of the non-Middle East stock. The high-variant considers the return flows from the Middle East

as high as 20 percent and 10 percent from the non-Middle East regions. It is estimated that 0.9 million to 2.2 million workers may return home, equal to 1.3 to 3 percent of the domestic labour force (Table 4.15). However, return flows could be an opportunity for investment and economic growth. Emigrant workers usually return home with some savings and skills. Pakistan needs to plan how to benefit from these savings and utilize the learned skills. China and India are the success stories in this regard.

4.10.4 Prospects for overseas migration

Because of the high population growth rate in Pakistan, 1-2 million workers are added annually to the domestic labour force. During the last four and a half decades, more than 11 million workers were placed overseas, mainly in the Middle East labour markets. In the recent past, this placement was more than half of the annual addition to the domestic labour force. Overseas migration of workers has been critical to release the pressure on the domestic labour market, with its very low economic growth outlook. However, COVID-19 has, at least in the short term, serious implications for overseas migration as well as the return of migrants working abroad. A review of the labour market situation in the Middle East suggests that demand for overseas workers may not recover immediately to the pre-COVID-19 level. It depends largely on the revival of economic activities affected by the COVID-19. The placement of Pakistani workers in the Middle East will gradually gain momentum over the next 1-2 years.

4.11 Prospects for achieving CCI goals of reduced population growth

The Action Plan submitted to the Supreme Court on January 11, 2019 included the objective of reducing the population growth rate from 2.4 per cent per annum to 1.5 per cent per annum by 2024 and 1.1 per cent per annum by 2030. This was to be achieved by raising the contraceptive prevalence rate to 50 per cent by 2025 and to 60 per cent by 2030, leading to a lowering of the total fertility rate to 2.8 by 2025 and 2.2 by 2030 (Federal and Provincial Task Forces, 2019).

How likely is it that these objectives can be met? We can consider this question in light of the trends in fertility and contraceptive prevalence between 1990-91 and 2017-18. Over the period between 1990-91 and 2006-07, a fairly substantial decline in fertility was matched by a substantial rise in contraceptive prevalence. Then from 2006-07 to 2012-13, fertility continued to decline slowly, and contraceptive prevalence increased slowly. These trends are unexceptional, and consistent with Bongaarts' (2014) relationship between CPR and TFR trends based on multi-country results. However, between 2012-13 and 2017-18, fertility declined slowly and prevalence of contraception – especially of modern contraception – also declined slightly. This is a trend that is harder to explain but could be related to unobserved trends in induced abortion. Though uncertainty about levels of induced abortion must be kept in mind, the assumption in the CCI Action Plan that a rise in the contraceptive prevalence rate from 34.2 per cent in 2017/18 to 50 per cent by 2025 would result in a lowering of the total fertility rate from 3.6 in 2017/18 to 2.8 by 2025 is reasonable. Whether indeed CPR can be raised so quickly is the real question, particularly in light of evidence of continuing desire for more children among most women with two or three living children, presented in Section 4.6 (Table 4.8).

4.12 Conclusions

The following major conclusions are drawn from the analysis of population dynamics/demographic change in Pakistan, presented in this chapter:

First, the six-fold increase in population during the last six and half decades is the result of high fertility. Because of the population age structure resulting from high growth in the past, substantial increase in population in future is inevitable. The twin challenges for the Government of Pakistan are to meet the basic needs of a very large and growing population for several decades, particularly food security, provision of health and education services and shelter; and to meet the Action Plan targets of increasing the contraceptive prevalence rate of 34% to 50% by 2025 and to 60% by 2030, thus lowering the population growth rate substantially. Achieving a sustainable rate of population growth through three inter-related principles – rights, responsibilities, and balance – as recommended in the "Narrative on Population Growth" should be possible if appropriate policies are pursued.

Second, Pakistan has entered the phase of demographic opportunity, though delayed for a couple of decades compared to other countries of the region, in the form of a surge in working age population and youth and a decline in the dependency ratio, particularly child dependency. The major challenge for policy makers is the provision of employment to the growing labour force, with its low levels of education and skills. The economic growth outlook at least for the next 4-5 years is not encouraging; Pakistan needs a high economic growth rate, 7-8 percent, for the next 30 years to absorb the new entrants to the labour force.

Third, significant differences are observed in population growth rates between provinces. Between 1998 and 2017, population growth was faster in Balochistan and ICT Islamabad than in Punjab or Sindh. Such differences have political implications, affecting fiscal revenues and representation in parliament.

Fourth, not a single region or province of the country has reached replacement level fertility. Desire for 3-4 children is the key factor for low contraception and high fertility. The persistence of high desired fertility is the result of high child mortality, social and economic insecurity, and poverty and social exclusion.

Fifth, infertility among women needs to be addressed as well, because of its adverse impacts on the individuals and families involved.

Sixth, slow mortality transition - high IMR, neonatal mortality rate and MMR - is a serious social and human rights issue and a barrier to fertility transition. Provincial differences are not consistent across mortality indicators: for example, under 5 mortality is highest in Punjab and lowest in ICT Islamabad; but the MMR is almost twice as high in Balochistan as in Punjab.

Seventh, family patterns - living in an extended family system with high incidence of first cousin marriage - probably reinforce the high fertility regime. Provision of better housing, women's empowerment and education could be effective tools for a change towards small family norms.

Eighth, it appears that rural-urban migration is gradually changing the whole landscape of the country. The growth of slums and katchi Abadis, provision of adequate urban services and state-of-the-art urban infrastructure are urgent policy challenges, requiring appropriate strategies.

Finally, emigration of workers for temporary employment is beneficial for the country and population because it not only absorbs the young workers, but also is a source of earnings and remittances and transfer of skills when migrants return home. Some challenges are the low participation from the poor regions/provinces e.g., Sindh and Balochistan and very low female participation in overseas employment. High cost and exploitation at the time of recruitment and during employment abroad also need the immediate attention of the relevant authorities.

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ANNEX

Annex Table 4.1

Percentage of currently married women, age 40-44, married once and have been married for at least five years and have no live birth and have no living child, by Pakistan Demographic and Health Survey (PDHS), 1990-91 to 2017-2018

	1990-91		2006-07		2012-13		2017-18	
	No live Birth	No living Child	No live Birth	No living Child	No live Birth	No living Child	No live Birth	No living Child
	%	%	%	%	%	%	%	%
All	**3.23**	**3.59**	**3.32**	**3.76**	**4.11**	**4.17**	**3.41**	**3.49**
Province/Region								
Punjab	3.32	3.75	3.44	3.64	4.85	4.85	3.32	3.32
Sindh	2.83	2.83	2.96	3.26	2.92	2.92	4.14	4.46
NWFP/KPK	3.99	4.70	3.18	5.05	3.13	3.13	2.24	2.31
Balochistan	0.33	0.33	3.93	3.93	4.32	6.15	5.09	5.09
Gilgit/Baltistan	NA	NA	NA	NA	2.59	2.59	NA	NA
ICT (Islamabad)	NA	NA	NA	NA	0.00	0.00	3.59	3.59
FATA	NA	NA	NA	NA	NA	NA	3.16	3.16
Educational level								
No education	3.26	3.69	3.38	3.99	3.92	3.96	3.90	3.92
Primary	0.00	0.00	1.74	1.74	5.37	5.37	0.76	1.23
Secondary	4.11	4.11	5.19	5.19	2.85	2.85	2.18	2.18
Higher	15.2	15.20	1.88	1.88	5.17	5.65	5.63	5.63
Place of residence								
Urban	3.53	4.43	2.36	2.60	3.64	3.64	3.39	3.42
Rural	3.11	3.24	3.85	4.39	4.40	4.51	3.43	3.55

ANNEX

Annex Table 4.2

Percentage of currently married women, age 25-49, who have been married once and are married for at least five years and have no live birth and have no living child, by Pakistan Demographic and Health Survey (PDHS), 1990-91 to 2017-2018

	1990-91		2006-07		2012-13		2017-18	
	No live Birth	No living Child	No live Birth	No living Child	No live Birth	No living Child	No live Birth	No living Child
Age of women	%	%	%	%	%	%	%	%
25-29	5.26	6.48	3.78	4.48	6.00	6.67	5.94	6.36
30-34	3.47	3.80	3.50	4.30	2.88	3.27	4.27	4.55
35-39	2.32	2.78	3.21	3.42	4.01	4.23	3.88	4.28
40-44	3.23	3.59	3.32	3.76	4.11	4.17	3.41	3.49
45-49	3.66	3.85	2.56	2.64	2.45	2.59	1.59	1.64
Total	3.69	4.27	3.32	3.79	3.94	4.26	4.02	4.29
Province/Region								
Punjab	4.14	4.71	3.06	3.52	4.31	4.56	4.34	4.50
Sindh	3.22	3.77	3.75	4.21	3.55	3.93	3.71	4.04
NWFP/KPK	3.02	3.65	3.12	3.73	3.22	3.61	3.58	4.11
Balochistan	2.12	2.78	4.96	5.23	4.18	4.83	3.91	4.34
Gilgit/Baltistan	NA	NA	NA	NA	1.29	1.39	NA	NA
ICT (Islamabad)	NA	NA	NA	NA	2.42	2.74	4.26	4.71
FATA	NA	NA	NA	NA	NA	NA	2.80	2.98
Educational level								
No education	3.88	4.56	3.39	3.86	3.64	4.07	4.14	4.43
Primary	3.01	3.07	2.49	2.91	4.71	4.93	3.45	3.76
Secondary	2.57	2.57	3.24	3.27	3.59	3.70	4.51	4.78
Higher	4.75	6.65	4.40	5.99	5.43	5.53	3.43	3.61
Place of residence								
Urban	2.90	3.24	3.28	3.77	3.80	3.93	3.84	4.11
Rural	4.05	4.74	3.34	3.80	4.01	4.42	4.13	4.40

5

Reproductive Health (RH) and Family Planning (FP)

5.1 Introduction

A regional pioneer in family planning (FP) programming in the 1960's (Robinson, Shah and Shah, 1981), Pakistan now trails Bangladesh, India, Nepal, Sri Lanka, Indonesia and Islamic Republic of Iran in contraceptive prevalence and population growth rates. Pakistan has a high total fertility rate (TFR) and low prevalence of modern contraceptives (mCPR) that have shown little change in the last two decades. Along with Nigeria, it is the only country among the ten most populous countries that has an annual population growth rate above 2% in 2019 (Kaneda and Greenbaum, 2019). At the 2012 London Family Planning (FP) Summit, Pakistan committed to raise its contraceptive prevalence rate (CPR) to 55% by 2020 (UKaid and Bill and Melinda Gates Foundation, 2012), but later revised that goal down to 50% which also appears unattainable. As Pakistan embarks on its renewed commitment to reduce population growth rate to 1.1% by 2030 (Government of Pakistan 2018, Council of Common Interests – CCI - Task Force and Ministry of National Health Services, Regulations and Coordination), it would be instructive to explore the reasons why Pakistan fares poorly in comparison to its regional neighbors and other Muslim countries (Table 5.1).

One important reason for the rise in FP use worldwide has been an increase in women's agency. As women from developed countries gained autonomy and entered the workplace (Jones and Tertilt, 2007), they could afford to rely less on income from children and became more sensitive to the increased opportunity cost of a woman's time away from work (Jones, Schoonbroodt and Tertilt, 2010). By contrast, in many of the developing countries, like Pakistan, where patriarchy and women's limited agency restrict them from exercising their most basic rights, the push towards contraception has come externally from governments and donors via free services (El-Mouelhy, 1990; Wu, 1994) and not by sustained reductions in desired fertility or family size preferences by individuals and couples. A major drawback of this external push, particularly in a conservative country like Pakistan, is that one or few methods predominate rather than a varied method mix selected by couples and women according to their evolving needs, and the desired fertility does not significantly change beyond the interventions (Streatfield and Kamal, 2013). This external push for FP programmes in Pakistan indicates that its focus at the beginning was on supply-sided factors and continued in that direction although it seems, according to the current assessment of FP, that "demand" factors are the challenge more than the supply side. This is also confirmed by several socio-cultural, administrative, and institutional factors that undermine supply side aspects, as will be elaborated within the section on FP.

Table 5.1

Percentage of currently married women age 15-49 years using any contraceptive method, by country

Country	Contraceptive Prevalence Rate %
Pakistan 2017-18	*34.2*
Turkey 2018	*69.8*
Indonesia 2017	*63.6*
India 2015-16	*53.5*
Bangladesh 2014	*62.4*
Egypt 2014	*58.5*

Source: The DHS Program STAT compiler.

Noticeable gains have however been made in maternal mortality and newborn health including antenatal care by a skilled provider that increased by over three-fold, institutional deliveries increasing by five-fold, skilled birth attendance increasing by about four-fold and doubling of child immunization. The stillbirth rate also declined though it remained high compared to other countries.

This chapter explores how, at the present time, women, men and young couples in Pakistan are accessing RH, FP and maternal, newborn and child health (MNCH) services and the factors that are interlinked to access, uptake, mobility and decision making for RH and FP. The data presented in the chapter are triangulated from multiple sources, including the Pakistan Demographic and Health Surveys (PDHS 1990-91 to 2017-18), Pakistan Maternal Mortality Survey 2019 (PMMS, 2019), National Nutritional Survey 2018, commodity supply data and other studies, to understand how FP programming and the RH landscape has evolved and why family planning has remained stagnant in Pakistan despite receiving considerable funding and commitment. The chapter begins with an overview of the health care system, followed by a situational analysis of sexual and reproductive health, maternal health, morbidity and mortality, family planning, unintended pregnancies, and induced abortions, STIs and HIV/AIDS, newborn and child health and ends with a discussion of the impact of Covid-19, followed by conclusions.

5.2 Pakistan Health Care System

Health Care Systems and Human Resources

In Pakistan, the health system particularly from the RH perspective is a mix of government, private/NGOs and informal providers; no single actor predominates and therefore orchestrates the actions. While Pakistan has all the components of the World Health Organization's (WHO) health systems framework in terms of six core components or "building blocks": (i) service delivery, (ii) health workforce, (iii) health information systems, (iv) access to essential medicines, (v) financing, and (vi) leadership/governance, there are considerable challenges for coordination, budget allocations, quality and accountability that undermine universal coverage.

Pakistan in 2018/19 spent 1.1% of its GDP on health and this was spread over nearly 15,000 public sector facilities offering everything from childhood vaccinations to transplant services, yielding very little in any given area. The RH and FP service delivery system is embedded within the broader health system and comprises two public sector actors: i) Department of Health (DoH) and Population Welfare Department (PWD) facilities (approximately 12,000 DoH and 3,300 PWD facilities), service providers (doctors, mid-level providers such as Community Midwives Worker (CMWs), Lady Health Visitors (LHVs[28]), nurses and outreach workers) including over 100,000 Lady Health Workers (LHWs) from Health Department and 10,000 Female Welfare Workers (FWWs) (Table 5.2), along with ii) numerous NGOs and private sector clinics/providers (exact figures not available).

The LHW programme, introduced in 1994 was a pivotal approach to embed FP within the broader healthcare and in the early years was instrumental in increasing CPR during 1994-2002. The LHW programme, with its nearly 100,000 LHWs, was designed to overcome in rural areas the challenges of gender inequity, women's mobility and informational barriers that inhibited FP uptake. Studies have shown that areas served by LHWs have seen increases in contraceptive use that are higher than areas not served by LHWs (Oxford Policy Management, 2002; 2009). Unfortunately, the LHW programme became overburdened with numerous health priorities from reducing the

[28] LHVs are better-trained mid-level providers with two years diploma course in the provision of FP and MNCH services and supervise LHWs.

prevalence of communicable diseases, addressing the inadequacies of primary/secondary health care services, bridging the gender equity gap, improving nutrition of vulnerable populations, and creating awareness of public health issues (Oxford Policy Management, 2009). A secondary review of LHW programme 2009 data shows that on average LHWs spend four minutes or less counseling clients on FP (Research and Development Solution, 2012). Post devolution, there was also ambiguity on what services LHWs can provide such as giving injectables (Population Council, 2016) along with budgetary challenges of regularization of LHWs by the provinces (Population Council, 2019).

According to data obtained from provinces and MNHSRC, there are 205,000 doctors/specialists (0.96 per 1,000 population), 104,046 nurses, LHVs, CMWs (0.46 per 1,000 population) and approximately 101,000 lady health workers (LHWs) or 0.43 per 1,000 population. This is well below the WHO recommended skilled health workers (physicians and nurses/midwives) density of 2.3 per 1,000 population to achieve 80% coverage of essential health services and reduce access gaps (WHO, 2016a).

Table 5.2

Number of healthcare workers, by type and province

Province	Doctors	Nurses, CMWs, LHVs	LHWs
Balochistan	*6157*	2740	6,400
KPK	*26,963*	13,672	15,930
Punjab	*97,866*	65,990	44,497
Sindh	*74,166*	21,644	21,358
Federal/ICT, GB, AJK	*Included in the Punjab total*		4766

Source: Pakistan: Human Resources for Health Vision – 2018-2030, Ministry of National Health Services, Regulations and Coordination (MNHSRC).

According to the Pakistan Social and Living Measurement Survey (PSLM) 2015-16, annually there are over 280 million outpatients visits in the country of which around 50 million (18%) are in the public sector and 230 million (82%) in the private sector; the proportion in the private sector has gradually increased over the years. Data on breakdown of different service visits, private sector practices, human resource placement and skills, quality and outcomes are not available.

Critical Issues Identified from Data Review

Competing Mandates and Weak Coordination between Health and Population Welfare – a key ongoing issue that is unique to Pakistan for RH/FP service coverage and delivery has been the competing mandates of the DoH (Department of Health) and PWD (Population Welfare Department) to provide FP services. The Health Departments

of provinces have not yet fully accepted FP as a primary responsibility and PWD is not suitably equipped to reach all areas of Pakistan (Population Council, 2016). One estimate suggests that when nearly 100,000 LHWs (who report to DoH) are included in the provider mix, PWD's 3,300 facilities (comprising Reproductive Health Services (RHS), Family Welfare Centers (FWCs), and Mobile Service Units (MSUs)) constitute together only 4% of the total service delivery points. While the Health and Population departments have similar functions, target populations, and outlets, often in the same geographic localities, the lack of effective coordination and at times even animosity (Nishtar and Amjad, 2009; Population Council, 2019) between the two departments lead to more problems, resource wastage and diluted efforts which Pakistan cannot afford. In the past, there have been discussions on a merger of the two with more recent efforts directed at emphasizing FP as a central (mandatory) component at all health outlets. More recently, CCI recommended the merging of the two departments. Ongoing advocacy efforts by UNFPA are to have a single PC 1 (Principal Component) document approved by the Planning Commission for the two departments to function as one.

Re-Aligning LHWs to their Primary Mandate – LHWs have been the cornerstone of FP programming in Pakistan and their focused approach is critical to achieving the National Task Force target for the next phase of CPR increase. Currently, LHWs are engaged in numerous preventive care activities including the polio campaigns. Re-focusing LHWs towards FP, deploying them in higher priority areas, mapping how much LHWs can reasonably accomplish along with increasing their autonomy for expanded service provision (such as first dose of injectables, emergency contraception) would all increase FP coverage and has been extensively discussed in the Universal Health Care package of services. In addition, remuneration for LHWs needs to be standardized across provinces to ensure equity, commitment and enthusiasm.

Prioritization and Transitioning into a New Role for the Public Sector - The health system in Pakistan has grown organically with three tiers of public sector facilities, namely basic health units (at the Union Council level)/Rural Health centers, Tehsil Health Centers or District Health Quarters (District: secondary level), and then large tertiary care facilities in provincial capitals. The private sector has stepped in where the public sector was unable to meet service demands, desired quality or affordable cost options.

Currently the public sector provides around 93% of all childhood vaccination but only around 20% of all outpatient visits (PSLM, 2015-16). The private sector is providing mostly curative care, mainly to those who can afford it. It would be useful to have breakdown of RH and FP care seeking visits but while data are available in the DHIS, the information remains largely unreported and unutilized for decision-making. The general assumption is that greater than 80% of all public sector Health and PWD visits are for maternal care seeking (Health Department communications).

Despite the public sector's progressively shrinking role in health care over time, there are niches where the public sector is a key or predominant provider. For example, the government is nearly the sole provider of childhood vaccination and the main provider of family planning services to the poorest quintile of the public, and this role needs to be strengthened.

Much of the Care is Curative - Much of healthcare in Pakistan is curative. The government is the predominant provider of preventive programmes and spends only around a third of its health budget on these programmes. Most of the rest of government funding and nearly all of private funding on healthcare – a collective 80% of all health expenditures - goes to curative care. Thus, much of the effort in health is spent treating medical conditions after they arise rather than on preventing them. According to the UNFPA-NIDI Resource Flows Survey for Family Planning in Pakistan 2018-2019 (Population Council and Population Center, 2020), 26.28 billion Pakistan Rupees (PKR) is spent on FP with 18.26 billion by the government, 5.2 billion by NGOs, 2.2 billion by private or social marketing organizations, and 0.4 billion by UN agencies. Per

capita expenditure overall is USD 0.7 with Gilgit-Baltistan and Sindh at the highest level (USD 1.4 and USD 1.2, respectively), Punjab and KPK each at USD 0.5, and Balochistan at USD 0.7. Interestingly, in the public sector, 66% of the costs covered staff salaries compared to 30% in the private sector, and public operational costs were 11% (compared to 29% in the private sector), and contraceptive commodities were 5% (compared to 13% in the private sector).

Lack of data - The issues of human resources for health in the public sector have received considerable deliberation but very little is known about the private sector and even accurate estimates of actual staffing (anecdotally there are close to 45% or more position vacancies) in the public sector. Given the small footprint of public sector services and even more limited ability to enforce any standards or rules, a key consideration is what role can (should) the government play in improving the quality of healthcare and indeed the quality of health of the citizens. In the post-devolution scenario, the Federal Ministry of Health through the Drug Regulatory Authority (DRAP) provides regulation services for drug licenses, pharmaceuticals, pharmacies, biological research, and laboratory quality, while the Pakistan Medical Commission (previously, Pakistan Medical and Dental Council - PMDC) provides registration and licensing of doctors and Pakistan Nursing Council for nurses. At the current time, even with the Provincial Health Care Commissions (recently established), we could find no well-functioning mechanism in place for regulation of health facilities, infrastructure, quality, skills or competencies measurement or refresher requirements, either in general or for RH and FP related services.

A number of key indicators remain unclear, particularly information about the quality of the care that is rendered, human resource distribution by facilities (particularly private), the actual quantification of time that each cadre of human resources puts in, and the volume of work that is produced. These unknowns beyond just FP limit the overall understanding of efficiency of the workforce and the costs of providing healthcare and ultimately impede appropriate planning to improve the quality and number of healthcare personnel needed in the country.

Task Shifting and Provider Mix - While RH and FP programming has shifted to a greater use of mid-level providers by task shifting and task sharing, the transition is still partial, with continuing doctor-centered services provision. For examples, injectables cannot be administered by LHWs, implants can only be inserted by doctors, though some provinces (Sindh and KPK) allow LHVs to administer implants. Task shifting lowers the costs of providing healthcare (McPake and Kwadwo, 2008) and allows a doctor to be used more efficiently, enabling access to healthcare services for those living in more remote locations. Review of provincial health policies does not indicate a clear shift toward task shifting and sharing at this time.

The Issue of Unlicensed Providers - It is readily apparent that an overwhelming majority of Pakistanis seeks care in the private sector. Approximately a third to half of these private providers are unlicensed and yet they meet a crucial need that is not being met by the licensed providers. From the perspective of RH services such as abortions (data from small studies and extrapolation from the national study in 2002 and 2012), it appears that a considerable number of unsafe and illegal abortions are being provided by non-licensed or mid-level providers. It is unclear why women/couples resort to abortion instead of using contraception. With weak regulations and quality standards (including risk of rent-seeking and bribery), the key concerns are how to ensure safety and quality while maintaining service provision that these providers render.

Other countries have dealt with this situation before. For example, in the UK, these providers were “brought into the fold” by developing courses and diplomas which built their capacity for delivering quality care and brought them up to certain standards. This would be essential, but a vast undertaking for Pakistan where perennial underfunding of health in the public sector is a major problem.

5.3 Sexual and Reproductive Health and Rights

The discourse on sexual and reproductive health and rights (SRHR) in Pakistan has predominantly focused (and still does) on FP services for married couples and there is little discussion on unmarried women, youth and adolescents - their needs, behaviours, practices and rights (Arrow, 2019; Awaz, 2018; Population Council, 2019). Most of SRHR services (in all provinces) are provided through health facilities with some linkages to outreach workers (through donors-supported NGO-implemented programmes) and to rural communities. Services for SRHR mainly include counseling and services on birth spacing and FP methods and myths, and post-abortion care when medically indicated, with little mention of menopause and sexuality. Costs for SRHR services and supplies are embedded within provincial health and population welfare programme budgets and the PC-1 (Planning Commission documents) or donor budgetary support mechanisms (such as USAID or UKaid/DFID programme support) to national and provincial governments or NGOs directly.

One considerable gap in SRHR is neglect of youth perspectives and early engagement of youth to understand their sexual and reproductive health and rights before the onset of puberty and marriage. Provincial population policies acknowledge a need to enhance young people's access to SRHR information and services. However, missing is the realization that "access" is influenced by the adolescents' social factors at individual, family, community level, by region and urban-rural place of residence and socio-economic inequities. To this end, existing placement of adolescent SRHR services – mainly as pilots - do not meet (or even recognize) the diversity of adolescents' circumstances and experiences, their care seeking as well as acceptance of services and information across a spectrum of early to late adolescence period and youth (UNFPA, 2015), including RH services for men and at risk groups such as sexual minorities and sex workers.

Ensuring that the package of services is available, accessible, and acceptable requires that it is relevant to different groups of adolescents (not just married adolescents), including marginalized sub-groups such as unmarried or those with disabilities, lesbian, gay, bisexual, transgender, intersex and other gender-diverse adolescents. A number of programmes and interventions focus on RH and FP such as i) traditional RH-FP services through large organizations such as Marie Stopes Society (MSS), Greenstar social marketing/PSI, Family Planning Association of Pakistan (FPAP)-Rahnuma, and DKT Pakistan which are implementing FP and maternal, new-born, and child health (MNCH) service delivery programmes clinics and outreach workers in Pakistan (most districts). Smaller initiatives are also being undertaken by a handful of NGOs. Common among all these interventions are service provision for young or newly married couples. Based on the CCI Task Force Recommendation 4 (Legislation for Premarital Counseling) and 6 (Life Skills Based Education), UNFPA with government partners is developing modules for pre-marital counseling.

What has not changed in the last five years is: (i) the low rate of modern contraceptive use among young couples, provider bias in counseling young couples (DFID, 2016), and ability to serve unmarried young people, ii) Pilot models of Adolescent Sexual and Reproductive Health/Newlywed Counselling and Service Provision Mechanism in Public Sector Facilities, but these are generally stand-alone and not connected to clinical services in hospital facilities, non-medical services and separated from actual FP service provision and have shown mixed results and low utilization numbers, and iii) the efforts to strengthen SRHR through capacity building of mid-level providers such as community midwives (CMWs), Lady Health Visitors (LHVs), nurse-midwives, and Family Welfare Workers (FWWs). These mid-level health professionals provide FP and skilled birthing services. With UNFPA support to provincial governments/Research Training Institutes, nearly 100,000 health professionals received in-service training on an integrated RH-FP curriculum and service delivery approach.

5.4 Maternal Health and Survival

The World Health Organization (WHO) defines maternal death as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. Direct maternal deaths are due to obstetric complications of the pregnant state (pregnancy, labor, and puerperium) from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above. Indirect maternal deaths are those resulting from a previously existing disease, or a disease that developed during pregnancy that was not due to direct obstetric causes, even when it was aggravated by the physiologic effects of pregnancy. Various methods and estimates are used by researchers to estimate maternal mortality ratio (MMR), defined as the number of maternal deaths per 100,000 livebirths.

WHO estimate for MMR in Pakistan, based on modelling, is 140 (80% confidence interval-CI: 85-229) per 100,000 live births in 2017, down from 191 (CI: 127-289) in 2010 (World Health Organization, 2019). The 2017 Pakistan MMR of 140 was much higher than that for Iran (16) and Sri Lanka (36), close to that for India (145), but lower than that for Bangladesh (173) and Nepal (186). However, the 2019 Pakistan Maternal Mortality Survey (PMMS), using the verbal autopsy method, gave a higher estimate for MMR at 186 per 100,000 live births for the three-year period preceding the survey (National Institute of Population Studies and ICF, 2020).

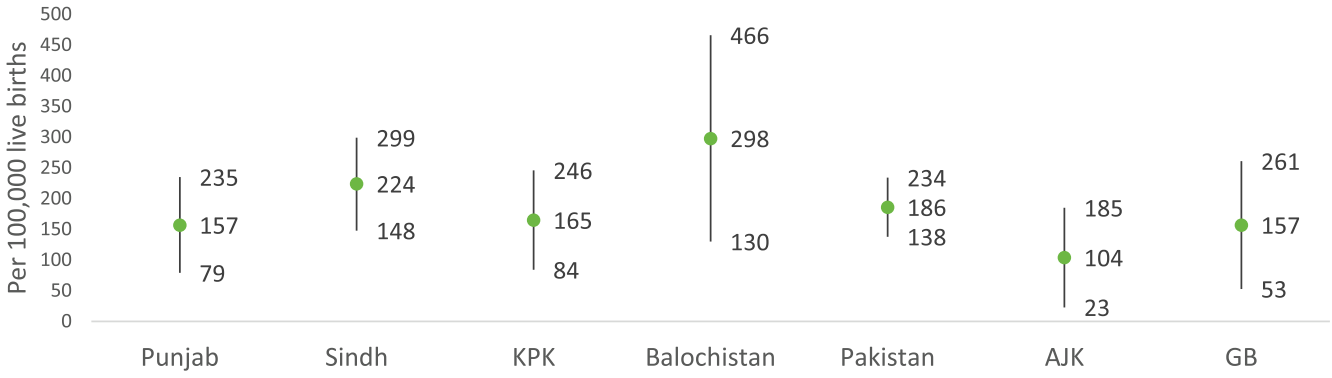
We describe results from the more reliable 2019 PMMS that provides nationally representative information on maternal health and mortality. Altogether 856 verbal autopsies were conducted from across Pakistan to collect information on women age 15-49 who died in the three years preceding the PMMS. PMMS estimated the MMR for the three year period preceding the survey as 186 (95% CI: 138-234) nationally (excluding Azad Jammu and Kashmir and Gilgit-Baltistan), 158 (CI: 91-225) for urban and 199 (CI: 136-263) for rural areas (Figure 5.1). Among the provinces, Balochistan had the highest MMR of 298 (CI: 130-466) and Punjab the lowest at 157 (CI: 79-235). These MMR estimates show that Pakistan has a long way to go to meet the SDG global target 3.1 and the commitment Pakistan made at the 2019 Nairobi Summit (ICPD25) for MMR of less than 70 per 100,000 live births by 2030. Ahmed et al. (2012) estimate that 40-42% of maternal deaths in Pakistan were averted by family planning. The increased use of modern contraceptives, along with antenatal and postnatal care and skilled birth attendance, can improve maternal health and survival.

Obstetric haemorrhage was the leading cause of maternal deaths (41%) in 2019, followed by hypertensive disorders in pregnancy, childbirth and the puerperium (29%). Spontaneous or induced abortions accounted for 10% while pregnancy-related infections for another 6% of maternal deaths. Four percent of maternal deaths were due to non-obstetric (indirect) complications. The proportion of maternal deaths due to pregnancy-related infections declined from 14% in 2006-07 to 6% in 2019. However, the proportion of maternal deaths because of hypertensive disorders increased from 10% in 2006-07 to 29% in 2019 and deaths due to obstetric haemorrhage from 33% in 2006-07 to 41% in 2019.

The 2019 PMMS collected information on pregnancy-related morbidities as reported by women during pregnancy, childbirth, and the postpartum period. Among women who have had one or more complications, 93% had these during last pregnancy, 34% during last delivery and 73% during the first 40 days after delivery. In addition, information was available on the percentage of last live births, stillbirths, miscarriages, or induced abortion in the three years preceding the survey for which a health care provider informed woman about complications at any time during pregnancy, during delivery, or within the first 40 days after delivery (Table 5.3). Overall, high blood pressure was the leading complication (14%), followed by problem associated with the position of baby (7%).

Figure 5.1

Maternal mortality ratio (MMR) with 95% confidence intervals, by region, 2019



Source: Pakistan Maternal Mortality Survey, 2019.
Total figures for Pakistan exclude Azad Jammu and Kashmir and Gilgit-Baltistan.
KPK=Khyber Pakhtunkhwa; AJK=Azad Jammu and Kashmir; GB=Gilgit-Baltistan

In Punjab, high blood pressure was a complication for 17% as compared to 7% in Balochistan. The three leading complications for which women sought treatment were: anaemia (27%), severe nausea and vomiting during the pregnancy (19%) and high blood pressure (15%).

Table 5.3

Percentage of last live births/stillbirths/miscarriages/abortions in the last 3 years for which women were informed by a healthcare provider about complications during pregnancy, delivery, or after delivery, by residence and region, 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab*	Sindh	Khyber Pakhtunkhwa **	Balochistan	Total***	Azad Jamu and Kashmir	Gilgit Baltistan
High blood pressure	*14.8*	*13.6*	*16.9*	*11.3*	*11.5*	*7.0*	*14.0*	*20.7*	*7.9*
Problems associated with the position of baby	*7.8*	*7.3*	*10.2*	*4.2*	*4.8*	*4.3*	*7.4*	*12.4*	*6.5*
Slow growth of baby inside the womb	*6.6*	*4.9*	*7.8*	*3.6*	*2.3*	*3.1*	*5.5*	*5.6*	*2.8*
Uterine prolapse	*4.2*	*4.3*	*4.1*	*3.7*	*4.8*	*5.7*	*4.3*	*5.8*	*6.6*
Jaundice and/or hepatitis	*2.8*	*3.0*	*3.2*	*3.3*	*1.7*	*3.4*	*2.9*	*2.2*	*1.2*
Problems associated with placenta	*3.0*	*2.7*	*3.8*	*2.7*	*1.2*	*0.6*	*2.8*	*3.6*	*2.1*
Blood deficiency	*3.0*	*2.7*	*4.4*	*1.7*	*0.7*	*0.0*	*2.8*	*0.5*	*0.0*
Postpartum infection/sepsis	*3.0*	*2.0*	*2.5*	*1.6*	*3.2*	*0.6*	*2.4*	*8.2*	*0.9*
Pneumonia	*0.4*	*0.5*	*0.7*	*0.2*	*0.4*	*0.4*	*0.5*	*2.5*	*0.9*
Embolism	*0.4*	*0.6*	*0.6*	*0.3*	*0.1*	*1.6*	*0.5*	*4.0*	*4.7*
Diabetes	*1.1*	*1.1*	*1.1*	*1.3*	*1.0*	*0.0*	*1.1*	*2.3*	*1.0*
Preeclampsia	*1.3*	*1.7*	*1.3*	*0.8*	*2.9*	*1.2*	*1.5*	*4.3*	*0.7*
Allergy	*0.8*	*1.7*	*2.1*	*0.3*	*1.0*	*0.0*	*1.4*	*0.6*	*0.3*
Low blood pressure	*1.0*	*1.0*	*1.2*	*1.1*	*0.7*	*0.0*	*1.0*	*0.4*	*0.1*
Weakness	*0.3*	*0.6*	*0.4*	*0.0*	*1.6*	*0.0*	*0.5*	*0.0*	*0.0*
Number of women	1,807	3,626	2,802	1,201	1,131	299	5,433	739	624

* Punjab includes ICT | ** Khyber Pakhtunkhwa includes the merged districts of former FATA.
*** Total excludes Azad Jammu and Kashmir and Gilgit Baltistan.
Source: Pakistan Maternal Mortality Survey 2019.

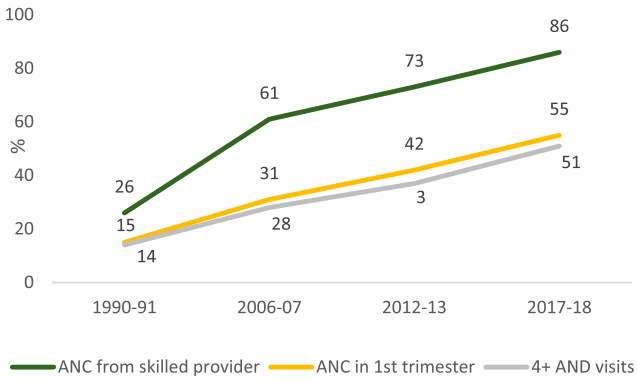
Antenatal Care during Pregnancy - Antenatal care (ANC) during pregnancy, delivery at health facility, skilled assistance with delivery and the postnatal care (PNC) are vital for both mother and the newborn. World Health Organization (WHO) revised its recommendations for the number and content of ANC visits. WHO recommended eight visits (increasing from the previous recommendation of four focused ANC visits) with the first visit to take place during the first trimester of gestation (World Health Organization, 2016b). Over the last 27 years, all ANC-related indicators improved in Pakistan though much more progress is still needed (Figure 5.2). Receiving ANC from a skilled provider increased by over three-fold from 26% in 1990-91 to 86% in 2017-18. ANC visit during the first trimester and 4+ visits during the pregnancy also improved. However, 45% of women still do not visit a facility for ANC during the first trimester and 49% have fewer than 4 ANC visits during the pregnancy. The percentage of women with 4+ ANC visits in both urban and rural areas are shown in Figure 5.3.

Institutional deliveries and skilled birth attendants - An important intervention to reduce maternal and newborn mortality and morbidity is to ensure that deliveries take place in health facilities under hygienic conditions and medical attention. Globally, the proportion of deliveries in health facilities is related to maternal and neonatal mortality levels. Pakistan has made progress in increasing the proportion of institutional deliveries, from 13% in 1990-91 to 66% in 2017-18 (Figure 5.4). Sindh had the highest proportion of institutional deliveries (72%) and Balochistan the lowest (35%) in 2017-18. All regions and urban-rural areas have made progress in improving the level of institutional deliveries, albeit at varying paces. The proportion of institutional deliveries in Pakistan is higher than in Nepal and Afghanistan, but lower than in India (Figure 5.5).

The proportion of births attended by skilled health personnel is one of the indicators for SDG 3. The proportion of births attended by skilled health personnel increased from a low of 18% in 1990-91 to 69% in 2017-18 (Figure 5.6). In urban areas, the level was 84% compared to 63% in rural areas. With 75% of births attended by skilled providers, Sindh is leading the way, closely followed by Punjab (71%). Balochistan lags behind with only 38% of births attended by health personnel. Further efforts to increase skilled birth attendance are being made by recruiting community midwives (CMWs) and conversion of Basic Health Units (BHUs) to provide 24-hour service seven days a week.

Figure 5.2

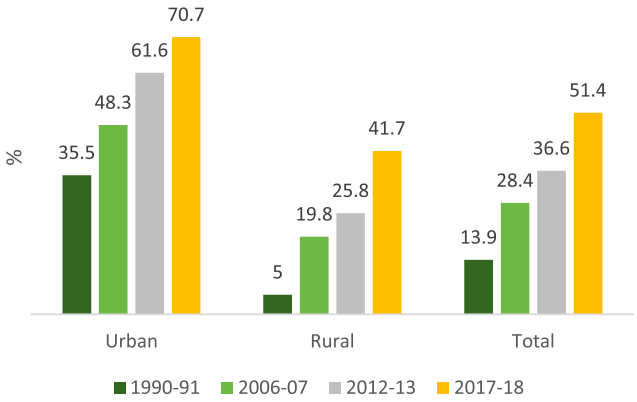
Percentage of women age 15-49 who had a live birth in the 5 years before the survey, (a) receiving any antenatal care from skilled providers, (b) had antenatal care in the first trimester, and (c) had 4+ antenatal care visits, 1990-91 to 2017-18



Source: National Institute of Population Studies and ICF, 2019.

Figure 5.3:

Percentage of women with 4+ antenatal visits for pregnancy, by place of residence and survey year

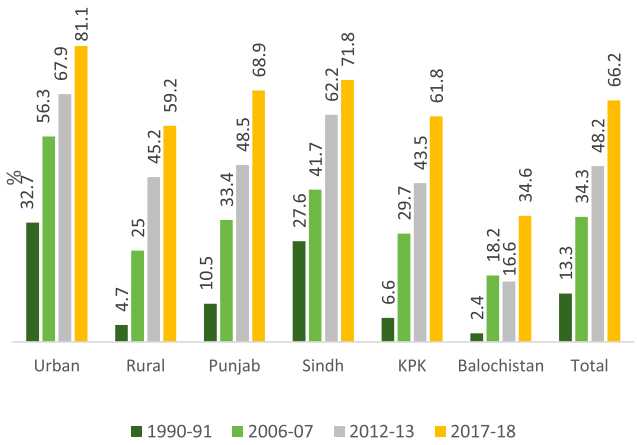


Source: National Institute of Population Studies and ICF, 2019.

Figure 5.7 shows that compared to India (81%), the proportion attended by a skilled provider is lower in Pakistan (69%), but higher than in Nepal (58%) or Afghanistan (51%).

Figure 5.4

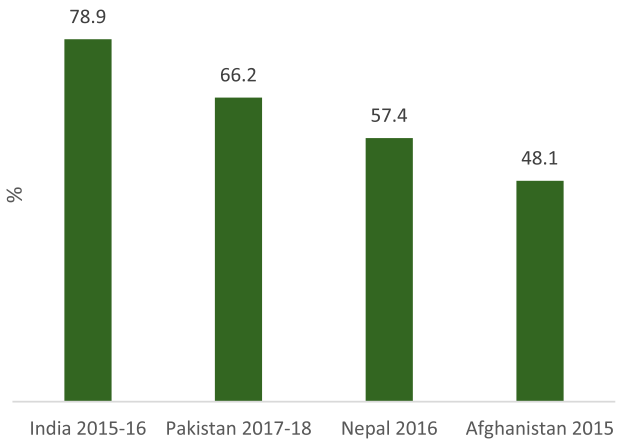
Percentage of live births in the 5 years before the survey delivered in health facility, by place and region of residence and survey year



Sources: Pakistan and Demographic Health Surveys 1990-91; 2006-2007; 2012-13; and 2017-18.

Figure 5.5

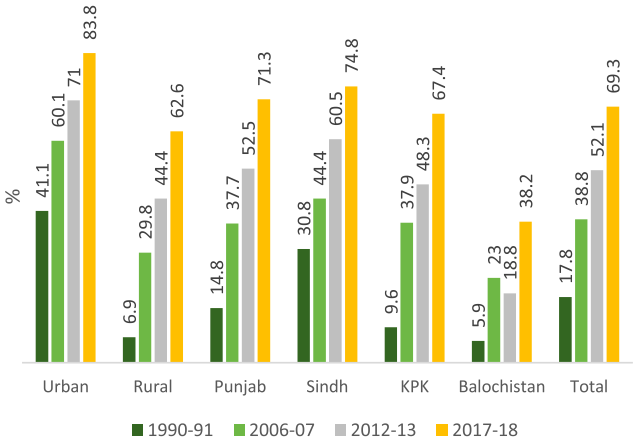
Percentage of live births in the five years preceding the survey delivered at a health facility, by country



Source: The DHS Program STATcompiler.

Figure 5.6

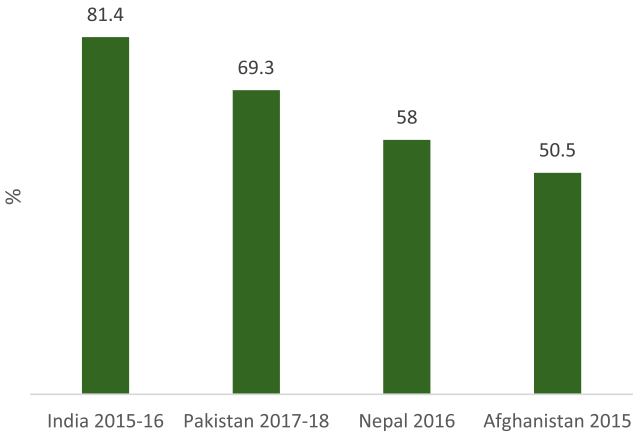
Percentage of live births in the 5 years before the survey assisted by skilled provider during delivery, by place and region of residence and survey year



Sources: Pakistan and Demographic Health Surveys 1990-91; 2006-2007; 2012-13; and 2017-18.

Figure 5.7

Percentage of live births in the 5 years before the survey assisted by skilled provider during delivery, by country



Source: The DHS Program STAT compiler.

Postnatal care - Timely postnatal counselling and checkup is critical in dealing with any complications such as postpartum haemorrhage and caring for the mother and the newborn as well as for provision of information on family planning. Most maternal and infant deaths occur within the first 24 hours and most deaths among the newborns occur during the first seven days. WHO recommends that women and their newborns stay at a health facility for 24

hours and have at least four checkup visits during the first six weeks (World Health Organization, 2015). Among women giving birth in the 2 years preceding the survey, 62% had the first postnatal checkup visit during the first two days after delivery (Figure 5.8). The percentage increased from 2006-07, but modestly rose between 2012-13 and 2017-18. Sindh and Punjab had higher proportions of mothers visiting for the first checkup within two days following delivery than Balochistan and KPK.

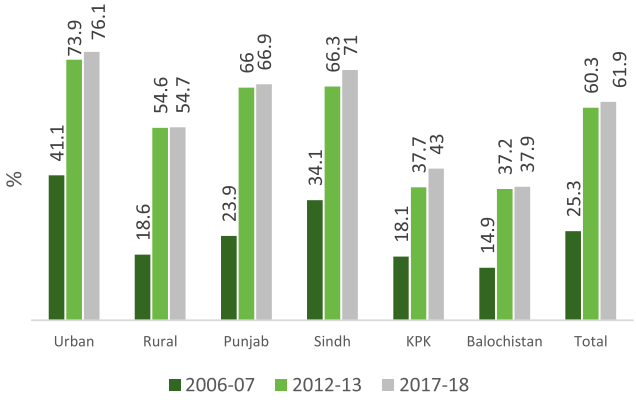
First postnatal checkup for the newborn within two days of birth increased from 43% in 2012-13 to 64% in 2017-18 (Figure 5.9). As for the postnatal checkup for the mother, the proportions of births for first medical checkup was higher in Sindh and Punjab and lower in KPK and Balochistan.

Stillbirths - UN Inter-agency Group for Child Mortality Estimation recently provided estimates of the number and rates of stillbirths (pregnancy loss at 28 weeks or later gestational period) globally and by region and country (UNICEF et al., 2020). The stillbirth rate in Pakistan declined by 23.2% from 39.9 (90% CI: 31.1-51.7) in 2000 to 30.6 (90%CI: 24.9-37.8) per 1,000 total births in 2019. Although declining, the estimated level places Pakistan amongst countries with high stillbirth rates. In 2019, Pakistan's stillbirth rate was higher than that for Bangladesh (24.3 per 1,000), Iran (6.8 per 1,000), Nepal (17.5 per 1,000) and Sri Lanka (5.8 per 1,000 total births). The number of stillbirths estimated for 2019 were 190,483 with the lower bound of 159,505 and the upper bound of 228,681 (UNICEF et al. 2020). Another study covering Matiari District in Sindh and Karachi estimated a stillbirth rate of 42.8 (95% CI 40.5-45.2) per 1,000 births in the former and 37.8 (95% confidence interval 35.0-40.6) in the latter (IMANHI, 2016). Yet, another study estimated that Pakistan had the highest stillbirth rate of 43.1 per 1,000 births (Blencowe et al, 2016). PDHS 2017-18 indicates the percentage of pregnancies that ended in stillbirths (Figure 5.10). Around 2% of pregnancies in the 5 years preceding the survey ended in stillbirth for most regions and overall, with the highest proportion of 3% in Balochistan. PMMS 2019 indicates that 3% of all pregnancies in the three years preceding the survey ended in stillbirths.

Over 40% of stillbirths occur during labor and most of these are entirely preventable with quality care during pregnancy and birth, preventive interventions, and timely access to emergency obstetric care (UNICEF et al, 2020). Stillbirths, pre-term births and neonatal mortality are sensitive indicators of the quality of care as well as of the poor health and nutrition of mother.

Figure 5.8

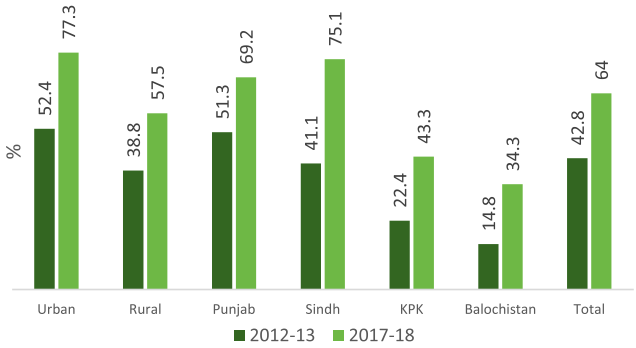
Among women giving birth in the 2 years preceding the survey, percent distribution of the mother's first postnatal check for the most recent live birth during the first 2 days after birth, by place and region, 2006-07 to 2017-18



Sources: Pakistan and Demographic Health Surveys 2006-2007; 2012-13; and 2017-18.

Figure 5.9

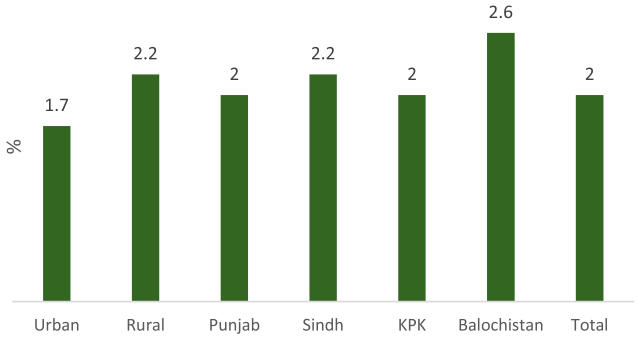
Percent distribution of most recent live births in the 2 years preceding the survey with a postnatal check during the first 2 days after birth, by place and province, 2012-13 to 2017-2018



Sources: Pakistan and Demographic Health Survey 2012-13 and 2017-18.

Figure 5.10

Percent distribution of pregnancies in the 5 years preceding the survey that ended in stillbirth, 2017-18.



Source: Pakistan Demographic and Health Survey 2017-2018

Fistula - Obstetric fistula is generally caused by prolonged obstetric labor not attended by timely obstetric care. It causes the constant and uncontrollable leaking of urine or feces. However, with proper treatment, fistula can be fully repaired. Fistula is associated with social stigma and life-threatening complications for women. Yet, there are few hospitals and doctors that treat or repair fistula in Pakistan. There is only one specialized fistula center, Koohi Goth Hospital, located in Karachi to manage complicated cases. Women have to travel long distances and wait for long time to get treatment.

No recent national estimates of the incidence or prevalence of fistula were found. Fistula Foundation (n.d.) refers to a study supported by UNFPA that estimated approximately 3,500 women each year falling victim to obstetric fistula. An estimated 5,000 to 6,000 women develop obstetric fistula each year, but do not report or seek treatment. Some information on fistula and other reproductive conditions are found for Punjab in Women's Social and Economic Well-being Survey conducted in 2018. Table 5.4 shows the percentage of ever-married women age 15-64 suffering from fistula, by background characteristics. Overall, 3% of women suffer from fistula in Punjab, with women in rural areas, women with no education and poorest women suffering more than their counterparts in other education and income groups. It is noteworthy that one in two women suffering fistula in Punjab did not receive treatment, with women in the poorest quintile being the least likely to receive it.

Table 5.4

Percentage of ever-married women age 15-64 suffering from Fistula, how problem started and percentage receiving treatment, Punjab

	Percentage of ever married women aged 15-64 years suffering from fistula	Number of ever married women	Region How did the problem start			Received Treatment
			After difficult childbirth	After rape/ sexual assault	Other	
Area of residence						
Punjab	*2.9*	*22,398*	*82.8*	*15.2*	*1.9*	*48.8*
Rural	*3.4*	*13,921*	*85.3*	*12.5*	*2.2*	*47.6*
All Urban	*2.1*	*8,477*	*76.3*	*22.4*	*1.3*	*52.0*
Age						
15-19	*1.6*	*432*	*77.8*	*15.5*	*6.7*	*84.5*

20-24	*1.7*	*2,008*	*78.2*	*16.0*	*5.8*	*48.9*
25-29	*2.5*	*3,549*	*80.8*	*16.7*	*2.4*	*45.9*
30-34	*3.2*	*3,950*	*80.8*	*18.3*	*0.9*	*35.9*
35-39	*3.1*	*4,169*	*84.9*	*13.4*	*1.7*	*50.7*
40-44	*3.6*	*2,746*	*77.6*	*21.3*	*1.0*	*46.1*
45-49	*3.2*	*2,058*	*82.7*	*15.1*	*2.2*	*58.4*
50-54	*2.0*	*1,630*	*86.2*	*10.2*	*3.6*	*53.6*
55-59	*3.4*	*1,020*	*97.8*	*1.8*	*0.4*	*65.2*
60-64	*3.3*	*837*	*92.0*	*5.3*	*2.7*	*59.4*
Education						
None/pre-school	*3.2*	*12,203*	*85.8*	*12.8*	*1.3*	*46.1*
Primary	*2.9*	*3,335*	*80.3*	*15.8*	*3.9*	*53.6*
Middle	*2.7*	*1,897*	*78.9*	*20.2*	*1.0*	*60.0*
Secondary	*2.3*	*2,542*	*74.7*	*20.1*	*5.1*	*45.1*
Higher	*1.8*	*2,421*	*76.9*	*23.1*	*0.0*	*54.4*
Employment Status						
Employed	*3.2*	*7,479*	*83.4*	*16.0*	*0.6*	*39.9*
Unemployed	*4.0*	*903*	*71.1*	*22.4*	*6.5*	*64.8*
Inactive	*2.6*	*14,017*	*83.6*	*14.0*	*2.4*	*53.1*
Wealth Quintiles						
Poorest	*3.7*	*4,649*	*85.4*	*13.7*	*0.9*	*38.9*
Poorer	*3.1*	*4,450*	*81.9*	*15.1*	*3.1*	*47.4*
Middle	*2.9*	*4,435*	*83.5*	*14.5*	*2.0*	*52.3*
Richer	*2.4*	*4,411*	*85.9*	*11.6*	*2.6*	*52.1*
Richest	*2.3*	*4,453*	*75.9*	*22.6*	*1.5*	*59.5*

Nutritional status of women - Among women in the reproductive age of 15-49, the percentage overweight and obese is increasing. However, 2018 National Nutrition Survey (UNICEF, 2019) indicates that 14% are undernourished (body mass index – BMI bellow 18.5). The provincial/regional distribution of women by nutritional status is shown in Table 5.5.

Among women age 15-49 in 2018, 1.0% had severe anaemia (<7gm/dL) and 41.7% had moderate anaemia (7-11.99gm/dL) while the remaining 57.3% were normal. The proportions of women with severe and moderate anaemia declined from 1.6% and 48.9% in 2011, respectively.

Table 5.5

Percentage of women by nutritional status and province, 2018

	Underweight (BMI <18.5)	Normal (BMI 18.5-24.9)	Overweight (BMI >25)
Punjab	*12.1%*	*45.4%*	*40.6%*
Sindh	*22.6%*	*46.2%*	*30.0%*
KPK	*8.3%*	*46.7%*	*43.2%*
Balochistan	*14.5%*	*48.7%*	*34.1%*

Source: National Nutrition Survey 2018.

5.5 Family Planning

FP programming in Pakistan has been predominantly supply-sided, and has been driven by donors, government and NGOs; although some later experiences suggest that client-driven and rights-based FP has started to gain ground, driven by people's aspirations and economic necessity (Sathar and Casterline, 1998). With an extensive network of three tier health facilities (Health and Population Welfare combined) nationwide and multiple cadres of health providers including outreach workers in rural areas who promote, counsel and provide FP services together with high levels of FP knowledge among women and couples, it seems that "demand" more than supply side is the challenge.

There are several socio-cultural, administrative and institutional factors that also undermine supply side reach, for example, not all health facilities (public or private sector) provide FP services or have methods available leading to lost opportunities; provider biases that discourage young couples from using longer-term FP methods (Oxford Policy Management, 2009) mirroring social norms that FP use is generally initiated after the third or fourth child; duplication of services; and ambiguity of roles between Health and Population Welfare Departments with underutilization of over 15,000 fixed facilities leading to high fixed costs and low yields. Understanding the gap between demand actualization and addressing institutional factors could possibly help direct FP programming better.

Pakistan's national contraceptive prevalence rate (CPR) increased from 29.6% in 2007 (PDHS, 2006-07) to 35.4% in 2012 (PDHS, 2012-13) and then declined slightly to 34.2% in 2017-18 (PDHS, 2017-18), although the change since 2012 is not statistically significant. Furthermore, there is considerable interregional variation in 2017-18, from 46% in Islamabad, 38% in Punjab to 20% in Balochistan (Table 5.6). More importantly, CPR for modern methods (mCPR) increased only slightly from 22% in 2007 to 25% in 2012 but has remained unchanged thereafter.

This prevalence corresponds to an increase from 6.98 million FP users in 2006-07, to 10.42 million in 2012-13 and 11.36 million in 2017-18. In 2017 out of approximately 33 million married couples, there were approximately 8.9 million users of a modern method and of these 4.9 million had received their method in the past one year, indicating that the services footprints of both public and private providers/facilities are very small (15% utilization of services in a given year).

Table 5.6

Percentage of married women currently Using Contraceptives by background characteristics, 2017-18

Background characteristics	Any method	Any modern method	Modern method							Traditional method						Not currently using	Number of women
			Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	LAM	Other	Any traditional method	Rhythm	Withdrawal	Other		
Number of living children																	
0	0.7	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.4	0.0	99.3	1,679
1-2	24.8	16.9	1.4	0.0	1.1	0.8	1.9	0.3	11.3	0.1	0.0	7.9	1.0	6.8	0.1	75.2	3,668
3-4	46.4	33.8	13.0	0.0	2.2	3.3	2.8	0.6	11.7	0.3	0.0	12.5	1.4	11.0	0.1	53.6	3,681
5+	50.5	38.8	18.0	0.2	2.6	3.7	4.4	0.7	8.7	0.3	0.1	11.7	1.2	10.2	0.2	49.5	2,803
Residence																	
Urban	42.5	28.8	9.7	0.1	1.5	2.2	1.6	0.4	12.8	0.2	0.1	13.7	1.3	12.3	0.1	57.5	4,350
Rural	29.4	22.8	8.2	0.0	1.7	2.1	3.0	0.4	7.1	0.2	0.0	6.5	0.9	5.6	0.1	70.6	7,481
Education																	
No education	28.6	21.6	9.5	0.1	1.8	1.7	3.2	0.6	4.4	0.2	0.0	7.0	0.9	6.1	0.1	71.4	5,773
Primary	37.0	28.2	10.0	0.0	1.5	3.0	2.6	0.2	10.6	0.2	0.2	8.7	1.1	7.4	0.3	63.0	1,947
Middle	35.2	24.0	7.5	0.0	1.2	1.8	1.7	0.1	11.6	0.1	0.0	11.2	1.2	10.0	0.0	64.8	1,105
Secondary	41.3	29.6	7.5	0.1	1.6	3.0	1.8	0.3	15.2	0.0	0.0	11.6	1.3	10.2	0.2	58.7	1,428
Higher	44.0	30.2	6.5	0.0	1.7	2.2	0.9	0.4	18.2	0.2	0.1	13.8	1.2	12.5	0.0	56.0	1,579
Wealth quintile																	
Lowest	20.1	17.1	7.2	0.0	1.8	1.4	3.5	1.0	2.0	0.2	0.0	3.0	0.5	2.4	0.2	79.9	2,155
Second	29.0	22.6	9.2	0.0	1.3	2.1	3.6	0.5	5.7	0.1	0.0	6.4	0.9	5.5	0.0	71.0	2,298
Middle	36.7	26.9	9.1	0.2	2.0	2.5	3.2	0.4	9.3	0.3	0.0	9.8	1.0	8.6	0.1	63.3	2,407
Fourth	38.4	27.6	9.1	0.0	1.2	2.3	1.7	0.3	12.7	0.2	0.2	10.8	1.3	9.5	0.0	61.6	2,475
Highest	44.5	29.7	9.1	0.1	2.0	2.3	0.7	0.2	15.2	0.1	0.0	14.8	1.4	13.3	0.1	55.5	2,496
Punjab	38.3	27.2	10.5	0.1	1.0	2.9	1.6	0.2	10.6	0.2	0.1	11.1	1.3	9.7	0.1	61.7	6,277
Urban	45.9	30.2	11.0	0.1	1.1	2.9	0.9	0.2	13.8	0.1	0.2	15.7	1.3	14.2	0.1	54.1	2,283
Rural	33.9	25.4	10.3	0.1	0.9	2.9	1.9	0.3	8.8	0.3	0.0	8.5	1.3	7.1	0.1	66.1	3,994
Sindh	30.9	24.4	10.0	0.0	2.3	1.2	2.7	1.3	6.8	0.2	0.0	6.5	1.1	5.4	0.1	69.1	2,750
Urban	39.3	28.0	10.1	0.0	1.9	1.1	2.0	1.0	11.4	0.4	0.1	11.4	1.5	9.7	0.1	60.7	1,464
Rural	21.4	20.4	9.7	0.0	2.9	1.2	3.4	1.6	1.5	0.0	0.0	1.0	0.5	0.4	0.1	78.6	1,286
Khyber																	
Pakhtunkhwa	30.9	23.2	4.0	0.0	2.3	1.7	5.3	0.1	9.6	0.0	0.0	7.7	0.3	7.2	0.2	69.1	1,846
Urban	42.0	27.5	3.7	0.1	1.9	3.2	4.0	0.1	14.4	0.0	0.1	14.5	0.9	13.5	0.1	58.0	356
Rural	28.2	22.1	4.1	0.0	2.4	1.4	5.7	0.1	8.5	0.0	0.0	6.1	0.2	5.7	0.2	71.8	1,490
Balochistan																	
Urban	25.3	18.8	3.5	0.0	3.7	0.2	3.1	0.1	8.0	0.2	0.0	6.5	0.6	5.8	0.1	74.7	181
Rural	17.6	12.1	1.9	0.0	2.4	0.7	2.0	0.1	4.4	0.5	0.0	5.6	0.1	5.3	0.1	82.4	446
ICT Islamabad	45.7	34.7	9.3	0.2	1.5	3.6	0.8	0.4	18.7	0.3	0.0	11.0	2.9	8.1	0.0	54.3	103
FATA	21.8	13.7	1.0	0.0	4.3	0.6	4.8	0.0	2.9	0.0	0.0	8.1	0.0	8.1	0.0	78.2	229
Azad Jammu and Kashmir	27.6	19.1	6.2	0.0	0.4	2.0	2.5	0.3	7.6	0.1	0.0	8.5	1.2	7.3	0.0	72.4	1,648
Urban	35.2	23.6	7.0	0.0	0.2	2.1	2.5	0.3	11.2	0.2	0.2	11.6	2.1	9.5	0.0	64.8	278
Rural	26.1	18.2	6.0	0.0	0.5	1.9	2.5	0.3	6.8	0.1	0.0	7.9	1.1	6.8	0.0	73.9	1,370
Gilgit Baltistan	39.0	30.2	4.5	0.4	4.2	7.6	9.1	0.1	4.3	0.0	0.0	8.8	1.3	7.2	0.3	61.0	958
TOTAL	34.2	25.0	8.8	0.1	1.7	2.1	2.5	0.4	9.2	0.2	0.0	9.2	1.0	8.0	0.1	65.8	11,831

Source: National Institute of Population Studies and ICF, 2019.

Table 5.7

Percentage of currently married women, by age and type of method using at time of PDHS 2017-2018

Age	Any method	Any modern method	Modern method									Traditional method				Not currently using	Total	Number of Women in sample
			Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	LAM	Other	Any traditional method	Rhythm	Withdrawal	Other			
Ever-Married Women																		
15-19	7.3	5.8	0.0	0.0	0.5	0.3	1.8	0.3	3.0	0.0	0.0	1.5	0.0	1.4	0.0	92.7	100.0	600
20-24	18.0	13.1	0.2	0.0	1.3	0.8	2.1	0.5	7.9	0.3	0.0	4.9	0.6	4.3	0.0	82.0	100.0	1,889
25-29	27.8	20.5	3.3	0.0	1.7	1.9	2.5	0.5	10.5	0.1	0.0	7.3	1.0	6.1	0.2	72.2	100.0	2,548
30-34	41.1	29.4	8.3	0.0	2.4	3.2	3.1	0.6	11.6	0.2	0.0	11.7	1.3	10.2	0.2	58.9	100.0	2,413
35-39	42.2	31.4	12.6	0.1	1.6	3.2	2.5	0.3	10.7	0.2	0.2	10.8	0.8	9.9	0.0	57.8	100.0	2,163
40-44	44.7	34.0	20.3	0.1	1.5	2.0	2.1	0.6	7.3	0.0	0.1	10.7	1.2	9.4	0.1	55.3	100.0	1,437
45-49	34.6	24.9	17.8	0.2	1.1	1.0	1.6	0.0	3.3	0.0	0.0	9.7	1.4	8.2	0.1	65.4	100.0	1,316
Total	33.1	24.3	8.8	0.0	1.6	2.1	2.4	0.4	8.8	0.2	0.0	8.8	1.0	7.7	0.1	66.9	100.0	12,364
Wealth quintile																		
15-19	7.4	5.9	0.0	0.0	0.5	0.3	1.8	0.3	3.0	0.0	0.0	1.5	0.0	1.5	0.0	92.6	100.0	592
20-24	18.3	13.4	0.2	0.0	1.3	0.8	2.2	0.5	8.0	0.3	0.0	5.0	0.6	4.3	0.0	81.7	100.0	1,855
25-29	28.4	20.9	3.4	0.0	1.7	2.0	2.5	0.5	10.7	0.2	0.0	7.5	1.0	6.3	0.2	71.6	100.0	2,494
30-34	42.1	30.1	8.4	0.0	2.5	3.3	3.2	0.6	12.0	0.3	0.0	12.0	1.3	10.5	0.2	57.9	100.0	2,344
35-39	44.1	32.7	12.7	0.1	1.7	3.4	2.7	0.3	11.3	0.3	0.2	11.4	0.9	10.5	0.1	55.9	100.0	2,043
40-44	47.7	36.0	21.2	0.1	1.6	2.1	2.3	0.7	7.9	0.0	0.1	11.6	1.3	10.2	0.1	52.3	100.0	1,323
45-49	36.6	25.8	17.9	0.2	1.2	1.1	1.8	0.0	3.7	0.0	0.0	10.8	1.6	9.2	0.1	63.4	100.0	1,180
Total	34.2	25.0	8.8	0.1	1.7	2.1	2.5	0.4	9.2	0.2	0.0	9.2	1.0	8.0	0.1	65.8	100.0	11,831

Among married adolescents and young women age 15-19 and 20-24, only 7% and 18% were using contraception in 2017-18 (Table 5.7). Contraceptive use among married women of ages 15 to 29 rises with age, is higher with higher educational attainment and wealth, and varies by region of residence. The proportion of young married women using modern contraceptive methods increased in 2012-13 compared to 2006-07, however, there was a slight stagnation or decrease in use of modern contraceptives between 2012-13 and 2017-2018 for all age groups.

An important opportunity for increasing CPR is to provide voluntary and informed FP services to those who have a realized demand for FP but are not yet using it. If we look at the demand for FP, i.e., unmet need[29] plus those using FP, 52% of women have a demand for FP (Figure 5.11 and Table 5.8) and this ranges from 25% to 49% among married women age 15-29 years with unmet need at 17%-20% vs the actual mCPR of 25%.

Research is needed on why, despite the widespread knowledge, availability and demand for FP, the contraceptive prevalence rate has remained static and unmet need has declined. There are a number of other variables that can be considered to reflect static contraceptive prevalence. The conventional measure only considers whether the couple is using a method, not whether the method is the ideal one in their circumstances. Another measure of unmet

Table 5.8

Unmet Need and Demand for family planning, by background characteristics, 2017-18

Background characteristic	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning[1]			Number of women	Percentage of demand satisfied[2]	Percentage of demand satisfied by modern methods[3]
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total			
Age												
15-19	16.8	1.2	17.9	6.5	0.9	7.4	23.3	2.1	25.3	592	29.2	23.3
20-24	16.7	1.9	18.6	14.0	4.3	18.3	30.7	6.2	36.9	1,855	49.7	36.2
25-29	14.5	5.8	20.4	14.7	13.7	28.4	29.2	19.6	48.8	2,494	58.2	42.9
30-34	9.8	10.5	20.3	11.3	30.8	42.1	21.1	41.4	62.4	2,344	67.5	48.3
35-39	4.7	12.2	16.9	6.3	37.8	44.1	11.0	50.0	61.0	2,043	72.3	53.5
40-44	1.3	9.7	10.9	1.1	46.6	47.7	2.3	56.3	58.6	1,323	81.3	61.5
45-49	0.9	9.6	10.5	0.2	36.4	36.6	1.1	46.0	47.1	1,180	77.7	54.8
Residence												
Urban	8.5	6.4	14.8	11.4	31.0	42.5	19.9	37.4	57.3	4,350	74.2	50.2
Rural	10.1	8.7	18.8	7.7	21.6	29.4	17.8	30.3	48.1	7,481	61.0	47.5
Education												
No education	9.8	9.6	19.3	5.4	23.2	28.6	15.1	32.8	47.9	5,773	59.7	45.0
Primary	7.7	6.7	14.4	9.3	27.7	37.0	16.9	34.4	51.3	1,947	72.0	55.0
Middle	10.5	8.2	18.7	10.9	24.3	35.2	21.4	32.5	53.9	1,105	65.3	44.4
Secondary	9.0	5.7	14.7	14.2	27.1	41.3	23.3	32.7	56.0	1,428	73.7	52.9
Higher	10.5	4.5	15.0	16.5	27.5	44.0	27.0	32.0	59.0	1,579	74.6	51.3
Wealth quintile												
Lowest	12.1	10.4	22.5	4.4	15.7	20.1	16.5	26.2	42.7	2,155	47.2	40.1
Second	9.4	9.8	19.2	5.6	23.3	29.0	15.0	33.1	48.1	2,298	60.2	46.9
Middle	9.4	8.2	17.5	9.8	26.9	36.7	19.2	35.0	54.2	2,407	67.7	49.6
Fourth	8.5	6.0	14.5	11.2	27.2	38.4	19.7	33.2	52.9	2,475	72.6	52.2
Highest	8.4	5.3	13.7	13.5	31.0	44.5	21.9	36.3	58.2	2,496	76.5	51.1
Region												
Punjab	7.6	8.2	15.8	9.9	28.3	38.3	17.6	36.5	54.0	6,277	70.8	50.3
Urban	7.5	7.2	14.7	12.2	33.7	45.9	19.6	41.0	60.6	2,283	75.8	49.9
Rural	7.7	8.7	16.4	8.7	25.2	33.9	16.4	33.9	50.3	3,994	67.4	50.6
Sindh	11.3	6.4	17.7	7.9	23.0	30.9	19.2	29.4	48.6	2,750	63.6	50.2
Urban	9.3	4.4	13.7	10.5	28.8	39.3	19.8	33.2	53.0	1,464	74.2	52.7
Rural	13.6	8.7	22.3	4.9	16.4	21.4	18.5	25.1	43.6	1,286	49.0	46.7
Khyber Pakhtunkhwa	11.4	9.1	20.5	8.7	22.2	30.9	20.1	31.3	51.4	1,846	60.1	45.1
Urban	7.9	7.6	15.6	11.3	30.6	42.0	19.3	38.3	57.5	356	72.9	47.8
Rural	12.3	9.5	21.7	8.0	20.2	28.2	20.3	29.6	49.9	1,490	56.5	44.3
Balochistan	13.7	7.9	21.6	6.7	13.1	19.8	20.5	21.0	41.5	627	47.9	33.8
Urban	15.6	8.1	23.7	9.7	15.5	25.3	25.4	23.6	49.0	181	51.5	38.3
Rural	13.0	7.8	20.8	5.5	12.1	17.6	18.5	19.9	38.4	446	46.0	31.5
ICT Islamabad	7.7	9.6	17.3	10.0	35.6	45.7	17.7	45.2	62.9	103	72.6	55.1
FATA	13.0	4.0	17.0	8.9	12.9	21.8	21.9	16.9	38.8	229	56.1	35.3
Total[4]	9.5	7.8	17.3	9.1	25.1	34.2	18.6	32.9	51.5	11,831	66.4	48.6
Azad Jammu and Kashmir	8.7	13.3	21.9	6.2	21.4	27.6	14.9	34.7	49.6	1,648	55.7	38.5
Urban	6.4	11.5	17.8	8.8	26.5	35.2	15.1	37.9	53.1	278	66.4	44.5
Rural	9.1	13.6	22.8	5.7	20.4	26.1	14.9	34.0	48.8	1,370	53.4	37.2
Gilgit Baltistan	16.1	9.9	26.0	10.3	28.6	39.0	26.5	38.5	65.0	958	60.0	46.4

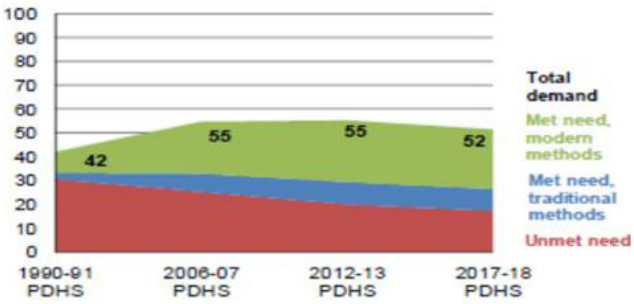
Source: National Institute of Population Studies and ICF, 2019.

[29] Defined as women who are not pregnant and want to delay pregnancy for 2 or more years or stop childbearing and are not using contraceptives.

need would take into account those couples who are using a method that is less than ideal in their circumstances because they were not able to avail themselves of a more suitable method (again reflecting inadequacy of services and method mix availability). This inability to access a more suitable method could result from a number of factors: for example, (1) they had no knowledge of suitable alternative methods; (2) they had knowledge but no access to the method(s), because of lack of service points to which they had ready access, or because the method was not available at the service points; (3) they could have had access but were deterred from using these methods by misinformation, side effects that were not countered by accurate information provided by health workers or others; and/or 4) they could not afford the cost of these methods. It is possible that focusing interventions and widening method mix to meet the needs of these couples could potentially give Pakistan's mCPR a rapid boost towards 50% as envisaged in the national narrative and Task Force recommendations. Pre-intervention action research needs to be undertaken to understand which factors influence unmet need in different contexts.

Figure 5.11

Total demand, met need of modern methods, met need of traditional methods and unmet need, 1990-91 to 2017-18.

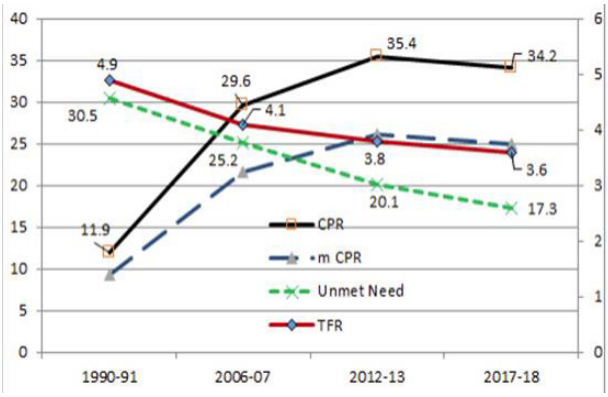


Source: PDHS 1990-2017 Unmet Need Data

Examining the trends of contraceptive prevalence rates and fertility levels presented in Chapter 4 for Pakistan between 1990-91 and 2017-18, that are demonstrated in Figure 5.12, the relationship between the two indicators varied overtime. The earlier trends during the period between 1990-2006 are in the expected direction: a substantial rise in contraceptive prevalence was matched by a substantial decline in fertility level. This is clearly consistent with the results of a study (Bongaarts, 2014) about the relationship between the two measures, based on multi-country data, indicating that a 10 percent increase in CPR is associated with a decline of 0.53 in the TFR, which if adapted to the case of Pakistan between 1990-1991 and 2012-2013, a 22 percentage point increase in CPR should have brought the TFR down by about 1.2 child. This is almost exactly what materialized, where the TFR declined from 4.9 to about 3.8 children per woman over the period. The same expected trend also held for the period between 2006-07 to 2012-2013, where contraceptive prevalence slowly increased, and fertility level continued to decline. An inconsistent relationship, however, is observed for the period 2012-13 and 2017-18 when the contraceptive prevalence, especially of modern methods, slightly declined while at the same time fertility declined slowly. This trend is harder to explain. Could the "elephant in the room" be induced abortion? When both the contraceptive prevalence and fertility rates are declining, as was the case in Pakistan between 2012-13 and 2017-18, it is likely that induced abortion was playing a role. The PDHS does not provide information about the prevalence of induced abortion, but some trends can be measured from the Population Council studies in 2002 and 2012 (Sathar, Singh and Fikree, 2007; Sathar Z, et al., 2014), to be discussed in Section 5.6.

Figure 5.12

Total Fertility rate (TFR), contraceptive prevalence rate (CPR), prevalence of modern contraceptives (mCPR) and unmet need for contraceptives



Source: PDHS 1990-2017 data trends

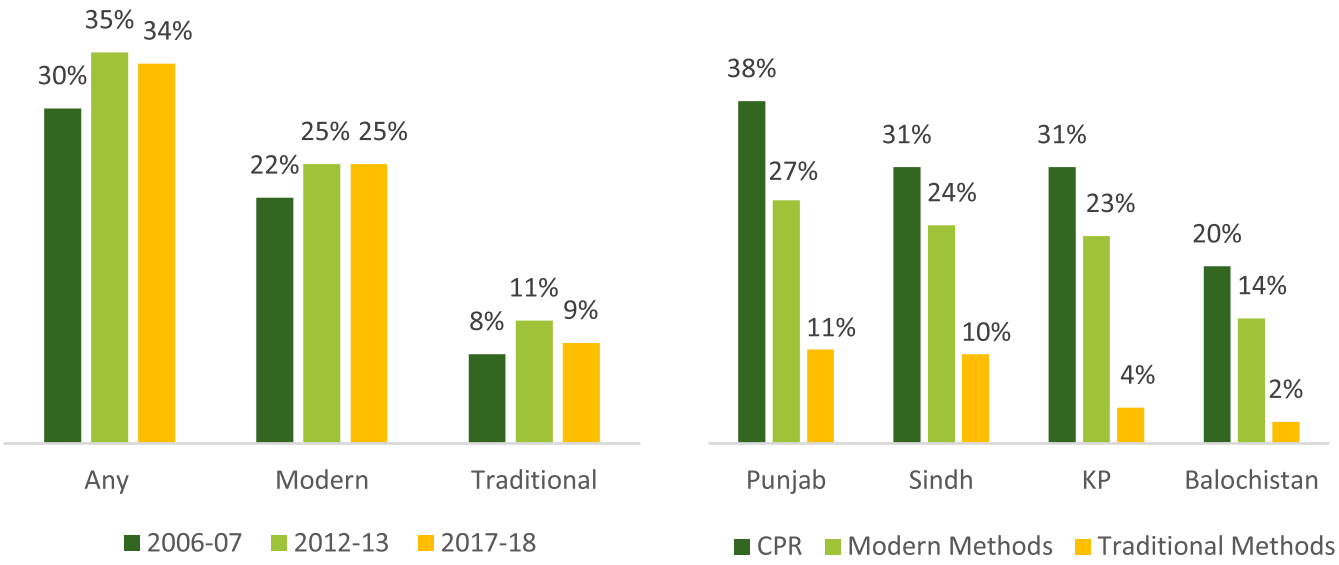
Birth Spacing - Birth spacing for two years or more reduces fertility and can save women's and children's lives. WHO recommends a birth interval of 33 months as optimal for health of the mother and the child. In 2017-18, 37% of births occurred within 24 months of the preceding birth. The proportion was high in Punjab (41%), followed by Balochistan (35%), Sindh (33%) and KPK (29%). The median birth interval was 28.2 months overall, ranging from 26.6 months in Punjab, 29.2 months in Balochistan, 29.3 months in Sindh to 31 months in KPK.

Method Mix - Condoms and female sterilization are the commonest modern methods availed. Two-thirds of all couples who use any modern method (Figure 5.13), use the condom, which is preferred in urban areas. They are provided mainly through social marketing and by LHWs. Sterilization is more common in rural locales and often happens late. Women with sterilization are of median age of 39 years and have 5 children, slightly fewer than in the 2012-13 PDHS. The Government of Pakistan fully recognizes the importance of improving FP coverage through expansion of method mix (conducive to longer birth intervals of 36 months or more) and through task sharing. Two methods (injectables and implants) are effective means of birth spacing and require only a single contact with a health care provider (with only a follow-up) every few months (for injectables) or years (for implants) and no other actions on the part of the user. Implants and injections are making some inroads in Pakistan. In local surveys and qualitative studies, women say that they turn to injectables due to their effectiveness and privacy. Injectables have been part of family planning programmes in Pakistan for several decades while implants were introduced over a decade ago, but still less known among married women and their accessibility is hampered by the lack of trained providers and availability in the market. LHWs are not permitted to inject the 1st does of DMPA and mid-level providers are not allowed to administer implant, unlike many other countries.

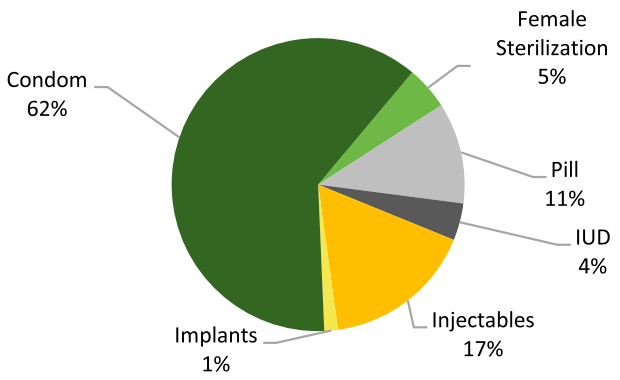
Increasing wealth, education and urban residence are all associated with an increased use of FP but method mix does not change for any of these factors. Traditional methods account for around a third of methods (Figure 5.13) and are used nearly as often as condoms in nearly all locales (by province, urban or rural), and their use is higher among the more educated women. Not much is known about the demand for FP in communities. For example, couples who invest in their current/ existing children (~ 67% across Pakistan) are twice as likely as their neighbours to use FP (manuscript in preparation). However, such attributes of demand for FP, what leads couples to choose FP or particular methods and how they vary across the country are not well studied.

Figure 5.13

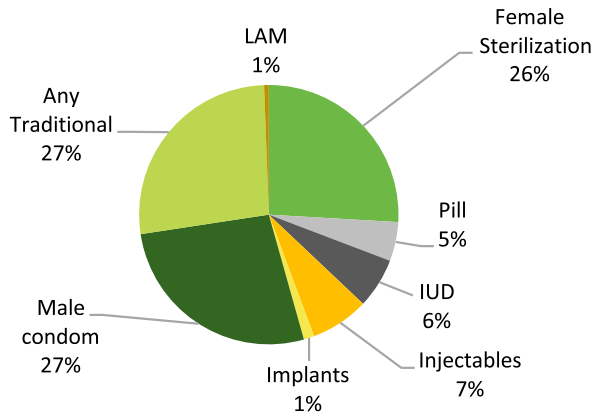
Changes in CPR over time and Differences in Methods Mix across provinces



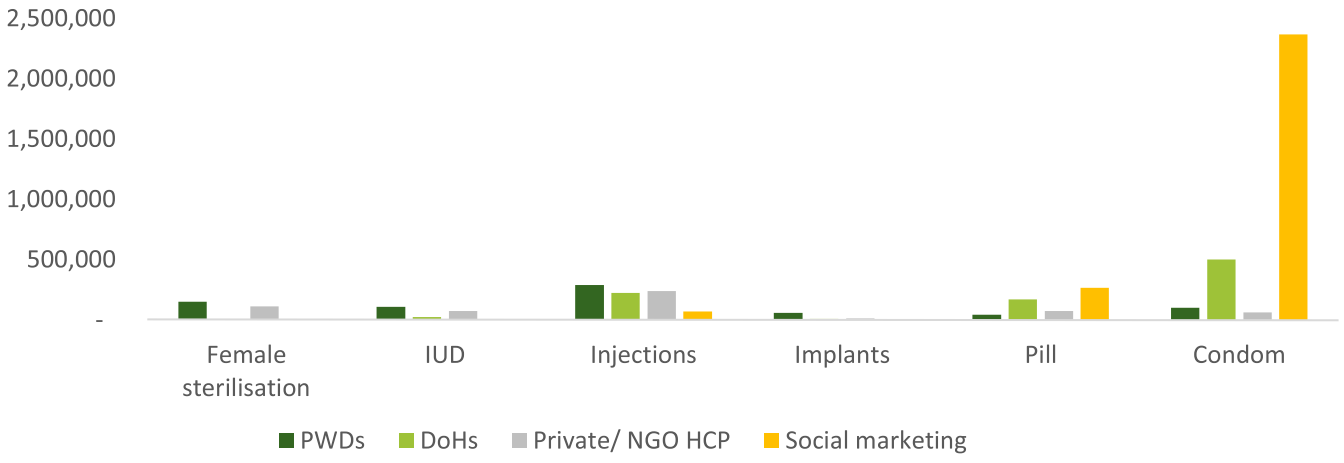
Service Mix



Method Mix



Number of MWRA served by Method and Source



Source: PDHS 2017-18.

Source of FP Services: Public and Private Sector

Contraceptives are most commonly procured from government (44%) and the private sector (43%). The percentage of married women in reproductive age (MWRA) using FP in any given year is extremely low. Of all women that availed FP services in the year prior to the PDHS 2017-18 (as a proxy for services rendered each year), 35% did so from the public sector. Within this group, 15% availed services from the Population Welfare Department (PWD) and 19% from the Department of Health (DoH); of which 15% were provided by LHWs and 4% were served from health facilities.

Users of public (DoH or PWD) and private sector (includes private facilities, NGO-run facilities and self-procurement from shops) were similar in terms of age, education, number of children, age at first birth, and births in the past 5 years. While public and private sectors are equally likely to serve rural areas, within the public sector, DoH (via its LHWs) have more rural coverage than PWD (Table 5.9). Compared to private sector users, those who avail public sector facilities are older, have higher parity and had a visit by field workers in the past 12 months. A binary logistic regression of PDHS 2017-18 data on public and private service users also confirms that public sector users were poorer and more likely from Sindh, Balochistan or Gilgit-Baltistan and had heard FP messaging on radio. They were also less likely to have had recent birth (AOR: 0.8, $p < 0.05$), and were likely older, received texts about FP (AOR: 0.3, $p < 0.05$), or worked after marriage (AOR: 0.7, $p < 0.05$).

Table 5.9

Profile of women who use Public vs. Private and PWD (MOPW) vs. MOH (DoH) facilities

Means	Public	Private	p-value	MOPW	DoH	p-value
Respondent's current age	36	32	<0.01	36	34	<0.01
Highest year of education	4	4	<0.01	4	4	<0.01
Number of living children	5	3	<0.01	5	4	<0.01
Births in last five years	1	1	<0.01	1	1	<0.01
Age of respondent at 1st birth	21	21	<0.01	20	21	<0.01

Percentages	Public	Private	<0.01	MOPW	DoH	<0.01
Urban	36	37	<0.01	36	23	<0.01
Heard of FP on television in last month	25	22	<0.01	26	14	<0.01
Wealth quintiles			<0.01			
Poorest	17	18	<0.01	17	19	<0.01
Poorer	21	20	<0.01	21	34	<0.01
Middle	25	20	<0.01	24	31	<0.01
Richer	20	21	<0.01	20	14	<0.01
Richest	17	21	<0.01	17	01	<0.01

Source: PDHS 2017-18

Discontinuation of FP Methods - PDHS 2017-18 data indicate that 30% of episodes of contraceptive use in the 5 years before the survey were discontinued within 12 months (Table 5.10). Methods with high discontinuation rates were oral pills and injectables (47% each) compared to either male condoms (33%) or IUDs (23%). IUD discontinuation requires a clinic visit for removal and, therefore, generally exhibits low discontinuation rates. However, it is surprising that condoms were discontinued less than the pill or injectables. Few episodes of contraceptive use (3%) were discontinued because women switched to another method. Ten percent of women reported the desire to become pregnant and 7% indicated method-related health concerns or side effects as the primary reasons for discontinuing a method. Among the other reasons cited for discontinuation during the last 12 months were method failure (5%) and other fertility-related reasons (4%). Among all discontinuations within 12 months (3,053), desire to become pregnant (44%), side effects or health concerns (19%), and became pregnant while using (16%) were the three leading reasons for discontinuing a method in the last 5 years.

Table 5.10

Percentage discontinuing by 12th month, by method and reason, 2017-18.

Method	Method failure	Desire to become pregnant	Other fertility-related reasons (1)	Side effects/ health concerns	Wanted more effective method	Other method related reasons (2)	Other reasons	Any reason (3)	Switched to another method (4)	Number of episodes of use (5)
IUD	*3.3*	*1.3*	*0.5*	*16.7*	*0.0*	*1.1*	*0.0*	*22.9*	*6.5*	*382*
Injectable	*2.7*	*7.6*	*5.0*	*26.6*	*1.2*	*2.6*	*1.1*	*46.8*	*5.4*	*663*
Pill	*7.0*	*6.2*	*6.1*	*17.8*	*5.3*	*3.7*	*1.0*	*47.2*	*7.3*	*423*
Male condom	*6.2*	*13.9*	*5.2*	*2.3*	*0.9*	*1.7*	*2.9*	*33.2*	*2.1*	*1,752*
Rhythm	*(3.0)*	*(23.5)*	*(3.8)*	*(0.0)*	*(2.1)*	*(0.0)*	*(0.0)*	*(32.4)*	*(2.1)*	*163*
Withdraw	*5.8*	*11,5*	*2.7*	*0.3*	*2.5*	*0.0*	*1.4*	*24.2*	*2.2*	*1,175*
Other (6)	*0.3*	*0.5*	*0.1*	*1.7*	*1.8*	*0.3*	*0.7*	*5.6*	*2.3*	*575*
All methods	*4.7*	*9.7*	*3.1*	*7.3*	*1.8*	*1.3*	*1.6*	*30.2*	*3.4*	*5,136*

Note: Table excludes Azad Jammu and Kashmir and Gilgit Baltistan. Figures are based on life table calculations using information on episodes of use that occurred 3-62 months preceding the survey. Figures in parentheses are based on 25-49 unweighted cases.

1. Includes infrequent sex/husband away, difficult to get pregnant/menopausal and marital dissolution/ separation
2. Includes lack of access/too far, costs too much, and inconvenient to use.
3. Reasons for discontinuation are mutually exclusive and add to the total given in this column.
4. A women is considered to have switched to another method if she used a different method in the month following discontinuation or if she gave "wanted a more effective method" as the reason for discontinuation and started another method within 2 months of discontinuation.
5. All episodes of use that occur within the 5 years preceding the survey are included. Episodes of use include episodes that are discontinued during the period of observation and episodes of use that were not discontinued during the period of observation.
6. Includes female sterilization, male sterilization, implants, emergency contraception, SDM and lactational amenorrhoea method.

Source: PDHS 2017-18, Table 7.12

Knowledge of Family Planning and Decision Making

Knowledge of the health benefits of FP or services generally precedes its uptake. Knowledge of family planning methods is almost universal (> 98%) in Pakistan with currently married women and men knowing at least one FP method and on average 7 methods. Reflecting perhaps the reach of the FP message across all socio-economic backgrounds, it is interesting to note that knowledge of contraceptive methods does not vary by background characteristics among women and men – but this does not translate into contraceptive use. Short-term methods like oral pills and injectables are better known by women while men are more familiar with condoms and oral pills. Knowledge

Table 5.11

Decision-making for family planning, by background characteristics.

Background characteristic	Among currently married women who are current users of family planning						Among currently married women who are not currently using family planning					
	Mainly wife	Wife and husband jointly	Mainly husband	Other/ don't know/ missing	Total	Number of women	Mainly wife	Wife and husband jointly	Mainly husband	Other/don't know/ missing	Total	Number of women
Age												
15-19	8.0	83.0	9.0	0.0	100.0	44	7.1	70.4	17.1	5.4	100.0	405
20-24	7.1	87.5	5.4	0.0	100.0	340	6.0	70.7	18.5	4.9	100.0	1,116
25-29	6.5	87.9	5.6	0.0	100.0	708	7.8	71.3	16.8	4.0	100.0	1,344
30-34	5.9	87.5	6.1	0.4	100.0	988	10.7	67.3	16.2	5.7	100.0	1,119
35-39	6.6	87.1	6.3	0.0	100.0	901	8.7	70.0	15.6	5.7	100.0	1,025
40-44	10.3	83.4	5.1	1.3	100.0	631	11.9	68.6	12.6	6.9	100.0	677
45-49	6.2	88.3	4.7	0.8	100.0	432	12.0	69.8	10.5	7.7	100.0	732
Number of living children												
0	*	*	*	*	*	12	5.9	81.5	9.4	3.2	100.0	1,300
1-2	4.5	88.8	6.3	0.4	100.0	910	8.1	70.3	16.5	5.1	100.0	2,189
3-4	6.2	88.0	5.5	0.3	100.0	1,707	9.0	69.4	15.2	6.4	100.0	1,672
5+	9.6	84.2	5.7	0.5	100.0	1,414	14.0	57.3	21.2	7.5	100.0	1,257
Residence												
Urban	6.4	88.0	5.3	0.3	100.0	1,848	8.7	75.3	11.9	4.0	100.0	2,081
Rural	7.5	85.9	6.1	0.5	100.0	2,196	9.1	67.1	17.5	6.3	100.0	4,337
Education												
No education	9.4	82.8	7.3	0.4	100.0	1,650	10.8	62.6	20.7	6.0	100.0	3,461
Primary	8.6	85.7	5.0	0.7	100.0	720	7.2	74.7	12.5	5.5	100.0	1,037
Middle	3.8	91.0	5.2	0.0	100.0	389	7.7	77.0	10.2	5.0	100.0	567
Secondary	6.0	88.4	5.4	0.2	100.0	589	6.8	78.5	9.6	5.1	100.0	643
Higher	2.3	93.9	3.5	0.3	100.0	695	6.1	84.0	5.7	4.2	100.0	709
Wealth quintile												
Lowest	12.0	80.9	6.7	0.3	100.0	434	10.5	59.2	25.5	4.7	100.0	1,422
Second	7.0	87.4	5.4	0.2	100.0	665	10.1	67.2	17.0	5.7	100.0	1,377
Middle	10.8	83.7	5.0	0.4	100.0	882	8.9	69.0	15.1	7.0	100.0	1,257
Fourth	4.8	88.2	6.4	0.6	100.0	951	7.6	75.6	11.4	5.3	100.0	1,229
Highest	4.0	90.2	5.5	0.3	100.0	1,111	7.4	80.7	6.9	4.9	100.0	1,133
Region												
Punjab	6.4	89.6	3.6	0.4	100.0	2,402	8.3	78.4	8.3	5.0	100.0	3,179
Urban	6.4	89.6	3.7	0.4	100.0	1,048	7.3	81.5	6.9	4.3	100.0	1,012
Rural	6.5	89.6	3.5	0.5	100.0	1,354	8.7	77.0	8.9	5.4	100.0	2,167
Sindh	7.9	84.7	7.1	0.3	100.0	851	11.0	67.2	19.7	2.1	100.0	1,601
Urban	5.9	87.9	6.2	0.0	100.0	576	10.8	72.8	14.1	2.4	100.0	757
Rural	12.0	77.9	9.1	1.0	100.0	275	11.1	62.1	24.8	1.9	100.0	844
Khyber Pakhtunkhwa	7.5	80.0	12.0	0.5	100.0	570	8.3	55.6	24.9	11.2	100.0	1,046
Urban	6.1	80.7	12.5	0.7	100.0	149	6.6	65.1	21.4	6.9	100.0	168
Rural	8.0	79.8	11.8	0.4	100.0	420	8.7	53.8	25.6	12.0	100.0	877
Balochistan	10.5	78.0	11.3	0.2	100.0	124	10.0	54.0	29.7	6.3	100.0	403
Urban	15.6	73.2	10.8	0.5	100.0	46	11.9	51.5	29.8	6.7	100.0	113
Rural	7.5	80.8	11.7	0.0	100.0	79	9.3	55.0	29.6	6.1	100.0	290
ICT Islamabad	5.6	91.2	3.1	0.1	100.0	47	11.6	70.7	9.3	8.4	100.0	47
FATA	7.8	88.9	3.3	0.0	100.0	50	4.5	54.4	30.0	11.0	100.0	142
Total	7.0	86.9	5.8	0.4	100.0	4,043	9.0	69.8	15.7	5.5	100.0	6,418

Source: PDHS 2-17-18.

of implants has increased from 34% to 52% since the 2012-13 PDHS. It is also interesting that only 15% of married women knew of FP before marriage (only rising to 34% among highly educated women) – reflecting again how FP information and services are marriage-centric and miss out on informing young unmarried girls and boys.

Decision Making and Family Planning

Among currently married couples who are using contraceptives, decisions regarding FP use were made jointly by 87% while among non-users it dropped to 70% (Table 5.11) with some slight increases in unilateral decision-making among men with lower education and wealth quintile.

Table 5.12

Percentage of men indicating contraception is women's business and that women who use contraception may become promiscuous, by background characteristics

Background characteristic	Contraception is women 's business	Women who use contraception may become promiscuous	Number of men
Age			
15-19	(25.9)	(25.1)	40
20-24	27.1	20.1	265
25-29	26.8	15.2	607
30-34	26.6	13.0	603
35-39	27.0	16.8	617
40-44	26.3	14.5	502
45-49	26.1	17.0	511
Residence			
Urban	22.8	8.9	1,264
Rural	29.2	20.5	1,881
Education			
No education	31.8	18.0	800
Primary	31.9	19.3	640
Middle	28.4	17.4	478
Secondary	19.6	12.3	633
Higher	19.8	11.6	594
Wealth quintile			
Lowest	35.2	19.7	554
Second	29.4	17.7	613
Middle	22.7	15.6	619
Fourth	24.6	15.7	680
Highest	22.7	11.1	680
Region			
Punjab	26.5	23.3	1,657
Urban	19.1	13.2	660
Rural	31.4	30.0	997
Sindh	33.9	8.8	784
Urban	30.1	4.8	441
Rural	38.7	13.9	342
Khyber Pakhtunkhwa	9.1	7.1	438
Urban	7.3	2.5	87
Rural	9.6	8.3	350
Balochistan	40.1	0.8	185
Urban	34.9	0.5	56
Rural	42.3	1.0	129
ICT Islamabad	31.8	15.8	32
FATA	16.9	9.0	49
Total	26.6	15.8	3,145

Source: PDHS 2017-18, Table 7.21

Interestingly in Balochistan and Sindh, with relatively lower levels of CPR, women show exceptional decision-making, as 16% and 12% decided themselves to use FP. Men in Balochistan and FATA (30% each) and Khyber Pakhtunkhwa (25%) play an important role in the decision not to use a family planning method – again highlighting the need for different FP programming approaches for men across the provinces.

Men generally (27%) considered that contraception is a women's business and 16% felt that it led to promiscuity. The percentage of men indicating "contraception is a woman's business" was the highest in Balochistan (40%) and the lowest in KPK (9%) as compared to Punjab (27%) and Sindh (34%). More men in Punjab considered women who use contraceptives may become promiscuous (23%) than men in any other province.

Costs of Family Planning - Allocations for FP in the public sector vary widely by year (Table 5.13) and there is even wider variation among provinces. For example, Balochistan had zero allocations for PWD for 2015-16. To account for this variation, costs were estimated using the average of the allocations for the 3 years after 2010-11, following the devolution decision-making responsibilities to the provinces.

Number of users were estimated based on proportions of FP users from PDHS 2017-18. PDHS describes what proportion of users received their methods from the public sector. These were multiplied with population data from the 2017 census to arrive at the number of users of FP services. Total number of FP users was further adjusted by only including those women with tubal ligation (7%) or an IUD (5%) that had received the procedure in the 12 months prior to the PDHS 2017-18 to estimate the number of women that avail any FP services in a given year (Table 5.8).

An estimated 724,320 women were served with 2.344 million couple-years of protection (CYP) through the PWDs. Average allocation for the post-2011 period for the PWD was PKR 6,335 million (USD 61 million) per year; however, since PWD estimates that only around a third of the clients served in their clinics are for FP, this allocation was

re-adjusted to PKR 2,112 million (USD 20 million). Applying these allocations to users and CYP, the costs of FP come to PKR 2,916 (USD 28) per user served and PKR 901 (USD 8.66) per CYP. This compares to (inflation adjusted) USD 84 per user and USD 20 per CYP from the 2007 assessment (Research and Development Solutions, 2019).

Similarly, DoH has served 915,817 users with 988.603 CYP – mostly via short term methods distributed by the LHW – for an allocation of PKR 1,206 million (USD 11.6 million) per year (Table 5.14). This translates into costs of PKR 1,438 (USD 13.82) per user and PKR 1,332 (USD 12.80) per CYP. This is compared to inflation adjusted USD 28 per user and USD 21 per CYP from 2007.

Table 5.13

Annual budget allocations for family planning, Pakistan

Public	2007-08	2009-10	2011-12	2013-14	2015-16	2017-18	Average annual since 2012
PWD	*3,967*	*2,325*	*6,582*	*11,456*	*968*	*7605*	*5483*
DoH	*218*	*372*	*749*	*1,207*	*1,663*	*Not available*	*1,206*
Total	*4185*	*2697*	*7331*	*12,663*	*2,631*		*7,542*

All funds in million PKR. Source: NHA 2016, PDHS 2017-18

Table 5.14

Cost of FP per woman and per CYP

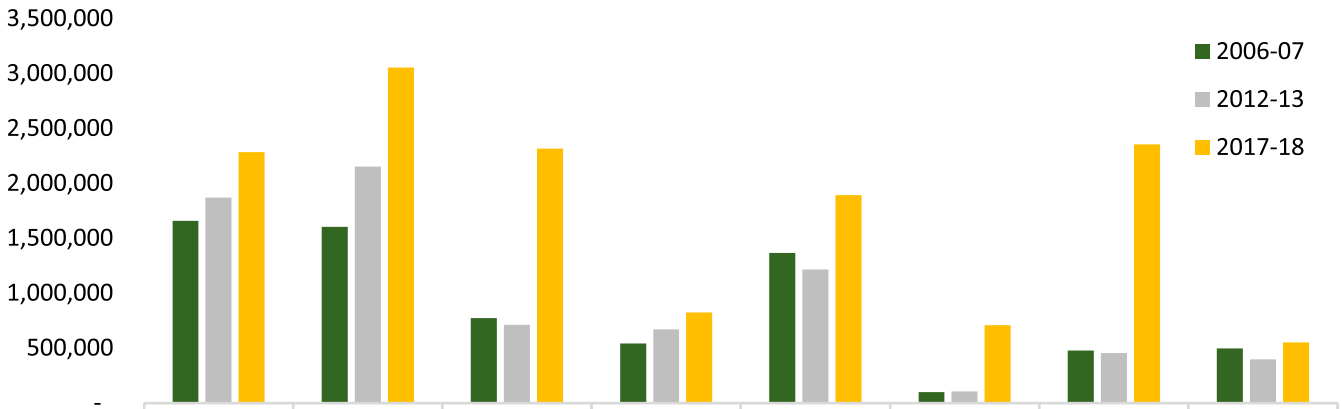
Users	PWD	DoH
CYP	*724,320*	*915,817*
	2,344,411	*988,603*
	PKR (USD)	PKR (USD)
Budget	*6,335* (61*)*	*1,206* (11.6*)*
FP allocation	*2,112* (20*)*	*1,317* (12.66*)*
Cost per user 2017	*2,916 (28)*	*1,438 (13.82)*
Cost per CYP 2017	*901 (8.66)*	*1,332 (12.80)*

All funds in million PKR. Source: NHA 2016, PDHS 2017-18

Differences in Commodities Data with Supplies Uptake - Over the years, supplies of contraceptives have increased slightly (Figure 5.14) but have not matched their estimated uptake in community surveys such as the PDHS. Supplies-uptake mismatch is around 20-30% for condoms and 400% or more for pills and IUD. The discrepancy for IUD is around 1200% for records from the Bureau of Statistics and the National Contraceptive Report.

Figure 5.14

Commodities and Supplies, by type of method and year



	Condom		Injections		IUD		Oral pills	
	Supplies	Uptake	Supplies	Uptake	Supplies	Uptake	Supplies	Uptake
2006-07	1,658,808	1,603,626	774,247	542,403	1,365,495	98,619	477,228	495,237
2012-13	1,869,661	2,151,552	712,851	671,194	1,215,470	104,390	455,417	395,866
2017-18	2,282,836	3,054,291	2,314,670	824,743	1,891,463	709,567	2,354,602	552,048

Numerous attempts have been made to set up a commodity supply management system to track supplies using pellet tracking and management information system (MIS). Since nearly all supplies are routed via one central warehouse, contraceptives are tracked as they exit the warehouse. However, the accuracy of logistical management information system (LMIS) has not changed substantially over the previous paper-based system and is off by 15-1100%.

The supply chain system operates on a "push system", sending a predetermined number of contraceptives to facilities periodically. As supply and use tracking improves, this must transition to a demand-based "pull" system based on actual utilization by each facility. Perhaps technology can play a role. Using a machine learning system that uses cLMIS data at the facility level would help identify and overcome gaps in the current data and determine needs of contraceptives at individual facilities while accommodating local factors such as seasonality, secular events such as droughts or migrations, and do so with minimal human involvement or error.

Budgetary and technical capacity limitations remain persistent issues affecting procurement of contraceptives by both DoH and DOPW. Supply arrangements from the Central Warehouse in Karachi were also affected after the closure of the USAID's Deliver project in 2017, which resulted in delays in supplies. The supply chain is still not working optimally in some instances. In the transition period following the 18th constitutional amendment, as the mandate for health, population, and various other sectors was devolved from the federal to provincial level, funding inadequacies arose in the provinces, leading to delays in the provision of both salaries and contraceptives to LHWs, which affected their performance. The situation improved in 2017, partly with the support of donor programmes, except in Balochistan, where LHWs still do not have a regular supply of contraceptives and there are no supportive donor programme either.

Frequent shortages of contraceptives (conversations with implementers and government officials) have led many experts to ask for endogenous contraceptive production to be established. In the absence of a commercially viable contraceptive

market, this will likely require government subsidy that in turn runs the risk of creating a monopoly or a cartel, driving up costs and diminishing sustainability. A more reasonable option would be to reduce regulatory barriers and tariffs to imports of contraceptives from international markets.

In Punjab, contraceptives are procured separately by DOPW and DoH. The DoH conducts the procurement centrally for health facilities and outreach programmes, whereas contraceptives for teaching hospitals managed by the Specialized Healthcare and Medical Education Department are procured by DOPW. This is not a cost-effective approach, especially compared to KPK and Sindh, where DOPW is responsible for joint procurement of contraceptives for both departments. In fact, in Sindh, DOPW also distributes contraceptive commodities to all DoH facilities, including those managed by Peoples Primary Health Care Initiative (PPHI), as well as to the private sector. Contraceptive procurement involves international bidding and lack of coordination between the two departments has resulted in late release of funds and hence delayed procurement of contraceptives. The delays in completing the procurement cycle in financial year 2018-19 resulted in surrendering of the non-utilized funds to the Finance department.

5.6 Unintended Pregnancies and Induced Abortions

The 2012 estimates for Pakistan based on an indirect methodology were 2.25 million (95% CI 1.84-2.68) abortions with a national abortion rate of 50 per 1,000 women age 15-49 years (Sathar Z, et al., 2014). This study was undertaken in public and private health facilities from tertiary care to rural health centers (providing post-abortion care) and 102 health care providers (HCPs), in 10 districts of Punjab, 8 in Sindh, 3 each in KPK and Balochistan. The study showed that 623,000 women sought care for post-abortion complications (range 506,000 – 739,000). A substantial variation exists among provinces, with the highest induced abortion rates in Balochistan (60) and Sindh (57), followed by Punjab (51) and a low in KPK (35). The abortion ratio (the number of abortions per 100 live births) is a useful indicator of the likelihood that women who have experienced an unintended pregnancy would have had an abortion rather than give birth. Nationally, the ratio is 41 abortions per 100 live births, ranging from 47 in Sindh and Balochistan each and 42 in Punjab to 28 in KPK.

Limitations of the estimations - The big issue is the lack of reliable number of induced abortions. The two large national studies (Sathar, Singh and Fikree, 2007 and Sathar et al., 2014) have some limitations. They are mainly facility-based and use indirect estimations (multiplier effects) extrapolating data from healthcare providers which can lead to under- or over-estimation. The 2012 Population Council study (Sathar et al, 2014) primarily used a multiplier method to estimate community-based abortions from the number of women who sought treatment for abortion complications. The problem is that doing so leads to highly erratic estimates, and the resulting number can potentially overestimate community prevalence. The margin of overestimation is uncertain – it can range from a few percentage points to several hundred per cent (Munoz, 1997). Secondly, although private clinics outnumber public clinics by at least 20 times, they were less represented in the study sample. This means that the margin of error is very high for private sector compared to public sector. Finally, a comparison of GFR (12.4%) to annual death rates (0.75%) to population growth rates (2.4%) is not consistent with this number (closer to 700,000 abortions per year).[30] Nonetheless, these studies (along with smaller community-based perspectives and studies) do help to shed light on this hidden issue.

[30] The 2002 study (Sathar, Singh, and Fikree, 2007), using the same methodology as the one used in 2012, estimated that 890,000 induced abortions took place, amounting to 29 abortions per 1,000 women aged 15-49 in 2002. It estimated that of every 100 pregnancies, 14 were deliberately aborted. Since lower contraception uptake co-relates with higher likelihood of induced abortions, it was not surprising that Balochistan had 38 abortions in 2002 that increased to 60 in 2012 per 1,000 women aged 15-49 years. The study showed that most women having abortions were aged between 25-39 years, married and with previous children.

Population-based Studies and data for abortion estimates are needed - Reliable data on unintended pregnancies and abortions are very limited due to the legal implications, healthcare provider biases and socio-cultural stigma associated with abortions. To our knowledge, there are no large-scale population-based national (or provincial) studies from Pakistan. Such studies are badly needed, given the apparent fairly high prevalence of induced abortion in Pakistan. Both PDHS and PMMS collected the information on pregnancy outcomes, including abortion that refers both to spontaneous or induced abortions. PMMS 2019 data indicate that 2% of 7,463 pregnancies ending in the three years preceding the survey resulted in spontaneous or induced abortions.

A community study showed that of the women having induced abortions, 4% were aged 15-19 and 32% were 20-29 years, with 3% reporting single status (Zaidi et al, 1993). Care seeking options for unmarried adolescents are risky and illegal. Some small-scale community-based studies (Rana, 1992; Fikree et al, 1996) provide measures of the prevalence of induced abortion and support the conclusion from the national study that the level of abortion is moderately high in Pakistan. A study in an urban slum in Lahore in 1992–1993 found that 16% of a random sample of women reported having had at least one induced abortion. More recently, a qualitative 2015 study in Rawalpindi district found that women had induced abortions due to unwanted pregnancies and fear of contraceptive use (Naveed et al., 2015).

5.7 STIs and HIV/AIDS in Pakistan

Pakistan has a low HIV prevalence (less than 0.1%) with an estimated 165,000 people living with HIV/AIDS. The epidemic is mainly concentrated in key risk groups such as injecting drug users (38%) and their spouses/sex partners, sex workers (3-8% males, females, transgender (TG)), and low skilled middle East/Gulf country migrants/spouses. In 2019, of the 165,000 people living with HIV/AIDS, 48,000 were women (30%) with only 21,419 (13%) people registered in ART programs. Of the 22,000 new HIV infections diagnosed in 2018, 1800 (8%) were among women and 12% among men aged 15-24 years. HIV testing among adults and adolescents remains below 10% of the total infected with little change in the last five years. The estimated incidence among 15-24 years is 0.03%.

The commonest modes of transmission are injecting drug use (needle sharing), unprotected sexual activity, unsafe blood transfusions and poor infection practices by formal and informal health providers (needle re-use, piercings, male circumcision) leading to numerous outbreaks among unexpected sub-groups of children, adolescents and older population.

Data on STIs or sexual practices of adolescents are very limited. Even in discussions or anonymous surveys, respondents are reluctant to share truthful responses on sexual behaviours as they feel concerned about religious or parental backlash, consequences and confidentiality. However, a number of small-scale studies show that unprotected sexual activity is present and protective behaviours are less prevalent among girls. In Lahore, 13% of migrant men reported extramarital sex with an average of 8 partners (38% non-commercial) in the past year (Faisal and Cleland, 2006). In another study, 30% of men from the general population reported some non-marital sex in their lives and 11% in the past 3 months (Population Council, 2007). Only 16% used condoms and 4% had an STI. In another study of 428 adolescents in Sindh, only 44% could accurately list an STI and 55% knew two modes of transmission for HIV (Raheel et al, 2007).

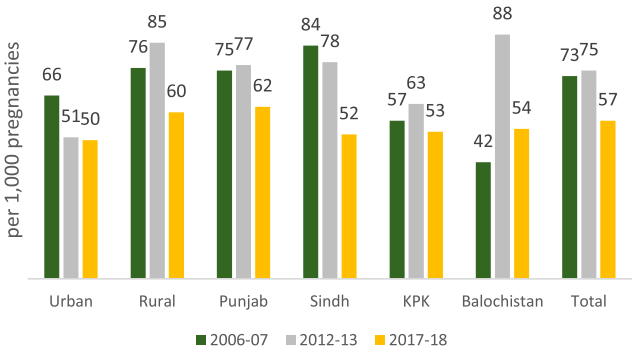
5.8 Newborn and Child Health

Newborn Health and Survival

Addressing the range of interconnected reproductive health issues is critical to improving survival and wellbeing of both women and the newborn. One of the indicators of poor reproductive health status and quality of service around delivery is perinatal mortality, defined as the number of stillbirths (pregnancy loss that occurs after seven months of gestation) and deaths within the first seven days of life (early neonatal) per 1,000 pregnancies of seven or more months' duration (sometimes also referred as "total births"). The overall perinatal mortality rate in Pakistan declined from 75 in 2012-13 to 57 per 1,000 at the time of PDHS 2017-18 (Figure 5.15). Perinatal mortality was higher in rural (60) than in urban areas (50) and in Punjab (62) compared to other provinces.

Figure 5.15

Perinatal mortality rate* per 1,000 pregnancies of 7+ month duration, by place and region of residence and survey year, 2006-07 PDHS to 2017-18



*Perinatal mortality is the number of stillbirths and early neonatal deaths divided by 1,000 pregnancies of seven+ months.

Sources: Pakistan and Demographic Health Surveys 2006-2007; 2012-13; and 2017-18.

The decline in perinatal mortality from 88 in 2012-13 to 54 in 2017-18 was most pronounced in Balochistan. The comparisons across place and region of residence can be affected by underreporting and/or misreporting as well as because of other factors such as nutritional status of the mother, care during pregnancy and/or birth defects.

Note that information on neonatal, infant and child mortality is provided in Chapter 4.

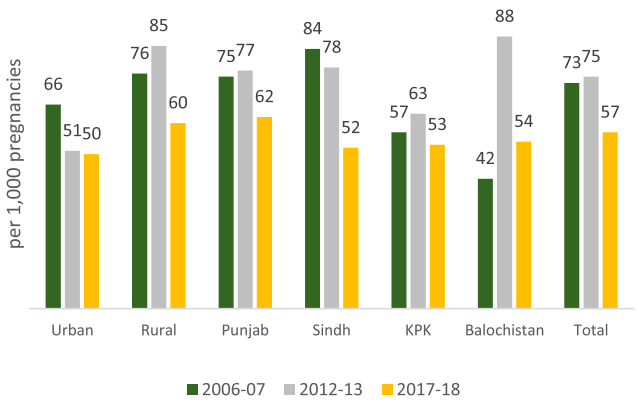
Nutritional Status of Children

Pakistan pioneered adapting and implementing the Integrated Management of Newborn and Childhood Illness (IMNCI) strategy to address management of infectious diseases and malnutrition among children aged from 2 months to 5 years. Information from surveys and other sources is now available to strengthen the implementation and improve child survival and wellbeing. "Stunting" or low height-for-age is a measure of undernutrition due to not receiving adequate nutrition over a long period. Stunting can be caused by insufficient food intake or eating foods that lack growth-promoting nutrients or recurrent infections that lead to inadequate absorption. Stunting (or low height-for-age) is a measure of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted), or chronically undernourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted.

The various PDHSs conducted in Pakistan since 1990-91 show that the prevalence of stunting has declined from 54% in 1990-91 to 38% in 2017-18 overall and also in regions and in both urban and rural areas (Figure 5.16). In 2017-18, Punjab had the lowest prevalence (30%) and Sindh the highest (50%). Using PDHS 2012-13 data, a study (Khan, Zaheer and Safdar, 2019) found that children of mothers living in rural areas, married after age 18 and had visited an antenatal clinic more than three times during pregnancy were less likely to be stunted. Children of mothers with no education were most likely to be wasted (low weight-for-height).

Figure 5.16

Percentage of children under age 5 who were stunted (below -2 SD of height for age according to the WHO standard)



Sources: Pakistan and Demographic Health Surveys 1990-91; 2012-13; and 2017-18.

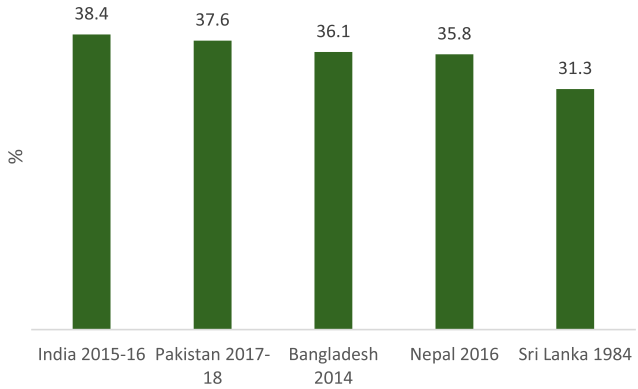
The 2018 National Nutritional Survey found that 40% of children under five were stunted, 18% wasted, 29% were underweight and 10% were overweight. An estimated 12 million children suffer from stunting in Pakistan. Differentials in stunting rates by region were broadly similar to those shown in PDHS with Punjab having lower prevalence (36%) than Sindh (46%), Balochistan (47%) and KPK (40%). The rate of decline since the 1997 National Nutrition Survey has been slow and, therefore, reduction in stunting should be a priority.

The prevalence of low weight-for-height (wasting) among young children has risen from 9% in 1997 and 15% in 2011 to 18% in 2018. Wasting is a good indicator of recent and severe process of weight loss, which is often associated with acute starvation and/or severe disease. Provided there is no severe food shortage, the prevalence of wasting is below 5%, even in low-income countries. The percentages for all regions of Pakistan are either serious (10% to 14%) or critical (15% or higher), except for Islamabad and Gilgit Baltistan. The prevalence of wasting was the highest in Sindh (23%), followed by Balochistan (19%), Punjab and KPK (15%). Malnutrition among young children is therefore a serious public health issue requiring urgent and strengthened intervention to reduce stunting and wasting. Improving education of mothers, delayed age at marriage, increasing the number of antenatal care visits during pregnancy and feeding practices are critical interventions for reducing stunting and wasting and consequently infant and child mortality.

In comparison to other countries in South Asia, the prevalence of stunting in Pakistan is similar to that in India, but higher than in Bangladesh, Nepal and Sri Lanka (Figure 5.17).

Figure 5.17

Percentage of children under age 5 who were stunted (below -2 SD of height for age according to the WHO standard), by country



Source: The DHS Program STAT Compiler.

Breastfeeding

The benefits of exclusive breastfeeding for the first six months of life and continued breastfeeding with the introduction of complementary foods thereafter are well recognized for optimal growth, development and health of the infant. Breastfeeding also helps to space births and reduce fertility. The 2018 National Nutritional Survey (UNICEF, 2019) indicated that the proportion of babies receiving breastmilk within the first hour after birth increased from 40% in 2011 to 46% in 2018. Slightly more women in urban areas initiated breastfeeding within the first hour after birth (48%) compared to those in rural areas (45%). More women in Balochistan (61%) and Islamabad Capital Territory - ICT (51%) initiated breastfeeding within the hour after birth compared to women in Punjab (44%), Sindh (48%), AJK (39%) and Gilgit-Baltistan (20%). Interestingly, the proportion initiating breastfeeding within the hour after birth was the same for women in the poorest wealth quintile as for those in the richest

quintile (46%).

The proportion of infants exclusively breastfed for six months increased by 10 percentage points, from 38% in 2011 to 48% (UNICEF, 2019). The proportions in 2018 ranged from 42% in AJK, 44% each in Punjab and Balochistan, 55% in Gilgit-Baltistan and 58% in ICT to 60% in KPK. Overall, 57% of children continued to be breastfed for two years. The median duration of any breastfeeding among children born in the three years preceding the survey was 20 months in PDHS 1990-91 and 19 months in the subsequent surveys in 2006-2007, 2012-13, and 2017-18. The median duration of exclusive breastfeeding, however, increased from 0.6 month in PDHS 1990-91 to 1.6 months in 2017-18.

Immunization

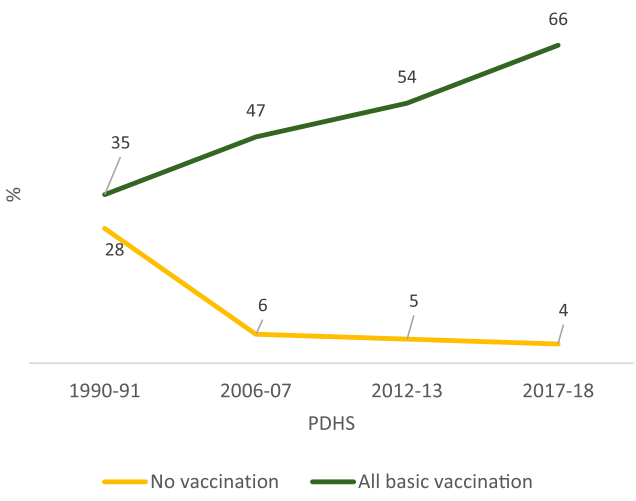
Over the last four decades, Pakistan has strengthened its Expanded Program of Immunization (EPI). As a result of these efforts, the coverage of basic vaccinations for children age 12-23 months has increased from 35% in 1990-91 to 66% in 2017-2018 (Figure 5.18). Basic vaccinations include: one dose of BCG, which protects against tuberculosis; three doses of DPT vaccine, which protects against diphtheria, pertussis (whooping cough), tetanus; three doses of polio vaccine; and one dose of measles vaccine. A more critical indicator of vaccination coverage is the percentage of children age 12-23 months who have received age-appropriate vaccinations (that is, all basic vaccines plus a dose at birth of polio vaccine, one dose of inactivated polio vaccine and three doses of pneumococcal vaccine). The coverage of age-appropriate vaccination was 51% in 2017-18 with the highest coverage in Punjab (66%) and the lowest in Balochistan (19%) (Figure 5.19). The age-appropriate vaccinations need to be improved across all regions, but concerted and urgent efforts are needed for rural areas, Sindh, Balochistan, Federally Administered Tribal Areas (FATA) and Gilgit-Baltistan.

In Pakistan, 4% of children aged 12-23 months received no vaccination as compared to 6% in India and 13% in Afghanistan (Figure 5.20). Bangladesh (2%), Sri Lanka and Nepal (1% each) had, however, fewer children with no vaccination than Pakistan.

Tetanus toxoid coverage increased from 25% of women with a birth in the three years before the 1990-91 survey receiving two or more doses of tetanus toxoid injections during pregnancy to 63% in 2017-18 (DHS Program STAT Compiler). A major progress in tetanus toxoid protection was noted for all regions, except for Balocistantan where only 21% of women had received two or more doses of injections in 2017-18. The proportions, in 2017-18, were 74% each for Punjab and AJK, 75% for ICT, 56% for Sindh, 55% for Gilgit-Baltistan and 53% for KPK. Tetanus toxoid coverage is higher for women in urban (72%) than those in rural areas (58%).

Figure 5.18

Percentage of children age 12-23 months who received all basic vaccinations* at any time before the survey, 1990-91 to 2017-18

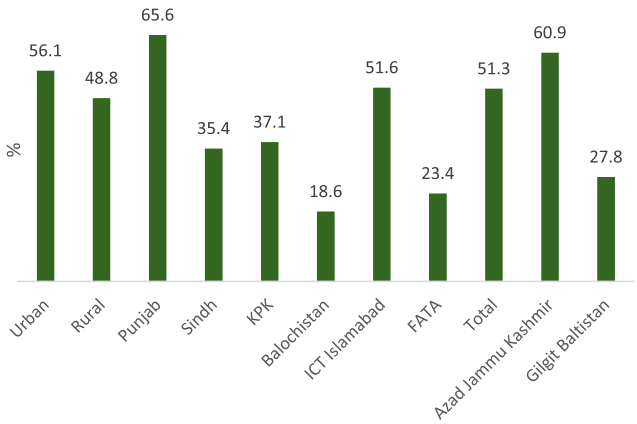


*BCG, three doses of DPT-HEPB-HIB, four doses of oral polio vaccine (excluding polio vaccine given at birth), and one dose of measles vaccine.

Source: Pakistan and Demographic Health Surveys 1990-1; 2006-2007; 2012-13; and 2017-18.

Figure 5.19

Percentage of children age 12-23 months who have received all age appropriate vaccinations*, by place and region, 2017-18

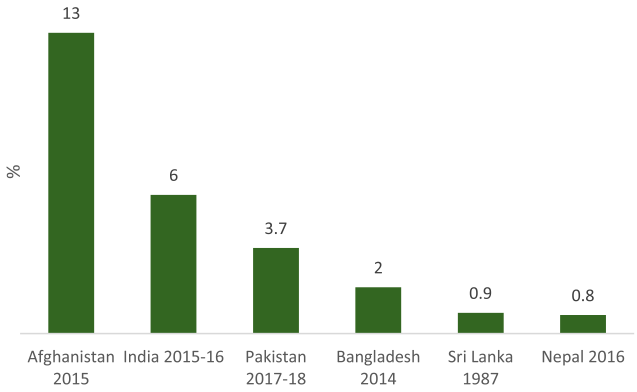


* BCG, three doses of DPT-HEPB-HIB, four doses of oral polio vaccine, one dose inactivated polio vaccine, three doses of pneumococcal vaccine, and one dose of measles vaccine.

Source: Pakistan and Demographic Health Survey 2017-18.

Figure 5.20

Percentage of children age 12-23 months who have received no vaccinations, by country



Source: The DHS Program STAT Compiler.

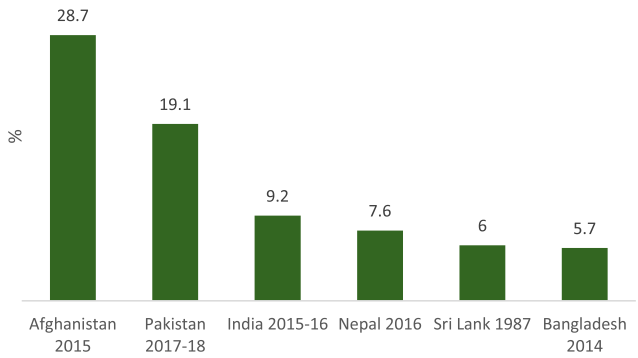
Prevalence of diarrhea and treatment-seeking behavior - The prevalence of diarrhea during the two weeks preceding the survey among children under age 5 years has slightly declined from 22% in 2006-07 and 23% in 2012-13 to 19% in 2017-18 (Table 5.15). There is little difference in the incidence of diarrhea between urban and rural areas, though the treatment seeking is higher in the former than in the latter. Both the incidence of diarrhea and the treatment seeking from health facility are higher in Punjab than in other regions. Compared to other countries, the incidence of diarrhea in Pakistan is lower than in Afghanistan (29%) but much higher than in India, Nepal, Sri Lanka and Bangladesh (Figure 5.21).

Acute Respiratory Infection (ARI) - The incidence of acute respiratory infection (ARI) during the two weeks preceding the survey and the percentage of children born in the five years preceding the survey with symptoms of ARI taken to a health facility for treatment are shown in Table 5.16. Symptoms of ARI consist of short, rapid breathing that is chest-related and/or difficult breathing that is chest-related. The incidence of ARI was slightly reduced from 16% in 1990-91 to 14% in 2017-2018. The treatment seeking for ARI increased from 1990-91 to 2006-2007 but remained mostly constant since then. No difference in the incidence or treatment seeking was noticed by sex of the child in 2017-2018 PDHS. The treatment seeking for ARI was around 84%-86% in Punjab, Sindh and KPK, but much lower in Balochistan (65%) in 2017-18. The ARI incidence was the lowest in Islamabad (9%) and in Balochistan (11%).

The ARI incidence was 14% in Pakistan, a figure close to Afghanistan (13%), but much higher than in Bangladesh, India and Nepal (Figure 5.22).

Figure 5.21

Percentage of children born in the five years preceding the survey who had diarrhea in the two weeks preceding the survey, by country and year



Source: The DHS Program STAT Compiler.

Table 5.15

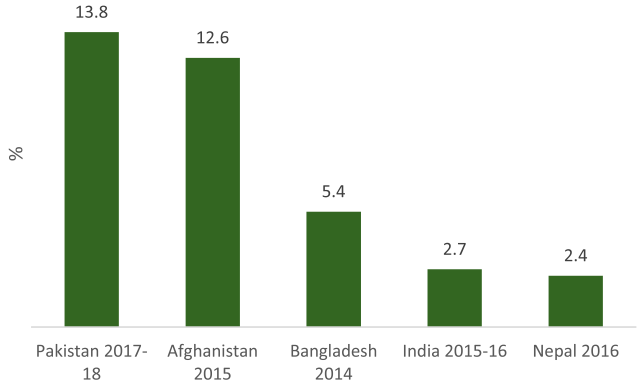
Percentage of children under age five years who had diarrhea in the two weeks preceding the survey; and among children under age five with diarrhea in the two weeks preceding the survey, percentage for whom advice or treatment was sought, by background characteristics, 1990-91 to 2017-2018

Characteristics	1990-91		2006-07		2012-13		2017-18	
	%		%		%		%	
	Diarrhea	Treatment	Diarrhea	Treatment	Diarrhea	Treatment	Diarrhea	Treatment
Sex								
Male	15.0	50.7	22.4	70.0	22.7	77.9	20.4	71.6
Female	13.9	63.2	21.0	67.8	22.3	74.1	17.9	70.0
Place of residence								
Urban	15.0	67.7	21.1	75.4	21.9	78.6	19.1	75.0
Rural	14.2	51.2	22.1	66.3	22.7	75.0	19.1	68.8
Region								
Punjab	14.3	55.0	20.6	70.6	21.9	82.6	20.5	75.2
Sindh	19.3	62.8	23.6	71.5	23.1	77.6	14.4	74.1
NWFP/KPK	9.5	48.0	24.7	63.2	27.9	55.8	21.3	59.7
Balochistan	9.1	54.9	16.2	52.0	12.1	58.6	18.6	64.0
Gigit/Baltistan	NA	NA	NA	NA	16.7	74.0	16.0	64.9
Islamabad	NA	NA	NA	NA	20.5	80.6	19.7	67.9
Azad J. Kashmir	NA	NA	NA	NA	NA	NA	14.2	71.2
FATA	NA	NA	NA	NA	NA	NA	19.9	48.2
Educational level								
No education	14.5	53.9	22.0	66.1	22.9	74.4	17.4	69.5
Primary	17.5	64.8	22.5	69.4	25.0	77.4	21.1	71.6
Secondary	12.1	63.7	22.5	77.8	21.7	79.5	21.5	72.6
Higher	11.6	NA	15.4	81.2	16.4	77.9	18.8	71.2
Wealth quintile								
Lowest	16.4	50.9	22.5	60.9	22.8	72.7	16.4	66.9
Second	12.5	48.2	24.2	65.5	24.3	72.8	20.2	63.4
Middle	12.8	43.4	21.8	69.8	23.7	78.2	21.5	73.3
Fourth	16.8	64.2	19.8	73.9	23.6	78.2	19.2	77.1
Highest	13.8	72.7	19.9	79.8	17.1	81.2	18.5	73.9
Total	**14.5**	**56.6**	**21.8**	**69.0**	**22.5**	**76.1**	**19.1**	**70.9**

NA=Information not available. Source: DHS Program STAT Compiler.

Figure 5.22

Percentage of children born in the five years preceding the survey who had symptoms of acute respiratory infection (ARI) which include short, rapid breathing which was chest-related and/or difficult breathing which was chest-related during the two weeks preceding the survey



Source: The DHS Program STAT Compiler.

Table 5.16

Percentage of children born in the five years preceding the survey who had symptoms of acute respiratory infection (ARI) during the two weeks preceding the survey; and percentage of children born in the five years preceding the survey with symptoms of ARI taken to a health facility for treatment, by background characteristics, 1990-91 to 2017-2018

Characteristics	1990-91		2006-07		2012-13		2017-18	
	%		%		%		%	
	ARI	Treatment	ARI	Treatment	ARI	Treatment	ARI	Treatment
Sex								
Male	15.5	76.9	15.1	83.3	16.4	84.2	14.1	84.4
Female	16.2	75.9	12.9	83.3	15.3	82.4	13.6	84.1
Place of residence								
Urban	13.8	83.5	12.8	88.5	14.6	86.7	12.8	87.5
Rural	16.8	73.7	14.6	81.3	16.4	82.1	14.3	82.9
Region								
Punjab	*16.8*	*80.4*	*13.0*	*87.5*	*15.8*	*89.6*	*13.0*	*86.1*
Sindh	*17.0*	*68.6*	*17.0*	*82.1*	*12.8*	*84.3*	*14.7*	*85.4*
NWFP/KPK	*12.2*	*69.1*	*16.5*	*72.9*	*23.4*	*67.9*	*16.3*	*84.3*
Balochistan	*8.0*	*78.3*	*3.1*	*74.4*	*9.7*	*68.8*	*11.4*	*64.7*
Gigit/Baltistan	*NA*	*NA*	*NA*	*NA*	*15.3*	*84.4*	*12.0*	*76.3*
Islamabad	*NA*	*NA*	*NA*	*NA*	*8.9*	*88.6*	*9.4*	*83.6*
Azad J. Kashmir	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*17.0*	*80.8*
FATA	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*13.2*	*70.6*
Educational level								
No education	*16.4*	*73.9*	*14.3*	*78.8*	*16.2*	*82.0*	*14.1*	*80.9*
Primary	*16.4*	*81.6*	*15.3*	*91.5*	*18.1*	*83.3*	*16.7*	*85.2*
Secondary	*12.5*	*91.0*	*13.7*	*93.3*	*13.0*	*87.5*	*13.7*	*88.0*
Higher	*8.3*	*NA*	*8.9*	*89.0*	*15.3*	*85.5*	*9.3*	*92.2*
Wealth quintile								
Lowest	*16.7*	*59.4*	*14.7*	*70.5*	*13.4*	*80.7*	*15.2*	*74.3*
Second	*16.0*	*73.2*	*14.4*	*78.5*	*18.1*	*80.1*	*16.7*	*83.8*
Middle	*18.5*	*76.7*	*13.0*	*89.0*	*17.7*	*84.3*	*13.8*	*88.3*
Fourth	*16.0*	*82.7*	*15.2*	*89.7*	*16.3*	*85.7*	*11.3*	*89.1*
Highest	*11.9*	*92.7*	*13.0*	*93.8*	*13.7*	*87.5*	*11.6*	*90.7*
Total	**15.8**	**76.4**	**14.1**	**83.3**	**15.9**	**83.3**	**13.8**	**84.3**

NA=Information not available.

Sources: Pakistan Demographic and Health Survey 1990-91; 2006-07; 2012-13; and 2017-18.

5.9 Impacts and Challenges of COVID-19 on Reproductive Health and Family Planning Services

The COVID-19 global pandemic created a public health, economic and social emergency in Pakistan for the last 9 months with an anticipated 12 months needed for recovery of the lost opportunities. During such emergencies, human and financial resources are diverted from essential health programmes to respond to the disease outbreak, meaning that there can be potential rise in maternal and newborn mortality and morbidity, increased unmet need for contraception, increased number of unintended pregnancies, sexually transmitted infections and gender-based violence.

A review by UNFPA (May 2020) looked at the COVID-9 impact on Pakistan's preventive services with extrapolations of increased vulnerabilities based on two scenarios: 1) 10% reduction in service access and provision in key areas of interest; and, 2) 20% reduction in service access.

Access and availability of maternal health, RH and FP services were seriously affected due to lockdowns, office and factory closures, supply chain interruptions and health facility closures. Recent evidence shows that service provision for skilled birth deliveries, FP services, and other RH needs were disrupted leading to increased risks of maternal morbidity, deaths, poor neonatal outcomes, higher unmet need, and discontinuation of FP methods. The review reports the following 3-month scenario:

- With approximately 500,000 births each month, there will be 1.56 million births in three months. 301,255 newborns will experience complications and 225,000 women will have complications requiring medical attention.
  - » In a 10% service coverage reduction scenario, 1,086 maternal deaths may occur with 30,833 stillbirths.
  - » In a 20% service coverage reduction scenario, 2,133 maternal deaths may occur with 58,541 stillbirths.
- For family planning with the 8 million current users, 5.5 million women with unmet need, and 3.7 million unintended pregnancies, the service reduction scenarios are:
  - » In a 10% service coverage reduction scenario – additional 1.2 million women will have unmet need and additional 528,000 unintended pregnancies would happen.
  - » In a 20% service coverage reduction scenario – additional 2.1 million women will have unmet need and a total of additional 924,000 unintended pregnancies might occur.

5.10 Conclusions

Health System Delivery and Human Resources

- Public sector services are the main source for preventive services and are missing opportunities for engagement of women/ couples at numerous health interactions for the vast majority of the population.
- At every level, the need for a strong monitoring and robust evaluation system of the progress on the recommendations and targets set for FP, RH and MNCH cannot be overemphasized.

The ambitious scope needed to achieve the CCI Task Force targets requires that a strong system be in place to report on indicators of progress. Given the lack of a monitoring system in place at the national, provincial or district levels to generate annual estimates of population growth rates, fertility, and CPR, immediate attention is needed to set up quick survey systems to measure results, in addition to strengthening regular programme data collection through health information systems.

Family Planning and Women's Empowerment

- Stagnant CPR and declining unmet need along with the low service footprint (utilization) of FP services indicate the urgent need to re-look at both the demand and supply side as a holistic picture to meet the National Population Narrative Goals (see Table 5.17 for extrapolated figures based on the existing situation from 2017-18 PDHS). At the service provision level, there is considerable under-utilization and a narrow method mix. At the data level for decision-making, the systems are still passive with low involvement of district leadership.

Table 5.17

Targets to meet Task Force Recommendations

Task Force Targets				New Couples-Users of Services
Year	CPR Target	TFR	Population Growth Rate	
2017 (current)	*34.2%*	*3.6*	*2.1%*	*Total 11.3million (existing)*
2025	*50%*	*2.8*	*1.5%*	*6.5million (total 18 million)*
2030	*60%*	*2.2*	*1.1%*	*9.3million (total 20.6 million)*

SRHR

SRHR is considered in a very narrow framework of FP and service provision to married couples. This needs to change to its actual definition with clarity on what Pakistan's or the provinces' vision is for SRHR including adolescents and young people, and these services should be embedded across healthcare provision, not stand-alone centers.

Maternal and newborn health

Progress has been made in various components of maternal and newborn health. However, the achievements have been uneven by component, province/region and sub-groups of population. Deaths and disability that are entirely preventable continue to take a toll, more so in less developed provinces (Balochistan and KPK) and among the poor and those with little or no education.

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6 Demographic Dividend; Education And Employment

6.1 Introduction

The demographic transition (Lee 2003) is taking place in Pakistan and there is an opportunity to reap the benefits of a "demographic dividend". The demographic transition, particularly a decline in fertility, presents the economy with an opportunity in the form of a surge in the relative size of the working-age population (15-64). This change in age structure leads to economic growth opportunities in three principal ways (Bloom et al 2000). First, by increasing the proportion of working-age persons in the total population it increases the ratio of economically active individuals to dependents. Second, reduced fertility enables women to enter the formal labor market. Third, a reduction in the youth dependency ratio allows for increased investment in child health and education, in the long run enhancing overall "productivity" and improving the skill level of the labor force. In the longer run, aggregate savings can increase as the large working age population save for retirement. This increase in savings can increase investment, leading to economic growth. The potential for a demographic divided in Pakistan has been recognized for some time (for example, Nayab, 2007; Sathar et al., 2013).

There are two issues however that cast doubt on Pakistan's ability to have a demographic dividend (Amjad, 2013)[31]. The first is the very slow pace of the fertility transition (Goujon, Wasir and Galley, 2020) meaning that on current trends the potential dividend will be modest in size and slow in coming. The second is that the benefits of the dividend are not automatic but have to be earned (Sathar et al., 2013; UNFPA, 2018)[32]. The potential created by the supply side push from demographic change, in the form of a larger, healthier, and better educated labor force, and savings, will only lead to higher rates of economic growth if appropriate policies and mechanisms are in place for these resources to be employed productively.

The mechanical part of the demographic dividend is the decline in youth dependency rates and change in age structure. These operate not only at the national level but also at the household level. The change in the age structures at the household level reduces the number of children of school going age, allowing women to go out of the home to work, and for the family to make greater investment in each child's education and health. These changes in household composition have direct implications for household income generation, and for consumption and savings behavior (Nayab, 2007). The demographic dividend is not only a source of national economic growth, but also a key factor for reducing household poverty (Nayab and Siddique, 2014)[33].

The "demographic dividend' is sometimes referred to as a "demographic gift", but this may be misleading since it suggests that the gift simply has to be accepted. If fact, the dividend must be earned by taking appropriate policy measures, both to speed the demographic transition, and ensure the resources released by the transition are productively employed. Both these require an array of policies to ensure the dividend is realized in full. We will look at the policies in detail in section 6.6 below. It is clear from key demographic, social, and economic indicators for Pakistan and a group of comparator countries, as reported in Chapter

[31] Provides detailed discussion on why Pakistan has not reaped its demographic dividend.
[32] Briefing paper "Realizing the Demographic Dividend in Pakistan: Issues and Options" provides a good discussion in this regard.
[33] "National Transfer Accounts for Pakistan: Estimating the Generational Economy" provides detailed understanding of how population growth and changing population age structure influence economic growth, gender and generational equity, public finances, and other important features of the macro-economy.

3, that Pakistan lags in terms of having low levels of education (UNFPA & Population Council, 2014), a high fertility rate, and a low level of income per capita. We argue that these factors are linked and that the slow pace of improvement in education and the slow demographic transition in Pakistan have contributed to its lagging income level.

This chapter aims to: (i) analyze changes in age structure of the population in order to assess the nature of the window of demographic opportunity opened through fertility transition; (ii) examine the education transition in Pakistan; (iii) analyze the labour market dynamics, particularly female labor market participation, to see the potential of benefiting from demographic opportunity; (iv) examine the socio-economic implications of the demographic dividend for Pakistan; and (v) identify challenges in attaining the demographic dividend policy options for harnessing the demographic dividend in Pakistan. The chapter has been organized as follows. The next section examines the situation of demographic transition and demographic dividend in Pakistan focusing on fertility, child mortality, contraception and changes in age structure, followed by a discussion in section 3 on empowerment, education and employment. Section 4 examines the socio-economic implications of the demographic dividend for Pakistan while section 5 identifies the challenges in attaining the demographic dividend. The final section presents the conclusions and presents some policy options for harnessing the demographic dividend in Pakistan.

6.2 Demographic Transition and the Demographic Dividend in Pakistan

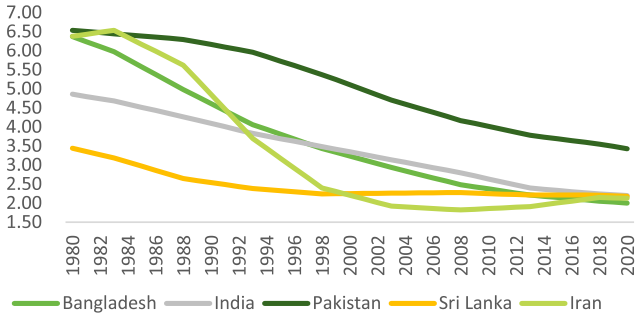
The demographic transition has been slow in Pakistan. The total fertility rate in Pakistan has fallen considerably over the last 40 years, from over 6.5 children per woman in 1980 to just over 3.4 children per woman in 2020 (see Figure 6.1). However, this decline has lagged the decline in fertility in comparator countries. In particular, India and Bangladesh had very similar fertility to Pakistan in 1980 but have since seen a more rapid decline with fertility now around 2.2 in India and close to 2.0 in Bangladesh.

This slow decline in fertility in Pakistan is in line with a continued high level of desired fertility. An important driver of fertility desires is child mortality; high child mortality drives a desire for more children to replace those who die and to insure against future losses. While the under 5 mortality rate in Pakistan was lower, at 163 per 1000 live births, than in India, 168 per 1000 live births, or Bangladesh, 198 per 1000 live births, in 1980 it is now substantially higher than in these comparator countries (see Figure 6.2). As discussed in Chapter 4, the lack of improvement in child mortality is a major barrier to achieving lower fertility. Figure 6.3 shows the relationship between the under 5 mortality rate and the total fertility rate between countries and across regions of Pakistan; there is a clear association with countries and regions that have higher child mortality having lower fertility. However, Punjab appears to be an outlier with relatively lower TFR (3.4) and a high value of child mortality (85 per 1000 live birth). Analysis across multiple countries shows that each additional child death is associated with over 2 additional births (Canning et al 2013), making reductions in child mortality an important factor in promoting fertility decline.

As reported in Chapter 4 (Figure 4.12), no region or province of the country is close to replacement level fertility. Fertility levels are similar across most regions of Pakistan, but with a higher level in the most recent wave of the PDHS in Gilgit-Baltistan. However, there is a clear difference between fertility in urban and rural areas, with urban areas having a total fertility rate under 3 while the rural areas have a rate just under 4.

Figure 6.1

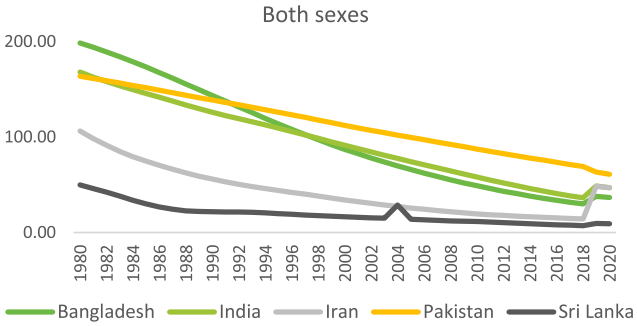
Trends in Total Fertility Rate (births per woman) 1980-2020, Bangladesh, India, Iran, Pakistan and Sri Lanka



Source: United Nation (2019) World Population Prospects

Figure 6.2

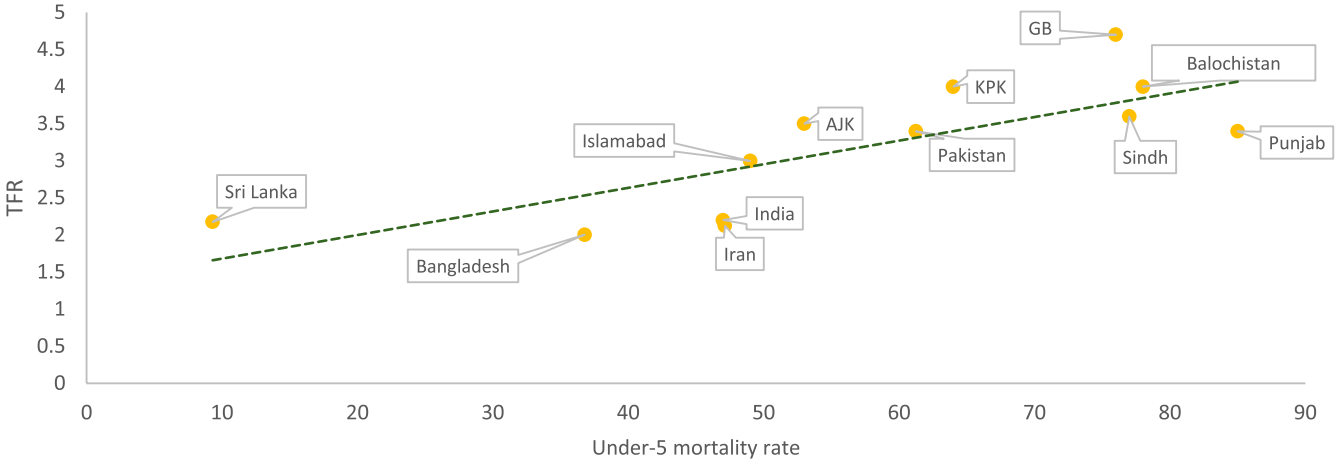
Trends in under-5 mortality (both sexes), 1980-2020, Bangladesh, India, Iran, Pakistan and Sri Lanka



Source: IGME (2019) UN Intet-agency Group for Child Mortality Estimation

Figure 6.3

Relationship between fertility and under-5 mortality, 2020



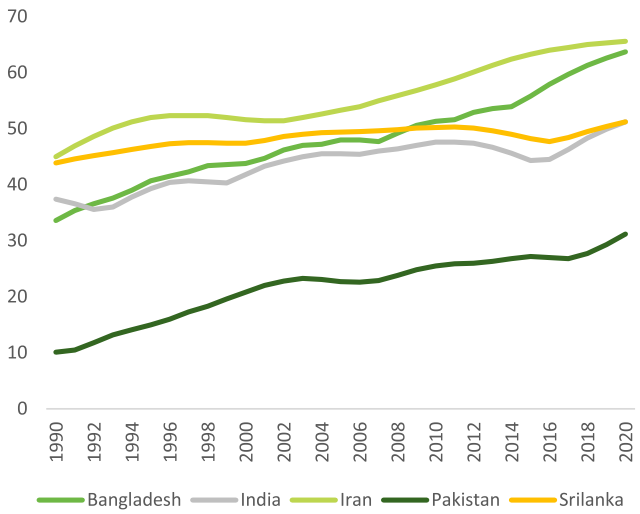
There is heterogeneity in fertility by education level as shown in Chapter 4 (Figure 4.14), with fertility rates among highly educated women around 2.5 while women with no education have fertility rates above 4. While there is a strong education gradient in fertility in Pakistan it should be noted that even among the most highly educated women fertility remains substantially above the replacement level of 2.1 children per women. This contrasts with many other high fertility countries where while fertility is high on average, fertility rates among highly educated women are well below replacement levels (Canning et al, 2015). In addition, since 2006, the fertility rate at each education level has been fairly static in Pakistan, and the decline in fertility has come only from rising female education levels rather than other forces (see Chapter 4 Figure 4.14). Female education potentially increases women's empowerment, and earning opportunities, and is often a key driver of fertility. However, education levels in Pakistan have lagged behind levels in comparator countries (see section 6.3 below).

In addition to the high level of desired fertility in Pakistan, there is a gap between desired and actual fertility – and an unmet need for family planning; 17.3% of married women of reproductive age had an unmet need for family planning in Pakistan in 2017-18 (Pakistan Demographic and Health Survey 2017-18, Key Indicators Report). The contraceptive

prevalence rate in Pakistan is low, just over 30%, as compared with over 50% in India and Sri Lanka and over 60% in Bangladesh and Iran (see Figure 6.4). While providing access to family planning in Pakistan would reduce the unmet need for family planning and lead to a rapid reduction in fertility, it should be emphasized that the large reduction in fertility requires changing the more distal factors that are driving the high level of desired fertility. It should be noted however that providing family planning will produce health benefits as well as having fertility effects. By improving birth timing and spacing, particularly reducing high risk births due to mothers being teenagers, or from having short birth intervals, family planning can reduce both child mortality and adverse health outcomes in children and mothers (Molitoris, et al, 2019).

Figure 6.4

Contraceptive Prevelance Rate, Bangladesh, India, Iran, Pakistan and Sri Lanka, 1980-2020



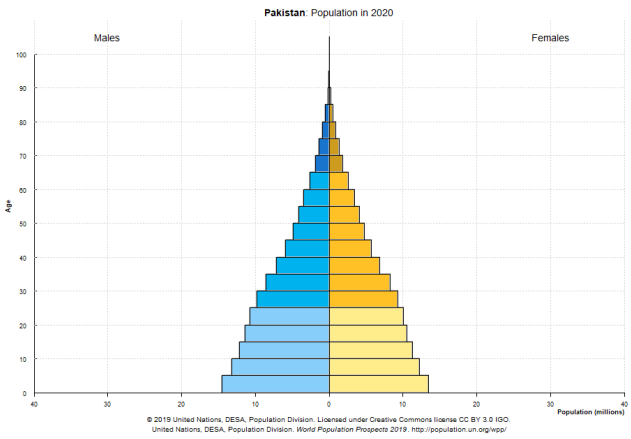
The population pyramid for Pakistan (see Figure 6.5) is decidedly bottom heavy, with large youth cohorts, smaller cohorts of working age people, and very small old age cohorts. In 1980 the ratio of working age to dependent population was similar in Pakistan, Bangladesh and Iran, around 90 percent. However, in Bangladesh, and particularly in Iran, fertility fell more much quickly than in Pakistan and this is reflected in the different trajectories for their ratio of dependent to working age population seen in Figure 6.6 – compared to 64 percent for Pakistan, the ratio was respectively 47 and 49 percent for Bangladesh and Iran in 2020. The ratio of dependents to working age population has fallen in Pakistan due to the fall in fertility that has occurred, but this fall is much more modest than in the comparator countries. The slow decline in fertility in Pakistan thus means that the population has a high youth dependency rate. Pakistan has a youth dependency ratio (young as % of working-age population) of 57.8% in 2019 compared to 39.7% and 40.3% for India and Bangladesh respectively.[34]

Using UN projections (medium variant) fertility in Pakistan will continue to decline only very slowly and on current trends the ratio of dependents to working age population in Pakistan will not fall below that in India until 2055. There is some variation in the age dependency ratio across the provinces of Pakistan, with Punjab having the lowest ratio, around 70 percent in 2020, and Balochistan the highest, 85 percent (Figure 6.7), but overall, the progress has been slow.

The slow pace of the fertility transition in Pakistan raises the question of what measures could be taken to speed the transition and allow a larger and more rapid demographic dividend, which we address in section 6.6 below. We now turn in section 6.3, however, to the labor market and education in Pakistan and how these affect the dividend and how the dividend can in turn improve labor supply and education.

Figure 6.5

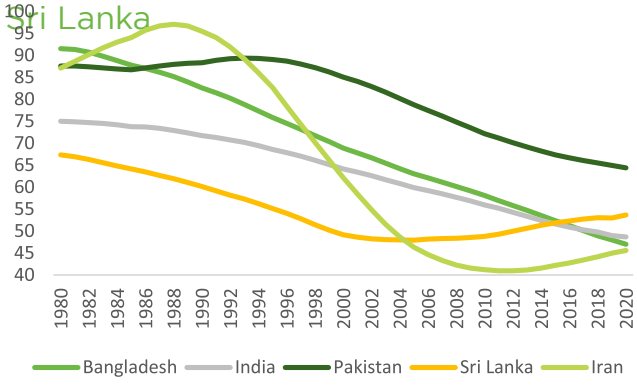
Population Pyramid for Pakistan 2020



[34] https:/data.worldbank.org/indicator/SP.POP.DPND.YG?locations=PK, IN,BD

Figure 6.6

Age dependency ratio 1980-2020, Bangladesh, India, Iran, Pakistan, and Sri Lanka

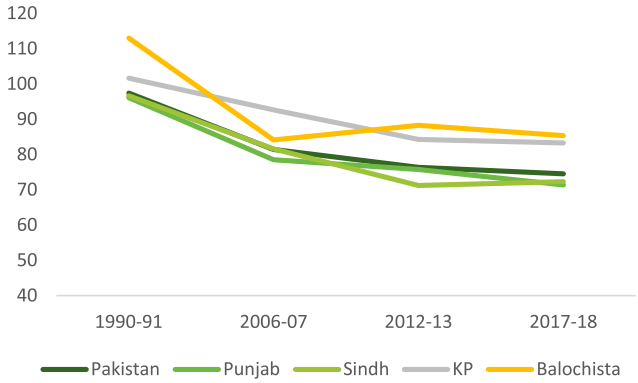


Ratio of those aged 0-14 and 65+ to the population aged 15-64.

Source: United Nation (2019) World Population Prospects

Figure 6.7

Age dependency ratio in Pakistan by province



6.3 Empowerment, Education and Employment

6.3.1 Empowerment and Employment

Employment has two dimensions: labor supply and demand. The demographic dividend can generate a boost on the supply side, by increasing the share of the working age population in the total population. In addition, by freeing up time from childcare, reductions in fertility can boost female labor market participation. Opportunities for female employment can also help drive fertility reduction by encouraging a trade-off between childcare and wage earning and improving women's empowerment and control over decision making (Upadhyay et al 2014).

The female labor force participation rate in Pakistan has grown over the last three decades and is now just under 22%, on a par with India. It lags behind the high and growing levels that have been seen in Bangladesh (refer to Figure 3.7A, Chapter 3). However, a pertinent question is how do we explain the almost identical female Lobour Force Participation Rate (LFPR) in India with a much lower TFR than Pakistan? Bhalla and Kaur (2011) argue that it is the urban component that is very low in India, the rural LFPR being high because of poverty and the necessity of work. The urban rate in India has not changed much for the last 25 years with an average rate around 23 percent or a level a little more than half that prevailing in the rural areas. They further show that:

The results underline the radical change taking place in the education/work arena. In 1983, only 47 percent of women in rural India were in the adjusted labour force, compared to 45 percent in the "unadjusted" labour force. In 2004/5, the comparable numbers are 50 and 45 percent. Urban India shows a larger change – the adjusted number of women in the labour force is 36 percent in 2004/5 compared to the unadjusted 24 percent level. Given the trends in fertility documented in the previous section, it is likely that this number will approach the international "norm" of 50 to 60 percent in the next 10 to 15 years.

East Asia, particularly China, saw enormous increases in its female labor force participation rate as part of its demographic dividend. While this is possible in Pakistan there are a number of barriers to increasing women's opportunities to work. Female labor participation is strongly associated with at least a secondary school education and tends to end once women marry. In addition, fear for physical safety, and employer's preferences not to hire women (despite legal protections for female employment) are important barriers to women working in Pakistan (Amir et al, 2018). This implies

that improving female education, and a decline in fertility levels will not on their own lead to large increases in female labor market participation; it is important to also transform social norms around female safety, and their ability to work independently.

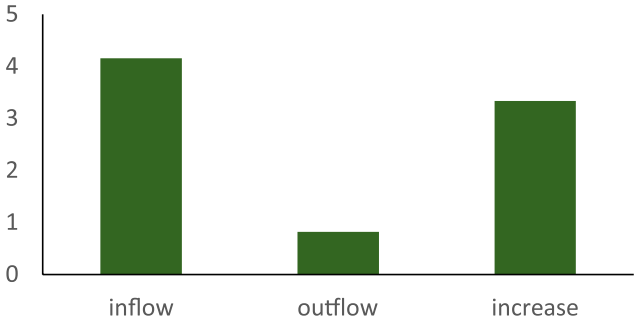
When labor supply increases there is a potential for more employment and economic growth, however this will only occur if there are jobs available. Lack of employment opportunities can lead to large scale unemployment. In poor countries, rather than unemployment, people are often forced to work in very low productivity and wage jobs in agriculture and the informal sector when there is a lack of sufficient demand for labor (Canning et al 2015). In Figure 3.8 (Chapter 3) we show unemployment rates in Pakistan and comparator countries. Unemployment has risen modestly over the last decade in Pakistan but it is at a very low level by international comparisons. Unemployment is only likely to become a major issue at a higher level of income per capita; as we see in Iran and Sri Lanka. However, underemployment, the proportion of employed labour force who worked less than 35 hours in a week, is quite high in Pakistan, around 13 percent, with no improvement in the last decade (PBS, 2019). Further, there is an issue that workers in Pakistan are being forced into low productivity and low wage jobs in agriculture and the informal sector.

Figure 6.8 shows the annual change in the population of working age in Pakistan. Over 4 million young people enter working age group each year while less than 1 million age out of the group. This implies that the working age population grows by over 3 million each year and around two million young people enter the labor force each year in Pakistan. Employment generation in well-paying jobs is directly related to GDP growth It has recently been argued that Pakistan must grow at 7 to 8% per annum for 30 years consistently if the growing youth population is to be productively employed (Haque, 2020). However, the 2020's projected growth rate of 2.4% is clearly insufficient to absorb these new entrants into the labour force. With an extremely compromised social protection system and limited fiscal space, the strain on Pakistan's resources is stretching far beyond comfortable levels (Arif and Afzal, 2020). It is an open question whether and when Pakistan could manage to grow at a high rate of 7-8% per annum for a long period of time.

Agriculture is unlikely to be a large source of growth of high paying jobs in Pakistan. Employment in agriculture tends to fall substantially with the move to higher productivity based on larger scale production and mechanization (Emerick 2018). Employment growth in agriculture is usually in labor subsistence farming; a form of hidden underemployment and a sign of a failure of economic growth[35] (Canning, et.al. 2015). In countries that have successfully harnessed a demographic dividend the growth in jobs has come in manufacturing initially, followed by a growth in services once a higher level of income has been achieved. The role of the manufacturing and service sectors are vital in creating high wage jobs, particularly for workers with higher and middle skill levels. The weak manufacturing sector makes it difficult to absorb these new entrants into appropriate jobs, particularly those with a higher level of education. No doubt, the service sector is largely informal in Pakistan, absorbing workers in construction, trade and transport subsectors. However, the growth of service sector has some positive implications for providing employment, particularly those who have higher levels of education. The 2017-18 Pakistan Labour Force Survey shows that about 10 percent of the total employed workers were engaged in public administration, education and health related activities (PBS, 2019), the preferred sectors for educated persons in Pakistan.

Figure 6.8

Change in Working Age Population in Pakistan 2020, millions



[35] However, value addition in the agri-sector can change things, it does not necessarily have to be low income.

Pakistan has a relatively weak industrial and manufacturing sector. Figure 3.4B (Chapter 3) shows that in 1990 the share of workers in industry in Pakistan was substantially higher than in India and Bangladesh. However, over the last three decades both India and Bangladesh have seen their share in industry grow much faster than Pakistan, and India is now on a par with Pakistan in terms of employment in industry. The picture in services, shown in Figure 3.4C (Chapter 3) is similar. In 1990 service sector employment in Pakistan was higher than in India and Bangladesh, but subsequently those two countries have performed better, and Bangladesh is now on a par with Pakistan.

Temporary migration overseas has been a major source of employment during last forty years, helping to absorb some of the growth in the Pakistani labour force. Pakistan is the 2nd largest manpower/labour exporting country of South Asia. The Bureau of Emigration and Overseas Employment (BE&OE) has registered more than 11.11 million emigrants for employment abroad. During the last 6-7 years more than half a million workers were placed on average per year in overseas labour markets, mainly in the Gulf countries. COVID-19 will have a negative impact, at least for 2020, on the placement of workers abroad, which has already been halted. Remittances are a major source of income in Pakistan, amounting to almost 10% of GDP. The future of overseas migration depends on post-COVID-19 revival of economic activities in the major labour-importing countries mainly of the Gulf region. While outmigration of workers appears to lower the working age population in Pakistan, and raise the youth dependency rates, their productive employment overseas is in fact a boon if it generates jobs and remittances to Pakistan, and workers return with enhanced skills.

6.3.2 School enrolment, educational attainment and literacy

The poor performance in education in Pakistan is a major impediment both to economic growth and the demographic transition. Both primary and secondary school enrollment rates in Pakistan are substantially lower than in all the comparator countries (Chapter 3). In Figure 6.9 we plot the male secondary school enrollment rate in Pakistan and comparator countries. This emphasizes that not only does Pakistan lag behind its comparators but that in 1990 Pakistan and Bangladesh had similar levels of male secondary school enrollment, around 30 percent, but Bangladesh has subsequently seen a considerably better performance, 67 percent in 2018 compared to 45 percent in Pakistan. This lack of school enrollment in the current cohort of children means the skill level of the workforce, as seen in the literacy rate in Figure 6.10, is likely to lag behind other countries for the foreseeable future.

The levels of female educational attainment and literacy in Pakistan are the lowest in the region. Compared to 39 percent in Pakistan, the secondary school enrolment ratios in Iran and Bangladesh are 102 and 78 percent respectively in 2018 (Figure 6.11). Similarly, the levels of female literacy in Iran and Bangladesh, 80 and 71 percent respectively, are much higher than in Pakistan, around 50 percent (Figure 6.12). While the low level of male education affects mainly economic productivity, the low level of female educational enrollment and literacy has multiple detrimental effects. It promotes high fertility and lower female labor market participation. In addition, the gap between male and female education levels means a lack of female empowerment both in the home and the workplace. There is a strong case for both increasing overall education levels in Pakistan but also for narrowing the gap between male and female school enrollment and educational achievement.

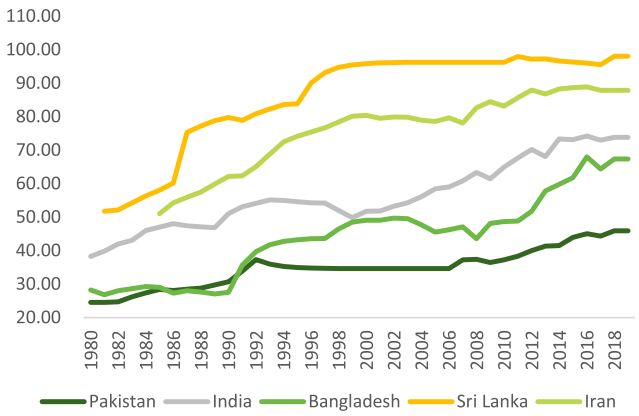
Figure 6.13 shows literacy rates for men and women in Pakistan overall, and broken down by urban-rural residence. There has only been very slow improvement in literacy over the last 30 years. Literacy rates in 2019 were around 71% for men and 49% for women. However, when we look at urban-rural differentials, we see that there is a gap of about 13 percentage points in urban areas but around 27 percentage points in rural areas. Turning to current primary school enrollment rates in Pakistan we see similar levels across men and women. Looking at

net secondary school enrollment rates in Figure 6.14 we see that, overall, males and female have in Pakistan similar rates. However, in urban areas female enrollment is higher than for males while in rural areas the opposite is true. While there is scope for emphasizing female education in rural areas of Pakistan the main issue is that both boys and girls have low enrollment rates and that policies should address education for both sexes.

We have focused on the poor performance of Pakistan in terms of literacy and school enrolment. There is a concern that the education system in Pakistan is not producing the skills and abilities required for a highly productive workforce (World Bank 2019). To some extent this points to a lack of quality in the education system and the need for improving the quality, as well as the quantity, of education. However, there are also other factors at work. Childhood health and nutrition in utero, and the first five years of life, and psycho-social stimulation, are important determinants of brain development and the emergence of cognitive and social capabilities (Yousafzai et al 2014). Part of the lack of demand for education in Pakistan is also due to the lack of high paying jobs for educated young workers entering the labor market (World Bank 2019).

Figure 6.9

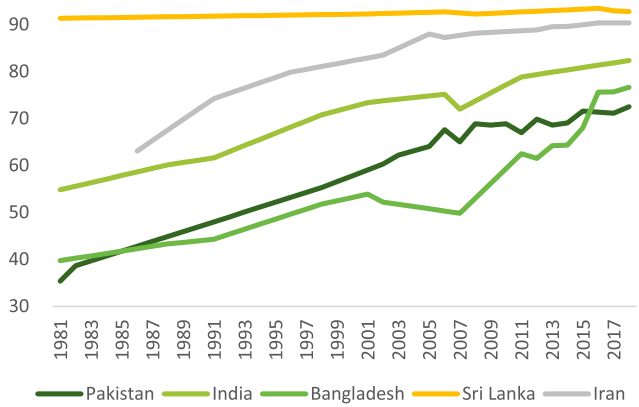
Male Secondary school enrolment (Gross), Bangladesh, India, Iran, Pakistan and Sri Lanka (1980 - 2019)



Source: World Development Indicators, World Bank

Figure 6.10

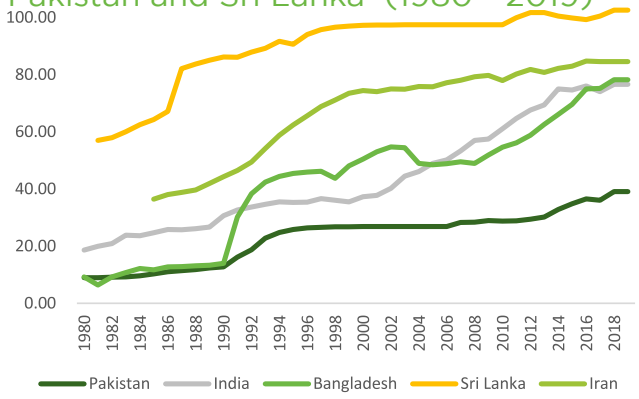
Male Literacy Rate (1981 - 2018), Bangladesh, India, Iran, Pakistan and Sri Lanka



Source: World Development Indicators, World Bank

Figure 6.11

Female Secondary school enrolment (Gross), Bangladesh, India, Iran, Pakistan and Sri Lanka (1980 - 2019)



Source: World Development Indicators, World Bank

Figure 6.12

Female Literacy Rate (1981 - 2018), Bangladesh, India, Iran, Pakistan and Sri Lanka

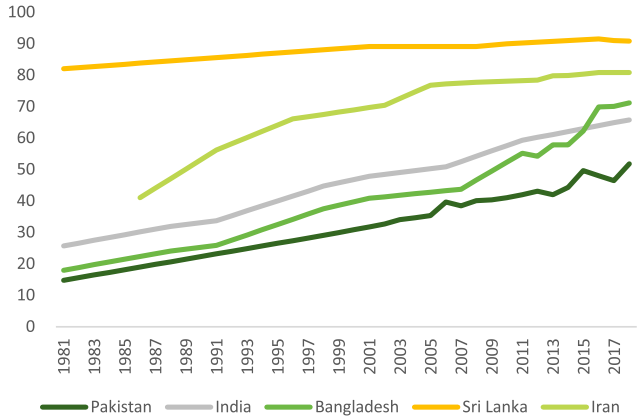


Figure 6.13

Literacy Rate of Adult Population by rural-urban areas and gender, 2004-05 to 2018-19

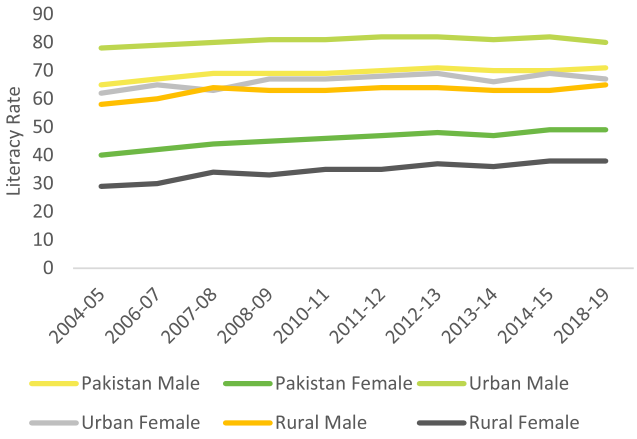
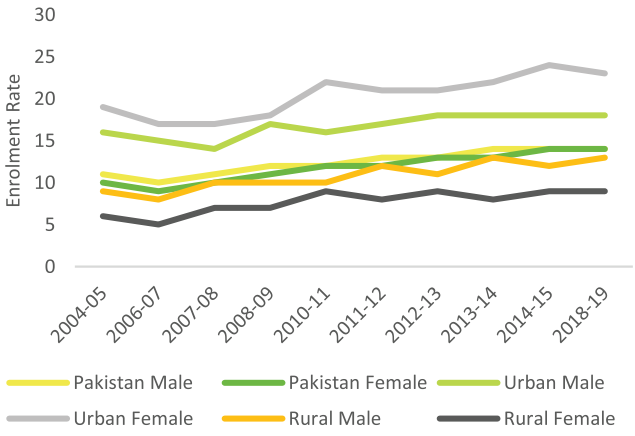


Figure 6.14

Net Enrolment Rate (Secondary) by rural-urban areas, 2004-05 to 2018-19



6.4 Socio-economic Implications of the Demographic Dividend for Pakistan

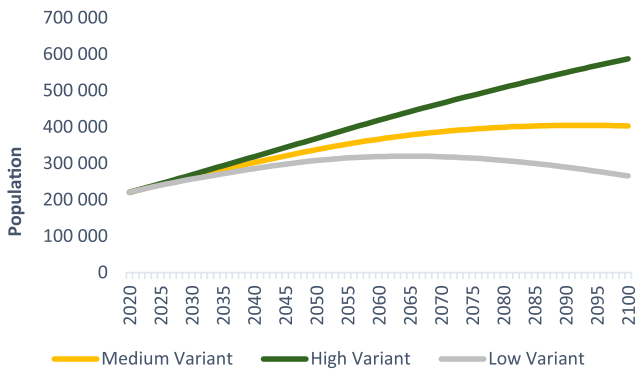
The demographic transition has the potential to create enormous effects on socioeconomic conditions in Pakistan in terms of age structure, female labor market participation, savings and human capital. Figure 6.15 shows projections of the total population of Pakistan to 2100 under the United Nations medium fertility variant and the population if the total fertility rate were to be 0.5 children higher or lower than projected. The differences in population numbers in 2100 under even these fairly modest differences in fertility rate are very large; 588 million if fertility is slightly higher than the medium variant versus 262 million if it is slightly lower. This emphasizes how sensitive population numbers are to changes in fertility rates and how large the potential consequences for Pakistan may be.

Figure 6.16 sets out a simple schematic of the major mechanisms through which changes in the fertility rate can influence economic growth. One major effect is purely demographic; a fall in fertility reduces the youth dependency ratio and the change in the age structure changes the ratio of working age to dependent population increasing labor supply per capita. Moreover, fertility decline can reduce childcare needs and increase female labor force participation. These labor force effects can lead to substantial increases in income per capita even in the short run as soon as fertility falls.

Secondly, there is a channel that links fertility declines to improved educational and health outcomes for children. Through this channel, smaller family sizes and increased intervals between births may allow additional educational and health investments in children which, in turn, can contribute to physical and cognitive development, leading to increases in human capital, and improved worker productivity. Some of this effect is at the household level, families with smaller children may invest more per child, but a part may also be at the province or national level, where smaller numbers of children in total allow governments to spend more per child. These labor supply and child educational and health effects combine to produce a higher effective labor force, adjusted for productivity as well as the number of workers.

Figure 6.15

Pakistan Population Projections 2020-2100

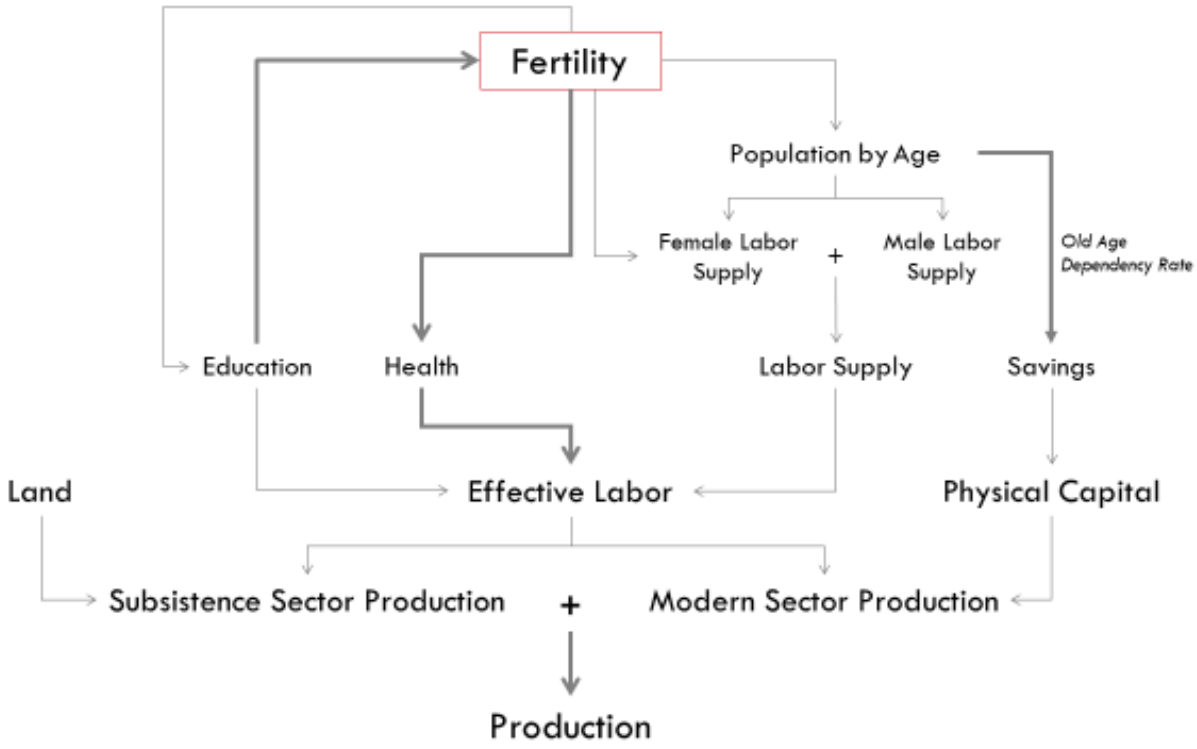


There is an important feedback loop here; as fertility declines and investment in children's education rises, the next generation of better educated women will have fewer children, magnifying the initial effect of fertility decline. However, this feedback mechanism is slow in coming; it only occurs when the child cohorts with increased education reach childbearing age. There may be other accelerator mechanisms as well. As women enter the labor force their empowerment and bargaining position in the household can change, as may social norms, further encouraging fertility decline.

Thirdly, we incorporate a mechanism through which the change in the population age structure due to fertility decline may increase savings rates. At the household level savings rates vary with age, with a peak during people's working lives, so that at the national level aggregate savings will depend on the age structure of the population (Bloom, Canning, Mansfield, & Moore, 2007). There may also be an additional effect of lower fertility on expected transfers from children to their elderly parents, increasing the need for savings for retirement (Carroll and Weil, 1994). Higher savings rates from reductions in fertility rates may in turn boost the capital-labor ratio, increasing worker productivity. This savings rate mechanism is potentially very large; China has financed its investment for economic development large through very high levels of domestic savings.

Figure 6.16

Schematic of Effects of Fertility change on Socio Demographic Outcomes



A final mechanism is on the structure of economic activity. We envision a two-sector model where some people work in a highly productive modern sector that combines physical and human capital and pays high wages. Others work in traditional sectors, in agriculture or low productivity informal jobs. The size of the modern sector depends on the skills and education of the workforce but also the availability of physical capital investment that makes them productive. Rapid population growth, and large numbers of young people entering the workforce each year, can overwhelm the physical capital available in the modern sector and force workers into the low productivity traditional sectors. Reducing fertility can help speed the structural transformation of the economy by allowing a larger share of the workforce to be employed in the high wage modern sector.

6.5 Challenges in attaining the demographic dividend

There are two major challenges to attaining the demographic dividend in Pakistan, the first is in terms of achieving and speeding the fertility transition and changes in age structure, and the second is in terms of policies to harness the extra potential resources that are produced by the fertility transition. Desired fertility in Pakistan is driven by education, and child mortality, but also depends on cultural factors such as son preference (Jalil et al 2106) and the prevlance of child marriage and subsequent lack of empowerment of women in rural areas with low levels of edcuation (Nasrullah et al 2017) . The high levels of child mortality and slow progress in improving educational attainment are therefore important barriers to achieving a rapid fertility transition, but there are also barriers in terms of social norms and expectations on women's behavior. This is linked to lack of labor market opportunities and social norms against women working which for married women in particular means there is little opportunity cost to high fertility in terms of earnings foregone.

The second set of challenges is around harnessing the potential of the demographic dividend if fertility does decline. One major issue is female labor market participation. When women want to work there are major barriers to their doing this in Pakistan. These issues around safety and employer preferences require policies outside the usual array of educational and labor market measures to promote female labor supply. A second is in terms of harnessing the potential for increased investment in child health and education brought about by smaller family and cohort size. While it is possible to use the resources freed up by smaller families for this purpose there are a large number of competing demands on resources, which mean the savings go to other forms of consumption rather than investments in children.

Thirdly, there are difficulties in harnessing domestic savings for investment. Savings really only rise substantially once the prospect of retirement and a need for retirement income become common, which only happens at middle income levels and when workers have formal sector employment. It is worth noting that about 40 percent of the employed labour force in Pakistan is engaged in the agriculture sector, and informal sector accounts for 72 percent of non-agricultural employment, more in rural (76.0%) than in urban areas (68.3%). Formal sector activities are concentrated more in urban areas (31.7%) than in rural areas (24.0%) (PBS, 2018). A major shift to formal sector employment and access to retirement income seem to be a challenging task under the current structure of economy.

Also, there need to be financial institutions in place that provide a safe mechanism for personal savings and that channel these savings to productive investment. In situations where financial institutions collapse, or rampant inflation can wipe out savings, people may be hesitant to save. In addition, investments in productive assets require

well-functioning property rights and the prospect that economic success will lead to payoffs to the investor. Finally, we would also like to highlight that social security, including old age pensions and benefits, affects the fertility choices. The data show that "an increase in government provided old-age pensions is strongly correlated with a reduction in fertility" and "an increase in the size of the Social Security system on the order of 10% of GDP is associated with a reduction in TFR of between 0.7 and 1.6 children (depending on the controls included) (Boldrin et al. 2015).Pakistan, therefore needs to reimagine its social security system with a key focus on old age pensions. Its absence has been a factor in pushing parents to higher fertility choices.

6.6 Policy Options for Harnessing the Demographic Dividend in Pakistan

To harness the demographic dividend, policies are required that firstly generate the fertility transition and age structure change, and secondly take advantage of the potential resources generated by (savings) to generate increased output. The policies we are advocating are summarized in Table 6.1. It is important to note that the demographic dividend is a complex phenomenon, with multiple pathways (as seen in Figure 6.16) requiring multiple areas of policy response. Some of the policies in Table 6.1 overlap and have complementarities, and affect multiple outcomes, meaning that the policy package has to be addressed as a whole. The emphasis on these policies does not discount the fact that other policies will be important as well. However, we hope that by focusing on a small number of high impact areas we are able to guide the policy debate to changes in action.

Starting with policies to speed the fertility transition we begin with factors that we identified in section 6.5 that are leading to high fertility. We advocate increased investment in child health aimed at improving child mortality.

Table 6.1

Policies to Reap the Demographic Dividend in Pakistan

Purpose	Policies
Accelerate the fertility decline	*Reduce child mortality,* *Increase female education in rural areas* *Address social norms on fertility and gender equity* *Reduce child marriage* *Expand comprehensive family planning programs*
Reap the economic dividend: labor	*Address barriers to female labor supply* *Improve education and child health investments* *Encourage overseas migrant work* *Improve business environment to build demand for labor* *Reduce trade barriers*
Reap the second economic dividend: investment	*Attract foreign direct investments* *Improve policies and institutions for domestic savings and investment*

The experience of, and worries about, future child mortality are major drivers of the high desired fertility we observe in Pakistan. In addition, Pakistan is a major outlier in terms of its very high child mortality relative to comparator countries. There exist a range of cost effective interventions that could substantially reduce child mortality in Pakistan - by half (e.g. see vaccination rate coverage as reported in Chapter 3), down to the levels seen in India and Bangladesh, and even further improvements, to the levels seen in Sri Lanka and Iran are possible. These interventions would be justified on the grounds of the gains in avoided deaths alone. The fact that they can also drive fertility decline, and the demographic dividend is a compelling additional argument for their prioritization.

Secondly, we advocate for a focus on female education, particularly in rural areas where enrollment of girls lags behind that of boys. Female education is probably the biggest single driver of desired fertility. However, in Pakistan even highly educated women have fertility rates above replacement, which is unusual; in most countries women with secondary or tertiary education have fertility well below replacement. This points to the importance of social norms on fertility and gender equity in Pakistan, in particular the role of female employment. In most countries rising levels of female education make the tradeoff between fertility and work and wages for women more acute but in Pakistan the lack of labor market opportunities for married women is preventing this. Changing this is not just a matter of incentives, and laws, but requires changing deep seated social norms.

As well as changing desired fertility we also advocate two policies to allow women to achieve their desired fertility level. One is to discourage child marriage. Young women who marry are often in a poor position to bargain and achieve their fertility desires. Delaying marriage to adulthood can therefore not only reduce high risk pregnancies when the woman is very young but help empower her within the family. Expanding access to contraceptive services can also help women achieve lower fertility overall and reduce high risk pregnancies due to short birth intervals.

Turning to policies to harness the potential of the demographic dividend we split our policies into two areas, one focusing on labor, human capital and jobs, and the other on investment and physical capital. Fertility reduction reduces both population numbers, and the youth dependency ratio immediately, creating an immediate rise in per capita income. However, the other mechanisms, which are potentially of far larger magnitude are not automatic and require appropriate policies and behavioral responses.

As fertility falls the potential for women working increases and it is important to harness this. This is particularly an issue in Pakistan where female labor market barriers are high and participation is low. This lack of access as already noted also leads to higher fertility. Measures to improve women's physical security and overcoming social norms against women working are of great importance.

It is important to ensure that the cohorts of workers coming into the labor market have adequate education and skills to be productive. This education policy is complementary to our child health policy, which will improve child development and cognition. These health and education policies are synergistic, improving working productivity but also encouraging lower fertility.

Absorbing the two million new young workers entering the labor market each year may be difficult in the early part of the transition, when the absolute numbers of youth are rising and the economy might not be able to absorb these cohorts into productive employment. Added to this will be the need to employ rising numbers of women as fertility falls. Both can be addressed, in part, by employment policies ensuring that youth and particularly young women have appropriate labor market skills. But the sheer size of the growing labor force means that youth and female employment policies will in themselves be inadequate. What is needed is a large increase in labor demand resulting from a substantial rise in economic growth. The demographic transition ensures the labor supply side of growth, but labor demand is needed to turn the transition into a demographic dividend.

There is scope for employment in the formal sector, the agriculture sector, and the nonfarm informal sector. The successful East Asian demographic dividend focused on export-led growth. Pakistan could replace East Asia as the world's source of labor-intensive manufacturing due to rising wage rates in East Asia, though it will face tough competition from a number of other lower- and medium-income Asian countries. The challenge is in engaging the large youth cohort in high-productivity formal sector jobs rather than in informal, low-productivity, low-wage jobs in agriculture or informal household-based enterprises. Despite low wages, Pakistan is not highly competitive in international markets due to high barriers to trade, lack of infrastructure, and lack of skilled manpower. We advocate an improved business environment to build demand for labor, and reduce trade barriers, to promote production. In the short run there is potential for increased short term migration for work and remittances, though there is a concern that the available markets are saturated and further growth may be very difficult, especially with COVID-related travel restrictions.

In addition to increasing the opportunities for employment, Pakistan needs to prepare for the second demographic dividend based on increasing savings for retirement and the potential that this could result in investment-led growth. The second demographic dividend largely depends on the first demographic dividend or the pace of fertility decline, which is presently very slow (see chapter 4 for more detail). The period of first demographic dividend is projected to extend for the next five decades, until 2073 (UNFPA, 2018). The preparation for the second demographic dividend requires setting up low-cost savings schemes accessible to workers in the informal and formal sectors and directing the boost in savings toward productive investment, eventually replacing foreign funds as the main source of investment financing. However, this is a long-term endeavor, and it is unlikely that Pakistan will see a domestic saving and investment boom until the demographic transition is well underway and income levels have risen substantially. We therefore advocate for a focus on foreign direct investment (FDI) in the short term to bridge the gap until domestic savings rises. However, to date FDI has been low in Pakistan, less than 2% of GDP a year, though with quite a lot of year-to-year volatility.

The growth in Pakistan's population will continue in the near term. However, there is a wide range of possible futures with different levels of fertility that can have enormous short and long run consequences. With the right policies, the transition to smaller families can be accelerated, and labor markets can provide productive work for a rapidly growing workforce. With the right policies, Pakistan can reap a large demographic dividend to help propel its economic takeoff.

6.7 Conclusions

Five major conclusions are drawn from the analysis of demographic dividend carried out in this chapter: First, fertility transition in Pakistan is slow, but is in line with a continued high level of desired fertility. High child mortality, and low levels of female education, are important drivers of the high level of desired fertility in Pakistan.

Second, while female education levels in Pakistan have lagged behind levels in other countries of the region e.g. Bangladesh, India, and Sri Lanka, it is noteworthy that even among the most highly educated women, fertility remains substantially above the replacement level of 2.1 children per woman. This points to the need for increased empowerment and labor market opportunities for women.

Third, while desired fertility remains high, there is still a substantial unmet need for family planning, and improving access to family planning could lead to rapid reduction in fertility.

Fourth, the fall in the ratio of dependents to working age population in Pakistan, due to the fall in fertility, is much more modest than in the comparator countries. There is some variation in the ratio of working age to dependent population across the provinces of Pakistan, with Punjab having the highest ratio and Balochistan the lowest, but overall, the progress has been slow.

Fifth, unemployment is at a very low level by international comparisons. However, there is an issue that workers in Pakistan are being forced into low productivity and low wage jobs in agriculture and the informal sector. Pakistan has a relatively weak industrial and manufacturing sector, with little capacity to absorb new entrants into appropriate jobs. The situation of the service sector is not different either.

Finally, Pakistan has already entered into the period of first demographic dividend. It is projected that this period will extend to at least the next five decades. If the Pakistan economy is to enjoy a significant improvement owing to the demographic dividend, fertility will have to decline much more rapidly than currently anticipated.

These conclusions help identify two major challenges to obtaining the demographic dividend in Pakistan. The first is in terms of obtaining and speeding the fertility transition and changes in age structure, and the second is in terms of policies to harness the extra potential resources that are produced by the fertility transition.

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7

Population Dynamics, Environment & Climate Change

7.1 Introduction

This chapter explores the symbiotic relationship between population dynamics, environment, and climate change. It responds to the recognition that population growth, environment degradation and climate change vulnerabilities are intrinsically linked challenges. Population trends and demographic dynamics such as growth rates, mortality, urbanization, and migration shape the social and economic development and responses to climate risks. It is argued that the rapid and unplanned increase in population adversely affects the physical environment, erodes the carrying capacity of ecosystems and increases the exposure to climate-induced disasters in both urban and rural settings. Since most poor people live on marginal lands and in fragile ecosystems, they are often least prepared to manage multi-tiered challenges. Climate change spares no one, but the poor segments of society are the first and hardest hit - and women, children, and elderly are disproportionately affected. It is therefore imperative that an integrative perspective explores the linkages between population, environment, and climate change by systematically cataloguing Pakistan's multi-faceted challenges.

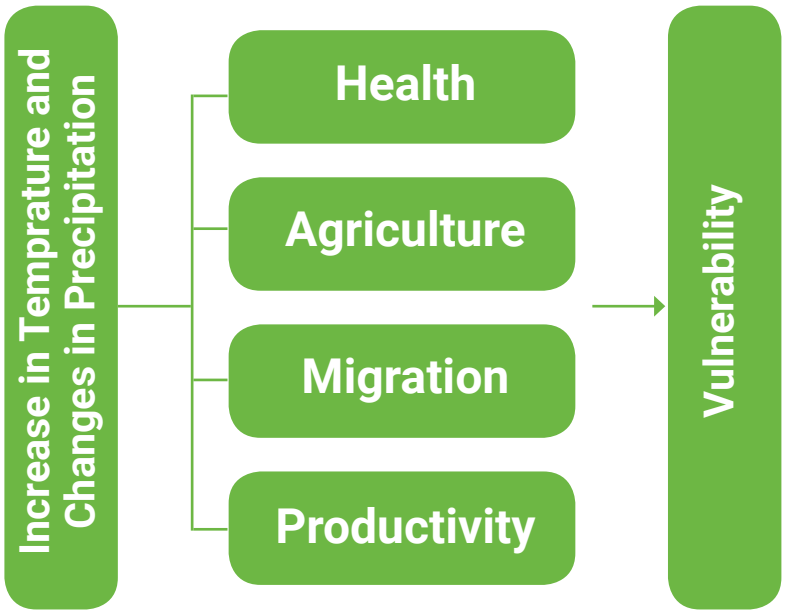
This chapter first present an overview of Pakistan's Environmental Policy & Institutional Context (Section 7.2), followed by a review of three Key Environmental Issues: water, air, and forests (Section 7.3). This section shows how water and air pollution and forest degradation have made the climate and population agenda more complex and challenging. This will be followed by a summary of the Global Climate Discourse (Section 7.4). The chapter then discusses Climate Threats to Pakistan: Slow-onset and extreme weather events (Section 7.5). We restricted our focus to four climate slow-onset trends that have particular significance for Pakistan - changing weather patterns, glacial melt, sea level rise, and droughts. Since slow-onset spurs or causes extreme weather events, this section has also covered four extreme events that periodically threaten Pakistani society and economy (floods, heatwaves, landslides, and tropical cyclones). This is followed by a brief discussion on Climate Adaptation & Mitigation: Land Degradation, Water Stresses & Urban Settlements (Section 7.6). Since two-thirds of Pakistan is arid and semi-arid, land degradation and water stresses have particularly central significance for the nexus on population dynamics, environment, and climate change. As the growing population puts greater demand on land and water, the carrying capacity of ecosystems is stretched and lives and livelihoods of communities are threatened. In absence of any adaptation plans, the communities have little choice but to move and migrate to urban settlements. With inadequate infrastructure, the new-comers bring new vulnerabilities to the cities. This section also draws attention to the absence of urban adaptation plans in the country's urban planning on the one hand and increasing carbon emissions because of unplanned sprawl and inadequate infrastructure on the other. Finally, the chapter concludes with some Selected Policy Actions to Ameliorate the Negative Environmental Impacts of Demographic Trends in the Context of Climate Change (Section 7.7) whereby multi-sectoral, multi-disciplinary and inclusive approaches are the central pillars of the recommendations presented in Chapter9.

This chapter builds on the existing knowledge and extends this knowledge further by moving the perspective on climate change effects from a largely meteorological base to one that explores, where possible, linkages with health, agriculture, migration, productivity, and their impact on vulnerability.

Figure 7.1, adapted from a World Bank report (Mani et.al., 2018), visually captures the linkages and processes and provides us a prism to confine our comments on impact to four elements -namely, health, agriculture, migration, and productivity.

Figure 7.1.

Linkages between climate change and human vulnerability via health, agriculture, migration, and productivity



7.2 Pakistan's Environmental Policy and Institutional Context

The Stockholm Declaration (1972) inspired Pakistan's environmental journey. The Declaration laid down the principle that natural resources must be safeguarded, and earth's capacity must be protected. Within two years, the Environment and Urban Affairs Division was established to manage the country's environmental agenda. But instead of focusing on the principles adopted in the Stockholm Declaration, it focused primarily on the 'brown' environment issues that included building standards for industrial discharges and effluents, ambient air quality, and solid waste management. The country's first environmental legislation in 1983 deepened the divide when the Pakistan Environment Protection Ordinance firmly separated the development and environment agendas. This fragmentation created a gulf between environment and development and has persisted since, as the Ministry of Environment

(MOE) and its successor Ministry of Climate Change (MOCC) rarely attended to 'green' environment issues such as ecosystems, biodiversity, even agriculture and Land use, Land-use Change, and Forestry (LULUCF) that together are responsible for half of Pakistan's greenhouse gas (GHG) emissions (GOP 2018). The link between a growing population and the environment was not recognized explicitly even though the National Conservation Strategy had in 1992 recommended integrating population and environmental programs as one of 14 program areas for action.

It is against this background that MOE was not engaged in any of the key global processes such as ICPD and CEDAW; while these processes informed the development of MDGs and then later SDGs, the country's environmental agenda continued to shrink. Similarly, MOE was the focal ministry for the Convention on Biological Diversity (CBD) and UN Convention to Combat Desertification (UNCCD), but most of the resources went into the UN Framework Convention on Climate Change (UNFCC) and the Montreal Protocol on Substances that Deplete the Ozone Layer. After the mid-1990s, the interest in green environment issues waned considerably even though the environmental agenda had become visibly more complex as the country's physical environment had degraded and the population dynamics changed. The declining interest in environmental issues was formalized by the 18th amendment in the constitution when the mandate was formally devolved to the provinces in April 2010 and the Ministry of Environment was dissolved and later reincarnated as MOCC. The environment departments in the provinces were skewed and constrained by this vision from their inception. This lopsidedness has persisted, and it has impaired the ability to mainstream environmental action.

As was the case with the National Environmental Policy in 2005, the National Climate Change Policy (NCCP) in 2012 and the subsequent Framework for its implementation have both mentioned the adverse impacts of global warming on population. But the NCCP has dealt perfunctorily with the effects of global warming on population as it did not establish any explicit operational linkages or policy measures to integrate population increase and climate change. The nine specific climate threats mentioned in the policy did not include one on population. However, 'increased health risks and climate change migration' was listed as a specific threat, recommending five policy measures (Ministry of Climate Chance, 2012; Climate Change Division, 2013): a) assess the health vulnerabilities of communities in areas most likely to be affected by the adverse impact of climate change, and build their capacities to reduce these vulnerabilities, b) ensure that appropriate measures to address health related climate change issues are incorporated into national health plans, c) Inform, sensitize, educate and train health personnel and the public about climate change related health issues, d) ensure that preventive measures and resources such as vaccines, good quality medication and clean drinking water are available to the general public easily and cost effectively particularly during climate related extreme events, and e) upgrade and extend disease outbreak monitoring and forecasting systems to counteract possible climate change health impacts and support prior planning for effective interventions. These important articulations however still await integration in the relevant national and provincial health policies.

In a similar fashion, the institutions that are directly and indirectly dealing with climate policy, climate research or capacity-building as well as national or provincial climate, water, and agriculture polices, have not mentioned any linkages with population changes. Provincial health policies repeatedly show absence of any linkages with environment, ecosystems, or climate change. Likewise, major research and advocacy groups that focus on population issues also ignored the impact of climate change on population for years. This oversight however was not simply ignorance as it was firmly embedded in global discourse on climate change. According to the Intergovernmental Panel on Climate Change (IPCC), vulnerability is a systematic characteristic associated with a range of factors,

particularly ecosystems, water, food security, human settlements, and health (IPCC, 2007). IPCC has identified vulnerability as a function of climate change and development, and development includes changes in population dynamics. This illustrates a complex and interwoven system of causes and effects, but without necessarily identifying or assessing the nature of relationships between these factors. Current approaches to vulnerability and adaptation have seldom explicitly linked vulnerability with population, and the demographic linkages are often ignored, assumed or glossed over (Schensul and Dodman, 2013). Rarely have the effects of climate change been expressed in terms of the real and potential costs in human lives and suffering. The global discourse on climate change did not directly address the population dynamics. In IPCC discourse, for example, demographic dynamics have hardly been brought up within the framework of climate negotiations. The fifth Assessment Report of IPCC has dealt with population only as a subsection of human health, well-being and security. These issues were overlooked for a complex set of reasons (Schensul and Dodman, 2013). Hayes (2015) has argued that that IPCC experts have "no mandate or inclination to recognize and master the complexity of human populations and orientations".

This institutional infrastructure and policy landscape have also informed Pakistan's environment and climate agenda and its linkages with population dynamics. Major environmental issues in the country were included in NCCP or sectoral policies, including degradation of freshwater bodies (rivers, lakes, wetlands, nullahs and their tributaries), soil, water, air and noise pollution, industrial and municipal solid waste, industrial effluents and toxic waste, land and ecosystems degradation, deforestation and desertification, groundwater depletion and contamination, excessive use of pesticide and fertilizer, and improper disposal of infectious hospital waste. In addition, Pakistan faces a serious challenge of providing universal drinking water supply and sanitation. The mixing of untreated sewage, together with industrial effluents, with freshwater bodies is a prime cause of poor quality of groundwater used for agriculture and drinking purposes. The country's water and sanitation infrastructure have for years languished or become dysfunctional, adversely affecting the health of everyone, particularly the low-income groups. Add to this some specific issues that are essentially provincial priorities such as disappearance of mangrove forests, seawater intrusion and marine pollution for Sindh; extended drought and depleting groundwater in Balochistan: erratic rains and poor water resource management in Punjab; and flash floods, accelerated glacial melting and GLOFs for Gilgit-Baltistan (GB) and Khyber Pakhtunkhwa (KPK). This is a long list, and the burden of its implementation falls primarily on the provinces and inter-agency cooperation.

Because of the rapid population increase, government spending has not been able to keep pace with population growth in such areas as educational and health spending or other municipal services like drinking water, sewerage, public parks, or transportation. Rapid population growth in cities, accelerated in part by rural to urban migration, brings many associated problems. Yet, this migration is not preventing continued increase of the rural population. According to the UN World Urbanization Prospects 2018, the rural population started to decline in both Iran and Indonesia around 1990, in Bangladesh around 2015 and is expected to start declining in India around 2025. By contrast, rural population in Pakistan is expected to keep growing until about 2040, even with considerable rural-urban migration. These demographic realities impinge unfavorably on the Pakistan government's ability to deal effectively with environmental issues.

7.3 Key Environmental Issues: Water, Air, Forests

This section will focus on three key environmental issues that have subsequently made the climate and population agenda more complex: i) water ii) air, and iii) forests. Our focus will be on water and air pollution and forest degradation. Solid waste management and noise pollution will be dealt with as a sub-set of water pollution and air pollution issues, respectively.

a. Water

Agriculture, industry, and domestic sectors are the three largest water users and, at the same time, the biggest polluters of Pakistan's water resources. In agriculture, the sources of water pollution include the use of chemicals, fertilizers, and pesticides. Agricultural pollutants are particularly prevalent in areas of intensive agriculture of Punjab and Sindh that are also most densely populated, or in uplands of Balochistan, KP and GB where orchards and horticulture dominate the agricultural economy. Finally, Pakistan has one of the largest livestock populations in the world. The grazing practices in upland and riparian areas are unregulated and a significant source of water quality degradation as well as topsoil loss, adding sedimentation load in freshwater flows. Industrial wastewater and effluents as well as municipal waste and untreated sewage are all discharged into freshwater bodies, contaminating both surface and groundwater.

Since most cities and towns do not have reliable waste disposal or collection systems, waste is typically dumped on roadsides or in freshwater bodies that chokes sewerage lines where they exist, pollute surface and groundwater and create health hazards for all, especially low-income neighborhoods. The problem is growing. According to International Trade Administration estimates in 2019, more than 20 million tons of solid waste is generated annually, with an estimated annual growth rate of about 2.4 percent. There are very few functional landfill sites, and the collection by municipal governments does not cover the entire population. Scavengers are mostly young girls and boys, collecting all inorganic items with bare hands. It is estimated that about 27% of waste (by weight) is recycled through this informal sector (Ghauri, Wasim Uddin, 2019).

Because of the growing population, lack of urban planning, and outdated infrastructure, the problem is growing at a faster rate than the solutions offered. Punjab (in Lahore), Sindh (in Karachi) and KP (in several districts) have tried to address the issue by setting up public sector-owned independent companies. Since effective waste management can help reduce GHG emissions, it attracted some private sector firms to design a model project aimed at producing energy from waste in Lahore, but it has not yielded any result.

The solid waste situation in Pakistan is a serious concern as more than 5 million people die each year due to waste-related diseases (Lew, 2020). It is recognized that different methods of waste management emit a large number of substances, most in small quantities and at low levels. Raised incidence of low birth weight births has been related to location of residences near dumping sites, as has the occurrence of various congenital malformations. Studies outside Pakistan have shown incidence of cancer and mortality in populations around dumping sites.

The prevalence of water borne diseases are linked to polluted waters (Pakistan Council of Research in Water Resources, 2016). The human cost is very high: an estimated 45% of infant deaths are due to diarrhea and 60% to overall waterborne diseases. Bacterial and heavy metal contamination of groundwater places the population at risk of arsenic poisoning. Regular consumption of arsenic contaminated groundwater can lead to adverse health effects including lung cancer, cardiovascular disease, and skin disorders. There is no consensus on how many people have access to clean drinking water or on the incidence of water-borne diseases. Researchers have used varying estimates. While a 2017 study estimated that in Pakistan 30% of

all diseases and 40% of all deaths are due to poor water quality (Daud, Nafees, and Ali, et. el., 2017), a 2019 study has claimed that only 20% of the country's population currently has access to clean drinking water, and polluted water is responsible for approximately 80% of all diseases and 30% of deaths (Nabi, et. al, 2019). Polluted freshwater bodies have historically been flushed annually by the monsoon but that respite has become more erratic and unpredictable, leaving little option for rural communities but to use toxic water for agriculture, livestock and even drinking.

No other single source has polluted Pakistan's water resources more than the solid waste generated by growing urban populations and effluents from the industrial units that are dotted all along the water bodies. The links of solid waste with health and GHG emissions are globally well researched. In Pakistan, open burning is common, and it causes exposure to hazardous toxins for the neighboring communities and becomes a major source of air pollution.

b. Air

The cost of air pollution for life expectancy is very high. According to the Air Quality Life Index (AQLI), PM2.5 air pollution is globally shortening average life expectancy by about 1.8 years. In 2016 Pakistan had the fifth most polluted air in the world. This would cut 2.7 years off the lives of the typical Pakistani, relative to what their life expectancy would be if WHO guidelines were met and by 2.2 years if national air quality standards were met (Greenstone, and Fan, 2019). While 98 percent of Pakistanis live in areas where the annual average particulate pollution levels exceed the WHO guideline, air pollution has become a growing health concern for all major cities (World Bank, 2014) as they regularly top the list of the world's most air polluted urban areas. The transport sector currently contributes about one quarter of the country's CO2 emissions. Burning of crop residual and agricultural land clearing have been recognized as key drivers of deteriorating air quality. Satellite imagery shows that high pollution concentration is prevalent over large parts of north and north-western India, and central and north-eastern parts of Punjab, Pakistan.

Air pollution poses severe health hazards. Industrial and transport emissions make hazardous compounds with air that causes throat infections and lung's cancer. Women and children are especially vulnerable because of constant inhalation of indoor air of poor quality. Because they absorb more pollutants with each breath at an age when their brains and bodies are still under development, children are the worst impacted. Increase in air pollution leads to a rise in respiratory and eye diseases including higher frequency of asthma, acute bronchitis, acute rhinitis and pneumonia. Further, extrinsic factors for the attacks of asthma like increased pollen grains, chemical droplets and harmful gases have also increased the occurrence of asthma. Based on the study of children aged 1-4 years, admitted in a local hospital in Lahore during 2004-2009, a fourteen-fold increase in asthma was recorded during the month of December, the peak period of smog in Lahore (LEAD, 2011). Studies have also revealed the detrimental effects of these emissions, including respiratory diseases, reduced visibility, loss of vegetation and impact on the growth of plants.

The regulatory environment to control fuel quality or curb traffic and congestion is weak. Pakistani cities are not only congested but also have a very high level of noise. A case study of Rawalpindi city has shown that consistently high level of noise pollution can cause auditory effects such as the loss of auditory sensory cells and non-auditory issues including sleep disturbance and psychiatric disorder (Khan, Chaudhry, et. el., 2016). Respiratory disease and other illnesses caused by air pollution are particularly widespread in congested neighborhoods and inner cities, where two and three wheelers mostly ply. In the energy sector, transportation is regarded as a major source of GHG emissions. Some recent studies have shown how the absence of public transportation has added to congestion, air and noise pollution and also restricted women's mobility, employment, and participation in economic activities. The quality of air and the percentage of population it effects adversely, underlines how intrinsically mitigation and adaptation are linked in redressing human health issues triggered by climate change.

c. Forests

With the population growing at 2.4 percent annually, forest cover in Pakistan is constantly and rapidly declining, both in absolute terms as well as on a per capita basis. It is declining at an estimated rate of 5% annually, the second highest rate of forest decline in the world. As the consumption for fuelwood exceeds production, rapidly exhausting the available stock, Pakistan gets more floods and loses more topsoil. The quality of forests is seriously degraded: only about 80% of the area defined as forest in Pakistan actually has tree cover, while the rest is largely denuded and about half of the forest area is classified as rangelands. The land area under forest cover in different parts of the country varies greatly but is declining in all areas at varying rates: Balochistan, Punjab, and Sindh all have less than 3 percent area under forest.

Forest cover is critical for the health of ecosystems and their inhabitants. Since the 1992 Forestry Sector Master Plan, several studies have highlighted how annual losses have been increasing as a result of flooding, erosion of fertile soil from upland watersheds and siltation of reservoirs and irrigation systems (ADB, 2010). Increased erosion has resulted in heavier sedimentation flow to Tarbela and Mangla dams, reducing their operational capacity as water reservoirs. More fundamentally, however, almost three-quarters of Pakistan's population regularly uses forest resources, making them extremely vulnerable to the further degradation of forests. A World Bank policy note has recently estimated that a significant number of households and workers could be at risk for continuation of their livelihoods. In addition to a diminishing natural resource and declining supply of raw materials, several forest-based industries also provide employment in tourism, agriculture, and trade in medicinal plants (World Bank, 2018).

It is widely recognized that forests provide several environmental services such as their role in land conservation, regulation of water flow, reduction of sedimentation in water channels and reservoirs and maintenance of ecological balance. Forests serve as hubs for co-benefits for mitigation (energy/ fuelwood) and adaptation (ecosystem services). With degrading forests, the historically strong relationships between forests and human health has weakened as have the important benefits that forests provide to improve human health conditions through biodiversity, natural pharmacies and medicinal plants or nutritional value products. Healthy forest ecosystems help in regulation of infectious diseases, curtail air pollution in urban areas and serve as carbon sinks (Karjalainen, et el. 2010).

The ecological footprint of growing population is probably nowhere more visible than in the forestry sector. All national parks have growing population size residing inside the parks causing degradation, including the Margala Hills National Park. Increasingly, human population coming in conflict with leopards in Galyat in the Himalayan foothills where human settlements are encroaching on their natural habitat. Proliferating housing societies and hamlets have inundated forest landscape of Murree Hills in the outskirts of Islamabad. The disappearance and degradation of forests has accelerated many ecosystem level challenges including massive degradation of watersheds, deforestation, overuse of rangelands, biodiversity, and natural habitat loss, and prolonged droughts and desertification. More specifically, as we will see in the next section, inundation in hilly and mountain areas destabilizes land and results in more frequent landslides; topsoil loss upstream and heavy sedimentation accumulation downstream in water reservoirs and barrages reducing their operational life; and disappearance of mangrove forests has resulted in seawater intrusion.

Major threats to water, food, and energy security arise from the emerging environmental stresses. As we will analyze in the next section, they are the key components of the climate system and some of the key climatic changes that interact with and lead to changes in the atmosphere, land, biosphere, hydrosphere, and cryosphere, as identified by the State of Global Climate Change Report for 2019 by the World Meteorological Organization.

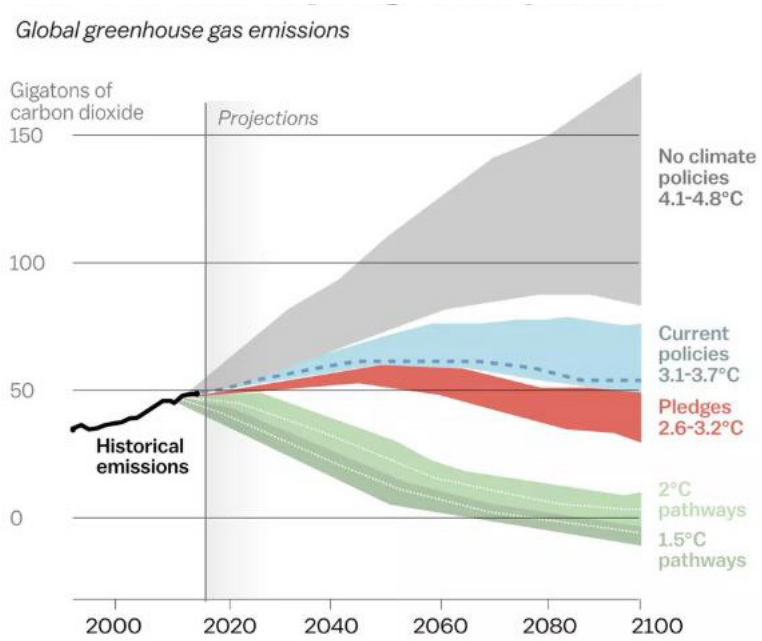
7.4 Pakistan and Global Climate Discourse

Pakistan is a signatory to almost all multilateral environmental agreements including the Paris Agreement that seeks to limit global temperature increase to 1.5°C-2°C. According to the Special Report 1.5°C, produced by IPCC on request of UNFCC following the Paris Agreement, the globally averaged surface warming by the end of the twenty-first century (2020–2099) will lie between 1.1oC and 6.4oC (because of the large variation in GCMs output on future climate projections). The report has highlighted the urgency by underlining that the Business As Usual (BAU) or the pledges made in Nationally Determined Contributions (NDCs) that were submitted by countries will not be enough, and a series of immediate actions are needed to become carbon neutral by 2050. The countries will need to go beyond their pledges, as Figure 7.2 from the IPCC Special Report 1.5 shows.

Pakistan in its first NDC has committed to reduce GHG emissions by up to 20% from its 2030 projected levels, subject to availability of international finances to meet the abatement costs amounting to about $40 billion (GOP, 2016). Pakistan's share of global emissions is miniscule but projected to grow: GHG emissions have increased by 123 percent in 21 years (1994 to 2015) and are expected to further increase by 300 percent for the projected period (2015-2030) (Ministry of Climate Change, 2018). Total emissions, when compared with inventories of 1994, 2008 and 2012, 2015, show that an integrated adaptation planning will result in co-benefits of mitigation. Compared to an estimated 45.5 percent emissions from energy and 5.4 percent of industrial processes, almost half of all emissions are from other sectors: 42.7 percent from agriculture, 2.5 Percent from Land Use, 3. 8 percent from Land-use Change, and 3.8 percent from waste. The emissions from agriculture and livestock in Pakistan during 1994-2008 have grown at the rate of about 3 percent per annum. Overall, the agriculture sector contributes around 41 percent to GHG emissions - mainly from crop residue, rice cultivation, and synthetic fertilizer (Ministry of Climate Change, 2018). Given its poor forest cover, Pakistan has insufficient carbon sinks. Moreover, priortization of production on livestock and rice growing also contributes toward GHG emissions. All these are the core areas of Pakistan's agriculture-based economy and can help protect the environment, if mitigated, and increase the productivity of ecosystems, lay the foundations for Climate Smart Agriculture (CSA), discourage migration to cities, and protect the health and well-being of its population. There is a need to find ways to contain these emissions by integrating climate change concerns into overall development planning, initiating on-ground action in priority sectors.

Figure 7.2.

Effect of current pledges and policies



7.5 Climate Threats to Pakistan: slow-onset and Extreme Weather Events

This section focuses on two particular types of climate threats: a) slow-onset of climate change and b) extreme events. Slow-onset are gradual decadal processes that in effect also cause sudden and abrupt extreme events, incurring immediate as well as long-term damage. Many policymakers and commentators often mix and muddle the two. The UNFCC has particularly emphasized the following slow-onset processes: changing weather patterns, particularly variations in precipitation and temperatures, glacial melt, ocean acidification, sea level rise, loss of biodiversity, desertification, and droughts. The focus will be on four slow-onset trends that have particular significance for Pakistan (changing weather patterns, glacial melt, sea-level rise, and droughts) and four types of extreme events that are becoming more frequent in the country (floods, heatwaves, landslides, and cyclones). We will, in so far as possible, highlight with some examples how increased temperatures and changes in precipitation have adversely impacted i) human health, ii) agriculture, iii) outward migration and iv) productivity. These four elements are important to understand climate vulnerability and its long-term threats and contextualize adaptation and mitigation measures that can also help accrue some co-benefits.

Slow-onset

a. Changing weather patterns

Rising global average temperature is associated with widespread changes in weather patterns precipitated by anthropogenic activities over decades (IPCC 2007). While the precipitation has increased at an average rate of 0.08 inches per decade since 1901 worldwide, in Pakistan some dry areas have become drier as they have experienced less than normal precipitation. Further, many extreme temperature conditions are becoming more common since the 1970s: hot summer days and hot summer nights, the latter at an even faster rate than the former, indicating less respite or 'cooling off' at night. Both mean and maximum summer temperatures increased in all parts of the country between 1951 and 2000, while summer temperatures dropped in all parts of the country receiving monsoon except in Balochistan. Record-setting daily high temperatures have become more common than record lows. The two decades since 2000 had twice as many record highs as record lows. Generally, a stronger warming trend in the winter is observed as opposed to the summer, with winter growing shorter and summer growing longer. The minimum temperature every summer has been increasing in central regions of Pakistan (IPCC, 2018; Chaudhry, 2017; GOP, 2010). Pakistan's average annual temperature during the last century has increased by 0.57°C.

During the last century, reduced rainfall has brought some areas to a state of near-permanent water shortage. On the other hand, the occurrence of abnormally high annual precipitation totals has increased. A higher percentage of precipitation now comes in the form of intense single-day events. These variations continue to increase in geographic regions like Sindh, GB and other areas and have begun to have profound implications for agriculture that is the mainstay of the economy. The temperature increases in the majority of districts results in reduced agricultural productivity (Mani et. el., 2018; Chaudhry, 2017; Planning Commission, 2010). Figure 7.3 from the World Bank study shows that both the temperature and precipitation will continue to grow through the 2050s.

Early withdrawal of summer monsoon which normally persists over Pakistan from July to September has become more common. October and November are dry months of Pakistan climate but the start of the Rabi sowing. In rain-fed areas, the sowing of Rabi crops totally depends upon residual soil moisture of monsoon rains and fresh precipitation. When the monsoon retreats in August, high temperatures increase evaporative demand of

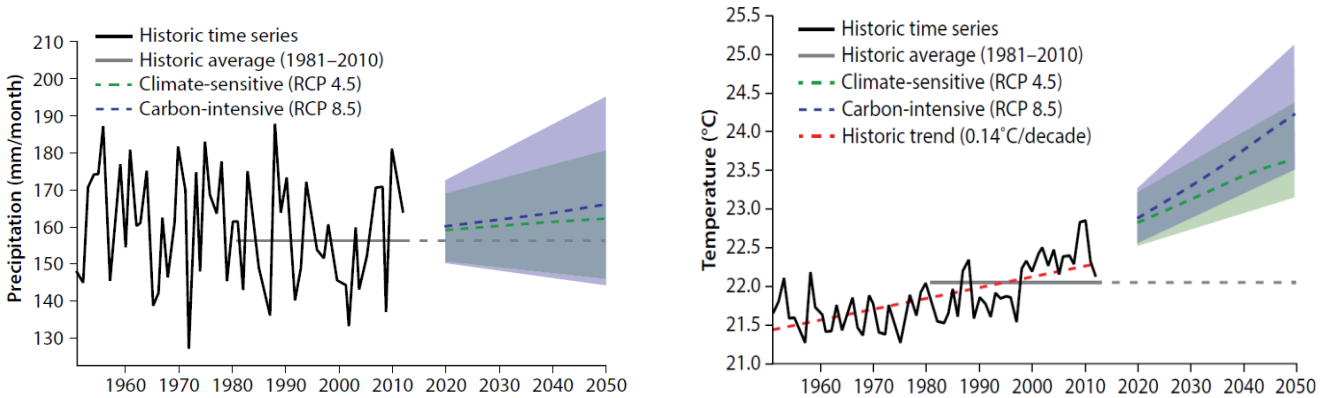
the atmosphere and soil moisture deletes quickly leaving unfavorable conditions for sowing. Farmers wait for rain which seldom occurs and in meager amounts till the end of sowing season in December. Early retreat of the monsoon usually leaves a three-month long drought in autumn not allowing the wheat sowing.

The temperature increases in the majority of districts in the country results in reduced soil or agricultural productivity. The early or late arrival of monsoon has a direct bearing on the cropping patterns and food security as it influences farmers to change their agricultural calendar. Further, changing monsoon patterns disrupt the continuity of some crops and their sowing and harvesting timings. In fact, sugarcane that can better withstand this variability is becoming a preferred crop in many areas compared to wheat that cannot withstand 'untimely' rains. The area under cultivation for wheat (the main staple most Pakistanis consume), or other such crops that are susceptible, has begun to slowly shrink, posing a long-term challenge to food security for the growing population. Significant spatial changes, indicating a westward monsoonal shift as well as the seasonal shift making April and May wetter are important for wheat growing areas of the country (Khattack, 2019). The change in weather patterns also alters the sowing period, disturbs the span of growing season, and threatens the yield and crop productivity – all this is central to long-term trends in cropping patterns, food security and nutritional intake. The gender implications of these changes in agriculture are not always well researched in the country but women's productive role in agriculture appears to be further reducing, working conditions worsening, exposure to climate risks increasing, and loss of nutritional food intake decreasing.

The changes in the temperature and rainfall patterns alter the spatial distribution of some infectious disease vectors. Climatic conditions also affect disease transmitted via vectors, particularly mosquitoes (or through rodents, the rodent-borne disease). Mosquitoes can carry many diseases and are very sensitive to the increase in temperatures (Ryan, 2020). Malaria that already kills millions of people each year, is now exacerbated by disease vectors favoring climatic conditions. Dengue fever ranks as one of the most significant mosquito-borne viral human diseases; dengue fever cases have been recorded in every season and are widely distributed in many parts of the country. In fact, as the average temperatures have increased, dengue incidences have moved northward from the plains of Punjab to the higher altitudes of KP province. A case study of Karachi, after looking at data from various hospitals for ten years between 1999 and 2008, found a strong relationship between increase in temperature, humidity, and precipitation and increase in diarrhea in children between 1-4 years. An association of increased cases, especially among individuals of lower socioeconomic and sanitation status, was found. Infectious diarrhea is a condition that appears to be sensitive to temperature,

Figure 7.3

Temperatures Projected to Increase but Monsoon Precipitation is Uncertain



precipitation, and extreme weather events. This finding was consistent with a more detailed study by the International Center for Diarrheal Disease Research in Bangladesh (LEAD, 2011).

This rapid change in temperature and rainfall patterns over a very short period of time has direct and indirect bearing on people's lives and livelihoods. This will adversely affect the standard of living as a result of shrunken economic activities in a very high proportion of society. A recent World Bank study identified the top 10 districts where the standard of living will be most adversely affected: Hyderabad, Mirpur Khas, Sukkur, Larkana, Bahawalpur, Faisalabad, Lahore, Multan, Dear Ghazi Khan, and Sargodha (Mani et. el., 2018). The study found that not all hotspot districts were agricultural or rural. The study drew a distinction between vulnerable geographical areas and vulnerable households and argued that the hotspot districts had less road density, poorer access to markets and that they were water stressed. On the other hand, the households in the same hotspots' districts were predominantly engaged in agriculture, mostly without electricity and in some cases had poor education. Water stress was recorded as a common denominator. This is significant, particularly since the annual mean temperature between 1961 and 2018 has increased in major cities, particularly in the Indus plains and coastal areas (Faisal and Nadeem, 2019). The study showed that women-headed households were more resilient than those headed by men (Mani et. el., 2018). It is particularly important to note that reduced standard of living in urban areas will have a multiplying effect on the entire economy. This study builds upon the seminal study by the World Bank in 2013, Turn Down the Heat that had argued that the uninhibited temperature increase will undo all gains of the post-World War economic development. The estimates of economic cost of climate change vary wildly, and there are no overall assessments available particularly in the context of the impact of increase in global temperature and its economic cost for agriculture and other sectors. However, it has been projected that the country's economy will achieve a per capita income of only US$ 6526 if the target set in the Paris Agreement is not met, compared to the per capita income of US$ 8180 aspired to in Vision 2025 for Pakistan (Markandia, 2015)

b. Glacial melt

The Hindu Kush-Himalaya-Karakoram (HKH) glaciers represent the third-largest mass of ice on earth after the polar regions. They receive most of their precipitation during winter periods and release the water in the summer. It is estimated that about 70 percent of Indus waters come from the snow and glacial melt. The rise in temperatures in the HKH region is higher than the global average, severely impacting glaciers in the region. There is no agreement on the precise rate of the glacial melt, but the retreating Western Himalayan glaciers may result in 'permanent reduction' in downstream river flows by 30 to 40 percent by 2035 (GOP, 2010). Since most agriculture lies in the Indus basin, diminishing supplies of glacial water present a daunting scenario. In addition, a shorter snowing season and longer and earlier summer weather seem to be settling in, enabling higher level of snow and glacial melt.

With the slow-onset of rising temperatures and receding glaciers, GLOFs have emerged as a serious threat to the entire KHK ecosystem triggered by persistent heat waves of a few days and/or liquid precipitation. Due to rising temperatures, glaciers in HKH are melting at varying rates and a total of 3,044 glacial lakes have developed in GB and KP regions. Of these, 36 glacial lakes have been assessed to be prone to hazardous Glacial Lake Outburst Flooding (GLOF). Over 7.1 million people in GB and KP are vulnerable in these areas, 26.7 percent, and 22 percent of the population in these areas is below the poverty-line (UNDP. 2017). If the glaciers recede and the rate of snowfall declines, new water bodies will be formed, and old lakes would expand – posing risks to nearby communities. The estimated 2°C to 6°C rise in temperatures before 2100 will increase the risks these lakes pose as the snow cover reduces by 43%-81% (Amin, Mohammad, et. al. 2020). It is estimated that in addition to 35 GLOFs in the Karakoram range, there were 20 in the Himalayan region of Pakistan in the past 70 years and 5 in Hunza during 2008 alone (Arshad, et. al. 2012).

Finally, the increased temperatures in the upper reaches of the Kabul River, a tributary of the Indus, also results in melting of snow and early glacial water flowing from Afghanistan to Pakistan during the pre-monsoon weeks. Like the heatwaves in the Upper Indus Basin (UIB), similar extreme weather events in Afghanistan sometimes result in snow and glacial melt and increasing freshwater flows during non-monsoon periods. This impacts the cropping pattern and yield of early varieties of rice in Punjab and Sindh. As the weather patterns change, there have been instances of monsoon visiting the non-monsoon areas in the upper reaches of Indus. This, together with heatwaves in the glacial areas adds to the risk of downstream flooding or availability of excess water in the non-monsoon periods.

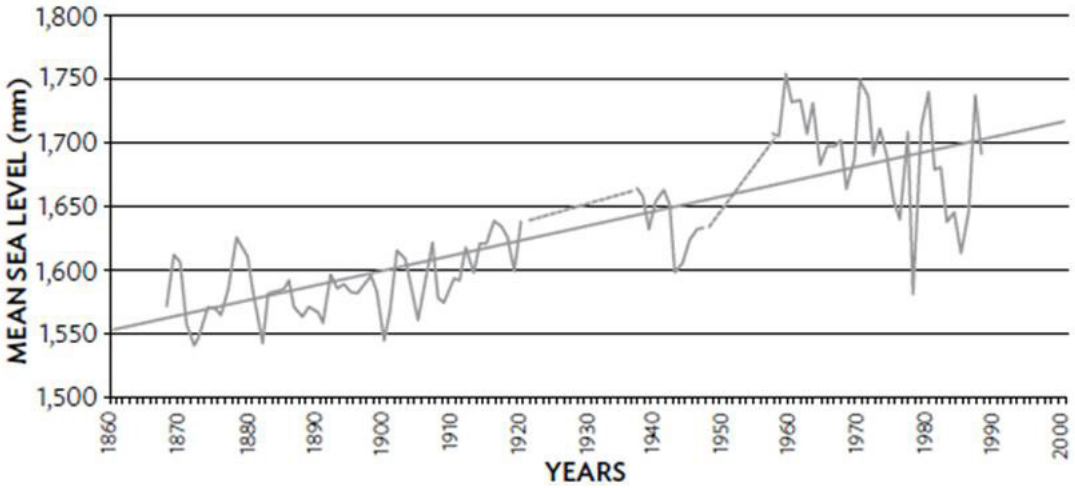
The entire northern region is witnessing a slow-onset that poses serious challenges for local communities and for downstream agriculture and human settlements. GLOFs can cause loss of lives, livestock, and property, as well as damage to infrastructure, agriculture, and forests locally as well as downstream on those who rely on the glacial waters (Immerzeel, 2010). GLOFs have already disrupted subsistence agriculture, reduced trade and tourism, and reduced family incomes. Several communities that had traditionally relied on subsistence agriculture either migrate locally or to other regions. It is reported that they are becoming nomadic and move around in the same area for safety to avoid GLOFs. Migration is caused by GLOFs whereby the affected communities move back and forth like nomadic people living under climate insecurities. The glacial retreat and shrinking has led to population mobility in the Bolivian Andes. In HKH region the process has several similarities but essentially it is little understood and poorly documented.

c. Sea level Rise

Pakistan is among the countries that are most vulnerable to the negative consequences of a rise in sea level, even though it has a relatively small and mostly underdeveloped coastline. Karachi, a densely populated megacity, is directly exposed and located within less than 5 km from the coastline. A study carried out at Pakistan's National Institute of Oceanography has shown that the sea level along the coast of Pakistan has been rising by approximately 1.2 mm per year since 1960, in agreement with the average global rise of 1.5 mm per year.

Figure 7.4:

Mean Sea Level Rise Recorded along Karachi Coast, Pakistan, 1850-2000



mm = millimeter.

Source: M. M. Rabbani et al. 2008. The Impact of Sea Level Rise on Pakistan's Coastal Zones - In a Climate Change Scenario. 2nd International Maritime Conference at Bahria University, Karachi.

It is estimated that the sea level along the Karachi coast has risen by about 1.1 mm per year between 1856 and 2000 (See Figure 7.4), and the last two decades have followed the same trend. Special Report on Ocean by IPCC has pointed out that the coastal risk is dynamic and increased by widely observed changes in coastal infrastructure, community livelihoods, agriculture and habitability.

As with coastal ecosystems, the drivers and processes inhibiting attribution include demographic, resource and land use changes and anthropogenic subsidence (IPCC, 2019). The IPCC projected a 20-60 cm rise in average global sea level by the year 2100 (IPCC, 2007) but some subsequent reports have criticized it for being too conservative and revised these estimates upward (Hood, 2020). This upward projection has direct implications for Karachi and Pakistan's growing coastal infrastructure.

The Indus has been ranked third among the world's most at-risk deltas. It is reported that the increased saline water intrusion due to sea level rise and increased storm events damaged the coastal zones and marine ecosystems, in particular the Indus delta. This results in seawater intrusion upstream of the delta - extending up to 80 km inland in the coastal areas (IUCN, 1999). With over 10% of its population living in the vicinity of the coastal zone and 40% of industry situated on or near the coast, the seawater rise poses many challenges for Pakistan. The primary impacts of sea level rise on the coastal zone include the risk of erosion of beaches, flooding and inundation of lowlands, salinization of ground and surface waters, outward migration, and increased intrusion of seawater into the Indus deltaic region, adversely impacting coastal agriculture in at least three districts viz Thatta, Badin and Sujawal. The seawater intrusion and the resulting salinization is rendering the entire area unfit for normal cropping and agricultural practices. Attributed to deforestation of mangroves, fishing communities have pointed out the decline in shrimp and sweet water fish catch, decline of agriculture in Thatta and decline in water quality downstream from Kotri barrage to the Arabia Sea (IUCN, 2003). A recent survey found 88.4% of the Indus delta population was below the poverty-line (31.4% very poor, 27.8% moderately poor and 29.2% poor). The health problems otherwise prevalent in the province are widespread in the coastal areas: one-fifth of the people suffered from gastro, diarrhea, and chest and stomach problems, in addition to affections by skin diseases, hepatitis, blood pressure, heart, and cancer problems (Siyal, 2018). Further, the Indus delta was under threat due to environmental changes and permanent disasters. The delta population, as lower riparian, has received a limited flow of fresh water in recent decades, causing environmental degradation and negatively impacting traditional livelihoods, survival, and resilience patterns. A case study of coastal village Kharo Chan found that slow-onset was causing migration (Bux Mullah, 2009). With the diminished land productivity, there is an ongoing process of abandoning traditional agriculture in favor of saline agriculture, becoming daily wagers in Karachi, or migrating inland - all three are facets of autonomous adaptation to address the growing vulnerability.

d. Droughts

Pakistan is a drought prone country. In recent years, frequent weak monsoons have resulted in drought-like situations in several districts of Sindh and southern Punjab. Low rainfall and extreme variations in temperature characterize the climate, contributing to meteorological and hydroogical droughts. Droughts reduce the productive capacity of the ecosystems and increase the long-term vulneraility of the victim populaton, in addition to the immediate losses. The 1998-2001 drought, for example, affected over 3.3 million people, including thousands who became refugees and hundreds who died of thirst and starvation, and about 30 million livestock, including over 2 million that died (Planning Commission, 2010). This is the story of the worst drought of Pakistan's history that was triggered by strong El~Nino of 1997-98 and persisted for four years spanning all the four provinces. Balochistan was the worst hit. Prolonged droughts and drought-like conditions in Balochistan

and Sindh are particularly reducing crop cultivation, production, water availability, livestock, livelihoods, water and food security, and hygiene. A survey by Sindh Drought Need Assessment (SDNA) has pointed out reduction in the area of wheat, rice, cotton, cluster bean, millet, and pulses cultivation in selected villages where the survey was conducted. Further, compared to 2016-17, their overall yield also declined, directly threatening income and livelihoods as well as the nutritional intake (SDNA, 2019). Likewise, the 1998-2005 drought in Balochistan resulted in significantly reduced fruit and crop farming and the current yield for major crops and fruit continues to be well below pre-drought levels (Sarfraz, et. al, 2020).

The district of Tharparkar is the most instructive case study on the interface of population, climate change and drought. It has been declared a 'drought calamity' area on 13 occasions between 1968 and 2012 with five of those occasions being between 2001 and 2012. Since 2012 there have been three back-to-back droughts. While resilience to drought might be high in the initial phases, prolonged exposure erodes resilience and renders the population extremely vulnerable to economic and environmental shocks. Frequent incidence of droughts has resulted in increased rate of suicides since 2011 with 75% increase from 2011, reflecting destitution and despair. According to AWARE, an NGO that has collected data on suicides in Tharparkar, the suicide rate has been higher during drought season (Saeed, 2017).

Droughts have brought health hazards through reduced availability of already scarce water for drinking, cooking and hygiene, and through food insecurity. Women and girls have suffered disproportionately, not only due to the hardship associated in water and fuelwood collection, but also as a result of the health consequences of nutritional deficiencies and the health effects associated with travelling further to collect water. A study has identified how drought resulted in poor communities selling community assets and obtaining loans to survive. The selling of livestock that was traditionally managed by women, has reduced the economic role of women, resulting in their marginalization; increased the incidence of domestic violence and the divorce rate; outward migration and mental illnesses (Saeed, 2017). The resilience is so thoroughly flattened that they would hardly be able to fully recover from these droughts.

Meteorological and hydrological droughts in several districts of Balochistan and Sindh have resulted in agricultural droughts by diminishing crop yield, food variety, and the nutritional contents and availability (SUN 2018). This complex web contributes to stunting and the spread of infectious diseases. In addition, droughts have disrupted traditional land use patterns and forced people to abandon arable lands, exposing such areas to wind erosion. It is estimated that several million hectares of land area has been affected by land degradation and desertification in Pakistan.

We have seen in this section how thoroughly the global warming has disturbed the monsoon patterns. Two specific measurable changes have been in increased temperatures and greater variations in rainfall. This slow-onset is manifested in receding glaciers, sea water intrusion, and increasing incidence of droughts. All of these have serious bearing for the population as they adversely affect agriculture, human health, migration trends, and economic productivity. The slow-onset has begun to set the stage for the frequency and intensity of extreme weather events. We will now look at four distinct types of extreme events.

Extreme Climate Events

As against the slow-onset discussed above, it is the extreme weather events that attract major attention. Because of the series of floods that caused severe damage, Pakistan has emerged as a climate hotbed severely vulnerable to the adverse impacts of climate change. It is ranked 8th on German Watch's Global Climate Risk Index 2020. As already discussed, the increased temperatures and precipitation are also closely linked to extreme events. In addition to floods, this section will describe the threats posed by heatwaves, cyclones and landslides.

a. Floods

The Indus River for centuries was able to flow freely through the plains of Punjab and Sindh. Historically, people have welcomed floods as the sedimentation delivered by floods also brought bumper crops and prosperity. However, as the structures on the Indus and its tributaries mushroomed and the growing population was allowed to settle in low-lying areas, floods have become costly in human and economic terms. Climate change and rapid population growth and its unplanned urban and rural settlements have made an already complex issue worse. There are no building standards for rural areas, and the ones for urban areas are archaic and poorly enforced. The absence of robust and climate resilient infrastructure adds to the economic and human cost. All major floods in the Indus basin occur during the monsoon season, but cloud outbursts, urban flooding, and flash floods in hill torrents are now becoming new threats in addition to the non-monsoonal floods in Balochistan and the coastal areas. Floods in Pakistan have caused colossal damage to human settlements, infrastructure and agricultural lands. The 2010, 2011, and 2014 floods for example affected more than 30 million people, with damage and losses exceeding $14 billion. The super floods of 2010 caused more than 2000 casualties and affected more than 20 million people (GOP, 2017). People were forced to leave their homes, in some cases migrating permanently. A case study of Mianwali district in Punjab province showed that vulnerability to floods encouraged some families to abandon agriculture in favor of less vulnerable livelihoods (Sathar, et. al., 2019). Leaving such instances aside, most people return to resume their traditional agriculture after the floods to rebuild their lives. In addition to the loss to human lives, livestock, and physical assets including standing crops, floods affect health and damage health delivery infrastructure. After the 2011 floods, for example, education was disrupted as 407 school buildings were damaged or destroyed.

In addition to mega floods in the large Indus basin, the impact of climate change has become more severe as the monsoon has begun to touch the upper reaches of the mountain regions including Chitral and Swat that are traditionally not in the monsoon range. Easterly winds from the Arabian Sea visit Balochistan more frequently with torrential rains (Baig and Rasul, 2008). Likewise, flashfloods originating from high altitude of Kirthar Range Balochistan cause considerable damage to the flooding areas of the districts of Dadu, Shahdhkot/ Qambar in Sindh. Coastal areas in Sindh are witnessing tropical cyclones and storms as well as coastal flooding. The changing climate is resulting in increased frequency, intensity, and changes in the tracks of storms. As heavy floods increase in frequency throughout the country, urban flooding has also become a growing concern in many major cities. Rainwater drains have been encroached on and chocked, as recently revealed by heavy rains in late August-early September 2020 in Karachi. According to the Fourth National Flood Protection Plan (20215-2030), at least 19 cities need widening and reclamation of rainwater drains (Ministry of Water Resources, 2017).

Floods cause water-borne, food-borne, and vector-borne diseases such as malaria and dengue. As floods add to the growth of bacteria, viruses, and fungi and spread the breeding of insects and chemical contaminants, they result in population explosions of mosquitos, insects, and rodents. A case study of four districts of Balochistan correlated the variations in rainfall and temperature with the spread of different infectious diseases. Based on the data from hospitals for 9 years (2001-2009) the study concluded that abnormal rains, long periods of increased humidity, together with other factors contributed to malaria epidemics, as large numbers of unreported and non-immune refugees moved into areas of malaria prevalence (LEAD, 2011). Many climate induced health risks, particularly floods, reveal gender differentials. Restricted mobility, social isolation, reduced literacy levels and skill-sets are additional risk factors for young girls and women.

b. Heatwaves

According the World Metrological Organization, a heatwave is typically a period of marked unusual hot weather over a region persisting on at least three consecutive days during the warm period of the year based on local climatological conditions,

with thermal conditions recorded above given thresholds. Pakistan's summer heat index has been consistently increasing as each successive decade since the 1980s broke the record of the preceding one. South Asia is home to frequent heatwaves and in Pakistan they have increased by 31 days per year between 1980 and 2000. Heatwave events during 1961-1990s were less frequent and less intense. The country's heat index indicates a significant increase in temperatures, resulting in a steady rise in the maximum temperature and humidity profile between 1961 and 2007. However, the period between 1990 and 2011 recorded an increased frequency; a similar increase has been recorded in India and many other parts of the world. During heatwaves, temperatures in urban centers can be significantly higher than their surrounding areas, causing them to become particularly exposed to heatwave-related risks. The direct and indirect impacts of heatwaves include increased mortality and morbidity, reduced labor productivity, disruption in education, loss of livestock and reduced livestock productivity, increased energy consumption, loss of crops, high demand for water, and reduced outdoor mobility. The direct effects of heatwaves include crop damage, reduced labor productivity and high demand for water.

Of Pakistan's major cities, Karachi with almost 20 million inhabitants is worst affected for a combination of reasons. In 2015, Karachi experienced a heatwave that resulted in more than 1200 human lives lost in Karachi alone, and about 200 lives in other parts of Sindh province due to heatstroke and dehydration, exacerbated by power outages, a halted water supply system, and widespread fasting for the month of Ramadan. The major causes of death identified by various health units included heat cramps, heat exhaustion, heatstroke, and dehydration.

Studies have shown that heatwaves increase illnesses occurring from heat stress, heatstroke, cardiovascular or kidney disease. Heatwaves cause the most harm among the elderly, young children, and women in confined spaces, economically disadvantaged communities and city dwellers. Climate change projections have shown increased and more severe incidence of heatwaves in future. It is estimated that heatwaves are five times more likely in future than in the past (IPCC, 2007a; NDMA, n.d.). As high temperatures are becoming a normal part of life, climate researchers predict that deadly heatwaves will become the norm in South Asia both in frequency and intensity, pushing the upper limits of human survivability, with "mega-heatwaves" becoming up to 10 times more likely over the next 40 years (IPCC, 2007).

c. Cyclones

Tropical cyclones have in recent years been changing track and approaching Pakistan more frequently as seen by Ganu (2007) , Yemyin (2007) and Phet (2010) cyclones. Pakistan's coastal districts have been adversely affected by periodic heavy rainfall and tropical cyclones. The coastal areas are also prone to storm surges and coastal flooding. Globally, increased carbon in the atmosphere has contributed to the destructive potential of hurricanes and tropical storms in recent decades and hurricane and cyclone rainfall and wind speeds may increase as the future becomes even warmer. Historically, tropical cyclones formed over the Arabian Sea and made landfall at the coastal areas of Sindh and Balochistan. The coastal districts of Thatta and Badin have been adversely affected on several occasions and Keti Bunder was wiped out four times in recent history. In addition to the tropical cyclones, Balochistan and Sindh provinces have also been victims of tsunami disasters since 1945.

Climate change has contributed to an increase in the frequency of their occurrence while poor infrastructure has increased the damage incurred. Cyclones have repeatedly wiped out human settlements and damaged costal infrastructure, the property of farmers and fishermen including their fishing boats. These cyclones cause drinking water contamination, community displacement, and outbreaks of infectious diseases. Storms also result in additional health risks such as mold growth that can exacerbate allergies and respiratory illnesses. A case study, based on the cyclone Phet in June 2010 in the south-western coast in Gawadar district of Balochistan has informed that in addition to the

loss of human lives and damage to infrastructure, the cyclone severely impacted the district health system that remained inoperative for months. The overall disease patterns in the area marked an increase in diarrhea and malaria, though only part of it can be attributed to climate change. The case study also noted that epidemics like diarrhea changed the pattern of gastro intestinal diseases and vaccine preventable diseases and recorded marked increases in post disaster effects on women (LEAD Pakistan 2011).

d. Landslides

Landslides are one of the most neglected disasters in Pakistan and have not been given the same attention that other extreme events have received, even though their occurrence has been on the increase resulting in the loss of lives, property and infrastructure. The Kashmir earthquake in 2005, for example, is reported to have triggered thousands of landslides destroying houses, buildings, roads, bridges and communication links in the Neelum valley. Many of these were brought on by subsequent torrential rainfall following a dry period. In other words, Land Use and Land Use Change whereby mountain slopes were destabilized by human interventions, rendered the area prone to landslides. Frequent and random changes in the land use have heavily disturbed areas in many parts of the country that are subject to frequent landslides. This includes Gilgit in GB, Murree and Rawalpindi in Punjab, Quetta in Balochistan, Swat in KP, and Muzaffarabad and Neelum valley in AJK resulting in loss of human lives, and houses and other assets of local residents. Karakorum Highway that links Pakistan and China is also prone to frequent landslides at various points. The Hattian Bala Hisar storm that occurred within a cluster of existing landslides has exacerbated the situation by creating an over 1 km-long and 200 meter wide and at least 60 meter deep lake now called Attabad Lake. It has also produced 130 meters of debris that blocked water streams, and destroyed three villages, killing almost a thousand people.

Landslides are a complex phenomenon, but the victims are most often the poor and marginalized who live on marginal lands and destabilized slopes. In addition to the seismic activity, the landslides are caused by LULUCF, unplanned human activities including settlements, agriculture or infrastructure in the fragile ecosystems and precipitated by excessive rainfall, prolonged dry periods followed by intense rains, or their combination.

This section have seen Pakistan's double jeopardy of climate change. While the slow-onset is threatening the long-term viability of ecosystems, extreme events are occurring with greater rapidity and vengeance, periodically eroding the capacity of people, society and economy to recoup. We have seen that the broad range of climate vulnerabilities are not static and new sources of climate threats are surfacing, ranging from monsoon rains in non-monsoon areas and heatwaves in UIB to growing number of landslides in mountain ranges, cloud outbursts, flash floods, and tropical storm surges in coastal areas. Some risks to the economy and human suffering can be mitigated with improved governance, early warning mechanism, management, timely local planning and resource allocation. More fundamentally, however, are there any adaptation and mitigation measures that Pakistan can systematically undertake? Adaptation and mitigation are two key concepts that are central to the discourse on climate change and we will, in the next section, explore their interaction with the nexus of population dynamics, environmental degradation and climate change.

As science of climate change and its findings are becoming part of policy, how are these science-based policies being translated into practice? What can policymakers do against this backdrop of slow-onset and extreme weather events? Land degradation and water stresses are reducing the productive capacity of the ecosystem, weakening agricultural productivity, food security, and health of people, leading to their outward migration. What set of challenges do these two poses for adaptation and mitigation? Do people move out to urban settlements as a measure of what is called 'autonomous' adaptation, because there is no adaptation policy in place? How are local populations driven from one set of rural vulnerabilities to another set of urban vulnerabilities?

7.6 Climate Adaptation & Mitigation: Land Degradation, Water Stresses & Urban Settlements

This section will review how population and demographic factors come into play with the natural environment (land degradation, water stresses). Both are finite resources but how do these two propel or contribute to the dynamics of population movement? For Pakistan's fast-growing population, these are central pillars on which hinge their lives and livelihoods. We will see how per capita availability of land and water are adding to the environmental stress, threatening food and water insecurity. This encourages people to migrate to urban centers where they can only afford low-lying, flood-prone, and marginal lands, thus increasing their exposure to characteristically urban climate change risks. Frequent extreme climate events have repeatedly hit the poor and vulnerable populations. The poor provision of basic services weakens their capacity to adapt to climate change (Jiang and Hardee. 2009). Once in cities, their resilience level diminishes as they would typically have fewer resources to cope with the adverse impacts of climate-induced hazards or disasters.

Adaptation & Mitigation:

Adaptation and mitigation are two key concepts that are central to the discourse on climate change. In general, mitigation tackles the causes of climate change such as GHG emissions while adaptation addresses the effects of the changes caused by anthropogenic activities. IPCC has defined mitigation as anthropogenic interventions to reduce the sources of greenhouse gases. Climate adaptation for IPCC, on the other hand, is an adjustment in natural or human systems to a new or changing environment in response to actual or expected climatic effects. In other words, adaptation refers to the ability of a system to adjust to both slow-onset and the extremes events. In practice, however, they are not two distinct concepts, even if they are designed to serve two distinct purposes. They are instead, closely connected with each other: less mitigation means greater climatic change and consequently greater urgency for adaptation actions. This, in several ways, serves as the basis for the urgency that surrounds the demands for deep reductions in GHG emissions. Climate mitigation and adaptation are not alternatives to each other, as they constitute a combined set of actions in an overall global effort to reduce GHG emissions. Several adaptation measures can, for example, also help reduce emission of methane or other GHG gases that is also a desired outcome of mitigation efforts. Livestock is one of the major emitters of methane in the agricultural sector. Another example can be better managed livestock that helps control land degradation, reduce degradation of forest that is otherwise an important carbon sink. In other words, there are co-benefits of action in either domain on the other.

Successful adaptation actions can reduce vulnerability by strengthening existing coping mechanisms. In general, the more mitigation there is, the less will be the impacts that we will have to adjust to, and the less the risks for which we will have to try and prepare for. Conversely, the greater the degree of preparatory adaptation, the less may be the impacts associated with any given degree of climate change. In essence, both mitigation and adaptation will have spin offs for health, agriculture, migration and productivity.

Pakistan, like many other developing countries, likes to draw attention to her low level of emissions and claims to prioritize focus on adaptation. Since adaptation is an imprecise concept, adaptation projects have historically received less funding than the ones for mitigation. It is hard to calculate adaptation and measure its impact, at least compared to mitigation where the return on investment can be quantified with relative ease. While emissions reduction can be fairly straightforward, adaptation may be a misnomer for BAU or could turn out to be a maladaptation exercise. It is at least partly for this reason

that adaptation has failed to attract significant international climate finance and the burden of implementing adaptation has fallen mostly on the developing country governments that are resource stripped in any case. This is leading to consequences reflected in inaction or inadequate actions in arenas of land degradation and water stresses, as we will see now.

a. Land degradation

Population pressures contribute to land degradation - both directly and indirectly. Evidence has shown that land degradation is linked to multiple factors including surface and groundwater contamination, air pollution, and global warming. Land degradation essentially undermines ecosystem functions and services and results in reduced family incomes and assets, hinders upward mobility, and stunts economic development. This particularly hurts those households who depend upon these services for their subsistence and livelihoods. And, as we argue in this section, it shrinks livelihood options for communities and encourages their migration to urban settlements.

Land is a resource of social, economic, and environmental value for Pakistan. Yet, its degradation has become a particular concern. According to the Special Report on Land, about a quarter of the land area globally is subject to human-induced degradation (IPCC, 2019b). Pakistan, with about 38% of the cultivated land suffering from environmental damage (caused by water and wind erosion, waterlogging, salinity and sodicity) is already higher than the global average. This is a big problem for Pakistan as two-thirds of the country's rapidly increasing population depends on drylands, mainly by engaging in agro-pastoral activities. Nearly 40% of people inhabiting dryland areas now live below the poverty line. In Pakistan almost three-fourths of the land is either already affected or likely to be affected. Population pressure, particularly in fragile ecosystems, is a fundamental underlying cause. Increased population reduces the farm size and the farmers' ability to sustain themselves and their families. Environmental degradation is attributed to increasing consumption and population density and, as the pressure on natural resources has increased with the growing population, it has left an adverse impact on natural resources. Climate change and population growth are the two strongest influences that have accelerated the pace of land degradation.

The local population's limited adaptation capacity in the degraded areas makes them acutely vulnerable. Growing population and economic pressures are unleashing a change in cropping pattern: in many agro-ecological zones, the farmers are trying a third crop, instead of traditional two crop per year cycle comprised of Kahrif and Rabi seasons. Timely soil preparation for the third crop encourages burning of crop residue which in turn is a major contributing factor for air pollution in Punjab. Land Use and Land Use Change are propelling new dynamics of agro-ecological zones. While farming has expanded into Thar and Cholistan deserts and created more agricultural lands in areas like Layyah, Bhakkar and Jhang in Punjab, unsustainable land management practices and increasing demands on natural resources have caused land degradation in several areas of Balochistan, Sindh, and Punjab. A highly complex and diversified agro-ecological and socio-economic structure that exists in the country makes it harder to combat different types of land degradation (Khan, Muhammad Azam, 2012). Land Degradation Neutrality (LDN) has emerged as a core adaptation measure to globally reverse the degraded lands to protect land based natural capital.

In all, several factors contribute to land degradation, particularly intensive agriculture, decreasing farm size because of increase in population and family sizes, limited economic resources, technology applications, weather and other metrological information and skill-sets, infrastructure and most importantly, the absence of people centric institutions, equity and adaptive capacity. As the vulnerability increases, people have no option but to move out to urban settlements. Typically, repeated extreme events trigger such an outward movement. The release of census data will shed more light, but the earlier studies have suggested that people migrate mostly to the provincial capitals.

b. Water Stresses

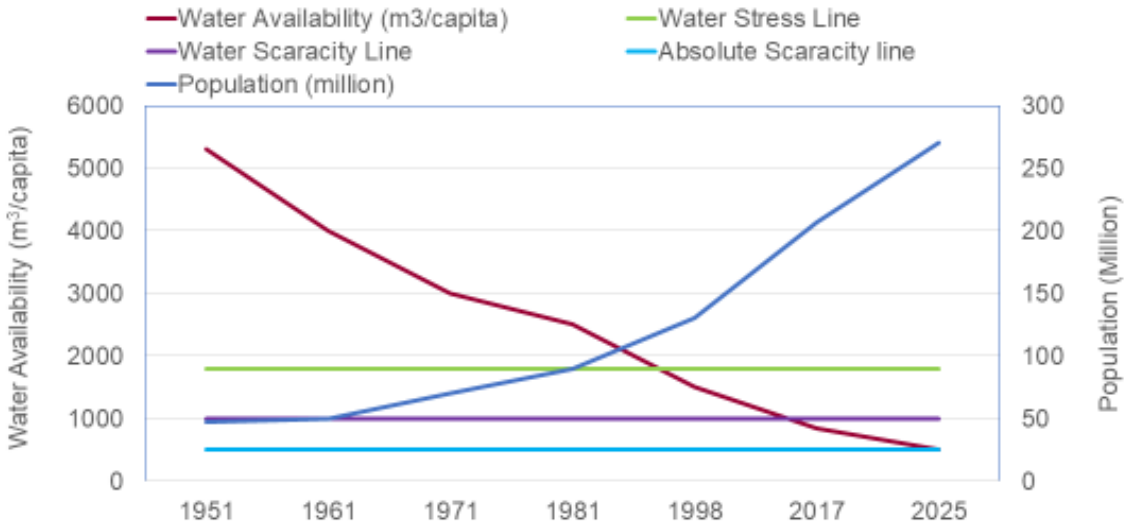
The sense of water insecurity in Pakistan is very acute. Despite having more glaciers than anywhere else in the world and despite having the world's fifth largest underground water reservoir, Pakistan is a water insecure country. Pakistan gets most of its water from the Indus River, and boasts the world's largest contiguous irrigation system serving about 76% of the cultivated area. Water scarcity and unreliable availability, particularly in arid and semi-arid areas, together with other social and economic vulnerabilities has become an important contributing factor in people's decision to migrate to urban settlements.

There are several sources of water stresses in Pakistan. The rainfall tends to vary greatly across the country, much of which is arid or semi-arid with three-quarters of the country receiving less than 250 mm of rain per year. According to Population Action International, there are 26 population and climate change hotspots in the world that have a low resilience and rapid population growth with high projected decline in agricultural production - nine of which are suffering from water scarcity currently, including Pakistan (PAI, 2011). The groundwater usage is high and unregulated. Its level is falling in many areas at one meter per year, while the number of tube-wells has expanded exponentially to meet demand from agricultural, domestic, industrial and commercial users (Ashraf, M., 2020). As in agriculture, the municipal and industrial water demand has also expanded substantially. The increasing population, changes in lifestyles, and the use of solar technology has only added to the rate of extraction. Further, the groundwater in parts of Punjab and Sindh contains arsenic and it has fluoride and nitrates in Balochistan and KP (Ashraf, M., 2020). This presents a serious health challenge for the country, considering such a high percentage of irrigation and drinking water is extracted from the ground.

Pakistan's water insecurity is very deeply linked to the growth in population. Despite high dependence on groundwater, per capita water availability in Pakistan has gone down sharply from 5260m3 in 1951 when the population was 34 million to under 1000m3 in 2019 (population 207.77 million), and is expected to be around 550m3 by 2025 (see Figure 7.5). Yet, based on population projections, water demand will go up from 109 MAF in 2017 to 124 MAF by 2030 (Ashraf, M., 2020). Experts point out that as precipitation patterns shift, temperatures rise, droughts occur, and irrigation needs rise due

Figure 7.5:

Per Capita water Availability in Pakistan to 2025.



Source: Qureshi, R.H. and M. Ashraf (2019), Water Security Issues of Agriculture in Pakistan. Pakistan Academy of Sciences (PAS), Islamabad, Pakistan, pp.41.

to evapotranspiration and the amount of freshwater availability per person will further decline. Rapid changes in both population and climate have adversely affected the country's ecosystems and degraded water and other natural resources. Several projections suggest that without serious demand management efforts and reform, water demand could increase by nearly 60 percent by 2047. This would exceed water availability and further reduce the supply to the growing population (Young, et. el., 2019).

Drinking water is severely polluted and mostly unfit for human consumption and farming. The urban and rural divide is insignificant in this context as up to 70 percent of rural communities do not have access to clean drinking water. In fact, in many areas women must struggle for miles to access water for daily use. Bacterial contaminants in water and soil are said to have risen further in recent years. Open defecation is not very uncommon in several parts of the country. Further, waste is dumped in the rivers and fields. According to one report, of over 6000 registered industries, 1228 were considered 'highly polluting' (Sleet, 2019). Pakistan's two largest industrial estates, both located in Karachi, discharge their effluents into rivers. The water stresses are further accentuated by the level of inequality in the distribution of land and other irrigation-related land variables among agricultural households, across farm size, particularly in government-controlled canal irrigation. Surface water is fast becoming a serious constraint on food production as almost half of the water is lost before reaching the farm gate, in conveyance.

Pakistan's water insecurity stems partly from inefficient and inequitable water management and use, but the rapid increase in Pakistan's population that has quadrupled in the past 5 decades has also contributed. It is plagued by poor delivery of irrigation and municipal water services. Collectively, they comprise the social environmental and economic outcomes that Pakistan gets from its water resources. Water is not costed, and it is provided almost free to agricultural, commercial and domestic users. In agriculture, subsidies and other perverse incentives encourage inefficient irrigation systems. 80 percent of utilized water goes to a handful of pampered crops that constitute less than 5 percent of GDP (Young, et. el., 2019). Some of these crops, such as sugarcane and rice, are high delta crops and in recent years their cultivation has begun to replace wheat in some areas. Water access and quality of both surface and groundwater have important social consequences, afflicting thousands in both rural and urban areas. High level of groundwater abstraction and use as well as pollution are having adverse impacts on health of rivers and wetlands across the country. Women and children are particularly vulnerable to water-borne diseases and improper sanitation. Social and environmental dimension of water security that are undermining human capital and environmental sustainability are glossed over (Young, et. el., 2019).

In all, the process is interactive. The degraded physical environment together with population growth has increased the vulnerability of rural communities, particularly in the dry and semi-arid lands. With increased temperatures, and rainfall variability and increased heatwaves and droughts, the land fertility and its productivity go down. Climate change exacerbates the inequalities between women and men's relationship to water. Since water availability has become more uncertain, limited and erratic, it adversely affects the quality of life and income generation potential of rural communities. The increased vulnerability and the absence of adaptation actions, among other factors, leaves people no option but to undertake outward migration. A case study has highlighted that several million migrants who moved to Karachi over the years came from the 'deprived areas' (Hasan, Arif, 2010). The ethnic composition of internal migration to cities is under researched. Though further studies are required, it can be argued that the several million people who moved to Karachi, most were from non-irrigated and drylands of KP followed by Punjab, northern Balochistan, and other areas which were also facing similar challenges of unproductive physical environment and growing water scarcity.

We have argued in this sub-section that land degradation and water stresses are important contributing factors for migration to urban centers. Deteriorating physical environment and shrinking potential of local economy leaving limited livelihood

options instigate much migration. Further, in the absence of any local adaptation plans, this can be considered as part of their 'autonomous' adaptation action. We can now consider how cities cope with this influx: what are the urban adaptation and mitigation demands?

c. Urban Settlements

Migration is a key component of a country's population dynamics and an important demographic to keep in mind while discussing climate change, especially regarding their vulnerability while moving from rural to urban areas. As local resources shrink and the local environment and economy becomes less productive, people migrate to urban settings. Migration to urban areas has become an important climate induced process in Pakistan. There are several factors that pull towards urban settlements. Studies affirm correlations between increases in population, and economic growth, energy consumption and emissions (Jiang and Hardee 2009).

As discussed in Chapter 4, Pakistan is the most urbanized country in South Asia. Since 1951, it has seen a 12-fold increase in the number of Pakistanis living in urban areas. Population in 10 major cities has also doubled in 20 years. It is forecasted that 40 percent of all Pakistanis will live in urban areas by 2025. Any discussion on population, environment and climate change must therefore recognize rapid population increase in urban population while planning urban resilience and adaptation. It is particularly important since we have pointed out that migration to cities from arid and semi-arid areas is increasing in response to land degradation and water stresses and as people move to cities as part of their autonomous adaptation. This process understandably puts huge pressures on the urban infrastructures including on healthcare, drinking water, sanitation, transportation, and employment (Jiang and Hardee, 2009). Pakistani cities however lag behind in urban infrastructure and most of the existing infrastructure is inadequate, ancient and dysfunctional. It also does not respond to the needs of growing urban population, physical environment, or the changing climate scenarios.

Urbanization and migration are key drivers of a country's population dynamics, central to discussing climate risks especially with respect to migration to urban and peri-urban areas. The drive for better resources, employment opportunities, and living conditions however continues to attract new residents even if this also increases and heightens their vulnerability. The migrants leave behind their social capital and family ties that are otherwise critical both for adaptation and resilience. This is in effect tantamount to changing or replacing one set of vulnerabilities with another. The migrants will have higher carbon footprint in the urban setting than they had in the rural setting before migrating, if the city's growth was an unplanned sprawl. Some studies have shown that the GHG emissions grow faster with the growing urban populations in unplanned and haphazardly expanding cities. It is therefore likely that under a BAU scenario, where the cities continue to grow in a random manner, the city's carbon emissions and the urban population will both grow at an accelerated pace. BAU would entail heightened vulnerabilities and faster increase in CO2 emissions.

It is therefore possible that well-planned urban centers that aspire to inclusive development through density and mixed land-use by investing in vertical and horizontal growth, and supported with low carbon mass transit system, can become important hubs of mitigation efforts that also deliver co-benefits of urban adaptation. In contrast, however, unplanned cities with haphazard expansion in low lying and marginalized lands (or on fertile agricultural lands in peri-urban areas as is the case in Pakistan) exacerbates climate risks. With growing population and particularly with growing urbanization and the number of urban commuters, the congestion and carbon emissions will grow at a higher rate unless Pakistan pursues a climate smart economy that is explicitly committed to low carbon development. Finally, it is argued that a correlation exists between urban density and climate change mitigation. For example, planning compactness and preempting sprawl can contribute to climate change mitigation, since a higher population density potentially reduces energy use, creates economies of scale, contributes to the efficient distribution, and use of natural resources, and makes for more efficient service provision.

Urban centers in Pakistan are growing at varying speeds, but all are growing at a rate that is faster than the national population growth rate. Further, the cities have not grown vertically and therefore their per square meter density levels are far less than in many other Asian cities. The unplanned urban sprawl has left more than half of urban population outside the delivery machine of municipal services. It is in this context that urban and rural vulnerabilities are similar as well as dissimilar in Pakistan. Though distinct, both have a bearing on each other. Adaptation and mitigation, otherwise defined as distinct concepts, are strongly linked in Pakistan's context, and offer a multitude of co-benefits.

While the relationship between population growth and GHG emissions has been acknowledged earlier as well, all signs point towards its growing more critical in the future. Recent models that incorporate population size, composition, and distribution in conjunction with variations in production and consumption confirm that reducing population growth may significantly reduce carbon emissions in the long term. For example, it has been argued that slower growth could lower emissions from 1.6 to 2.5 billion tons per year by 2050 - and that may roughly be equivalent to ending all tropical deforestation. Jiang and Hardee had argued in 2009 that by 2100, these reductions could possibly reduce emissions by 37-41%, and will possibly cost considerably less than the technological investments required to combat climate change. Almost half of these reductions would have to come from fertility decline, they had argued. This projected decline, however, does not match the sharp reductions in emissions needed to meet the Paris Agreement –7.6% emissions reduction every year between 2020 and 2030, for net zero emissions by 2050.

In conclusion, the composition of different demographic groups leads to significantly different implications for adaptation and mitigation. These demographics shift over time, and to keep track of these changes is necessary to maintain a comprehensive understanding of the causes and effects of climate change. In the meanwhile, the demographic trends can help policymakers determine their responses to urban disasters. The level or types of climate vulnerabilities can inform interventions based on the location and size of human settlement and demographic and physical environment characteristics. A detailed demographic picture that covers gender, age groups, and income levels when juxtaposed against the physical environment and climate risk can help define the contours of vulnerability assessments for various extreme events and long-term climate exposures. While the physical environment is critical for defining the scale of interventions particularly geared towards infrastructural development, ecosystem-based approaches and solutions can possibly help define the long-term responses aimed at enhancing adaptive capacity of communities and strengthening their resilience. Therefore, at a minimum, a combination of three fundamental factors - demographic dynamics, physical environment, and ecosystems – are essential to guide local level investment policies and disaster risk management strategies.

The incidence of poverty is greater in rural than in urban areas. But the growth rate of poverty will be faster in urban than in rural settings. Studies have shown that the GHG emissions also grow as urban populations grow, particularly if the growth is not systematically planned. Pakistan has the option to continue with BAU and allow unplanned cities to further expand with random growth in low lying and marginalized lands or in fertile peri-urban areas and exacerbate climate risks. Urbanization and migration have emerged as key components of a country's population dynamics and have become central to mitigating climate risks. Cities can serve as engines of growth by developing clear urban adaptation policies and strategies and linking them explicitly with adaptation and mitigation approaches in national and provincial climate policies.

7.7 Conclusions

This chapter have observed the way Pakistan's environment agenda has evolved over the last five decades. Lopsided from the beginning, it divorced itself from the country's development priorities, including population growth and development. It did not engage with protection of ecosystems, natural resources, human health, or habitats. Adaptation and mitigation are two key concepts that are central to the discourse on climate change and interact with the nexus of population dynamics, environmental degradation and climate change. Even though adaptation was announced as a priority (vis-à-vis mitigation), the National Adaptation Plan (NAP) or the sectoral and subnational adaptation plans have still not been developed, even if a joint study by MOCC and UNDP on Climate Public Expenditure and Institutional Review (CPEIR) has shown that Pakistan was spending 8 percent of its GDP on adaptation (Ministry of Climate Change, 2017). The country's adaptation needs are estimated to range from $7 billion to $14 billion per year (GOP, 2016). Efforts are being made to persuade the Ministry of Finance to integrate climate finance into the national planning and budgeting system through an appropriately designed climate-coding system (Ministry of Climate Change, 2017).

If climate change and growing population-poverty nexus are indeed the two biggest challenges of the twenty-first century, Pakistan will need to develop adaptation strategies that strengthen its ecosystems and physical environment – air, water, and forests – as the primary determinants of the population's health, agriculture, migration, productivity and their impact on vulnerability and resilience. The four factors of urbanization, migration, concentration of vulnerability, and poverty are intertwined and shortcomings in dealing with them hold Pakistan back from economic development and prosperity. The government needs to devise a medium to long-term strategy to overcome the inaction on Pakistan's climate and population challenges and the co-benefit of synchronized actions. An increased awareness about them will help create demand by engaging civil society, and thus encourage change in environment, population, migration, and public health policies.

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8 Population Dynamics, Inequalities And Relevance To National Policies

8.1 Introduction

The earlier chapters of this report documented Pakistan's economic and social situation, with an emphasis on trends in poverty and inequality (Chapter 3); analysed the key demographic trends - fertility, mortality, migration, age structure, with some emphasis on the demand side aspects of achieving one of Pakistan's main objectives - the lowering of fertility levels (Chapter 4); and proceeded in Chapter 5 to examine in greater depth the supply side aspects of the determinants of fertility and reproductive health. Chapter 6 further examined the age structure trends with an emphasis on how to successfully take advantage of a potential demographic dividend. Chapter 7 examined the relationship between Pakistan's evolving demographic situation and the environment and climate change dilemmas it faces. In all these chapters, emphasis was placed on regional differentials, given the magnitude of these differentials and the considerable degree of provincial autonomy in planning and implementation of development programmes.

The role of inequalities in influencing the demographic situation of different groups and the way their demographic situation related to their broader socio-economic situation was touched on in many places in these chapters. However, there is a need at this point to focus more specifically on the role of inequalities in Pakistan's population dynamics and their linkage with development planning. The present chapter will therefore focus on three key dimensions of inequality: inequalities related to poverty, generational inequality and gender inequality, and the way these play out in advantaging or disadvantaging different groups in society. Toward the end of the chapter, attention is paid to the problems faced by particular disadvantaged sub-groups in the population, and the importance of the application of rights to the issues discussed in the chapter.

8.2 Population inequalities by poverty

As noted in Chapter 3, Pakistan's Coefficient of Human Inequality shows greater inequality than Bangladesh and considerably greater than India or Sri Lanka. Poverty is transmitted to the next generations – partly through demographic mechanisms - in a society where inequalities of access to socioeconomic opportunities are greater. In non-inclusive economic growth, the poor quintiles of population, the bottom 40 percent, are mainly limited to low-income jobs. High income jobs are disproportionally limited to top quintiles of population - the rich. Extreme inequality in access to education exacerbate the transmission of poverty within disadvantaged groups. Inequality, poverty, and unemployment interact with each other to produce a vicious circle of lower wellbeing.

People's level of economic wellbeing is closely related to differences in population dynamics. Specifically, the population living in poverty in Pakistan has different levels of fertility and mortality than better-off sections of the population, and different patterns of migration, both within the country and abroad. This has already been shown in Chapters 3 and 4. In this chapter, the relationship between poverty and social inequality on the one hand, and demographic indicators on the other, will be specifically addressed. The aim is to show how poverty and social inequality work through demographic forces to limit opportunities for economic and social betterment. This can be addressed at the micro (family) level, and also at the macro (economy) level.

8.2.1 Inequality in population behaviour and trends

The lower socio-economic groups suffer more from avoidable mortality, morbidity, unintended pregnancies and adolescent births, early marriage, and reproduction and as a result an age structure (at the group and household level) that is burdened by heavier child-rearing responsibilities and more rapid growth as a group. To give two examples, the childhood (under 5) mortality rate in Pakistan is 100 deaths per 1,000 live births among children born to women in the lowest wealth quintile but 56 deaths per 1,000 live births among those born to women from the highest quintile, an enormous difference of 44 deaths. And among young adolescent women (aged 15-19), 10 per cent of those in the lowest wealth quintile have begun childbearing, compared with 5 per cent of those in the highest wealth quintile. These differences are vast, and they are important. Beginning childbearing in the teenage years in most cases effectively blocks the possibility of reaching an educational level that could enable productive work to be found; it confines the young women to the domestic sphere in the household of her husband; it puts her health and that of her baby at greater risk; and it reduces the likelihood that she will engage in political and social activism.

An important observation is that the demographic patterns associated with lower socio-economic status also tend to be associated with lower levels of education. This is not surprising, since those in lower socio-economic groups are less likely to progress as far in the school system. But it is important to know – and difficult to determine – whether, if we can enable those in lower socio-economic groups to continue further with their education, the differentials can be eliminated, or whether there are other aspects of their disadvantage besides lack of education that holds their demographic behaviour back from converging with that of higher socio-economic groups.

Social inequality limits demographic convergence. This can be observed at both the micro and macro levels. At the micro level, women's empowerment is linked to poverty reduction and to the related SDGs. One example—an extremely important one—entails linking educational and reproductive health goals. Girls who complete secondary school have a better chance of delaying marriage and childbearing, greater knowledge and confidence, better access to paid work, and lower unmet need for family planning. Educated women who can realize their reproductive rights and choices will stay healthier during and after their pregnancies, which strongly contributes to the health of their children and overall family well-being. Thus, improving women's reproductive rights will provide greater chances to realize or improve their productivity, as well as improving the chances for the next generation to move up the economic ladder.

How are population factors at the household level linked to the formation of human resources? There are a number of aspects of this. First, early marriage and early initiation of childbearing effectively forecloses possibilities of young women continuing their education and finding jobs commensurate with such education. Early marriage of men can have similar effects in foreclosing opportunities. Early marriage and termination of education is associated with higher fertility and more children to be raised in the family, probably leading to difficulty in the next generation in covering costs of education, the need to get boys into (low productivity) employment early, and girls married off (most likely to men from lower socio-economic background) to decrease their burden on family resources. Thus, the cycle of

poverty repeats itself. There are many other aspects, including likely deleterious impacts on the health of mother and child when fertility begins early. But basically, improving women's reproductive rights will provide greater chances to realize or improve their productivity, as well as improving the chances for the next generation to move up the economic ladder.

How does social inequality limit demographic convergence at the macro level? There is a two-way causality here. Social progress leads to demographic convergence and demographic convergence catalyzes the socioeconomic convergence. Inequitable social progress in health, education, employment, and income can slow the demographic convergence and sometimes lead to demographic divergence. China, Brazil, and Thailand witnessed a speedy demographic transition due to rapid social and economic change (Dyson, 2010). To a large extent, this may be explained by rapid economic growth and equitable distribution of socioeconomic opportunities such as health, education, employment, and income.

Take the example of health. Health inequities affect the demographic transition and convergence. Evidence suggest that setback in convergence of life expectancy at birth across the world can be attributable to unequal progress of public health outcomes (McMichael et al., 2004; Becker et al., 2005; Moser et al., 2005; Bloom and Canning, 2007; Dorius, 2008; Clark, 2011). Similarly, inequitable distribution of education opportunities may affect the demographic convergence through multiple channels. First and foremost, the level of awareness is slower amongst the social groups having lower or no education. This can change the attitude towards family planning, subsequently hurting the convergence to low fertility. Second, the social groups with lower level of education are most likely to end up in low paid jobs which affect the access to health opportunities, in addition to other effects.

Inequitable access to health coupled with a lack of awareness of the benefits of accessing family planning, maternal and child health care hampers the demographic transition and convergence. The evidence suggests that inequalities in health emerge from inequalities in education, employment, income, and gender. Reducing inequalities in health, therefore, requires addressing the inequalities in education, occupation, and income (Mackenbach and Stronk, 2002). All these together catalyze the demographic convergence.

As for the question of how a deceleration in population growth is linked to development and poverty reduction, this is where the demographic dividend comes in. As described in detail in Chapter 6, the increased share of population in the economically productive ages following sustained decline in fertility provides a favourable setting for accelerating a nation's economic development, provided that education, labour market and economic policies are suitably attuned to taking advantage of the opportunity.

Effectively meeting the SDG targets would certainly facilitate both demographic and socioeconomic convergence. While all the 17 SDGs and 169 targets are legitimate development objectives seen through a global lens, a resource-strapped country like Pakistan needs to prioritize, localize, and motivate a bottom-up path towards greater progress. A similar point can be made about those SDGs and targets that can be related to demographic trends (notably SDG 1 (Poverty), 3 (Health), 4 (Education), 5 (Gender Equality), 8 (Economic Growth and Inclusion) and 10 (Reduced inequalities). While many such interactions can be identified, the main aim should not be an exhaustive list, but rather to isolate those key areas where the linkages between demographic variables and important aspects of development are likely to be crucial. It is important to note that while national commitments can be made, it is better for provincial ownership and accountability to set their own provincial and district level targets.

8.2.2. Trends in reproductive inequality

While many researchers have demonstrated the effects of poverty on reproductive health outcomes, there is less clear-cut causality data to support how poor reproductive health makes it more difficult for a woman and her family to escape poverty. Common sense suggests that poor reproductive

health outcomes—such as early pregnancies, unintended pregnancies, excess fertility (when actual births exceed desired fertility), and poorly managed obstetric complications—would increase the chances of remaining poor. Robust, compelling evidence linking RH/FP to poverty reduction would support efforts to include it in country-level poverty reduction strategies and funding.

When an international range of studies are examined to summarize the negative outcomes of adverse reproductive health conditions on various aspects of household wellbeing, the findings can be summarized as in Table 8.1 (Green and Merrick, 2005). The study related three broad RH categories - early childbearing; maternal mortality and morbidity; and unintended/mistimed pregnancy and large family size - to three indicators: overall health; education; and household wellbeing, in the context of economist Sen's (1999) capabilities approach to poverty.

In short, the effect of family size on poverty is affected by a country's level of economic development, position of family in the life cycle, living arrangements of the household's children, whether family receives income from non-resident family members, spacing of children and whether children are premature. In the context of Pakistan, where a quarter of women in their 20s and early 30s had their first birth before age 20, (PDHS 2017/18, Table 5.9), maternal mortality continues to be high, and unmet need for family planning and levels of abortion are considerable, the consequences on poverty may be considerable – but there is no conclusive data. The PDHS shows two apparently somewhat conflicting facts: one is that unwanted fertility and unmet need for family planning are higher among the poor than among the better-off (PDHS 2017/18, Tables 6.7 and 7.14). The other is that preferred family size is much higher among the poor than among the well-off. Among women, the average wanted fertility rate in 2017/18 was 3.6 children – 4.9 in the poorest quintile and 2.8 in the wealthiest quintile (PDHS, 2018: Table 6.7). Family size preference has not changed (in men) for 2 decades.

Table 8.1

Summary of negative impacts of adverse reproductive health conditions

	Health	Education	Household wellbeing
Early childbearing	Fairly strong evidence of adverse health effects of very early pregnancy, including lifelong morbidities	Some evidence of lower levels of education, but reasons other than pregnancy (e.g. poor performance or cost) are often more important	Stronger evidence of negative effects in Latin America (where marriage age is later) than in Africa and Asia, where early marriage and childbearing are more common and closely linked
Maternal mortality and morbidity	Some evidence of negative impacts on children's health; very limited evidence for longer-term pregnancy-related morbidities	Limited evidence of adverse impacts on children's education; mediated by other household factors (e.g. fosterage or family position)	Little or no evidence of impacts on household wellbeing; some evidence suggests poor maternal health can lead to catastrophic health care expenses
Unintended/ mistimed pregnancy, large family size	Short birth intervals negatively affect child survival, but the number of births has a greater impact on maternal mortality; unsafe abortion is associated with unwanted pregnancy.	In some cases, large family size reduces investment in children's education	Some evidence that large family size leads to unequal spending on children, with potentially adverse effects on girls.

Whether or not a larger family size is actually disadvantageous for the poor, there is therefore no evidence that they see this as an overriding factor to favour a smaller family size. Child labour may tend to dilute the relationship between large family size and poverty.

Large families tend to distribute household spending unequally among children, often to the detriment of girls. Indeed, "high fertility may be one of the mechanisms which deny the benefits of economic development to some social groups and to some members within the family" (Desai, 1995: 209).

HIV and the SDGs

How is HIV/AIDS linked to other SDG outcomes? The full impact of HIV/AIDS epidemic in Pakistan is not known; there is low prevalence in the general population and concentration among high risk groups. Even in the little that is known, women/girls face discrimination (and barriers) in testing and receiving treatment (anti-retrovirals ART). According to the National AIDS Control Program data on patients on ART less than a quarter were women. On the positive side, between 2000 and 2013, there was a reported 30% reduction in the number of new cases (UNAIDS AEM exercise and IBBS Round 4). However, some aspects cause concern. Multiple reviews and assessment have found extensive underperformance by all actors in prevention and treatment programs. For example, prevention programs for key populations reach only 3-26% of eligible individuals; 21% of all estimated PLHIV are registered at treatment centers and 13% receive ART (UNAIDS, 2019). Although only 30% of the funds needed to orchestrate a full HIV response are currently available, only around a third of these are utilized, often on salaries or overheads. Key among the various causes of this underperformance is the absence of a system to collect, analyze and make sense of data from prevention and treatment services and surveillance data to form a composite picture of the epidemic and the response.

Reproductive Health and other health SDGs

SDG 3.7 is as follows: "By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes". Successful achievement of this goal is intertwined with success in achieving other health SDGs – notably, SDG 3.1, reduction of the maternal mortality rate, and SDG 3.2, which focuses on reducing neonatal mortality and under-5 mortality. In Pakistan, some of these linkages are apparent, though the relationships are not always clear-cut. For example, women in Sindh and Balochistan have the highest maternal mortality rates (PMMS 2019); women in Balochistan (though not in Sindh) also have the poorest access to various reproductive health services (PDHS, 2017/18, Chapter 9). SDG 3.c, which focusing on increasing health financing and boosting the health workforce in developing countries, is really an essential precondition for greater success in achieving reproductive health goals, though much will depend on the channeling of a greater proportion of increased health budgets and an expanded health workforce into reproductive health activities. Discussions with policy makers show that their take on universal access generally refers somewhat narrowly to maternal health and reproductive services for married women, with little emphasis on a full package of services, rights, access to services and placement.

Women's sexual and reproductive health is related to multiple human rights, including the right to life, the right to health, the right to privacy, the right to education, and the prohibition of discrimination. The Committee on Economic, Social and Cultural Rights and the Committee on the Elimination of Discrimination against Women (CEDAW) have both clearly indicated that women's right to health includes their sexual and reproductive health, thus highlighting the obligations of States in this regard.

8.2.3. Inequalities in morbidity and mortality by age and sex (including effect of son preference, especially on infant and U5 mortality).

The discussion in this section is based on data from the 2017/18 PDHS. Infant and childhood mortality rates decrease uniformly with increasing wealth and with increases in mothers' education. The enormous differential in under-5 mortality rates between wealthier and poorer groups in Pakistan was already noted. There is also a sex differential: boys are more likely than girls to die in the first month and also in the first five years of life. The under-5 mortality rates per 1,000 live births were 80 among boys but 68 among girls.

Low birth weight is more common for babies born to young mothers (aged less than 20) than among those born to mothers aged 20-34 (34 per cent and 21 per cent respectively). Babies born in households from the lowest wealth quintile are also more likely to have low birth weight than those born in households from the highest wealth quintile (33 per cent and 19 per cent respectively). A majority of children in the highest wealth quintile (80 per cent) had received all basic vaccinations compared with only 38 per cent of those in the poorest wealth quintile. Likewise, evidence about children under age 5 who had symptoms of acute respiratory infection in the two weeks before the survey shows that treatment was sought on the same or next day for 68 per cent of those from the highest wealth quintile, but for only 36 per cent of those from the lowest wealth quintile.

Further evidence is available, but overall, it is clear that babies and young children have a considerably better chance of surviving and thriving if they are from better off households than if they are from households in the poorest quintile.

8.2.4 Generational inequality: linking changes in age structure to poverty reduction and development

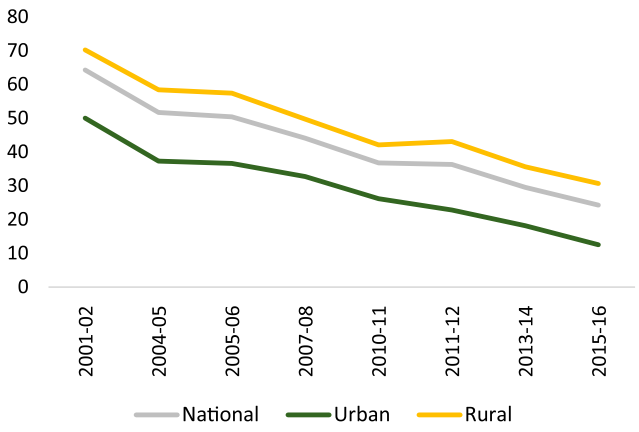
Generational equality is the concept or idea of fairness or justice between generations. The concept is also applied to fairness in dynamics between children, youth, adults and elderly persons, in terms of treatment and interaction. Generational (in)equality has special relevance to demographic (or fertility) transition, which brings major changes in age structure of the population. The decline in fertility enhances economic prospects and contributes to poverty reduction at both macro- and micro-levels (Sinding, 2009). At the macro-level, the beneficial results of a temporal expansion of the share of population of working age has been described in Chapter 6. At the micro-level, high fertility reinforces poverty and makes an escape from poverty more difficult for two reasons (or mechanisms), according to Wietzke (2020). The first is a dependency effect, as larger and poorer households need to divide scarce resources among more dependents. The second is an acquisition effect, driven by increased constraints on the ability of poorer parents to save or engage in income-generating activities after the birth of another child. When an intergenerational perspective is added, these mechanisms (or effects) can also explain the persistence of poverty over time, as children from larger and poorer households are less likely to receive the education and the health and social care that they would require to compete on equal terms with children from smaller and better-off households in later phases of their life (Wietzke, 2020).

To explore the linkages between age structure and poverty in Pakistan, a brief review of the poverty situation is needed. Poverty estimates, based on the official poverty line, show a linear decline in poverty at the national level between 2001/02 and 2015/16

period (Figure 8.1); in fact, it halved overall from 50 percent to 24 percent in ten years (2005/06 and 2015-16). Poverty declined in both urban and rural areas, although the decline is more pronounced among urban populations, thus widening the rural-urban poverty gap. The Multidimensional Poverty Index (MPI) also declined from 54 percent in 2005-06 to 39 percent in 2014-15 (Figure 8.2). The decline in MPI is slower than the decline in expenditure-based poverty. However, the decline in MPI was also much sharper in urban areas of the country than in rural areas. In fact, the rural-urban gap in MPI increased from three times in 2005-06 to about six times in 2015-16. The MPI also shows a consistent decline in poverty across the provinces during the last decade, but with no change in the ranking of provinces: it remained lowest throughout the decade in Punjab and highest in Balochistan, whereas the positions of Sindh and KP remained unchanged, second and third, respectively.

Figure 8.1

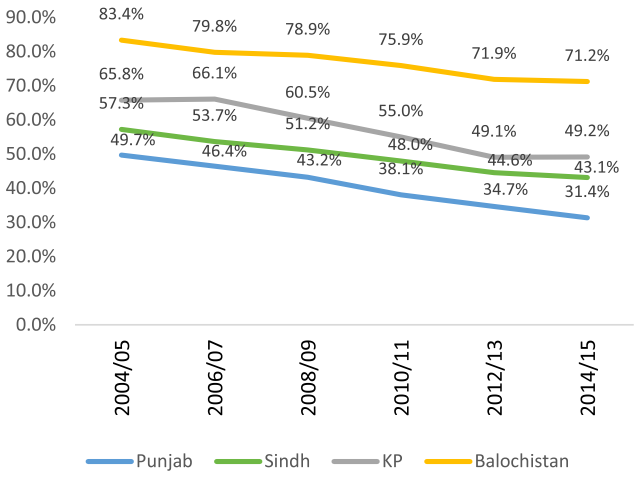
Poverty trends, 2001 to 2015-1



As noted in Chapter 4, a six-percentage point decline was witnessed in the share of child dependent groups (0-14 years old) between 1990-91 and 2017-18 and a corresponding increase in the share of working age population (15-64). There was no change in the elderly population share, which remained at 4-5 percent of the total population. The age dependency ratio has also declined over time (Chapter 6). Pakistan therefore does not yet face the issues of a rapidly ageing population faced by countries where fertility levels have fallen to replacement level and below.

Figure 8.2

Multidimensional Poverty, Provincial headcount:



Source: Planning Commission (2018)

How are the changes in age structure linked to poverty reduction and development? The linkages between changes in age structure and poverty in Pakistan have generally been examined through multivariate techniques (regression), with poverty status (poor vs non-poor) or per capita household expenditure as the dependent variable. Three age-related indicators are used in the analyses: age of the head of household, dependency ratio and change in age structure over time. Micro-data from cross-sectional as well as longitudinal household surveys have been used in different studies.

In longitudinal studies, change in poverty status in two or more periods is measured through four mutually exclusive categories: never-poor, poor in two or more periods, moved out of poverty, and moved into poverty. The results show that age of the head of household has a negative association with movement into poverty between two periods, while age is positively associated with it (Arif and Farooq, 2014). This suggests that an increase in the age of head of household first empowers households through the head's economic activities not to fall into poverty, but in old age this empowerment weakens and raises the probability that households will fall into poverty. Thus, old age of a head of household may affect the wellbeing of all members of the households.

It is also common in poverty studies to include the dependency ratio - the ratio of dependent population (<15 and 65+) to working age population (15-64) - as a factor affecting the wellbeing of household members. A common finding is that if a high proportion of population is of working age then households are likely to have a high rate of earnings and savings, improving the household well-being. High child or old age dependency is likely to depress household wellbeing. Analysis of longitudinal surveys shows that an increase in working age population has a negative association with chronic poverty - being poor in two or more periods; but it has no significant role in helping households to move out of poverty. It probably reflects that the slow decline in fertility during the last decade hinders making a transition out of poverty.

A recent study by the FAO on poverty and food security examined the determinants of poverty at the province level at two time points - 2005-06 and 2015-16. The intervening period was when fertility transition in Pakistan slowed down (see Chapters 4 and 6). The comparison shows that the economic determinants of poverty e.g. ownership of physical assets and education of the head of household, remained unchanged at these two times – 2005-06 and 2015-16. However, the effect of the dependency ratio, which was significantly associated with poverty or household wellbeing in the 2015-16 models, was found insignificant in the 2005-06 models. In other words, these factors are more important for household wellbeing or poverty recently than a decade ago. This suggests that demographic pressure inhibiting households from transitioning from poor to non-poor status has increased over time.

Poverty also affects the wellbeing of children and elderly population through their nutrition and access to health services. It is difficult for poor households to meet the health and nutritional requirements of children and elders. Thus, poverty also contributes to the persistence of both high infant mortality and child malnutrition - stunting, wasting and underweight.

8.2.5 The links between migration, spatial distribution, and poverty

Take first the case of internal migration and urbanization. The share of urban population in the total population of Pakistan has increased from 18 percent in 1951 to about 36 percent in 2017. It appears from indirect estimates that about 20 percent of the urban population growth in Pakistan is due to internal migration (UN-Habitat, 2018). Around one-third of the migratory flows are from rural to urban areas, according to the 2017-18 PDHS. The pattern of migration of population aged 10 years and above, as observed in the labour force surveys, is mainly in the rural to urban and urban to urban directions, dominated by economic motives, particularly for males (see Chapter 4).

Do urban labour markets absorb the migrants quickly? Can rural to urban migration improve the well-being of migrants or is the rural poverty simply transferred to the urban sector? Each of these questions raises numerous and often contentious issues and the evidence is still not sufficient to derive definitive conclusions. Because of both the recent decline in fertility, particularly in urban areas, and influx of young migrants from rural areas, the age structure of urban population has changed over time, increasing the share of working age population of both sexes. This in turn has increased pressure on the urban labour market.

The level of unemployment has been higher in urban than in rural areas during the last decade (Figure 8.3). Unemployment rates are alarmingly high among the urban youth: 13 percent of male and 24 percent of female labour force aged 20-24 was unemployed in urban Pakistan in 2017-18 (Figure 8.4). Moreover, approximately two-thirds of the labour force employed in the non-agriculture sector was engaged in informal economic activities. Workers engaged in the informal sector have no legal protection. They usually work in an unhealthy environment, with low wages. Unemployment and low wages are closely associated with poverty.

The growth of cities in Pakistan has been fueled by high fertility and rural-urban migration. Many of the large cities have fairly stagnant economies, yet they

Figure 8.3

Unemployment Rate by rural and urban areas, 2009-2018

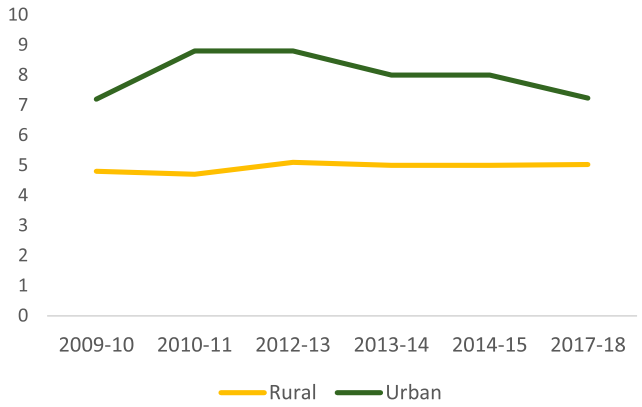
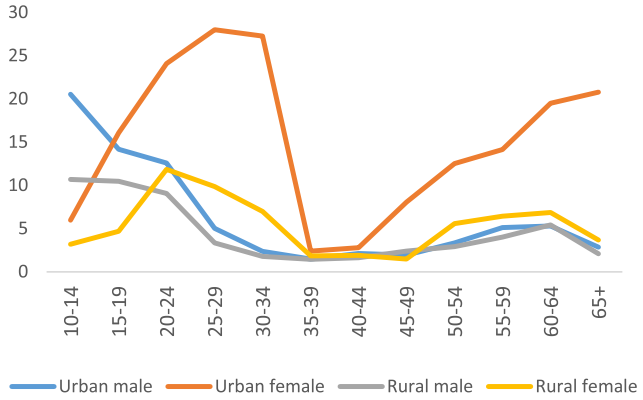


Figure 8.4

Age-gender-specific unemployment rate by rural and urban areas, 2017-18



have absorbed huge population increments in recent decades. Most of the small and medium-sized cities in Pakistan do not have dynamic economies, and many became urban centers simply because they incorporated minor administrative functions or served as market towns or cities based on local or regional road networks. Although poverty in rural areas has usually been higher than in urban areas, in the past, the levels of poverty in the urban and rural areas have generally risen or declined simultaneously (Figure 8.1). On the one hand, small and medium-sized cities do not have dynamic economies to improve the living standard of their residents through employment and high wages. On the other hand, large urban centers have their own problems such as high unemployment, inflation, low wages, and deterioration of infrastructure which can lead to poverty.

Migration, internal or international, of an adult household member, particularly from rural areas, enables the concerned households to diversify their sources of income through domestic or overseas remittances. Table 8.2 presents data on the proportion of households that have received remittances from internal or overseas migrants. Overall, around a quarter of households with a migrant within Pakistan reported the receipt of some remittances; this percentage is higher in rural households (26%) than in urban households (17%). There is variation across regions and provinces; the proportion of households receiving remittances is highest in AJK, followed by KP, Punjab, Balochistan, and Sindh.

Overall, 44 percent of the households with an emigrant received remittances from abroad during the year preceding the survey. More rural households (47%) received remittances from abroad than their urban counterparts (37%). As with internal remittances, the proportion of households receiving international remittances is highest in AJK and FATA, followed by KP, Punjab, Balochistan, and Sindh (Table 8.2). The higher proportion of households in Punjab, KP and AJK receiving remittances from within Pakistan or abroad has helped to cement their place as relatively better-off regions because their inhabitants have been able to diversify their income sources through non-agricultural employment in Pakistan and overseas jobs. In particular, the low levels of poverty in northern Punjab are commonly attributed to the inflows of foreign remittances. It appears that households participating in migration have in general been successful in improving their living standard through inflows of remittances.

Table 8.2

Percentage of households reporting out-migrants within Pakistan and emigrants abroad who received remittances, by regions and urban/rural location, 2017-18 PDHS

Province/ Region	% households with an out-migrant (internal) who received domestic remittances	% households with an emigrant who received remittances from abroad
Pakistan	23.5	43.2
Urban	16.6	36.2
Rural	26.2	46.6
Punjab	23.5	44.1
Urban	17.4	38.2
Rural	26.0	47.6
Sindh	16.4	14.4
Urban	9.8	17.0
Rural	24.9	-
KP	27.8	47.6
Urban	27.1	51.7
Rural	27.9	47.0
Balochistan	16.6	35.2
Urban	9.7	-
Rural	19.9	-
Islamabad	12.9	45.3
FATA	26.4	67.6
AJK	50.8	72.6
Gilgit-Baltistan	29.6	54.2

Source: NIPS (2019, Table 17.18)

8.2.6 Poverty and other demographic factors

Household size and gender of the head of household are commonly included in the analysis of determinants of poverty. The relationship of poverty to women-headed households will be discussed in a later section. As for household size, an addition of a household member, particularly a dependent (a child or an older person), reduces the resources available for consumption, leading to poverty (FAO, 2020). In longitudinal studies, the positive association of household size with both chronic poverty and transitory poverty shows volatility of large families. Large households are more likely either to stay longer in poverty or to be vulnerable to poverty rather than being 'never poor'. Smaller families are more likely to stay in 'never poor' status. It also appears that on the one hand asset position (land ownership) of many rural households helps them enjoy the 'never poor' status but on the other hand, demographic pressures in the form of large household size and dependent population increase the risk of falling into poverty and reduce the chances of escaping poverty.

It is not common in Pakistan to consider the importance of demographic factors either for economic growth or for poverty reduction. Yet the association between poverty dynamics and the demographic variables - family size, dependency ratio and change in age composition - as discussed above, has important implications for economic growth and development. For example, low dependency ratio, associated with the decline of child population, because of fertility transition, can contribute to economic growth through household savings. Domestic saving rates, a necessary condition for investment, have been consistently low in Pakistan. Further decline in the dependency ratio can go a long way towards increasing the saving rates and contributing to economic growth through investment (see Chapter 6 for detail). Similarly, the negative association between the working age population and chronic poverty shows the importance of fertility decline for labour market activities; more active and skilled population can be a resource for economic growth and poverty reduction.

8.2.7 The Ehsaas programme, the SDGs and UNFPA strategic positioning

The SDGs were discussed in Chapter 3, where it was shown (Figure 3.16) that progress in meeting the majority of SDGs – in particular, SDGs 1-6, which are particularly important in relation to the present report - is either far from being on track, or requiring significant efforts to achieve them, both at the national and provincial level. Parallel to efforts to meet the SDGs, we now have the Ehsaas program, launched in 2019, which is the biggest anti-poverty programme ever operated by the Government of Pakistan. Following the vision of the Prime Minister, it aims to create a 'welfare state' by countering elite capture and leveraging 21st century tools—such as using data and technology to create precision safety nets; promoting financial inclusion and access to digital services; supporting the economic empowerment of women; focusing on the central role of human capital formation for poverty eradication, economic growth and sustainable development; and overcoming financial barriers to accessing health and post-secondary education. The program is aimed to benefit the extreme poor, orphans, widows, the homeless, the disabled, those who risk medical impoverishment, the jobless, poor farmers, labourers, the sick and undernourished, students from low-income backgrounds and poor women and elderly citizens. Ehsaas also aims to lift lagging areas where poverty is higher.

Ehsaas' poverty reduction strategy is articulated in four pillars and it currently embodies 115 policy actions. The four pillars include: (i) addressing elite capture and making the government system work to create equality; (ii) safety nets for disadvantaged segments of the population; (iii) jobs and livelihoods; and (iv) human capital development.

The ninth country programme of the UNFPA is aligned to the Government of Pakistan Vision 2025, the United Nations Sustainable Development Framework for Pakistan (UNSDF) 2018-2022, the International Conference on Population and Development, the 2030 Agenda for Sustainable Development, and Family Planning 2020. The programme responds to the call of the Sustainable Development Goals to combat inequalities; foster peaceful and inclusive societies, free from fear and violence; protect human rights; promote gender equality and the empowerment of women and girls; and integrate humanitarian and development agendas. The four key outcomes of the UNFPA programme are in the areas of: (i) sexual and reproductive health; (ii) adolescents and youth; (iii) gender equality and women's empowerment; and (iv) population dynamics. To achieve desired outcomes, the programme focuses on advancing women's and young people's ability to exercise their reproductive rights through: (a) targeted advocacy with policy and decision-makers for gender-responsive and youth-friendly policies, laws and initiatives; (b) advocating for increased health and education expenditures; (c) strengthening capacities of Government and civil society institutions for youth-led and gender-responsive sexual and reproductive health programmes and partnerships; (d) promoting alliances and strategies to reduce gender inequality; (e) promoting an integrated and multisectoral approach to population dynamics

and its linkages to development; (f) instituting communication strategies to foster change in social norms; and (g) enhancing Government partnerships with the private and civil society sectors.

A close look at the goals and approaches of Pakistan's two programmes designed to promote development and uplift the disadvantaged – the SDGs and Ehsaas - and UNFPA's Ninth Country Programme, leads to a common thread: how to make the ongoing demographic transition a dividend for the country and its population. Considering the focus of 9th country programme of the UNFPA and four pillars of Ehsaas and its 115 policy indicators, Table 8.3 identifies programmes under each pillar, which can provide a base for developing strategic partnership between the UNFPA and the Division of Poverty Alleviation and Social Safety. The key factors are as follows:

1. Universal health coverage policy to be adopted at federal and provincial levels with innovative technology tools to increase geographic and financial access to healthcare for communicable and non-communicable diseases and for maternal and child health and mental health services.
2. Women's empowerment – the Ehsaas agenda is heavily skewed towards the uplift of poor women through Kafalat and Tahafaz programmes. Ehsaas also aims to create jobs for poor women and ensures that women have joint ownership of houses in each of the new housing schemes the government is supporting.
3. Making the population control measures effective and improving the quality and speed of implementation. The latter is deeply interlinked with governance effectiveness: housing the Population Task Force under the direct supervision of the Prime Minister's Secretariat underlines the importance placed on effective implementation of the Task Force's recommendations. Ensuring universal access to family planning is highlighted, predicated on the understanding that population is the denominator of poverty alleviation.
4. Human capital development
5. Initiatives addressing child malnutrition
6. Skill development and employment generation: a certain set of employment opportunities are included in the Ehsaas framework to promote jobs and livelihoods, despite current limitations
7. National Strategy for the Development of Statistics.

Table 8.3

Ehsaas programmes for strategic partnership between UNFPA and the Division of Poverty Alleviation and Social Safety

Pillars	Programmes
Addressing elite capture and making the government system work for equality	1. National Strategy for the Development of Statistics* 2. District Development Portal 3. Registration of slum and Katchi Abadis residents
Safety nets	1. Insaf Insurance card 2. Ensuring financial access to the poor against catastrophic health expenditures through Tahafaz 3. 20 centers for the physically challenged 4. Creation of a time- and outcomes-based Labour expert group 5. Launch of a welfare and pension scheme for the informal sector 6. Welfare of workers abroad

Human capital	1. Universal health coverage 2. Transparency and integrity measures to address regulatory capture in health-related regulatory agencies 3. Transparency placard placement policy for health facilities funded by government. 4. Policy to accelerate reform of public hospitals with increase in budgets
Jobs and livelihood	1. Introduction of skills training in school curricula and 2-year college programs 2. Rationalizing requirements of 8th class as conditionality for enrollment in TVETAs 3. Decrease in the age of enrollment from 18 to 15 in TVET institutions so that after matriculation, skills training can be started immediately 4. Review of legislation relating to apprenticeship in the informal sector. 5. A consolidated labor market information system for overseas employment so that intended migrant workers can be empowered, and are not exploited by middlemen

*This was a project document but was not implemented.

8.3 Gender Equity and Inequality

8.3.1. Women's empowerment

The societal paradigm in Pakistan is a rigid form of patriarchy, with deeply embedded biases and discriminatory practices towards girls and women. Thereby all state and private institutions (and individuals as well) functioning in this social milieu have in varying degrees internalized, accepted, and condoned such practices themselves. Changing these discriminatory gender practices thus will require a combination of long term and immediate interventions such as widespread education of the young generation (children), sensitization of citizens, particularly men, enabling dialogue on alleged mis-interpretations of religious prohibitions on the mobility and equality of girls/women (and if needed adaptations to modernity), and most importantly opening up economic opportunities to women.

Ending all forms of discrimination against women and girls is not only a basic human right, but it is also crucial to accelerating sustainable development. It has been proven time and again that empowering women and girls has a multiplier effect and helps drive up economic growth and development across the board.

8.3.2. Child Marriage

On a world scale, high prevalence of child marriage is both a symptom and a consequence of poverty. The girls most likely to marry early are those with the least education and lowest economic status (Parsons and McCleary-Sills, no date). In Pakistan, child marriage has been lessening over time and is considerably less prevalent than in Bangladesh and Nepal, but it remains an important barrier to women's progress. The Pakistan DHS 2017-18 found that 18 per cent of women aged 20-24 had been married before age 18, and 3.6 per cent before age 15. Child marriage is closely linked to poverty and to girls' educational opportunities. The practice is driven by social norms and expectations and by

gendered discrimination that devalues women and girls and their right to make choices for themselves. It is also driven by limited choices for poor families.

The regional differences in median age at first marriage for women are fairly wide – from 18.2 years in FATA and 18.4 in rural Sindh to 21.1 in Punjab and 22.7 in Islamabad. Pakistan also has wide average age differences between husband and wife, which tend to exacerbate the low status of young brides. Differences in median age at marriage between men and women range from a high of over 6 years in Sindh and 6 years in KP to a low of 4.3 years in ICT Islamabad (PDHS 2017-18 Table 4.4).

Many disadvantages are faced by girls who are married off early: early termination of education; the typically wide age gap with their husband ensuring a subordinate role in the household and probably greater risk of gender-based violence; early initiation of childbearing, which puts the health of both mother and baby at risk, and cuts short the possibility of gaining satisfying employment, thus curtailing their possibility of emerging from poverty.

In-depth analysis of Pakistan DHS data (UNFPA 2019) shows that child marriage is likely to result in the woman concerned facing greater control behaviour by her husband than other women, and greater likelihood of domestic violence. These differentials seem to continue for a long time into marriage, though they are less marked for women aged over 35. Concentration on such differentials, while it properly alerts us to the need to eliminate child marriage, has the danger of leading to under-emphasis on the broader issue: that in Pakistani society, marital control behaviour by husbands and husband's family, and to a lesser extent, spousal violence, is very widespread, and just because women married at ages 18 and above have somewhat less experience of these problems than those married as children, for women as a whole the incidence of such behaviours is unacceptably high.

Analysis of PDHS 2017-18 data on reasons for dropping out of school shows that despite Pakistan's low educational enrolment ratios for girls, there are many girls who are taken out of school to marry. If Pakistan succeeds in extending the average time in school for girls, the conflict between continuing in school and arranging a marriage will become more common, although strict enforcement of the Constitutional mandate of education up to age 16 would tend to diminish the conflict.

What efforts have been made in Pakistan to restrict child marriage through legislation? Ever since the 18th Amendment to the Constitution of Pakistan 1973, it has been the responsibility and prerogative of each province to legislate on the subject of marriageable age. Between 2013 and 2020, several bills were introduced both at the federal and provincial levels; however, Sindh is the only province that managed to raise the marriageable age for girls to 18, the same as for boys – at least on paper. In the other provinces, strong resistance to reform continues to be shown by members of the right-wing and the Council of Islamic Ideology.

In May 2019, Pakistan's Senate passed a bill which proposed the marriageable age for girls be raised from 16 to 18. However, the bill would have to be approved by the National Assembly where it is likely to meet with severe opposition from political parties represented in and outside parliament. Only then can it be passed at the provincial level.

The issue at both the national and provincial level appears to be "laws without implementation". Experience in many other countries indicates that proposing, and even enacting, laws to raise minimum marriage age without working in parallel on advocacy for social change to curb such practices in the society is unlikely to have much effect on actual marriage practices.

8.3.3. Political Participation of women and men

In 2000-2002, General Musharraf restored a lapsed constitutional quota for women's reserved seats in the assemblies. These quotas (33 per cent in local government and 17 per cent in elected assemblies) increased their political representation considerably (Khan and Naqvi, 2020: 286). This has helped in the passage of some pro-women bills. Collaboration

between women legislators (in some cases working cross-party as a caucus), support from civil society organizations, the National Commission on the Status of Women (established in 2000), and funding from donor agencies helped to win political support for the new laws (Khan and Naqvi, 2020: 289).

Nevertheless, the work environment for women in the assemblies is hostile and unwelcoming. The reserved seats are often viewed as "charity" seats, or as proxies for male relatives; some women in the assemblies and in local government report being excluded from meetings or disallowed from speaking when present (Khan and Naqvi, 2020: 298). The Punjab assembly's caucus had consistent political backing for its legislative agenda by the Chief Minister, and it succeeded in having new legislation passed. The situation in some other provinces was less favourable. For example, women legislators in Khyber Pakhtunkhwa were unsuccessful in passing a law against domestic violence during 2013-2018 (Khan and Naqvi, 2020: 302).

8.3.4. Gender inequality indices

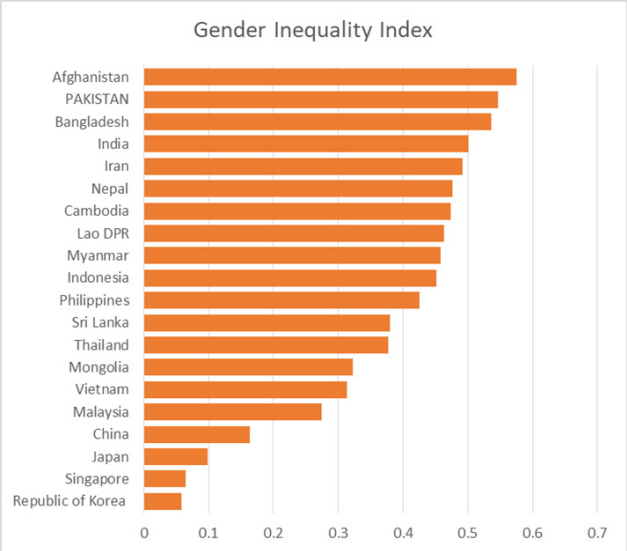
Wide gender gaps in South Asia limit the prospects for demographic dividends, which require high levels of female labour force participation, and ability to realize their rights and make choices related to education and fertility. A number of indices have been devised to give a comparative picture of gender inequalities between countries. They include, among others, the Global Gender Gap Index, updated each year by the World Economic Forum, the Gender Development Index, and the Gender Inequality Index, the latter two developed by the UNDP[36]. These indices all have their own strengths in measuring various aspects of gender inequality. The Gender Development Index is based on the ratio of female to male HDI values; Pakistan, like other South Asian countries except Sri Lanka, falls into Group 5 - countries with low equality in HDI achievements between women and men. The Gender Inequality Index shows the extent to which achievements in reproductive health, empowerment, and labour market participation are eroded by gender inequalities, and more than the Gender Development Index, reflects cultural values that may underlie gender discrimination. Values for this index for a number of Asian countries are presented in Figure 8.5. In 2018, South Asia scored 16 per cent higher than the global average, indicating widespread discrimination. Within Asia, only Afghanistan scored worse than Pakistan, while Bangladesh, India and Nepal scored slightly better. Many Southeast Asian countries, along with Sri Lanka, scored much better. East Asian countries – Republic of Korea, Singapore, Japan, and China, scored the best in Asia.

According to the Global Gender Gap Index, Pakistan scored very poorly - 3rd lowest of the 153 countries considered, ahead only of Iraq and Yemen.

Taken as a group, then, these indices of gender inequality indicate that Pakistan is towards the extreme end of gender inequality among the world's countries and faces a great challenge in moving towards a situation in which women are given equal opportunities with men to realize their full potential.

Figure 8.5

Gender Inequality Index, 2018, Asian countries with populations above 5 million.



[36] For detailed discussion of these and other indexes of gender inequality, see Klasen, 2007.

8.3.5. Gender gaps in education and economic participation

As noted in earlier chapters, the wide gap between males and females in educational attainment is one of the most striking aspects of inequality in Pakistan. PDHS 2017/18 data show that in the age group 15-49, half of women and one fourth of men have no education. Of men in this age group, 70 per cent are literate, but only 50 per cent of women. The highest proportions of women with no education are found in FATA (90 per cent), followed by Balochistan and rural Sindh (both over 80 per cent). UNESCO UIS data show that Pakistan's net enrolment ratio at the upper secondary level in 2018 was only 25.2 per cent, but it was even lower for females (22.5 per cent) than for males (27.7 per cent). There has been some improvement in women's educational levels, but there is still a long way to go.

Women's labour force participation in Pakistan is well below that of men, and considerably lower than in countries such as Bangladesh and Indonesia (see Chapter 3). When women are in the paid labour force it is generally found that this enhances their status and decision-making role within the family. Unfortuntely, in Pakistan, as in most countries, there is a gender pay gap: women are paid less than men for performing the same roles. The gender pay gap in Pakistan is 34 per cent, which is more than double the global average (ILO, 2018).

The opportunity to play an appropriate role in the labour force and the entrepreneurial arena through building gender equitable and more inclusive economies is a key aspect of women's empowerment. According to a 2018 International Monetary Fund (IMF) estimate, Pakistan's GDP could increase by 30% if women were empowered or able to participate freely in the labour force. In a socially conservative, patriarchal and developing economy like Pakistan, women's low labour force participation (22%) and high gender gap index (151/153) ranking reflect the widespread obstacles that constrain women at every stage of their lives.

Well before the negative ramifications of COVID-19 pandemic in Pakistan, rapid urbanization and rising costs of living (particularly urban poverty) were already disrupting social norms and modifying aversion to women's economic contribution in household income. With the current economic crisis, millions of middle-class families will fall into poverty, with growing job losses (18 million anticipated), and an increasingly competitive job market no doubt favouring men. The increasing urgency of the need to open potential opportunities and permissions for women to work and seek income through entrepreneurship is apparent. This could accelerate individual and household economic empowerment and lead to a more inclusive, gender-equitable, and prosperous Pakistan.

Women's entrepreneurship as an engine for social and economic change

Even where women are participating in the formal sector labour force, their share of senior- and middle-management positions remains as low as 3 per cent. This is not only the worst outcome in South Asia, but in all 158 countries for which data are available (World Bank, 2020: 52-3). Given this abysmal situation, alternative ways of enabling capable women to strike out in the workforce need to be sought. Entrepreneurship is a catalyst for economic growth and a driver of societal health and wealth, contributing to poverty reduction, gender and social equality, and women's empowerment. Promoting entrepreneurship also improves collective prosperity, leading to progressive, tolerant, and stable societies. Given that more entrepreneurs are needed, and women are heavily under-represented at 2 per cent of Pakistan's entrepreneurial community (GEM, 2020), focusing on the potential economic gains that could ensue from increased female entrepreneurship is essential. Investing in women entrepreneurs has a ripple effect: higher GDP, decreased poverty and unemployment, healthier and better educated families, and more equitable societies.

Despite Pakistan's having one of the most progressive microfinance environments in the world, outreach to female entrepreneurs (or borrowers) by microfinance providers (MFPs) is less than 25% compared to more than 80% in regional neighbours India, Bangladesh, Nepal, and Indonesia (Safavian

and Haq, 2013). Further, women are found to be only three-tenths as active as men in terms of starting their own business. Research suggests that the main barriers to development of women's entrepreneurship in Pakistan stem from lack of access to capital, business premises, information technology, supportive networks, institutional support, training, and agency (Roomi and Parrot, 2008). Summarized below are barriers in the existing ecosystem that hold women down from participating in the labour force and realizing their own economic independence

Lack of access to finance is a key barrier. State Bank data (2018) shows that 3% of small-medium business loans go to women and 25% of MFP borrowers are women[37]. Women entrepreneurs have little choice beyond group lending (small loans, high transaction, and opportunity costs), and can seldom avail individual loan products due to stringent male-biased requirements (male guarantors with their signed checks and physical presence at the time of loan disbursement). Women entrepreneurs cannot even open bank accounts without permission of male family members. Because entrepreneurship is still viewed as a 'masculine' activity, female-owned businesses are often considered less credit worthy (Ogbor 2000). This curtails ability to access most markets, resources, and networks and limits their opportunities to raise funding to grow their businesses.

Normative barriers such as mobility restrictions due to real or perceived safety curb women's economic activities and potential for business expansion. Less than 30% of women can travel alone to local markets or health providers[38], perhaps explaining the high proportion of women engaged in home-based work with little external dealings. In pursuing entrepreneurship, women often do not have adequate social support from their families who prefer they "just find a job.[39]" The low educational attainment of women in Pakistan provides a shaky foundation to build skills for the digital and knowledge economy and to mitigate traditional gendered patterns of employment (and enterprise) available to women. Women will need to be skilled, mobile, and tech savvy to adapt to the new world of work. There are very few successful women entrepreneurs, and since they are generally from educated/privileged backgrounds, as potential role models to inspire the less privileged they are disconnected from the very majority that needs them the most.

Patriarchy in Pakistan promotes the idea that women should be dependent on men and a woman's autonomy and decision-making is not allowed to flourish. This translates into inherent biases at institutional and individual levels from women's credit-worthiness to discrimination in hiring, to legal protection and property rights/ inheritance. Due to lack of training and mentorship, female entrepreneurs lack proper knowledge, resources, skills, and information on how to start, run, manage, and grow their businesses. At every step of their entrepreneurship journey, women face a lack of support, fear of failure, and a system that discourages their potential.

To address the barriers listed above and the critical need to build female entrepreneurs' skills and capacity requires that policies and programs enable women to access education, skills and capital at the right time and at the appropriate levels.

8.3.6. Discriminatory practices against women

The recently launched report by UN Women on Young Women's Status in Pakistan (Zaidi, Mumtaz et al. 2020) looked at the embedded discriminatory practices and ways of dealing with them in three components: a) enabling environment that supports young women's economic empowerment, security, and rights through laws and policies and their reinforcement through institutions; b) enhanced economic opportunities that support young women's access to decent work, increased incomes, financial inclusion and entrepreneurship; and c) strengthening women's agency by supporting their access to decision making and their ability to address discriminatory social and cultural norms.

According to the report, 48 percent of young women aged 15-24 are not in education, employment or training as compared to 7 percent of men. Less

[37] With some loans being merely pass over loans i.e., where women borrow (and bear the risks) for men yet have no control or contribution to the business.
[38] AHKRC Baseline Mapping and Need Assessment Report (2017) for the Project "Establishing Business Hubs in Low Income Urban Settlements"
[39] Anecdotal evidence from NUST Business School research on home-based female entrepreneurs in Pakistan (Interviews with 45 women in Peshawar)

than 2 percent of young women own physical assets and among that land inheritance remains the most problematic in their natal and marital homes. Of all young women (married or unmarried), only 3 percent own agricultural land and 2 percent own a house.

Women are rarely engaged in decisions regarding their lives. 24 percent of young women made decisions about their education and employment, only 1 percent could decide on their marriage alone, while 16 percent are being consulted by the family; this means that 83 per cent are not being consulted at all on their marriage partner. 29 percent of young women experience controlling behaviours by husbands, while 44 percent of young married women and men see no harm in wife beating. The employment status of young women tells that only 6 percent are own-account workers in agriculture and 9 percent in non-agriculture sectors, 32 percent are paid workers, and 52 percent are unpaid family workers.

The report findings suggest that there is overall limited access to knowledge and skill development opportunities for youth, especially young women. Youth concerns have not been translated into comprehensive policies as most of the policies are gender blind, lacking a clear strategy to address various issues around equal economic opportunities, social development, and political participation.

The report recommends integration of sectoral policies and programmes and removal of barriers in implementation of laws and policies on women's rights; recognition and registration of agricultural workers, daily wagers and domestic workers, home based workers and self-employed females; inclusion of women's productive and reproductive work in labour force statistics; to ensure higher completion rates for secondary and tertiary education; support girls and women to acquire non-conventional skills; focus on STEM fields; reserve 33 percent of seats in local government for women, to promote entry of young leadership from the grassroots; and 33 percent for women on all public and private sector boards; and recognition of women 18 years and above as adults with full citizenship rights.

8.3.7. Gender-based violence (GBV).

The more extreme examples of gender-based violence in Pakistan – acid attacks, "honour killings", rapes and abductions are well known, and can be linked to a range of cultural, political, and legal factors. Some evidence on number of cases is presented in Table 8.4. They are likely to be considerably under-reported.

However, the great majority of cases of gender-based violence in Pakistan are at the hand of the woman's husband. While the percentage of married women who have experienced any kind of physical, sexual, or emotional violence by their husband fell from 38.5 per cent in 2012-13 to 33.5 per cent in 2017-18, this percentage remains higher than in most countries of Asia (UNFPA, 2019a). Because of its effects on the physical and mental wellbeing of a great many women, its traumatic effects on children, and its generally disruptive effects on households, it is a very serious issue (Punjab Commission on the Status of Women, 2017: 126).

Data from the PDHS 2017-18 show the percentage of ever-married women who have experienced physical or sexual or emotional violence by any husband in the past 12 months. The national figure is 25 per cent. There are wide differentials by place of residence, education, and wealth quintile. In urban areas, 20 per cent of such women have experienced violence, compared with 28 per cent of rural women. Among women with no education or primary school education, 29 per cent have experienced violence, compared with around 17-19 per cent for women with middle, secondary or higher education. Seventeen per cent of women in the highest wealth quintile have experienced violence, a figure that is much higher in the lowest two wealth quintiles.

There are also large differentials by region, as shown in Table 8.5. Spousal violence is much more prevalent in Khyber Pakhtunkhwa and Balochistan than in other regions, whether the total province population is being considered, or the urban and rural areas separately. For each geographical region, violence is more prevalent in rural than in urban

areas, with the exceptions of Punjab, where there is no urban-rural difference, and Azad Jammu and Kashmir, where urban areas have higher levels of domestic violence. However, the small sample size in urban areas of Azad Jammu and Kashmir, as well as in ICT Islamabad and FATA, needs to be kept in mind.

Table 8.4

Some Gender-Based Violence Figures (from National Police Bureau Data and Reform Unit 2015)

Women Related Crime	Total 2013	Total 2014	Punjab 2014	Sindh 2014	KP 2014	Balochistan 2014	ICT 2014	FATA 2014
Abduction / Kidnapping	1607	2170	1866	161	75	6	62	-
Murder	1745	1610	964	249	324	46	18	9
Domestic Violence	989	403	191	202	-	-	9	1
Suicide	575	929	642	155	106	21	3	2
Honor Killing	432	713	362	212	60	77	2	-
Rape / Gang Rape	822	1515	1408	85	5	4	13	-
Sexual Assault	58	38	17	21	-	-	-	-
Acid Throwing	83	64	53	3	2	5	1	-
Burning	71	61	52	5	2	-	2	-
Miscellaneous	1134	1570	1993	354	162	31	30	-
Total	**7516**	**10,070**	**7548**	**1447**	**736**	**190**	**140**	**12**

Table 8.5

Percentage of ever-married women who have experienced emotional, physical, or sexual violence by any husband in the past 12 months, according to region and urban-rural residence.

Region	Total	Urban	Rural	N Total
Punjab	21.5	21.6	21.5	1,774
Sindh	14.8	12.2	18.0	766
Khyber Pakhtunkhwa	43.2	32.3	45.7	506
Balochistan	43.1	39.0	44.8	171
ICT Islamabad*	23.6	n.a.	n.a.	25
FATA*	42.6	n.a.	n.a.	60
Azad Jammu and Kashmir	22.0	26.7	21.1	500
Gilgit Baltistan	29.1	n.a.	n.a.	282
PAKISTAN	24.8	19.9	27.8	3,303

Source: PDHS 2017-18, Table 16.12. *Note small number of cases

Reporting and seeking help for violence are not common in Pakistan. More than half (56%) of ever-married women who reported experiencing physical or sexual violence from a husband neither sought help to stop the violence nor told anyone. Fourteen percent never sought help but told someone, and only 30 per cent sought help. The most common source of help was their own family, followed by their husband's family.

Laws Affecting Sexual Violence and Rape in Pakistan

Considering the state's inadequate response to gender-based violence, the question of how to end violence against women, rooted in religion or social norms, in Pakistan lingers. It is important to note, firstly, that violence against women is not a fundamental component of Islamic ideology but its incidence is the result of the misapplication, misinterpretation, and the sometimes outright denial of the ideology in a restricted society like Pakistan. The justification used for Pakistan's parochial systems and rules is taken from Islamic principles; but the religion itself promotes gender equality, such as the right to education for all.

In Pakistan, the social protection of women is articulated in Article thirty-two and thirty eight of the Constitution of 1973 and affirmed in the country's status as a signatory of various regional and international treaties seeking to protect women's rights and promote gender equality (i.e., the 1948 Universal Declaration of Human Rights and the 1979 Convention on the Elimination of all Forms of Discrimination against Women). Moreover, since 1960, the government has taken progressive steps to legislate various issues pertaining to women and their rights such as reviving family laws like a woman's right to divorce, marry, vote, and work. Pakistan's eighteenth and twenty-first amendments, which decentralize education, health, and women development departments, have bestowed on provinces the power to legislate over these sectors and have fostered localized efforts to achieve the United Nations' Sustainable Development Goals at the grassroots level. The National Assembly has also unanimously passed several laws, such as the Prevention of Anti-Women Practices Bill (2011), the Anti-Honor and Anti-Rape Law (2016), which explicitly recognize acid burn victims, define domestic violence, and recognize forced marriages and karo-kari (honor killings) as criminal acts. These landmark policies signal the Pakistani government's commitment to the welfare of women. Likewise, the Prevention of Acid Crimes and Control Bill (2011) and the Sexual Harassment Act (2010) also give a ray of hope for women victimized by gender-based violence.

The majority of criminal offences are identified in the Pakistan Penal Code (PPC) 1860. There are no explicit provisions in the PPC on specific forms of rape. While many laws and legal provisions exist that can be interpreted to apply to a wide variety of sexual offences through statutory interpretation, they have not been used unless an offence explicitly falls in their ambit. The PPC does not define sexual offence as a violation of bodily integrity and sexual autonomy and there is no gradation on the basis of harm in the various forms of rape itself (Zia Lari et al. 2012).

There are many other forms of sexual violence explicitly addressed in the PPC and other laws. Supporting provisions which may be attached to these laws in the event of rape include those on aiding and abetting, hurt, criminal trespass, criminal intimidation, forced detention, criminal force, inter alia, which may be considered preparatory or related offences (Khan and Zaman, 2012). In 2010, Parliament passed the Protection against Harassment of Women at the Workplace Act, with complaint mechanism, inquiry procedure and penalties to improve working-women's conditions and increase their presence in the labour force; and the Criminal Law (amendment) Act inserted sexual harassment into the Penal Code.

The 2011 law on prevention of anti-women customary practices, Criminal Law (Third Amendment) Act 2011 bars forced marriages, marriages to the Quran, giving away women in Vani or Swara, depriving them of inheritance, and provincial governments from suspending, remitting or commuting punishments in rape cases. However, an extensive research study by Zaman (2014) showed that it is weakly implemented with many loopholes.

Bold leadership is needed in challenging outdated laws in the area of gender-based violence. Illuminating how Islamic principles are enforced chiefly by male politicians, the Council of Islamic Ideology (CII) rejected a parliamentary bill last year that would have given women the right to divorce and the right to abortion, calling it "un-Islamic and unethical in local culture" and capable of destroying the family system in Pakistan," and adding that "women can be lightly beaten by men." Furthermore, patrilineal inheritance, the deprivation of women's property rights, along with gender disparities in education, access to health, legal aid, and participation in economic activities continue to be neglected by the state. While short term interventions may be able to create greater awareness of GBV and its harmful effects by improving the responsiveness of state actors and institutions, policy and decision-makers must realize that no one intervention will change the system; change will be a slow process.

Some recommendations for more effective addressing of gender-based violence issues are provided in Chapter 9.

8.3.8. Priority policy areas, ongoing initiatives, and stakeholders

An overview of the laws and policies in Pakistan that promote, and hinder gender equity would have to conclude that despite the constitutional guarantee of equality for citizens regardless of gender, legislative progress to redress the inequalities suffered by women has been uneven at best. Until the mid-2000s, the 1961 Muslim Family Laws Ordinance (MFLO, still in place) was the only substantial legislation that granted Muslim women some benefits and rights in family laws. Offering a degree of protection for matrimonial rights, it made marriage registration compulsory and required local authorization for divorce and the permission of the Arbitration Council for polygamous marriage.

The 1929 Child Marriage Restraint Act, also still in place, sets the bar at 18 for men and 16 for women, except in Sindh province, whose Child Marriages Restraint Act (2014) raised the minimum age to 18 for both. Punjab amended its law; while keeping the age of 16 years for girls, it added in strict punishments for violation. However, these laws are not fully implemented since the marriage requirement does not ask for a national identity card to ensure the girl's age.

General Zia-ul-Haq's regime (1977-1988) institutionalized state-sanctioned gender discrimination, using presidential ordinances to replace part of the Pakistan Penal Code with Islamic jurisprudence and punishments. The Offence of Zina (Enforcement of Hudood) Ordinance criminalized all consensual sexual intercourse between adults outside marriage; female minors could also be charged with zina (extramarital sexual intercourse) if the age of puberty was reached, and no distinction was made between consensual sex outside marriage (zina) and rape (zina bil jabr). Punishments under the Hudood Ordinances were extreme (International Crisis Group, 2015: 265). This law was amended through the enactment of the Protection of Women (Criminal Laws amendment) Act (PWA), 2006, during the Musharraf regime, returning rape from these Ordinances to the penal code. By separating zina from zina-bil-jabr, the PWA prevented rape charges from being converted into charges of extramarital sexual intercourse (Bari et al., 2009). Nevertheless, the earlier biases have permeated the legal system; the consent and character of the victim is often the main area of scrutiny and discredit.

The 1984 Qanoon-e-Shahadat (the law of evidence) also discriminates against women. The Zina Ordinance lent itself to massive abuse, with thousands imprisoned for marrying against family will, seeking divorce, escaping domestic abuse or being raped. By 1988, the majority of all women in prison were there because of alleged zina. The women's movement emerged in reaction to Zia's Islamization, particularly the Hudood Ordinances; in 1981, the Women's Action Forum (WAF), a platform and pressure group of women's rights activists and organizations, was launched.

During 1996 the Qisas (retribution) and Diyat (monetary compensation/blood money) Ordinance was promulgated. It allowed a victim's heir (wali)

to pardon a killer in return for compensation, thus legitimizing (even encouraging) murder, particularly "honour killings "of women. Since most "honour" crimes are committed within the family, the victim's relatives often forgive the perpetrator under the diyat provision - which was a setback for justice.

Instead of addressing such legal distortions, the new government made the ordinance part of the Pakistan Penal Code in 1997. General Pervez Musharraf set up the National Commission on the Status of Women (NCSW) in 2000 but did not act on its recommendation to repeal the Hudood Ordinances.

While some good progress was made in 2011, Parliament's unwillingness to consistently repeal or even reform additional discriminatory laws, the absence of a national domestic violence law (Sindh and Balochistan have passed such laws) and a gender-insensitive, dysfunctional criminal justice system are significant factors in Pakistan's failure to protect women from endemic violence. The slow judicial process relating to many aspects of discrimination against women needs to be redressed – "justice delayed is justice denied".

Some efforts are being made to improve performance on gender-based violence. The NCSW and the energized PCSWs are more actively taking up the issues of women and violence. The National Police Bureau (NPB), an umbrella body tasked with implementing reform and monitoring progress, created a Gender Crime Cell (GCC) to document crimes against women reported to the police and advise provinces on standard procedures to deal with victims of gender-based violence and investigate violent crimes against women. It has also recently initiated several key initiatives 1) Gender Responsive Policing, 2) Community Policing, and 3) Building the Public Trust through Media Campaigns. While the heads of all provincial police endorse the initiatives, the outcomes of these initiatives and most importantly NPB capacity to influence policy remains to be seen (International Crisis Group 2015). As far as the ability of the law enforcement system to achieve prosecutions for GBV is concerned, previous research shows that a severely deficient pre-trial phase is the main cause of weak prosecution cases. Evidence is poorly recorded and stored, lost, compromised, falsified or simply inadequate; crime scenes are regularly contaminated. Corruption and political interference, including by the military's intelligence agencies, also compromise investigations; and there is a severe shortage of qualified personnel.

International Commitments for Women's Rights and Translation into Action

The Government of Pakistan (GOP) is signatory to almost all International conventions and agreements on violence against women and GBV. Pakistan acceded to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996 during the Pakistan People's Party's second tenure in government, declaring that its accession to the Convention was subject to the provisions of the Constitution of the Islamic Republic of Pakistan 1973. The Constitution of Pakistan gives an equal status to women: "All citizens are equal before law and are entitled protection by law." There shall be no discrimination based on sex. Article 34 of the Constitution states: "steps shall be taken to ensure full participation of women in all spheres of national life." There is therefore, a constitutional guarantee of equality between man and women in the law and other aspects of personal life that require protection from the state in order to safeguard the interests of women. However, the Constitution of Pakistan does not define "discrimination against women" as contemplated in Article 1, Article 7 and Article 15 of CEDAW, and no legislation reflects such a definition.

Nearly 20 years later, Pakistan has yet to translate the provisions of the CEDAW convention into implementation and enforcement at the grass-roots service delivery level. The State's unwillingness to ratify the Optional Protocol to CEDAW, which complements CEDAW and establishes effective mechanisms for enforcement of the rights specified therein, is another grey area of CEDAW implementation in Pakistan. The protocol gives women a specific set of procedural rights by allowing them direct access to the protections of the Convention, besides providing a formal and direct role for NGO participation in the advancement of women's rights.

The Government of Pakistan has taken various steps in the last two decades to infuse human rights principles into its statutes as well as policies and action plans. These initiatives include an inquiry commission on the status of women in 1997, national plans of action, policy initiatives, repeal of discriminatory laws and the passing of some pro-women bills. Recent examples include:

- *The Protection of Women (Criminal Laws Amendment) Act, 2006*
- *The Protection against Harassment of Women at Workplace Act, 2010*
- *The Criminal Law (Third Amendment) Act 2011 (known as the Prevention of Anti-Women Customary Practices Act)*
- *The Criminal Law (Second Amendment) Act 2011 (known as the Acid Crimes Act)*
- *Reproductive Healthcare and Rights Bill 2014 – pending*
- *Domestic Violence (prevention and protection) Bill 2014 – Balochistan and Sindh*

Despite these measures, there remain laws, policies and practices that fail to address women's issues and work to their detriment.

The National Commission on the Status of Women (NCSW) is mandated to review the laws adversely affecting women, and functions as an advisory and examining body only, but there is no regulation to ensure that NCSW's recommendations are tabled in any official forum within a stipulated timeframe; nor does the NCSW have any formal, direct liaison with Parliament. Its comments and inputs have to be routed through the Ministry of Human Rights (MOHR) and are dependent on the Ministry's discretion to take them forward. Consequently, discriminatory laws remain on the books and undermine the legal status of women. The national machinery established for the advancement of women's rights, i.e. the Ministry of Women Development (MoWD devolved in 2011 to the provinces) and the National Commission on the Status of Women, lacked (and still lack) sufficient human and financial resources and /or technical capacity to carry out mandated functions effectively.

The working relationship between NCSW and NPB remains sub-optimal despite the overlapping mandates on gender responsiveness - thereby undermining linkages and coordination for effective GBV prevention and leading to unnecessary bureaucratic delays (PILDAT 2013).

In summary, 12 years into its democratic transition and after significant economic progress, violence against women is still endemic across all spheres in Pakistan, nurtured by a climate of male dominance, gender inequality, and lack of serious political-bureaucratic will to take action. Discriminatory legislation and a dysfunctional criminal justice system have put women at grave risk of continued violence in the face of lack of accountability for the perpetrators. Targeted by violent extremists with an overt agenda of gender repression, women's hard-earned progress and security in the last decade is especially threatened in the conflict zones of KPK and Federally Administered Tribal Areas (FATA).

On March 8, 2020, Prime Minister Imran Khan said that inclusive and sustainable socio-economic development could only be ensured by providing equal opportunities and conducive atmosphere to women. He reaffirmed his pledge to take all measures that would help the women to lead a safe, secure and prosperous life, and said the observance of International Women's Day was the reiteration of the government's commitment to undertake every possible effort to ensure equal rights and opportunities to Pakistani women. There has certainly been some progress, particularly through progressive legislation, much of it authored by committed women's rights activists in the Federal and Provincial legislatures, facilitated by their increased numbers in parliament. Yet, the best of laws will provide little protection so long as social attitudes toward women remain biased, police officers are not held accountable for failing to investigate gender-based crimes, the superior judiciary does not hold the subordinate judiciary accountable for failing to give justice to women survivors of violence, and discriminatory laws (and loopholes) remain on the books.

8.4 Groups in Vulnerable Situations

8.4.1 Disability: people with disability

Disability includes those persons who have long-term physical, mental, intellectual or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. The 2017 Census could not properly count the disabled population because the question on disability was included in the census form after the counting process had started. The 2017-18 Pakistan Demographic and Health Survey (PDHS), which has addressed its six core functional domains—seeing, hearing, communication, cognition, walking, and self-care – among the de facto household population age 5 and older, produce the most reliable recent information on disability. Overall, 6 percent of household members either have a lot of difficulty in functioning or cannot function at all in at least one of the specified domains. Walking or climbing steps (3%) and seeing (2%) are the two domains in which household members age 5 or above most often reported such problems. The prevalence of disability varies by age; it increases from 2 percent among those age 5-9 to 14 percent among those age 50-59 and 32 percent among those age 60 or above. Disability is relatively high among the rural population, illiterate persons and women, particularly from AJK, Gilgit-Baltistan and Islamabad.

The culture around disability in Pakistan is one characterized by disgrace. Persons with disabilities are seen sympathetically as needing medical help or charity, instead of worthy of empowerment. Only limited employment opportunities are available for persons with disabilities. The reserved quota for the disability community in all government jobs is 3 percent while their share in population is much larger, at least 6 percent[40]. The appointment of non-disabled persons to positions reserved for disabled persons is reported commonly in the literature and press as well.

Education for persons with disabilities is largely limited to low quality special education schools, which have perpetuated discrimination and enforced sympathy. There are only approximately 330 special education schools in the country. Most of them are in urban areas, which makes education for persons with disabilities in rural areas a challenge. At least 50 per cent of children with disabilities do not access such schools, but even where there is access, the quality of education is poor. In education and health sectors, the country has virtually accepted a dependence on the private sector for the provision of these services. Philanthropy provides more services and support to the most vulnerable citizens of Pakistan than the government. Overall, people with disabilities continue to live in marginalized conditions.

After the 18th amendments, the care of persons with disabilities (PWDs) is a provincial subject. Facilities and services available for disabled persons include: free primary special education, special Computerized National Identity Card (SCNIC) from NADRA, 3 percent job quota, age relaxation of 10 years in recruitment, 50% discount for travel through Pakistan Railway, 50% discount only for visually impaired persons for travel through Pakistan International Airline (PIA), financial assistance from the Disabled Persons Rehabilitation (DPR) Fund, and one time grant for establishment of small business from Pakistan Bait-ul-Mal. However, in order to avail these benefits, a person with disability should have: (i) an Employment Exchange Card (Sindh Only); (ii) Disability Certificate (applicable to all provinces); and (iii) Special CNIC (applicable to all provinces). The registration process is so lengthy and full of bureaucratic hurdles that persons with disability bypass this process and are unable to access the facilities reserved for them.

[40] However, after the 18th Constitutional Amendment, disability is a provincial matter, and the respective governments have notified the reserved quota for disabled persons in government as follows: 3% in Punjab, 5% in Sindh and Balochistan while KP has proposed to increase it to 4%.

8.4.2 Elderly

In Pakistan old age is considered as a mark of esteem, wisdom and devotion, due to the strong ties that exist in the joint family system nurtured by religious values, dignifying the status of the elderly segment of society. Elderly people usually live with their families (99%), with some shifts in co-residence patterns. For instance, the proportion of elderly living with one son has increased over time, rather than the earlier tendency for multiple sons to live together. Though there are currently 15 million older men and women (aged 60+) in Pakistan, and this number will grow rapidly, it will not increase its share of population very rapidly (see Chapter 4).

The ageing of population increases the demand for health services. Most of the elderly in Pakistan have one or more chronic illness like heart disease, hypertension and diabetes. These chronic diseases increase their vulnerability to various disabilities, nutritional challenges, depression, and loss of independent functioning. However, the health care facilities in Pakistan are based on a weak infrastructure, which has been exposed during COVID-19. The elderly needs long term institutionalized services, but the residential and rehabilitation facilities for the older population have not been satisfactory. There is lack of inpatient rehabilitation centers for patients with strokes, fractures etc.

Elderly people are more likely to suffer from poverty than any other group in the population. Other than those who are employed in government or in the organized sector, they do not receive a pension. Only 2.3 percent of the population older than the statutory pensionable age in Pakistan actually receive an old-age pension (contributory, non-contributory or both). Unemployment is alarmingly high among the elderly population, particularly women, indicating the lack of job opportunities as well as household poverty. Remarriage of women widows/divorced is not common. During their old age, widows face many economic hurdles. Some older women (men as well) have also been seen to engage in beggary. Many elderly, especially the female elderly, are being exposed to harsh conditions with the COVID 19-related increase in poverty.

Government agencies and non-Governmental organizations providing services to marginalized elderly populations in Pakistan are very few and of questionable value. There are very few residential facilities for elderly, no dedicated funds or discounts for basic care, and no discounts in medical coverage. There is either no transport facility for the elderly population or they are too poor to pay. This situation has restricted senior citizens to their place of living. Owing to the non-availability of transport, particularly in rural areas, they are often unable to access medical facilities in times of emergency.

Zaidi et al. (2019) conducted Focus group discussions (FDGs) with older men and women in all provinces and in Islamabad. His aim was to gain an understanding of how they perceive their human rights, their interdependence, which rights they think are most protected and which ones most violated, and what they think should be done to ensure their rights are respected. The rights identified by the elders include: (1) right to an adequate standard of living; (2) right to work; (3) right to social protection; (4) right to health; (5) right to social care; (6) right to participation and self-fulfillment; and (7) right to dignity and protection. The Ministry of Human Rights is presently engaged in formulating a policy for protecting human rights of elderly people.

The family support system which is an integral part of the society and plays a very important role in elderly care should be strengthened, by emphasizing that ageing is a normal phase of life and increasing awareness of elderly care needs. Since Pakistan is an Islamic society, the impact of religion influences the lives of all people. It is a family obligation to look after the elderly parents and relatives. However, the role of government to provide all basic facilities and support to the elderly people remains critical to reduce their vulnerability, particularly in the context of high poverty rates.

8.4.3 Women headed households

The composition of a household plays a role in determining important issues such as how many children are sent to school and the distribution of family income. According to the 2017-18 PDHS, the proportion of women-headed households has increased by 2 percentage points from 11 percent in 2012-13 to 13 percent in 2017-18, partially due to recent male outward migration.

One major issue explored in the literature is the poverty status of women headed households compared to male headed households. Evidence is not conclusive; the association is either insignificant or it shows that female headed households have greater wellbeing than households headed by males. One reason may be that female headship in many cases is the result of the outmigration or emigration of the main male earner, the wife then heading the household, receiving remittances from her husband and running the household's routine matters. More than 70 percent of households headed by females receive remittances. A second factor may be the growing attention to women in BISP's income transfer program during the last decade, which is likely to have had a positive impact on poverty reduction of the targeted households.

Female headed households spend proportionately more on education, housing, fuel and lighting, clothing and footwear and household effects while having lower average spending on food and drinks and transport and communications, compared to male headed counterparts. Poverty among households headed by women is increased by illiteracy, dependency, and rural residence, while domestic and/or foreign remittances reduce poverty.

However, the households headed by widowed women are generally among the poorest of the poor. They are very likely to lose control of any land or assets they may have inherited. Access to employment is another severe problem, as there are few jobs available to them and they are relatively unskilled. In this context, all public sector income transfer programs in Pakistan including the Ehsaas program, as well as private philanthropists, target households headed by widowed women.

A noteworthy finding is that women headed households are less resilient than male headed households. A study by Oxfam, which used data from rural areas in 12 countries of Africa, Asia, and Latin America, including Pakistan, that are typical of the contexts in which development practitioners are working to build resilience, found that female-headed households have significantly lower measured resilience than male-headed households. Only about half of this difference is explained by wealth, household size, or other demographic characteristics, or by households' participation in the projects being evaluated. The remaining difference in resilience between female- and male-headed households appear to be driven mainly by widows as opposed to married female household heads, suggesting that households headed by women that take up headship 'involuntarily' may be especially vulnerable (Fuller and Lain, 2019).

8.4.4. Widows and orphans

Widows suffer considerable hardship in Pakistan. They face two major issues:

- A falling from grace in terms of social status and inclusion
- Economic vulnerability and poverty

Among the basic causes of vulnerability of widows are restrictions on their residence, inheritance, remarriage and employment opportunities, and high levels of social and cultural prejudice and abuse. Poor women, who do not possess land and productive assets, live out the rest of their lives on the fringes of existence (Hasan, 2010). Even among those with assets, widows are often deprived of their rightful inheritance by a male relative.

The government has made provision for the widows of its employees. After the death of a government employee, his widow receives the family pension until her own death. Widows of lower-paid employees also receive a one-time grant from the official Benevolent Fund. In the private sector, the provision made is up to the enterprise concerned. But of course, most widows' husbands were not employed in the formal sector. Many such

widows face problems of survival linked to poverty. Destitute widows are supported by a small pension or zakat. But the allocation system is often corrupt, and many needy widows are neglected.

The Benazir Income Support Program and the more recent Ehsaas program, are taking steps to improve the situation of widows. Many community-based organizations are also active in providing small loans, not tied to collateral, in order to start survival enterprises.

Turning to the situation of orphans, Pakistani society has traditionally absorbed orphans within its extended family system. However, the state needs to take responsibility for the welfare of orphans. Documentation is important: there are thought to be over four million orphans, but reliable information is not available. There needs to be a fool proof system for registering and safeguarding the inherited property and assets of an orphan, if any. The existing exceedingly lenient laws about opening and running orphanages need to be revised, to prevent orphanages being opened by incapable people or groups and to ensure that orphanage administrators tend to issues relating to the mental and physical health of the children under their care.

8.4.5. Street Children

Somewhere between 1.2 and 1.5 million children are thought to be on the streets of Pakistan's major cities. Karachi is said to have the highest number, followed by Quetta. None of these estimates is reliable, because there is very little information on Pakistan's street children, and certainly no reliable statistics. A child rights approach is essential in formulating policies and programmes to assist street children. Accurate counting of the number of children living on the street, their characteristics and well-being, is also essential. "Only with accurate and reliable data can countries develop effective, targeted strategies that address both prevention of and response to the factors that impact these children's lives every day" (Cappa and Hereward, 2019).

UNICEF distinguishes two groups of street children:

- Children on the street – "home based" children who spend much of the day on the street but have some family support and usually return home at night;
- Children of the street – "street based" children who spend most days and nights on the street and are functionally without family support.

These children form one of the most vulnerable strata of society and are denied basic rights such as access to shelter, education and health care. To the extent that their rights are not already being violated, they are highly exposed to the risk of being drawn into abusive situations including engagement in child labour and subjection to sexual exploitation, trafficking and arbitrary arrest and detention (United Nations, 2019).

8.4.6. Urban poor

Geographical clustering of poverty occurs in Pakistan. The share of population living in urban areas increased from 27% in 1980 to 37% in 2019 and is expected to increase to nearly half by 2025. Because of the rapid overall growth of Pakistan's population (from 78 million to 212 million over the 1980-2019 period), the rising share of urban population means an enormous growth in numbers.

Pakistan's poverty head count dropped from 64% in 2001 to 24% in 2015. According to the World Bank's poverty and equity brief of April 2020[41], "Two self-reinforcing economic dynamics accounted for the observed progress in poverty reduction: (i) the expansion of economic opportunities outside the agriculture sector, particularly with growth in male off-farm employment; and (ii) the increase in out-migration and associated remittances". Further, "about two thirds of the decline in poverty between 2001 and 2015 was driven by the increase in labor incomes in the off-farm sector, which in real terms increased by as much as 74 percent". This suggests that a substantial number of the urban poor had managed to move out of poverty.

[41] https://databank.worldbank.org/data/download/poverty/33EF03BB-9722-4AE2-ABC7-AA2972D68AFE/Global_POVEQ_PAK.pdf

Though lower than in rural areas, urban poverty is on the rise in Pakistan, with one in eight urban dwellers living in poverty (Seikh and Nabi 2017; Ellis and Roberts, 2016). Continued economic crises, inequitable distribution of socioeconomic opportunities, social exclusion of the poor from labour market opportunities and overwhelming employment in the low paid informal sector have resulted in pockets of poverty in the surroundings of every city in Pakistan. Around 60% of urban Pakistan consists of Ruralopilises – those living in densely populated rural areas not officially designated as cities (Seikh and Nabi 2017), and this is where many of the urban poor live.

The first ever report of UNDP on multidimensional poverty was launched in 2016. According to the report, nearly 39 percent of Pakistanis live in multidimensional poverty. Pakistan's MPI declined substantially over the 2004-2105 period and poverty rates fell from 55% to 39%. The decline was however much steeper in urban areas. Compared to 54.6% in rural areas, poverty in urban areas stood at 9.3%.

8.4.7. Urban slums and isolated rural settlements

More than 40 percent of the urban population of Pakistan (45.5%) live in informal settlements, and there are about 2300 katchi abadis in the country, more in Sindh (1300) than in other provinces (see Chapter 4 for more detail). The development of squatters and slums is the consequence of increasing migration and population growth and inadequate urban planning policies with poor implementation. Contaminated drinking water, untreated sewage waste, and zero solid waste management characterize slum settlement areas in Pakistan.

The incidence of morbidity is very high among the slum dwellers e.g., about 40 percent of households in informal settlements in Karachi have at least one family member who requires special medical and social care. About 70 percent of the persons who need care can be categorized as persons with chronic illnesses. Adult mortality in slums of Karachi was 3.7 times the Japanese rate. Non-communicable diseases claimed 59 percent of deaths, communicable and reproductive 27 percent and injuries, 15 percent.

In Pakistan, the image of katchi abadis is associated with criminal activities such as sale of drugs, bootlegging, harbouring people with criminal records and unchecked sale of arms and ammunition. Physical conflicts are a regular phenomenon among the residents of urban slums. Women and girls are particularly vulnerable to these stressors. They are most likely to be trapped at home and absorbing significantly higher levels of care work. In combination, these factors lead towards the negative image of population living in katchi abadis.

The biggest identified challenges facing urban policymakers include (1) poor housing quality and affordability; (2) unsafe water and poor sanitation; (3) lack of efficient and affordable transportation; (4) low utilization of basic health services and poor health outcomes; (5) low quality of government schools; and (6) outdated land use regulation and building codes, leading to extreme inequality in land use. Moreover, unplanned urban sprawl continues unchecked.

Regarding the isolated rural settlements, the Northern Areas is the most remote region with difficult terrain and harsh weather conditions. However, isolated rural settlements are found, among others, in Hunza region, remote villages of the Hindu Kush Himalayas of northern Pakistan, Chitral, one of the geographically isolated rural areas of Khyber Pakhtunkhwa, Thar desert in Sindh, Kharan desert in Balochistan, Katpana desert in Skardu (Gilgit Baltistan), Thal desert in Bhakkar (Punjab) and Cholistan in Bahawalpur (Punjab). Life is tough in the remote villages of these areas. For instance, Hindu Kush Himalayas of northern Pakistan is far from the reach of power grids and at the mercy of floods and extreme weather, while inhabitants of deserts are struggling against the twin threats of climate change and the mismanagement of water by government authorities. Historically, swarms of desert locusts have always been a threat to agricultural production and food security in Pakistan.

Women living in rural and remote areas face several challenges such as a poverty ridden life which makes them work longer than men. Dominance of male power results in gender inequality and denies them access to the social sphere, giving them less access to healthcare. Furthermore, accessing quality healthcare in a place where they suffer from food insecurity, walk miles to fetch water and produce energy from cow dung to light the stove seems more like a privilege than a basic right. Rural development programmes such as village-based organizations can play a pivotal role in developing geographically isolated rural areas.

8.4.8. Transgender community

In 2018, an Act for the protection of Pakistan's transgender community was passed. Pakistan now recognizes the rights of transgenders to identify themselves as a self-perceived gender on all national identity documents. The Act prohibits harassment, as well as discrimination in the context of a wide range of factors including education, health services and opportunity to hold public/ private offices (Human Rights Commission of Pakistan, 2018: 19). Information was collected on the transgender community in the 2017 Population Census, as a third group besides males and females.

8.4.9. Child labourers/domestic helpers

According to the International Labour Organization, child labour is the important source of child exploitation and child abuse in the world today. Pakistan is amongst the top ten countries having the issue of child labour. The Human Rights Commission of Pakistan has estimated the number of Pakistani working children to be around 11-12 million, out of which at least half are under the age of ten years. In 2018, at ages 5-14, child labourers were 12.4 % of the population in Punjab and 21.5% in Sindh.

According to a survey conducted by the Federal Bureau of Statistics in collaboration with ILO in 1996, approximately 19 million children below 14 years of age were working as child labourers in Pakistan. Meaningful analysis of the situation in 2020 is impossible, as no survey has been conducted since 1996. The 1996 survey reported that out of 40 million children aged between 5-14 years, 3.3 million (8.3%) were engaged in labour. Of the children engaged in labour, 73% were males. Punjab had the highest share of Pakistan's child workers, 58.6%. Child labour was more prevalent in urban areas where number of children engaged in labour was 8 times higher than those in rural areas. One third of the children engaged in labour were illiterate. Importantly, the overwhelming share of these children were unpaid workers, the so-called helpers. Around half the child labour (46%) worked for on average 35 hours a week while a good proportion worked up to 56 hours a week (Zarif et al., 2013).

The factors that lead to child labour in Pakistan are poverty, lack of resources, inflation, low levels of literacy, oversized families, economic shocks, natural disasters and increasing levels of unemployment. Child labour is increasing with the economic crisis and costly education system, and families that are poor must give priority to fulfilling their basic needs. Boys were more likely than girls to be in employment; girls were mostly engaged in helping with the household chores and care for the animals that were also a source of food.

According to Bureau of International Labor Affairs (2017): "Children in Pakistan engage in the worst forms of child labour, including in forced domestic work and in bonded labour in brick kilns. The government has established laws and regulations related to child labour. However, gaps exist in Pakistan's legal framework to adequately protect children from the worst forms of child labour, including about minimum age for work and hazardous work. Pakistan's federal and provincial laws are not completely in compliance with international standards on child labour. The federal government's minimum age for work does not comply with international standards because they do not extend to informal employment."

Importantly, the child welfare and labour issues are devolved to provinces after the 18th Amendment to the Pakistan Constitution[42]. It was agreed that federal laws would remain in force until each province repeals or adopts a replacement law. Eradication of child labour in Pakistan requires political will, improved coordination between federal government and provinces and capacity building of the implementing agencies.

8.5 Application of Rights and its Impact on Different Kinds of Inequality

> *The people of Pakistan suffer from many human rights violations. The 2018 report of the Human Rights Commission of Pakistan discusses in detail the violation of the following fundamental freedoms in Pakistan: freedom of movement; freedom of thought, conscience and religion; freedom of expression; freedom of assembly; and freedom of association. This is also along with the rights of various disadvantaged groups: women; children; labour; the elderly; people living with disabilities; and refugees and IDPs. The persecution of minority religious groups, including among other Christians, Sikhs, Hindus, Ahmadis and Hazaras, sometimes through mis-use of blasphemy laws, continues. "Despite criticism at home and abroad, Pakistan's political leadership is still unprepared to introduce even minor amendments to the blasphemy laws, fearing a violent backlash from religious extremists." (Pakistan Human Rights Commission, 2018: 123).*

The application of a "rights" lens to various kinds of inequality based on demographic differences is appropriate. It has been clear from the analysis in Chapters 4 and 5 and the present chapter that there are major differences in mortality, morbidity and reproduction between certain groups in Pakistan, indicating that some groups have more difficulties in realizing their health and reproductive rights than others. There are strong regional differences, quite strong rural-urban differences, and strong differences according to education and wealth status. These differences need to be understood at a provincial and not just at national level. For example, urban-rural differences in contraceptive use are starkest in Sindh; the CPR in rural Sindh is not much more than half its level in urban Sindh. It is only the higher CPR in Karachi that keeps the CPR in Sindh equal to that in KP.

Reproductive rights have been given great prominence in international discourse ever since the ICPD in Cairo. However, in Pakistan the discourse on sexual and reproductive health and rights has predominantly focused (and still does) on family planning services for married couples and avoids discussing unmarried women, youth and adolescents - their needs, behaviours, practices and rights. There are nearly 64 million youth and adolescents with varying needs for SRHR that are mostly overlooked in the existing SRHR programmes.

The legislative actions that have been taken to tackle domestic violence and other forms of violence against women (e.g. Punjab Feb 2016) are a step towards clearer recognition and more effective action regarding women's rights. But the disadvantages suffered by women in Pakistani society require a broader recognition of the multifarious obstacles to women's rights in areas such as inheritance, access to reproductive health services, economic activity, and even in opening a bank account.

[42] For details on the laws implemented by provinces, refer to Bureau of International Labor Affairs (2017).

8.6 Conclusions

Disadvantaged socio-economic groups suffer more from avoidable mortality, unintended pregnancies and adolescent births, early marriage and reproduction and as a result an age structure (at the group and household level) that is burdened by heavier child-rearing responsibilities and more rapid growth as a group.

The demographic behaviours associated with lower socio-economic status tend to be correlated with lower levels of education. It is important to know – and difficult to determine – whether, if we can enable those in lower socio-economic groups to continue further with their education, the differentials can be eliminated, or whether there are other aspects of their disadvantage that holds their demographic behaviour back from converging with that of higher socio-economic groups. But irrespective of the answer, the fact is that almost two decades into the 21st century, half of women and one fourth of men in the age group 15-49 have no education (PDHS, 2017/18). This is inexcusable from an equity perspective, and a major brake on Pakistan's development. But other aspects of disadvantage also need to be tackled simultaneously, because of the interacting elements of disadvantage.

Migration has been an important vehicle for escaping poverty in Pakistan. Migration, internal or international, of an adult household member, particularly from rural areas, enables the concerned households to diversify their sources of income through domestic or overseas remittances. Low levels of poverty in northern Punjab are often attributed to its high level of remittances from overseas labour migrants. It is important, then, to understand why Balochistan, with Pakistan's highest level of multidimensional poverty, is not benefiting as much as most other provinces from either domestic or international outmigration.

Do urban labour markets absorb the migrants quickly? Can rural to urban migration improve the well-being of migrants or is the rural poverty simply transferred to the urban sector? Each of these questions raises numerous and often contentious issues and the evidence is still not sufficient to derive definitive conclusions.

There are important linkages between UNFPA programmes, Pakistan's efforts to reach the SDGs and the Ehsaas program. The Ehsaas program is a crucial development in Pakistan's poverty reduction efforts. It is directed at assisting those most in need, and also aims to lift lagging areas where poverty is higher. It is important to link UNFPA programs with the Ehsaas programme. The UNFPA Ninth Country Programme focuses on (i) sexual and reproductive health; (ii) adolescents and youth; (iii) gender equality and women's empowerment; and (iv) population dynamics. Careful consideration of these two programmes leads to a common thread – how to make the ongoing demographic transition a dividend for the country and its population.

Turning to gender equity issues, deeply embedded biases and discriminatory practices towards girls and women will be very difficult to counter. Discriminatory legislation and a dysfunctional criminal justice system have put women at grave risk of continued violence, with lack of accountability for the perpetrators. Child marriage, gender-based violence, limited political and economic participation, and inequalities in education, among others, all need to be addressed specifically. Doing so will require a combination of awareness and consciousness raising, legislation, administrative reforms and innovative programmes at both government and societal level. Approaches will need to differ somewhat across regions.

There have been some encouraging developments in the gender equity area. The Government of Pakistan has taken various steps in the past two decades to infuse human rights principles into its statutes, policies and action plans. Some pro-women bills have been passed. The National Police Bureau (NPB) has taken several key initiatives, including creating a Gender Crime Cell (GCC) to document crimes against women reported to the

police and advise provinces on standard procedures to deal with victims of gender-based violence and investigate violent crimes against women. The Supreme Court in its judgement (16 January 2019) on a petition filed by NCSW challenging jirgas, panchayat, etc. banned all such forums operating outside the framework of law and ordered provincial IG police to develop SOPs for punishing those responsible.

Much more needs to be done, however. Further action is needed to ensure that the Supreme Court judgement just referred to is implemented. The post-2010 devolution of most law making to the provincial assemblies makes it more complex to build political support for gender equality legislation in more conservative parts of the country. Strong efforts are therefore needed at the provincial level. Parliamentarians (National and Provincial elected and/or on reserve seats) have a constitutional obligation and international commitment to enhance protection for women by passing appropriate bills, legislation, and laws. They must also be instrumental in helping to safeguard women against violence and injustice and ultimately to help promote a democratic and violence-free Pakistan for all its female and male citizens.

There are many groups in vulnerable situations in Pakistan, and the issues relating to people with disabilities, the elderly, women headed households, widows and orphans, street children, the urban poor, urban slums and isolated settlements, the transgender community, and child labourers/ domestic helpers have been discussed in this chapter. Without exception, they face major issues, and these issues must be tackled with appropriate urgency, consistent with the overriding objective of "leaving nobody behind".

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9

Challenges, Opportunities And Recommendations

9.1 Introduction

The thorough analysis carried out in the previous chapters provides a clear understanding of the interlinks between population dynamics and the socio-economic-environmental development plan and the overall impact of the population situation on the wellbeing of the people. It documents the current status of the demographic transition in Pakistan concerning the three demographic challenges (slow fertility transition, high population growth and the narrow opening of the demographic window of opportunity leading to modest results) as well as providing an understanding of the social and demographic behavior of the population.

The PSA is being carried out during the prevailing pandemic COVID-19 that is having an impact on all aspects of life in Pakistan. This is reflected in the outlook of GDP growth (turning negative for FY2020, for the first time in seventy years) as well as every other aspect of life including health system, education activities, and trade, transport, manufacturing, and construction sectors of the economy, which will in turn re-affect the population situation.

Besides briefly highlighting the main policy areas as well as the main initiatives and stakeholders, this chapter will cover the main population challenges confronting the country, the opportunities for action: policy and strategy and the proposed recommendations.

9.2 Overview of main policy areas, main initiatives and stakeholders

This Population Situation Analysis focuses on the interlinkages of population trends with sustainable development including the broader aspects of social and economic development as well as environmental factors in Pakistan. These interlinkages play out in the context of political and power relationships that go far beyond the scope of this study. Yet aspects of these power relationships are crucial in facilitating or blocking the success of measures that will be proposed here. Therefore they should be acknowledged, and the necessity for dealing with them noted.

As the Prime Minister's policy statement about the Ehsaas program stresses, "Ehsaas is about the creation of a 'welfare state' by countering elite capture and leveraging 21st century tools ....". What is the "elite capture" being referred to? It has been well described in various World Bank documents.

As the World Bank notes, most attempted economic reforms have redistributive effects. These may adversely affect the interests of select groups that benefit from the status quo. These vested interests can work toward protecting their own benefits and preventing reforms.

"In Pakistan, the power of the elite(s) is rooted in the overlap of self-reinforcing asymmetries in the distribution of economic power (through the concentration of land and capital), social power (through the control of religious/sectarian or ethnic/ kinship groups) and political power (through the control of state institutions and resources). The forces of elite capture ... led to an "insider-outsider" model of development in which weak and captured institutions serve the narrow interests of the few (insiders), while they fail to provide universal opportunities for socioeconomic development to the many (outsiders). ... (E)lites that - for reasons of historical legacy – controlled higher original endowments of land, physical or human capital (insiders), did not have the incentives to support policies that could have addressed factor market imperfections because this could have diluted their economic, social and political power, and their grip over (state) resources. On the other hand, citizens who would have benefited from such reforms (outsiders) lacked the power (resources and political representation) to bargain for change" (World Bank, 2020:6).
"Policies aimed at levelling the playing field (i.e. policies that change (directly or indirectly) the distribution of power in the policy arena, are needed to address the distortions associated with insider-outsider dynamics. Actions aimed at levelling the playing field can be articulated under two complementary pillars: one involves tackling issues around competitiveness, and the other requires addressing constraints around equity and inclusion." (World Bank, 2020: 9)

Though influencing these political and power relationships lies outside the remit of the present study, it is important to recognize that these relationships directly influence the likelihood of success in achieving many of the recommendations to be made below. For example, "reforms in tax policy and administration, land management and agriculture remain difficult from a political-economy perspective. However, they are also a precondition to achieving effectiveness of other growth- and inclusion-related interventions" (World Bank, 2020: 16). Promotion of equity and inclusion is a key priority to sustain poverty reduction in future.[43] Addressing the needs of small farmers and women, the credit needs of small businesses, the need for supply-side intervention to significantly break some of the constraints to girls' education, are just some of the initiatives needed. In all of these areas, elements of "elite capture" need to be effectively countered.

There are important elements of the policy approach of the present government that indicate an encouraging concern with addressing Pakistan's serious inequities. These include the Ehsaas programme (and the BISP that preceded it) and the strong attention given to achieving the SDGs. Success in these two endeavours would be closely related to modification of Pakistan's demographic dynamics and would definitely contribute to the narrowing of inequalities in Pakistani society.

It is now a decade since devolution of many of the planning and administrative functions of government in Pakistan. Devolution has highlighted some of the provincial differences in political, social and economic structures, in the primacy of particular issues, in planning capabilities, in the capacity of government to deal with urgent issues, and in the willingness or otherwise to agree on appropriate policies in the case of issues that have a nationwide impact. Policies have to be agreed on and implemented at the provincial level. Recognition of the crucial role of the provinces in Pakistan's development planning has led to a strong emphasis on provincial issues in this Population Situation Analysis.

[43] See Chapter 3

9.3 Main population challenges confronting the country

Challenges in modifying population growth

Turning now more specifically to demographic change and the development context in Pakistan, it will be recalled that Table 3.1 presented evidence showing that Pakistan fares poorly in comparisons of human development with other countries. The higher GDP per capita in Sri Lanka and Iran no doubt help explain the stronger performance of those countries in many of the other indicators. But income levels cannot explain all the differentials; for example, Pakistan and Bangladesh have almost identical GDP per capita. Pakistan's key dilemma was clearly stated by the then Minister for Planning, Development and Reform, Prof Ahsan Iqbal, in his Prelude to the document Pakistan 2025: One Nation – One Vision, when he wrote: "In terms of economic indicators, Pakistan is a middle-income country but in social indicators it falls amongst the least developed countries."

Some of the evidence in Table 3.1 clearly supports Prof Iqbal's statement. In comparisons of human development with other countries, Pakistan fares poorly. The child mortality rate is a good example. While in the late 1980s, Pakistan's under-5 mortality rate was roughly the same as those of Bangladesh and India, it is presently roughly twice as high as those countries. It is not that Pakistan's child mortality rate did not decline; it actually fell almost in half over this long period. But the rates in Bangladesh and India fell much faster. Why are under-5 mortality rates still so high in Pakistan? This must have something to do with the state of health services in Pakistan. The fact is that

- Pakistan under-invests in the health sector
- Within the health sector, it under-invests in public/preventive health as against curative health services
- Within public health services, it under-invests in reproductive health/family planning.

The evidence for these statements can be found in budget breakdowns and in statistics for health personnel. Over the past 8 years, on average public sector expenditure on health in Pakistan was only 0.9% of GDP (Finance Division, 2020, Table 11.3). This is low by world standards, though it has been rising in recent years (to 1.1% in 2018-19). Limited budgets mean limited funds to pay salaries, and hence lower than ideal ratios of health workers to population. It is estimated by WHO that a minimum threshold of 23 doctors, nurses and midwives per 10,000 population is necessary to deliver essential maternal and child health services. Countries that fall below this threshold struggle to provide skilled care at birth to significant numbers of pregnant women, as well as emergency and specialized services for newborn and young children. In Pakistan the ratio in 2019 was only 18 per 10,000 population, well short of the minimum threshold. The balance between doctors, nurses and midwives was also skewed, with 233,260 doctors, but only 112,123 nurses and 41,810 midwives (Finance Division, 2020, Table 11.2).

Public health expenditure needs to be raised significantly. It is indeed planned to raise this to 3 per cent of GDP by 2025 (Planning Commission, no date: 36), and this plan has been endorsed by the Chief Ministers of the various provinces. If achieved, there will clearly be scope for significant improvement in the coverage of health services – and if properly planned, significant improvement in RH/FP services as well.

Pakistan has much higher fertility than other major South Asian and Muslim majority countries; its estimated total fertility rate of 3.6 in 2015-2020 was 67 per cent higher than the average of the following South and West Asian countries – Turkey, Iran, India, Nepal, Indonesia and Bangladesh (United Nations DESA/Population Division, 2019). While Pakistan's fertility rate has been lowered over time, the onset of decline was delayed, and the speed of decline was modest, leaving Pakistan's fertility rate currently

much higher than in these other countries. Its rate of population growth therefore remains high and its changing age structure has been slower to yield a potential demographic dividend – a rising share of the working-age population. Pakistan's dependency ratio currently remains well above that of these other countries.

This delay in lowering the fertility rate has had three unfortunate results. First, a higher population growth rate, requiring expansion of infrastructure and services to serve a larger population. Second, a higher growth rate of the school-aged population, making it harder to achieve educational goals. Third, a less favourable age structure for economic development, with a smaller share of the population in the working-age groups. To make matters worse, a low percentage of women in the workforce reinforces the disadvantage of the smaller share of population in the working-age groups.[44]

The fact that Pakistan has higher fertility than any other major Asia-Pacific country except Afghanistan, one of the highest rates of population growth in the Islamic world aside from sub-Saharan Africa, an unacceptably high infant mortality rate, and very poor rankings in indicators of human development and gender equality, invites analysis of why Pakistan's enormous potential for social and human development has not yet been realized. Focusing particularly on the determinants of fertility, we need to understand why Pakistan has not done very well in lowering infant mortality, educating its young people, especially girls, and providing family planning information and services. All of these have been shown in numerous studies to be key determinants of declines in fertility in high fertility countries. Once the reasons for shortcomings are understood, more effective policies and programmes can be mounted.

Among political leaders and government planners, there is now an agreed need to lower fertility in Pakistan. The recommendation of the Supreme Court's Task Force in late 2018 referred to the need to reduce population growth, lower fertility rate and increase contraceptive prevalence, and this was followed by the establishment of national and provincial task forces to provide oversight and take critical decisions to achieve these goals. An important issue is that in the face of the agreed need to lower fertility in Pakistan, desired family size remains relatively high.[45] A rights-based approach requires that we focus on enabling people to attain their desired family size. But this raises a possible dilemma: what if attaining desired family size in Pakistan leads to unsustainable population growth?

We believe the answer to this question is that with the right approaches, attaining desired family size in Pakistan should not lead to unsustainable growth. One element of the right approaches is to provide an effective family planning programme. This will lead to a lowering of the relatively high unmet need for family planning, and that will bring down fertility rates to some extent. The second element is to adopt policies and programmes across a much wider spectrum that can be expected to lead to a decline in desired family size. It has been well stated that in Pakistan "... a number of factors are responsible for poor health and population outcomes in their own right. These include broader issues implicit in the social determinants - literacy, clean water, adequate sanitation, food security – and poor overall governance and conflict. Unless there are improvements in these domains, the desired level of progress in achieving population and health outcomes cannot be attained" (Nishtar and Amjad, 2009).

It can be questioned whether the current political and economic environment is supportive of the achievement of the country's population goals. Poor governance in Pakistan is a long-standing issue, contributing in large measure to continued weak economic performance and limited progress in human development.[46] It is essential for the standard of governance to improve if Pakistan is to make faster progress in economic, social and human development. The Ehsaas programme is a step in the right direction. But until serious attention is given to raising the critically low share of government revenues devoted to health and education, moving from a regressive to a progressive taxation system, and taking other steps to improve the lives of disadvantaged Pakistanis, rapid attainment of the key goals of lowering early childhood mortality and lowering fertility is unlikely.

[44] In the entire Asia-Pacific region, Pakistan has the second highest rate of youth who are not in employment, education or training. The overall rate is 30%, but it is much higher [54%] for females than for males [7%]. See UN/ESCAP, 2018: 14.
[45] See Chapter 4
[46] See Chapter 3

Structural inequalities affect population outcomes. Inequitable distribution of education, health and employment opportunities influence household decisions regarding family size. Being poor, unemployed, or living in rural areas of deprived and backward regions is associated with lower contraceptive uptake and a higher fertility rate. Persistent poverty influences family size decisions through lower opportunity cost and the motive of having more earning hands. These households end up with lower human capital accumulation for the next generation, forming a vicious circle of lower social mobility.

While it is critical to ensure equitable distribution of education, health and labour market opportunities, the debate on inequality and poverty needs to go beyond inequality of outcome and focus on production of inequalities. Broadly, to have an effective population policy and desired outcomes such as higher contraceptive uptake and lower fertility rate, economic and social policies need to work together to reduce the exclusion of the marginalized population from socioeconomic opportunities. Conversely, the broader agenda of economic and social policies must aim to lessen social exclusion, the common foundation of poverty and inequality of outcomes.

However, the focus in the present report must necessarily be narrowed to policies specifically addressing aspects of human development that are likely to influence population growth. If the aim is to reduce rates of population growth in Pakistan through meeting the family planning needs of individuals and couples, then lowering infant and early childhood mortality rates and expanding educational opportunities, particularly for girls, can lead to a crucial lowering of average desired family size. As was shown in Table 3.1, the under 5 mortality rate in Pakistan is double its level in India and Bangladesh, and many times higher than in Sri Lanka and Iran. As for mean ideal family size, it is 4.5 among uneducated women, compared with 3.3 for those with secondary education and 3.1 for those with tertiary education. Even among the tertiary-educated, then, enabling women to achieve their desired family size will not lower their fertility to the levels desired for Pakistan as a whole. But a rapid increase in overall levels of female education – a key aim of Pakistan's planners, for a number of reasons – could be expected to lead to modifications in the social structure and the set of opportunities for women, likely resulting in a decline in overall ideal family size; a similar outcome could be expected from widening opportunities for women's employment in the formal sector.

Improving the survival rate of children in Pakistan is one of the key requirements for reaching a situation where parents see the advantage of limiting births and forging a good future for a smaller number of children than is presently the case.

Public health expenditure needs to be raised significantly. It is indeed planned to raise this to 3 per cent by 2025 (Planning Commission, no date: 36), and this plan has been endorsed by the Chief Ministers of the various provinces. If achieved, there will clearly be scope for significant improvement in the coverage of health services – and if properly planned, significant improvement in RH/FP services as well.

While successful implementation of population policy can certainly have a major impact in slowing population growth, substantial population growth in Pakistan is inevitable, as a result of population momentum built into the high fertility age structure. Pakistan is an outlier in Asia and among Muslim majority countries (aside from Afghanistan and those in sub-Saharan Africa) in its rate of population growth. The challenges facing Pakistan in dealing with rapid population growth are enormous.

Contraceptive prevalence rates are also far lower in Pakistan than in a range of comparator countries; prevalence of modern contraception is less than half that in Bangladesh and Indonesia. Contraceptive prevalence rates in Pakistan range from a high of 38% in Punjab (itself way below the rates in comparator countries) to a low of 20% in Balochistan. Overall, 25% of married women in reproductive ages were using a modern method of contraception (mCPR) in 2017-18, three percentage points higher than in 2006-07, but one percentage point lower than in 2012-13.

We need to understand – why has fertility decline been so slow and contraceptive prevalence so very low in Pakistan compared with comparator countries?

Specific props for high fertility are evident in Pakistan - poverty, social inequality, high infant mortality, poor educational levels, poor employment opportunities for women. Cultural factors, lending support to high fertility, are also in play. Stated desired family size remains close to 4 children, even amongst the well-educated. Fertility of the well-educated is certainly lower than other groups, with a considerable gradation in TFR from 4.2 for women with no education to 2.6 for those with higher education. (Similar differentials are observed by wealth quintile). As in other countries, then, the decline in fertility in Pakistan has been associated with rising female education levels. However, even among the most highly educated women, fertility remains substantially above the replacement level of 2.1 children per woman. This contrasts with many other high fertility countries where we see below replacement fertility in women with high education levels. This may be related to their lack of employment opportunities and low labour market participation, thus lowering their opportunity cost of having children.

Not only do fertility levels for highly educated women in Pakistan remain higher than in the comparator countries, but Pakistan also has fewer women in the highly educated categories than the comparator countries. The rise in education levels in Pakistan, particularly for women, has lagged. In summary, Pakistan's fertility remains high both because a lower proportion of women have higher levels of education, and because fertility of those with higher levels of education, while lower, is above that of educated women in comparator countries.

These are the key "demand side" challenges facing efforts to reduce fertility. There are significant "supply side" challenges as well in providing effective FP services.

But before turning directly to these supply side challenges, two significant "upstream" challenges need to be mentioned, namely that much of healthcare in Pakistan is curative, and that a clear role needs to be defined for the public sector in the health system. Although the government is the predominant provider of preventive programmes, it spends only around a third of its health budget on these programmes. Most of the rest of government funding and nearly all of private funding on healthcare – in total, 80% of all health expenditures - goes to curative care. Thus, much of the effort in health is spent treating medical conditions after they arise rather than on preventing them.

A key challenge is to prioritize and transition to a new role for the public sector. The health system in Pakistan has grown organically with three tiers of public sector facilities, namely basic health units (at the Union Council level)/Rural Health centers, Tehsil Health Centers or District Health Quarters (District: secondary level), and then large tertiary care facilities in provincial capitals. The private sector has stepped in where the public sector was unable to meet service demands, desired quality or affordable cost options. Currently the public sector provides around 93% of all childhood vaccination but only around 20% of all outpatient visits (PSLM, 2015-16). The private sector is providing mostly curative care, mainly to those who can afford it. While usable data are limited, the general assumption is that more than 80% of all public sector Health and PWD visits are for maternal care seeking (Health Department communications). Despite the public sector's progressively shrinking role in health care over time, there are niches where it is a key or predominant provider. For example, the government is nearly the sole provider of childhood vaccination and the main provider of family planning services to the poorest quintile of the public, and this role needs to be strengthened.

Turning directly to family planning, as already noted, method mix of contraception continues to be narrow and discontinuation of contraceptive use is high. Both demand and supply factors should be dealt with if contraceptive prevalence is to be increased to the aspired level of 50% by 2030. A stagnant CPR, declining unmet need and high-level discontinuation rates, along with the low service footprint (utilization) of FP services emphasize the urgent need to re-look at both the demand and supply side as a holistic picture to meet the National

Population Narrative Goals. Concerted efforts are needed, particularly to connect supply side services to demand creation among younger couples, assist women who discontinue contraceptive use due to unexpected side effects in timely switching to another method, and perhaps by focusing on quality of iterative counselling and by expanding task sharing in FP service provision. At the current pace, Pakistan will be short of reaching the CCI aspiration of 16 million additional new couples practicing FP. Achieving the desired fertility levels and changes in CPR will require system level review and changes in most (if not all) national and provincial policies and programmes, starting from education and economic inclusion of girls and women, through to specific changes in the way public and private health services are organized and provided.

The competing mandates and weak coordination between the Department of Health and the Population Welfare Department (PWD) in service coverage and delivery of RH/FP is a key ongoing issue that is unique to Pakistan. The Health Departments of provinces have not yet fully accepted FP as a primary responsibility and PWD is not suitably equipped to reach all areas of Pakistan (Population Council, 2016). One estimate suggests that when nearly 100,000 LHWs (who report to DoH) are included in the provider mix, PWD's 3,300 facilities (comprising Reproductive Health Services (RHS), Family Welfare Centers (FWCs), and Mobile Service Units (MSUs)) constitute together only 4% of the total service delivery points. While the Health and Population departments have similar functions, target populations, and outlets, often in the same geographic localities, the lack of effective coordination and at times even animosity (Nishtar and Amjad, 2009; Population Council, 2019) between the two departments lead to more problems, resource wastage and diluted efforts which Pakistan cannot afford. In the past, there have been discussions on a merger of the two with more recent efforts directed at emphasizing FP as a central (mandatory) component at all health outlets. More recently, CCI recommended the merging of the two departments.

One of the key challenges facing family planning efforts in Pakistan is the need to re-align LHWs to their primary mandate. LHWs have been the cornerstone of FP programming in Pakistan and their focused approach is critical to achieving the National Task Force target for the next phase of CPR increase. Currently, LHWs are engaged in numerous preventive care activities including the polio campaigns. Re-focusing LHWs towards FP, deploying them in higher priority areas, mapping how much LHWs can reasonably accomplish along with increasing their autonomy for expanded service provision (such as first dose of injectables, emergency contraception) would all increase FP coverage and has been extensively discussed in the Universal Health Care package of services. In addition, remuneration for LHWs needs to be standardized across provinces to ensure equity, commitment and enthusiasm.

The demographic dividend

There is no doubt that a key objective for Pakistan, if the demographic transition is to be linked effectively with the socio-economic objectives of development, is to take advantage of the demographic dividend. There are two major challenges to realizing the demographic dividend in Pakistan: the first is in terms of speeding the fertility transition along with associated changes in age structure, and the second is in terms of policies to harness the extra potential resources that are produced by the fertility transition.

Pakistan has already entered into the period of first demographic dividend. It is projected that this period will extend to at least the next five decades. If the Pakistan economy is to enjoy a significant improvement owing to the demographic dividend, fertility will have to decline much more rapidly than currently anticipated.

This slow decline in fertility in Pakistan is in line with a continued high level of desired fertility. An important driver of fertility desires is child mortality; high child mortality drives a desire for more children to replace those who die and to insure against future losses. While in 1980 the under 5 mortality rate in Pakistan was lower than in India or Bangladesh, it is now substantially higher than in

these comparator countries. The slow improvement in child mortality is a major barrier to achieving lower fertility. Analysis across multiple countries shows that each additional child death is associated with over 2 additional births (Canning et al 2013), making reductions in child mortality an important factor in promoting fertility decline.

Rights and population policy

A key challenge for Pakistan is to ensure that in achieving the prioritised lowering of fertility, the rights of individuals and families are fully respected. We believe this challenge can be met through a four-pronged approach to lowering fertility, which is totally in line with a rights-based approach to family planning, and with broader national goals for human and economic development:

- Lower the infant and early childhood mortality rate – high mortality leads to "insurance" and "replacement" fertility
- Raise education level of girls. This will lead to lower average desired family size.
- Focus on opening wider employment opportunities for Pakistan's increasingly well-educated women. This is also likely to lead to lower desired family size.
- Meet unmet need for family planning. 17% of MWRA have such an unmet need. If all unmet need were met, the TFR would fall substantially. Of course, all unmet need can never be met, but even meeting half of it would lower fertility considerably. And if desired family size falls for the reasons noted above, unmet need to be addressed by the family planning programme will rise.

The great strength of this strategy is that the four prongs have many beneficial results aside from their role in lowering fertility and are in line with stated national development goals. But the focus here is on their particular effect on fertility rates.

It is important to stress a key assumption underlying this strategy. Bringing Pakistan to a situation where the majority of women have good educational and employment opportunities will lead to a decline in desired family size because it broadens women's opportunities beyond the traditional role of having and rearing children, and will lead to a desire to give better opportunities to fewer children. This is the typical result of such developments in many countries. Mass education changes society, not just its individual members; it can lead to ideational changes in society as a whole, modifications in the social structure and the set of opportunities for women, moving society towards an industrial, urbanized, monetized economy with lower community childbearing norms. It also leads to higher age at marriage for women and greater female autonomy (Fuchs and Goujon, 2014: 167-183).

In summary, the challenge for Pakistan is to achieve a mutually reinforcing set of changes that will lower the average number of children couples want, and enable them to raise these children without contending with unintended pregnancies. There are many interactions here: for example, raising levels of female education will contribute to lowering infant mortality; making family planning services readily available will lower unwanted fertility and facilitate birth spacing, and hence lower the high rates of infant and child mortality related to frequent and unwanted births; lowered infant mortality and ill-health will free up mothers' time for other things, including better caring for other children, and joining the workforce. All these aspects of human development should be seen as interlinked; in relation to the objective of lowering fertility rates in Pakistan, the four dot points discussed earlier provide the key, though it is essential that they are placed in the context of good governance and policy focused on human development and poverty alleviation.

Gender inequality

As already noted, Pakistan faces many challenges in the area of gender inequality. Various indices locate Pakistan towards the extreme end of gender inequality among the world's countries. The societal paradigm in Pakistan is patriarchal with deeply embedded biases and discriminatory practices towards girls and women. Reaching a situation in which women are given equal opportunities with men to realize their full potential will take time, but progress can be made with the right approaches. Changing discriminatory gender practices will require a combination of long term and immediate interventions.

The wide gap between males and females in educational attainment is one of the most striking aspects of inequality in Pakistan. PDHS 2017/18 data show that in the age group 15-49, half of women and one fourth of men have no education. Of men in this age group, 70 per cent are literate, but only 50 per cent of women. The highest proportions of women with no education are found in FATA (90 per cent), followed by Balochistan and rural Sindh (both over 80 per cent).

Women's labour force participation in Pakistan is well below that of men, and considerably lower than in countries such as Bangladesh and Indonesia. According to a 2018 IMF estimate, Pakistan's GDP could increase by 30% if women were able to participate freely in the labour force. Fostering women's entrepreneurship could have a ripple effect: higher GDP, decreased poverty and unemployment, healthier and better educated families, and more equitable societies. But there are many obstacles to women's entrepreneurship, including mobility restrictions on women and lack of access to credit.

Gender based violence (GBV) of all kinds is prevalent in Pakistan, nurtured by a climate of male dominance, gender inequality, and lack of serious political-bureaucratic will to take action. Domestic violence – by far the most common form of GBV throughout the country, but especially in Khyber Pakhtunkhwa and Balochistan - has serious ill-effects on the physical and mental wellbeing of a great many women, traumatic effects on children, and generally disruptive effects on households. Reporting and seeking help for domestic violence is not common in Pakistan. Government and civil society need to be seriously committed to reducing GBV, and accountability must be demanded of and by the state institutions that manage the medico-legal-judicial processes and systems.

The Government of Pakistan (GOP) is signatory to almost all International conventions and agreements on violence against women and GBV. Pakistan acceded to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1996, but has yet to translate the provisions of the CEDAW convention into implementation and enforcement at the grass-roots service delivery level. The Government of Pakistan has taken various steps in the last two decades to infuse human rights principles into its statutes as well as policies and action plans, and this is commendable; but despite these measures, there remain laws, policies and practices that fail to address women's issues and work to their detriment. Discriminatory legislation and a dysfunctional criminal justice system have put women at grave risk of continued violence and lack of accountability for the perpetrators.

Climate change and environment

It can be argued that the two biggest challenges confronting Pakistan at present are climate change and the population-poverty nexus. They are intertwined and hold Pakistan back from economic development and prosperity. Despite an early start in tackling both, Pakistan did not continue with its focus on environmental protection and met only limited success in restraining population growth.

The rapid and unplanned increase in population adversely affects the physical environment, erodes the carrying capacity of ecosystems and increases the exposure to climate-induced disasters in both urban and rural settings. Since most poor people live on marginal lands and in fragile ecosystems, they are often least prepared to manage multi-tiered challenges. At the same time, keeping a healthier physical environment would have served as an adaptation strategy to protect the population from growing climate vulnerabilities by strengthening

resilience. The absence of clear focus on protecting the environmental resources has been costly for human health, adversely impacted agriculture, encouraged outward migration to cities, and the reduced productivity of ecosystems.

The slow onset of climate change and resulting extreme climate events have both placed the population, particularly the poor and marginalized, in a challenging bind. Further, since two-thirds of Pakistan is an arid and semi-arid land we observe that land degradation and water stresses have become very acute, adding to the vulnerability of local population and often threatening their lives and livelihoods. In the absence of any national or provincial adaptation plans, communities have exercised autonomous adaptation, propelling outward migration to urban settlements that have been growing at a faster rate than the population as a whole. Finally, we have seen that cities have inadequate infrastructure, and such an unplanned growth adds an additional set of climate challenges, adding both to their vulnerabilities as well as a bigger carbon footprint. There is no urban adaptation policy in place and this void has added to the complexity of challenges for policy-makers. This calls for a renewed focus on protecting the physical environment that can help Pakistan have a long-term adaptation strategy integrating population dynamics, environment, and climate change.

9.4 Opportunities for action: Policy and strategy

In late 2018 a major development took place in Pakistan in relation to population policy. At the highest level, it was recognized that rapid population growth is an obstacle to achieving Pakistan's goals of human and economic development. The Prime Minister and the Chief Justice were united on this issue.

An Action Plan was submitted to the Supreme Court on January 11, 2019 by the National Task Force constituted by the Supreme Court and approved by the Council of Common Interest (CCI) chaired by the Prime Minister. This plan included the objective of reducing the population growth rate from 2.4 per cent per annum to 1.5 per cent per annum by 2024 and 1.1 per cent per annum by 2030. This was to be achieved by raising the contraceptive prevalence rate to 50 per cent by 2025 and to 60 per cent by 2030, leading to a lowering of the total fertility rate to 2.8 by 2025 and 2.2 by 2030 (Federal and Provincial Task Forces, 2019).

As a key follow-up to the recommendations of the National Task Force, a National Narrative on Population Growth was issued in 2019 by the Government of Pakistan, the UNFPA and the Population Council. Among other things, the Narrative states: "as a key measure, Pakistan must lose no further time in joining the countries of the region and the Muslim world in achieving a rate of population growth that is sustainable. This will have to be much lower than the current (1998-2017) high growth rate of 2.4 per cent."

The National Narrative states that the achievement of balanced population growth is possible through three inter-linked principles: rights, responsibilities, and balance – Tawazun – that needs to be struck in all aspects, especially between rights and responsibilities. The Narrative goes on to stress that "As per CCI recommendations, the State must act on an emergency footing, especially for the 7 million Pakistani couples who want to practice family planning but do not have access and for others who are unsure or still planning their families, as well as the millions of married women who have had to resort to unsafe abortions".

The national and provincial Task Forces have now met on various occasions. Given that the political leadership is now fully in support of actions to reduce the rate of population growth,

the opportunity must be grasped by formulating and effectively implementing policies aimed at achieving this end. What approaches should be followed? The four-pronged approach outlined on p. 262 under the heading "Rights and Population Policy" is advised. What is needed is a clear road map for lowing child mortality, educating Pakistan young people, particularly girls, open wider employment opportunities for its increasingly well-educated women, and more effectively providing family planning information and services. Although Pakistan has been slower than other Asian countries to realize a demographic dividend through the age structure changes resulting from lowered fertility, there has been a beginning in this direction with the modest decline in fertility that has already occurred. Pakistan now has a major opportunity to benefit from the demographic dividend, if its goals for the reduction of the fertility rate are achieved. The demographic dividend will emerge more rapidly if fertility declines faster.

There are some other opportunities for Pakistan to benefit from its demographic trends. One is the Ehsaas programme, which has the potential to improve the circumstances of the most disadvantaged sections of the community. These are the groups in society with the highest infant mortality rates, the highest fertility rates, the earliest marriages and the poorest levels of education. All these characteristics work against the possibility of their benefiting from the economic and social developments that are taking place in Pakistan. If through Ehsaas their circumstances can be improved, this will counter their social disadvantage and make it more likely that their living levels will improve, that they will view their prospects more positively, and see other alternatives to secure their future than having many children. Therefore, along with other benefits of the programme, fertility could be expected to fall.

Other opportunities relate to the major role of Pakistan in sending workers abroad. Although in some ways this flow of workers can be viewed negatively, because it results largely from the inability of Pakistan's economy to provide remunerative employment for its labour force, there are positive aspects as well, notably the upgrading of skills in some cases and the flow of remittances, which has benefited the macro-economy as well as enabling families in many parts of Pakistan to improve their circumstances. It is hoped that once COVID-19 has been brought under control, the flow of Pakistani workers abroad can be resumed, with stronger policies in place to protect them from exploitative recruitment practices and to safeguard their living and working conditions in the countries of destination.

9.5 Recommendations

Based on the previous assessment of the population situation of Pakistan, the main objective of the proposed set of recommendations is to speed the demographic transition through reducing fertility levels and reaching a balance between population growth and environmentally sustainable social and economic development. According to the National Narrative on Population Growth, families would need to maintain a Balance/Tawazun between their family size and their capacity to ensure the rights of each member. This will ensure wellbeing, prosperity, safety, and security, which are the common aspirations of the people of Pakistan. The attainment of this goal is possible through three inter-linked principles: rights, responsibilities and balance-tawazun.

This will also enhance Pakistan's potential for harnessing the demographic dividend. The period of potential demographic dividend, though delayed for a couple of decades compared to other countries of the region, is now being entered in the form of positive changes in the age structure leading to a surge in working age population and youth and a decline in the dependency ratio, particularly

child dependency. This can provide great benefits provided that relevant policies are adopted to foster investments in human capital, especially in the areas of health, education, employment and empowerment of women. The major challenge for policy makers is the provision of employment to the growing labour force, with its low levels of education and skills.

The overall comprehensive recommendations that can lead to successfully reaching the national goal and enhance the wellbeing of the people include:

- Adopting a multi-sectoral approach to population policy in addressing the high population growth issue. Population policy should be fully integrated within comprehensive socioeconomic development plans. Designing and implementing population policy separately from that broader framework, especially economic policy, may fail to provide the desired results.
- This integrated approach should focus on:
  - » Efficient investments in quality education, especially for girls with due attention to those in rural areas where enrollment of girls lags behind that of boys. This should continue to the secondary level. This will also lend support to achieving the relevant SDGs.
  - » Improved female labour force participation and the creation of productive employment opportunities for women, not only because of its clear contribution to economic growth but also because this will help to slow the population growth through backward and forward linkages.
  - » Investment in child health should be increased to reduce child mortality, a necessary condition for promoting small family norms in the country.

Specifically, the recommendations are presented by areas as follows:

POPULATION AND DEVELOPMENT & POLITICAL LANDSCAPE

- Effective population policy and desired outcomes such as higher contraceptive uptake and lower fertility rate, require the adoption of economic and social policies that reduce the exclusion of the marginalized population from socioeconomic opportunities.
- Pakistan must shift towards investment-based economic growth. Revival of the manufacturing sector will be critical as this is the sector which creates quality jobs in good numbers. Presently, the composition of economic growth is creating demand for elementary skills. The export share in GDP needs to be increased if Pakistan wants to create quality jobs.
- Economic policy needed with a focus on:
  - i. undertaking effective policy reforms to ensure equitable distribution of socioeconomic opportunities,
  - ii. promoting export led growth backed by public and private sector investments in the manufacturing sector to produce quality jobs demanding middle and higher skills.
- Close collaboration between federal government, provinces, and national and international stakeholders to continuously update the design and implementation of population policy based on regular monitoring and evaluation of the interventions made to achieve a sustainable population growth rate.

POPULATION DYNAMICS/DEMOGRAPHIC TRANSITION IN THE CONTEXT OF ECONOMIC AND SOCIAL PROCESSES

- The 2021-2030 decade may be declared the "decade of youth development" with strong strategies to benefit from the demographic opportunity and youth bulge,
- The political implications, affecting fiscal revenues and representation in parliament, as a result of the significant differences in population growth rates between provinces need to be dealt with. Between 1998 and 2017, population growth was faster in Balochistan and ICT Islamabad than in Punjab or Sindh.
- The prevailing high desired fertility results largely from high child mortality, social and

economic insecurity, and poverty and social exclusion.

» Current strategies for addressing high child mortality may be revised and improved to bring it down in the shortest possible time; and

» Poverty reduction and social inclusion may be made an integral part of population policy, by giving priority to health, education, and employment, developing a close coordination with the Ehsaas programme.

- infertility among women needs to be addressed as well, because of its adverse impacts on the individuals and families involved.
- Adopting strategies to accelerate transition to lower mortality levels is therefore of high priority since high IMR, neonatal mortality rate and MMR are serious social and human rights issues as well as being a barrier to fertility transition. Provincial differences are not consistent across mortality indicators: for example, under 5 mortality is highest in Punjab and lowest in ICT Islamabad; but the MMR is almost twice as high in Balochistan as in Punjab.
- Provision of adequate urban services and state-of-the-art urban infrastructure are urgent policy challenges, requiring appropriate strategies to avoid rural-urban migration which is gradually changing the whole landscape of the country, and expanding the growth of slums and katchi Abadis.
- The immediate attention of the relevant authorities to emigration policies is needed to cope with the high cost and exploitation of potential foreign workers at the time of recruitment and during employment abroad, as well as to modify the low participation from the poor regions/provinces e.g. Sindh and Balochistan, and the very low female participation in overseas employment. Emigration of workers for temporary employment is beneficial for the country and population because it absorbs young workers, provides a source of earnings and remittances and transfer of skills when they return home.

REPRODUCTIVE HEALTH AND FAMILY PLANNING

Health System Delivery and Human Resources

- Both demand and supply sides should be urgently considered within a holistic approach to meet the goals spelled out within the National Narrative on population growth. At the service provision level, there is considerable under-utilization and a narrow method mix and at the data level for decision-making, the systems are still passive with low involvement of district leadership. Achieving the national goal for 2025 requires adding 6.5 million to current users to reach around 18 million, while for 2030 new FP users are estimated to be 9.3 million and the total number of users is 20.6 million.
- Urgent need for realigning public sector services to meet i) FP and RH needs of the population, ii) implement strong public-private partnerships and collaboration to encourage the private sector to reach remote areas with MNCH-RH services in a cost-effective manner, iii) quality control of private providers to have a basic minimum quality standard and ability to monitor results, accountability and population growth, unmet need and services metrics beyond just national surveys. This paves the ground for the CCI Task Force's eight major recommendations to be met, particularly recommendation 2 (Ensure Universal Access to RH/FP),
- Merge the Department of Health (DoH) and Population Welfare Department (PWD) to provide FP/RH services through all health outlets as specified in the CCI Task Force recommendations. This would be imperative and cost effective at the micro-level.
- Start immediate outreach via Lady Health Workers (LHWs) with existing fixed outlets of both PWD and DoH during the interim where the processes and roles are being redefined. This includes sharing of commodities, and jointly

conducting GIS mapping of target population needs with outlet placements,

- Mapping and re-adjustment of human resources, keeping in mind that skills mix and task shifting models can improve provision of health care in remote or neglected areas, including expansion of LHWs' service provision in FP such as method options for implants and injectables that can be readily administered by first line and mid-level providers without missing opportunities.
- Accountability in hiring and firing and performance reviews are required; tenured job guarantees create an inefficient work force.
- Re-examine skill mix and the types of providers. This is to maximize the time-use of highly skilled providers such as doctors and to some extent nurses, to enhance access to care for the most remote residents, to improve the quality of care rendered and to reduce the costs of delivering health care.

Family Planning and Women's Empowerment

- Re-Focus on linking supply side services to demand creation in communities via LHWs or Family Welfare Workers (FWWs) outreach and contextualized to demand creation that is at scale, that is, full districts so that impact and outcomes can be measured and contribute to the overall CPR change and reduced unmet need.
- Within districts and union councils, map out areas with low FP uptake and target a total market approach[47] to map out the partners (public sector, private providers, and NGO providers) and rationalize who within the target population requires free or subsidized products and who can pay – keeping in mind equity, access, and sustainable programming.
- Method mix, placement and outreach have to be reviewed by the provinces (even by the districts) to see how public and private sector facilities are under-utilized i.e. with 2-4 clients per month for FP and thus running high fixed costs, how to improve by increasing voluntary service to more clients.
- Methods mix should be couple-need based which requires intensive counseling to understand (negotiate) how couples see their family sizes and economic prospects. This may require different approaches for men and women (as shown by their varying perspectives on ideal family size and FP).
- Provincial level planning including assessing political economy of FP/RH must be extensively utilized to see how National Task Force recommendations can be actualized in the given health delivery system.
- District leadership must be engaged to set up their own FP priorities and achievements in partnership with the private sector working in these areas and with regular utilization and outreach reviews. Currently they are passive recipients of instructions and lack ownership in direction setting.
- Strategic priority of programming must include low CPR areas such as urban slums. Nearly half of Pakistan's poor and marginalized people live within large cities while urban slums have only slightly higher CPR and other reproductive health indicators than the poorest rural locales. This means that around a third of all very poor and marginalized Pakistanis live in dense clusters right next to where many resources are already present and deployed.
- Data use in decision-making should be made a routine exercise when planning placement of services, supplies and task sharing.

Sexual and reproductive health & rights (SRHR)

- Clearly define the social vision for SRHR. This requires inclusion and dialogue of diverse population segments and women's rights to education, life decisions, employment, and well-being. These rights need to be acknowledged and emphasized by parents, spouses,

[47] ShopsplusProject.org - A total market approach (TMA) is a lens or process for developing strategies that increase access to priority health products and services. TMA takes into account free, subsidized, and commercial delivery of health products and services for a more sustainable and equitable approach to increase access for all segments of a population

communities, decision-makers, and society as a whole and fully reflected in national/provincial policies, programmes, and services.

- As per CCI recommendations, implementation of pre-marital and adolescent counseling for girls and boys should be undertaken, including Life Skills Education that addresses puberty, sexuality, and safe sex in the context of Pakistan and its regions.
- Rights for minorities and vulnerable populations should go beyond their formulation in policies but also to their implementation in legal, health and judicial aspects.
- Reach a socially acceptable consensus (recognition) that sexual and reproductive health needs are not only for married couples – set the clear agenda that sexual behaviours, FP, abortion, STIs and rights are not limited only to married couples and can be managed in a socially acceptable manner by strong leadership and dialogue. This will set the tone of recognition that these so-called uncomfortable issues do happen, and services are available for those who need them without judgement, bias, secrecy, or fears of legal persecution.
- Create a culture of dialogue - silence is not a solution. The fears of social changes in past practices and norms felt by the population are real. Yet policy and decision-makers cannot remain silent or avoid building broad social and political consensus on how best to adapt to emerging times and address issues of the well-being of our youth, while retaining values that communities hold most important.

Maternal and newborn health

- Prioritize efforts to address neglected and stigmatized areas such as fistula, unsafe abortion, and stillbirths.
- Strengthened or designed policies and programmes that adopt a rights approach and remove inequities in access.
- Self-care interventions for sexual and reproductive health and rights should be actively promoted and implemented, alongside the expansion of task-sharing.
- Establish an inventory for all data collected on maternal, SRHR and FP, and review their completeness and quality. Share experiences across provinces and regions to avoid major handicaps in assessing the situation and needs by province due to the lack of comparable and routinely available data, although some provinces (such as Punjab and Sindh) are advanced in the collection of data.
- Design a strategy for data needs highlighting procedures, periodicity, and design approach for collection, analysis, and utilization of such data for policy and programming. This information should then feed into routine monitoring and provincial/national dialogues on progress achieved (on an annual or more frequent basis).

DEMOGRAPHIC DIVIDEND, EDUCATION AND EMPLOYMENT

- More efforts are needed to enhance the education and skills of the youth for their productive employment, although this has been given priority in the policies of the Government of Pakistan. An educated and skilled youth can allow Pakistan to reap the demographic dividend and to compete and prosper in a highly competitive global economy. The youth policies should also have a direct impact on the major life transitions of the young, especially those that involve empowerment, ability to vote, and the potential for change represented by their large numbers.
- Women need to be empowered by providing employment opportunities to harness the potential for a rise in their participation in the labor market as fertility falls.
- A rise in women's labour force participation, while beneficial from many points of view, will further increase the economy's labour absorption needs, requiring a substantial rise in economic growth in order to turn the demographic transition into a dividend. An improved business environment is needed

to build demand for labor, and reduced trade barriers are needed to promote production. In the short run there is a potential for increased temporary overseas migration for work and remittances.

- Investment in child health should be increased to improve child mortality, a necessary condition for promoting small family norms in the country.
- Child marriage should be discouraged, and access to contraceptive services expanded to help women achieve lower fertility overall and reduce high risk pregnancies due to short birth intervals.
- The 2018 recommendations of the Council of Common Interests regarding specific actions to improve contraceptive service provision, reduce unintended pregnancies, and decrease maternal and infant death and disability, should be urgently implemented to generate greater demand for family planning to accelerate the decline in fertility and dependency ratios.
- Pakistan needs to prepare for the second demographic dividend based on increasing savings for retirement and the potential for this to result in investment led growth. However, this is a long-term endeavor and depends on success with the first demographic dividend. A focus on foreign direct investment (FDI) is needed in the short term to bridge the gap until domestic savings rises.

LINKING POPULATION WITH ENVIRONMENT AND CLIMATE CHANGE

- Pakistan should adopt a fully integrated approach to link environment, population & climatic changes more clearly, directly and strongly with national development planning. The Taskforce on Population must press the Planning Commission to do this. Such policies will result in improving health indicators, enhancing agricultural sustainability, reducing pressured of outward migration to urban settlements, and increasing economic productivity of ecosystems.
- Invest in protecting air quality and safe clean water. Priority actions should include curtailing air and water pollution, municipal and industrial waste management, and reversing forest degradation, in addition to afforestation. These measures are essential to enhance the carrying capacity of ecosystems and to protect the population's health and well-being. These are mostly provincial matters under the constitution but need national-level drive and coordination.
- Deforestation must be curbed, and afforestation prioritized. Pakistan should plan and invest in protecting and expanding forests. Provincial governments have been drafting forest policies. The need is to have an effective national forest management policy that integrates provincial forest policies.
- Raise awareness on climate change and devise policies to combat its consequences, design mitigation policies according to local environmental needs and with local people's support. Slow onset of climate change is an existential threat, and it will be almost impossible to reverse. Pakistan's stakes are very high and therefore she needs to align with those countries and institutions that are seeking early and ambitious reductions in GHG emissions in line with the Paris Agreement. This will help Pakistan engage at the global arena, enabling her to proactively seek financial and technical support for low carbon and climate resilient development otherwise critical for Pakistan to protect its fast-growing population from climate risks.
- Given the 18th amendment, coordinate and consult with provinces to build an effective and binding National Climate and Environment Policy. Pakistan is presently planning to revise its National Climate Change Policy and Nationally Determined Contributions. The latter will be submitted to the UNFCC secretariat. The revised documents can be strongly aligned with SDGs and Paris Agreement by committing to reduce GHG emissions, particularly from non-energy sectors such as agriculture, livestock, waste management, and Land Use Change. In total, they are almost half of Pakistan's GHG

emissions and any reductions will strengthen ecosystems and enhance Pakistan's ability to access international climate finance - particularly if the proposed interventions underline gender, equity and sustainability through community engagement and ownerships processes.

- Pakistan needs to prioritize the development of its National Adaptation Plan and provincial adaptation plans of action. Preliminary estimates for the adaptation costs for Pakistan are already available. In order to highlight the urgency of these issues the annual development plan (ADP) can be re-oriented and renamed as national resilience plan. An annual review report can help develop the momentum and bring diverse stakeholders together.
- Pakistan needs to revise its National Disaster Risk Management Framework (NDRMF) 2007 in order to account for emerging new threats such as monsoon rains in non-monsoon areas. The curve of extreme weather events is on the increase and they are further weakening the economy, ecosystems, and the people's resilience. Examples are heatwaves in the Upper Indus Basin, landslides in mountain ranges, cloud outbursts, urban flooding, pandemics, and tropical storm surges in coastal areas.
- Pakistan needs to integrate risk assessments in the planning and design stages of all new infrastructure projects, as already provisioned in NDRMF. The Planning Commission will need to revise the standard template of its planning documents such as PC-1. This will help Pakistan align with climate compatible development.
- Pakistan needs to draw policy lessons from more frequent extreme events. District-level risk management plans and multi-hazard vulnerability assessments should develop policy processes integrating population dynamics such as fertility and age structure trends with other factors such as geography, locale, and income levels.
- Pakistan must focus on preventable losses with better local-level preparedness for Disaster Risk Reduction through investing in Early Warning Systems. This will require pre- and post-disaster interventions such as risk transfer and insurance against climate extreme weather events.
- Develop and adopt specific policies to protect arid and semi-arid lands by reversing land degradation and managing water stress. Land and water are both finite resources and they can be utilized to test a new, Climate Smart Agriculture (CSA). Because of increasing population, declining per capita availability of land and water are adding to the environmental stresses, and to food and water insecurity.
- The urban planners should develop urban adaptation plans to make cities climate resilient. Urban adaptation can help Pakistani cities become more pro-poor and inclusive through density and mixed land use planning. Pakistan should address the growing urban carbon emissions generated by a growing urban population in the context of unplanned sprawl.
- The Government of Pakistan, in collaboration with UNFPA, should set up a citizens' commission to help strike the necessary balance or Tawazun between population, environment and climate change as spelled out in the National Narrative on Population Growth issued in 2019. The desired balance can best be secured and sustained by integrating environment and climate change in the discourse on population.

POPULATION DYNAMICS, INEQUALITIES AND RELEVANCE TO NATIONAL POLICIES

- A "big push" policy on educational expansion is one of Pakistan's most urgent needs, not only for overall development, but also on equity grounds. Focus must be not only on getting disadvantaged children (especially girls) into school, but on making sure that the education they receive is relevant to their personal needs and the needs of the economy into which they will enter.
- Linked with educational objectives, specific efforts must be made to raise women's participation in the labour force. This will require

approaches at both central and provincial government levels to modify negative public attitudes towards women's involvement in work outside the home, change regulations that inhibit women's work participation, and provide incentives (e.g. access to small business loans) to encourage women's entrepreneurship.

- It is important to link UNFPA programs with the Ehsaas programme. There are programmes under each of the four pillars of Ehsaas which can provide a base for developing a strategic partnership between the UNFPA and the Division of Poverty Alleviation and Social Safety.
- The capacity of respective governments and departments to generate needed data and implement the SDG agenda needs to be improved. Active engagement of local government will be important if the country is to achieve the SDG agenda.
- Practical steps must be taken to broaden the understanding of sexual and reproductive health and rights to include meeting the needs of unmarried youth and adolescents, and provision of appropriate services to them.
- Other provinces should follow Punjab's lead in tackling violence against women. But legislative action in many areas is required to deal with the multifarious obstacles to women's rights; for example, in areas such as inheritance, access to reproductive health services, obstacles to economic activities and even in opening a bank account.
- Pakistan should ratify the Optional Protocol to CEDAW, which establishes effective mechanisms for enforcement of the rights specified in CEDAW.
- The National Commission on the Status of Women needs to be given a formal, direct liaison with Parliament and more human and financial resources to carry out its mandated functions effectively.
- What is needed to achieve reforms in the area of gender-based violence? Short term interventions may be able to create greater awareness of GBV and its harmful effects by improving the responsiveness of state actors and institutions.

No one intervention will change the system, however; change will be a slow process. In order to bring system change some critical lessons from other countries and from Pakistan's own experience are:

1. Government and civil society must be seriously committed to reducing GBV
2. Accountability must be demanded of and by the relevant duty bearers for standardized functioning of institutional and structural systems of health, police, judiciary, and survivor rehabilitation practices as an essential response.
3. Parallel justice systems in Pakistan, such as Jirga and Panchayat, which are generally apathetic towards women's concerns and grievances, and prevent legal and religious safeguards from percolating into the social structure, should be removed or challenged. The 2019 Supreme Court ban on all such forums operating outside the framework of law needs to be energetically implemented by provincial IG police.
4. Adequate resources and facilities must be made available to state institutions that manage the medico-legal-judicial processes and systems and to monitor their results and accountability.
5. Civil society must serve as "watchdogs" to ensure accountability and good governance of policy makers, service providers, and duty bearers in the medico-legal system and promoting a GBV-free society.

DATA ISSUES AND CHALLENGES

- The immediate release of the 2017 population and housing census returns, and its detailed results is critically required to meet the data needs of the country as well as for the credibility of the statistical system of Pakistan. Releasing the provisional results, and even adjusting the assembly seats for holding the general election in 2018, but not releasing the full census results is not supportive of the credibility of the national statistical system. Moreover, releasing the detailed data would enable researchers and academicians to assess the quality of the data and define the lessons that can be learned from such a huge exercise.

- For future censuses, the UNFPA Observers' Mission Report makes some recommendations on the bases of lessons learned from the 2017 census. These include:

1. The need to have a sustained and detailed media and publicity campaign that would further explain the design and procedure of the census to the respondents, and that would help increase understanding and acceptability among the public at large and would result in a speedy enumeration process with better data quality. It would also reduce the number of complaints received by the control room.
2. The need for better training of enumerators about basic definitions and concepts used in the census form e.g. education and literacy.
3. The estimation and probing of age is a difficult task and the provision of a calendar of history of events and chart to transfer year of birth to age will help to estimate age correctly; and
4. Data collection with the support of the army and sharing of CNIC by NADRA are not practiced globally.

- Pakistan Demographic Survey needs to be carried out regularly to obtain statistics on births, deaths and causes of death. No other survey in the country generates data on deaths and their causes. Inclusion of disability and migration in the PSLM are good news for the statistical system. This practice should be continued in future surveys.
- Enhance coordination between PBS and Provincial authorities, which is critical to strengthen Pakistan's national statistical system. The Statistics Act 2011 has assigned responsibilities to the PBS and Provincial Bureaus as well, but this appears to need further strengthening.
- It is encouraging to see that several steps have recently been taken to strengthen the civil registration system in the country, with the support of NADRA, Ministry of Planning Commission, and international development partners (UNICEF). Universal registration of vital events is the need of the hour.
- All available statistics from administrative records should be linked with the national statistical system, since a large number of statistical series are based on these administrative records and are kept, updated and disseminated regularly in Pakistan by the relevant departments and ministries, but they are not an effective part of the national statistical system.
- Strengthen the capacities and functioning of PBS through some priority proposed actions that include:

1. Speed up digital transformation to be implemented in every data collection activity,
2. A Centralized Data Bank should be established having connections with all data collection organizations in the country to provide and obtain all types of secondary data under one umbrella.
3. Endorse legal binding procedures to cope with respondent's denial or non-response.
4. Gap of experts needs to be filled on a priority basis to avoid delay in data collection exercises,
5. A centralized Statistical Training Institute is needed to provide statistical training to the officials working in the PBS.
6. PBS should conduct the Economic Census on an urgent basis to make the sampling frame for business and industry related surveys.
7. Use of big data must be implemented to produce official statistics in the PBS. This will reduce the burden of data collection from the field at least in some data collection exercises.
8. Additional budget for special and gigantic data collection assignments to avoid the search for donors.

In sum, periodic timely monitoring, and evaluation of the planned programmes requires serious efforts to strengthen data systems and improve the timely availability of quality data according to the needs of various stakeholders.

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PAKISTAN POPULATION SITUATION ANALYSIS 2020