



PAKISTAN HUMAN CAPITAL REVIEW

Building Capabilities throughout Life



WORLD BANK GROUP

2022

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Foreword

The role of human capital in sustainable growth and development is well recognized, but the process of designing policies and building institutions that foster human capital accumulation can be complex. The benefits of investing in human capital often take a long time to materialize and are not always immediately visible, leading to underinvestment and to disappointing outcomes. In 2018, the World Bank Group launched the Human Capital Project to address this incentive problem through advocacy, measurement, and analytical work to raise awareness, increase demand for human capital investments, and inform policy action. The Project aims to support human capital development as a core element of a country's overall strategies to increase productivity and growth, and to achieve rapid progress toward a world in which all children can achieve their full potential.

As part of this effort and building on the lessons to date, this Human Capital Review (HCR) assesses the challenges and opportunities to improve Pakistan's human capital outcomes. Several priority outcomes that require improvement—including early childhood development, child malnutrition, out-of-school children, learning poverty, and labor market outcomes of the poor—are analyzed to inform human capital development policies. To provide a richer understanding of Pakistan's development trajectories, the HCR adopts a long time frame in its analysis. It identifies policies and institutions that may prove crucial to improving human capital outcomes, while underscoring the interdependence among the multiple sectors fundamental for human capital accumulation over the life cycle.

The HCR estimates that children born in Pakistan today would be able to achieve 41 percent of their potential. Pakistan's human capital is low in both absolute and relative terms and has improved only marginally over the past three decades. Inequalities in human capital outcomes have persisted or even widened between the rich and poor, men and women, and rural and urban areas and among the provinces. While Pakistan has made progress in human development over the past several decades, the agenda remains unfinished: more than 20 million school-age children are not in school, 40 percent of children under 5 are stunted, and 65 percent of primary school children are failing to achieve minimum proficiency in reading. The COVID-19 pandemic has deepened these challenges and reversed a decade of hard-won gains in human capital. The adverse impacts of the 2022 floods on households and social services further increased malnutrition and learning poverty in the affected districts.

The HCR shows that Pakistan can realize substantial economic growth by bringing its population growth rate under control, investing more in the supply and quality of health and education, and bringing women to the labor force. For example, if Pakistan invests in human capital at the level of its aspirational peers, while ensuring its full utilization over the next 25 years—to 2047, the 100th anniversary of its founding—its GDP per capita could grow eight times more than under business as usual. To make this a reality, the HCR recommends that Pakistan exercise effective stewardship over its human capital, declare emergencies over its health and education crises, and ensure long-term commitment that goes beyond the tenure of any government or political cycle. Pakistan should make family planning a priority across all development

initiatives. And it should invest more in its people and create avenues for them to deploy their human capital more productively.

We hope this report provides impetus for all stakeholders to pay more attention to Pakistan's remarkably low human capital with a fierce sense of urgency. The World Bank is committed to supporting Pakistan in this journey and to helping give its children the opportunity to achieve their full potential and thrive now and in the economy of the future.

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The Pakistan Human Capital Review (HCR) is a part of the World Bank Group's Human Capital Project (HCP), a global effort that supports countries through data, policies, and research to accelerate more and better investments in people for greater equity and economic growth. Pakistan is one of the early adopters of the HCP, which ensured high-level leadership for the human capital agenda. The HCR puts a spotlight on the state of human capital in Pakistan, highlights Pakistan's opportunities and challenges, and puts forth recommendations to take the next steps in the country's growth and development trajectory by investing in its most important resource: the Pakistani people.

The HCR was prepared by a core team led by Lire Ersado (Practice Leader) and comprising Amer Hasan (Senior Economist), Ashi Kathuria (Senior Health Specialist), Juan Baron (Senior Economist), Koen Geven (Senior Economist), May Bend (Consultant), and S. Amer Ahmed (Lead Economist, Program Leader). It was prepared under the guidance of Najy Benhassine (Country Director, Pakistan), Lynne Sherburne-Benz (Regional Director, Human Development), Stefano Paternostro (Practice Manager, Social Protection and Jobs), Feng Zhao (Practice Manager, Health Population and Nutrition), and Keiko Inoue (Practice Manager, Education). We would like to thank Pakistan Human Development Administrative and Client Services (ACS) colleagues: Zulfiqar Ali Raza (Senior Program Assistant), Syed Farrukh Ansar (Senior Program Assistant), Shahnaz Meraj (Program Assistant), and Ayesha Tabassum (Program Assistant) for excellent assistance. Special appreciation to Zulfiqar for his editorial support and for the instrumental role he played in the cover design and production of a series of videos and animations used to highlight the findings of the HCR and in their dissemination.

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The HCR is a product of the staff of the World Bank Group. The findings, interpretations, and conclusions expressed in this report do not necessarily reflect the view of the Executive Directors of the World Bank (or the governments they represent), or the Government of the Islamic Republic of Pakistan.

Abbreviations

ADP	Annual Development Plan
B40	Bottom 40 percent
BaU	Business as usual
BCC	Behavior change communication
BISP	Benazir Income Support Program
BMI	Body mass index
CCT	Conditional cash transfer
CREDI	Caregiver-Reported Early Development Instrument
DHS	Demographic and Health Survey
ECD	Early childhood development
ECE	Early childhood education
FFP	Food Fortification Programme
FY	Fiscal year
GDP	Gross domestic product
HCI	Human Capital Index
HCP	Human Capital Project
HCR	Human Capital Review
HIES	Household Integrated Economic Survey
IFMIS	Integrated financial management information system
IQ	Intelligence quotient
LAYS	Learning-adjusted years of schooling
LFS	Labor Force Survey
LHWP	Lady Health Worker Program
NC	Nutrition Cluster
NCF	Nurturing Care Framework
NNS	National Nutrition Survey
NSER	National Socio-Economic Registry
NSPS	National Social Protection Strategy
OOP	out of pocket
PKR	Pakistani rupee
PMNS	Pakistan Multisectoral Nutrition Strategy
PSLM	Pakistan Social and Living Standards Measurement Survey
RMNCAH&N	Reproductive, maternal, newborn, child, and adolescent health and nutrition
SDG	Sustainable Development Goal
SUN	Scaling Up Nutrition
TIMSS	Trends in International Mathematics and Science Study
TMIS	Tackling Malnutrition Induced Stunting in Pakistan
UHCI	Utilization-adjusted Human Capital Index
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
USI	Universal salt iodization
WASH	Water, sanitation, and hygiene
WHO	World Health Organization

Policy highlights

Pakistan has reached middle-income status and made significant progress in reducing poverty over the past two decades. But low human capital development could limit the realization of its ambition to become an upper-middle-income country by 2047. Pakistan needs a healthy, skilled, and resilient population to ensure high economic growth that is both sustainable and inclusive. With the right policies and investments, the growing working-age population can become healthier, more educated, more skilled, and more productive—and can earn more if the economy generates more and better jobs. This Human Capital Review recommends that Pakistan:

- *Exercise effective stewardship over human capital and declare emergencies over its health and education crises.* This requires long-term planning beyond the tenure of any government and political cycle. With the COVID-19 pandemic and devastating floods deepening its already poor state of human capital, Pakistan needs to declare emergencies and take bold actions to tackle its health and education challenges.
- *Make family planning a priority across all human development initiatives.* Pakistan should integrate population planning in academic, religious, and national policies and develop its labor market to accommodate the growing youth population. Key actions include training more Lady Health Workers to educate women on family planning, creating more awareness about the use of modern contraceptives, increasing the provincial health budget, and focusing on structural inequalities in access to health and education.
- *Invest more and more smartly in people and develop avenues for them to deploy their human capital more productively.* Human capital externalities and market failures provide a strong rationale for the government to invest in human capital. As in most developing countries, poor people in Pakistan stand to lose the most when the public sector fails to make these investments. To boost its human capital, Pakistan needs to invest more in the supply of health and education through domestic resource mobilization, shifting resources from costly energy subsidies and improving efficiency in the existing allocations to human development sectors.
- *Improve child development and learning outcomes by integrating high-quality, contextually relevant parenting and behavioral change programs into existing health, social protection, and education platforms.* Early interventions, including access to early childhood education, are vital to mitigate risks and promote protective factors that shape healthy brain development, yielding gains for future health, learning, and productivity.
- *Make nutrition a national priority by focusing on strengthening stakeholder momentum and coordination—and on mobilizing financing and tracking spending and progress.* It should formulate a national nutrition policy, address bottlenecks, and ensure convergence of sectoral interventions. That policy should address the immediate and underlying determinants of nutrition and prioritize the most vulnerable areas and populations with high-impact nutrition-specific interventions.
- *Enhance enrollments and learning outcomes.* More schools, particularly in rural areas and staffed with a higher proportion of female teachers, are needed to encourage girls' education. In addition, safe transportation; adequate water, sanitation, and hygiene facilities; conditional cash transfers; and remedial

learning programs are imperative to reduce the high number of out-of-school children in Pakistan.

- *Support the labor market and human capital outcomes of the poor through multipronged interventions, including those anchored on cash transfer programs.* The interventions require clear identification of the segment of the labor market that the program will target, the package of interventions to be bundled together, and the use of pre-existing national systems for targeting such programs as asset transfers and financial support for entrepreneurship.

Numerical highlights

0.41 Pakistan's Human Capital Index (HCI) value of 0.41 is low in both absolute and relative terms. It is lower than the South Asia average of 0.48, with Bangladesh at 0.46 and Nepal at 0.49. Pakistan's human capital outcomes are more comparable to those in Sub-Saharan Africa, which has an average HCI value of 0.40.

144% If Pakistan continues on its current trajectory in human capital development, its GDP per capita would grow overall by a mere 18 percent through 2047, the 100th anniversary of its founding. If Pakistan can boost human capital investments and its HCI value to the level of its peers, per capita GDP could grow by 32 percent. But if Pakistan improves both its human capital and its use of human capital, bringing adults into employment outside farming, GDP per capita could rise by 144 percent, eight times more than under business as usual.

40% Early childhood development outcomes in Pakistan are low relative to those in middle-income countries. Only 40–59 percent of young children, depending on the province, are reported by their parents to be developmentally on track, whereas the average in peer countries is 75 percent. Some 40 percent of children under 5 are stunted, and 18 percent under 5 are wasted. And fewer than one in five children enrolls in early childhood education.

79% An estimated 20.3 million of Pakistan's school-age children are out of school. In addition, Pakistan's learning poverty rate—the percentage of children unable to read and understand a short age-appropriate text by age 10—stood at 75 percent before the COVID-19 pandemic and the 2022 floods, more than 19 percentage points above the average for lower-middle-income countries. After the pandemic and the recent floods are accounted for, learning poverty is estimated to have risen to 79 percent.

2% The main determinants of nutrition are food intake, environmental health, and care for children and women, and very few of Pakistan's children under 2 have adequacy on all three. The proportion of children with multiple adequacies is low in Pakistan: more than 26 percent of children lack adequacy on any of the three determinants, and fewer than 2 percent of children have adequacy on all three dimensions.

0.37 The pandemic has likely erased nearly a decade of progress on human capital for both boys and girls. Simulations accounting for the pandemic show that Pakistan's HCI value would be reduced from 0.41 to 0.37, lower than its 2012 level. The main culprit is reduction in the quantity of schooling (due to dropouts) and in quality (due to learning loss), both of which have been confirmed by empirical studies.

0.08 Economic gains from human capital can be realized only if people can utilize their skills and ingenuity in productive activities, such as gainful employment in the labor market. After utilization in the labor market is adjusted for, Pakistan's HCI value falls from 0.41 to 0.20. There is an enormous gender inequality in utilization of human capital: the utilization-adjusted HCI value is 0.31 for men and only 0.08 for women. This underscores the low female labor force participation, at just over 20 percent (and even lower for those age 15–24), in Pakistan. About 60 percent of working-age women are not in employment, education, or training.

Overview

BUILDING HUMAN CAPITAL THROUGHOUT THE LIFE CYCLE

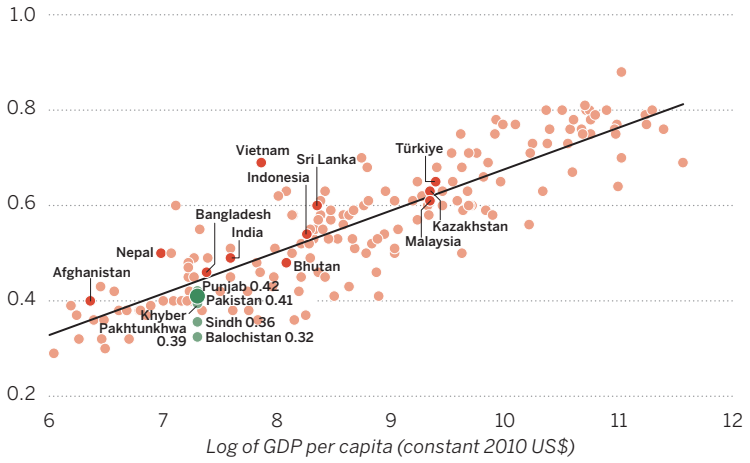
Pakistan can realize major economic growth and development by investing in its people and their human capital. But the reality is that Pakistan's human capital is low and has improved only marginally over the past three decades. Inequalities in human capital outcomes have persisted or widened over time between the rich and poor, men and women, and rural and urban areas and among the provinces. Human capital outcomes are low across the board, with even the most economically advantaged groups in Pakistan having lower human capital outcomes than less economically advantaged groups in peer countries. Pakistan's Human Capital Index (HCI) value of 0.41 is low in both absolute and relative terms (figure 1; see box 1 on the methodology for measuring human capital). It is lower than the South Asia average of 0.48, with Bangladesh at 0.46 and Nepal at 0.49. Pakistan's human capital outcomes are more comparable to those in Sub-Saharan Africa, which has an average HCI value of 0.40.

Pakistan thus remains far from realizing its potential and forgoes substantial growth and development. Despite favorable demographic tailwinds, Pakistan is currently unable to reap its rightful dividends due to inadequate investments in education, health, social protection, and the labor force. Its public investment of about 2.5 percent of GDP in education and 0.9 percent on health is much lower than the global average and the average for similar economies. Pakistan spends about 0.6 percent of GDP on social safety nets, compared with the global average of 1.5 percent.[1] The COVID-19 pandemic has deepened the challenges, adding a significant threat to human capital development at all stages of the life cycle. Disruptions to health services and income losses due to the pandemic have forced many to skip regular health checkups and treatments, with adverse consequences that are likely to be felt for decades to come. And school-age children and youths have similarly experienced huge disruptions in access to education and job opportunities. Making matters worse, the 2022 floods further limited access to health and education services and likely increased malnutrition and learning poverty.[2]

These low human capital investments will limit the realization of Pakistan's ambition to become an upper-middle-income country by 2047. If Pakistan continues on its current trajectory in human capital development, its GDP per capita

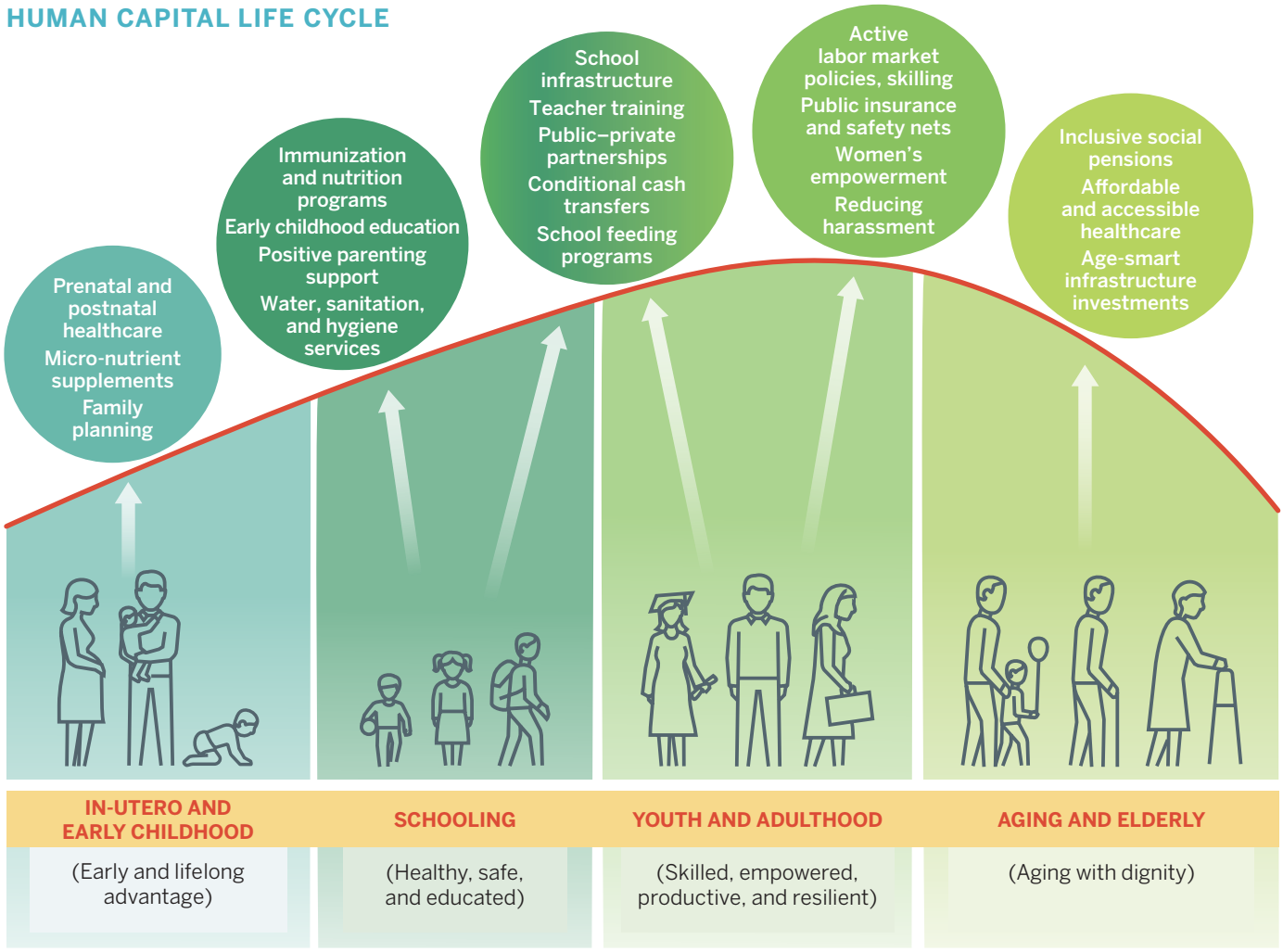
FIGURE 1 **Pakistan's Human Capital Index value is among the world's lowest and lower than expected given its level of economic development**

Human Capital Index value, 2020



Source: Pakistan provincial calculations from 2017 and 2019 Demographic and Health Surveys. Country estimates from the Human Capital Project. GDP from World Bank national accounts data and Organisation for Economic Co-operation and Development national accounts data.

FIGURE 2 Building, protecting, and deploying human capital



would grow overall by a mere 18 percent through 2047, the 100th anniversary of its founding. If Pakistan can boost human capital investments and its HCI value to the level of its peers, per capita GDP could grow by 32 percent. But if Pakistan improves both its human capital and its use of human capital, bringing adults into employment outside farming, GDP per capita could rise by 144 percent, eight times more than under business as usual.

To boost its human capital, Pakistan needs to bring population growth under control, invest more in the supply of health and education, and enhance female labor force participation. Pakistan needs a healthy, skilled, and resilient population to ensure high economic growth that is both inclusive and sustainable. Bringing more women into education and the labor force will require increased focus on their safety, not just at school and in the workplace but also in transit to and from home, while creating more jobs accessible to them in all parts of the country. With the right policies and investments, the growing working-age population can become healthier, more educated, more skilled, and more productive—and can earn more, if the economy generates more and better jobs. This calls for a deliberate effort from multiple stakeholders and sectors to build on intrasectoral and

intersectoral externalities. For example, healthy and well-nourished children learn better and earn more as adults, and higher levels of education help improve health outcomes throughout the life cycle as well as improve access to employment opportunities.

To enhance its human capital, Pakistan should adopt a life cycle approach to building, protecting, and deploying human capital, starting before birth, continuing through early childhood development and schooling, culminating in increasingly productive employment (figure 2). This calls for a long-term commitment, recognition of the multidimensional and cumulative nature of human capital investments, deliberate efforts from multiple stakeholders and sectors to build on intersectoral linkages, and a continuity of policies across political parties and governments. Many countries previously at Pakistan's level of development have managed to do precisely this, even with regional variations and gaps just as large. Pakistan has the tools to implement the recommendations in this report, provide stewardship for human capital investments, and enhance economic growth over the long term. Pakistan's handling of the COVID-19 pandemic has shown that the country can manage complex challenges, despite its institutional constraints.[3]

BUILD HUMAN CAPITAL

Human capital is a central driver of sustainable growth and development, with more human capital associated with higher earnings for people and higher income for countries. Human capital accounts for an estimated 64 percent of global wealth—among high-income countries, 70 percent; among lower-middle-income countries, 51 percent; among upper-middle-income countries, 58 percent; and among low-income countries, 41 percent. In a global environment where natural and human-made socioeconomic shocks are proliferating, global markets are shifting, technologies are ever-changing, and global competition is intensifying, only countries that enable their citizens to consistently create and productively apply knowledge can thrive. And as the disruptive impacts of the COVID-19 pandemic and the 2022 floods continue to unfold in Pakistan, strategic policy decisions backed by evidence are more vital than ever to protect and strengthen human capital outcomes.

The COVID-19 pandemic and the 2022 floods have deepened these challenges, adding a significant threat to human capital at all stages of the life cycle.

Key issues

Human capital makes up 61 percent of Pakistan's wealth, yet its levels of human capital are among the world's lowest. About 7 percent of newborns in Pakistan do not live to their fifth birthday. Around 40 percent of children under 5 are stunted, relegating them to a lifetime of physical and cognitive deficits. Prior to the COVID-19 pandemic and the 2022 floods, an estimated 75 percent of Pakistani children were in learning poverty, unable to read and understand a simple age-appropriate story by age 10. Disparities across socioeconomic and geographic groups are large. Together, these human capital shortfalls and equity gaps explain Pakistan's low earnings, low economic growth, and low poverty reduction.

On most components of the HCI, Pakistan underperforms the South Asia region and even

BOX 1

Measuring human capital

Imagine the trajectory from birth to adulthood of a child born in Pakistan today. There is a risk that the child may not survive to her fifth birthday. Even if she does reach school age, there is a further risk that she does not start school, let alone complete the full cycle of preprimary, primary, and secondary education that is the norm in more advanced countries. The time she does spend in school may translate unevenly into learning. When she reaches age 18, she carries with her lasting effects of poor nutrition and health in childhood that limit her physical and cognitive abilities as an adult.

The Human Capital Index (HCI), developed as part of the World Bank's Human Capital Project, measures the amount of human capital that a child born today can expect to attain by her 18th birthday, given the risks of incomplete education and poor health that prevail in her birth country. It highlights how investments that improve education and health outcomes today will affect the productivity of the next generation of workers. The HCI measures current education and health outcomes since they can be influenced by current policy interventions to improve their quantity and quality. The HCI quantitatively illustrates the key stages in the trajectory described above and their consequences for the productivity of the next generation of workers, in a summary measure. The HCI consists of three components:

- ***Survival:*** This component reflects the fact that children born today need to survive until human capital accumulation through formal education can begin. Survival is measured using the under-5 mortality rate.

- ***Education:*** This component combines information on the quantity of education a child can expect to obtain by age 18 with a measure of quality: how much children learn in school based on countries' relative performance on international student achievement tests. By adjusting for quality, this component reflects the reality that children in some countries learn far less than those in other countries, despite being in school for a similar amount of time. This measure is the same as learning-adjusted years of schooling. The HCI defines a complete, quality education as 14 learning-adjusted years of schooling, which serves as a benchmark for comparing performance.

- ***Health:*** This component uses two indicators for a country's overall health environment: the prevalence of stunting among children under 5 and the adult survival rate, defined as the proportion of 15-year-olds who will survive until age 60. The first indicator reflects the health environment experienced during prenatal, infant, and early childhood development; the second reflects the range of health outcomes that a child born today may experience as an adult.

The dimensions of human capital are complementary and start interacting with each other early in life. Each component is interpreted in terms of its contribution to worker productivity, relative to a benchmark corresponding to complete education and full health. The resulting overall index measures the productivity of a worker relative to this benchmark. The HCI ranges from 0 to 1, and a value of x means that a worker of the next generation will be only $x \times 100$ percent as productive as she would have been under the benchmark of complete education and full health. Equivalently, the gap between x and 1 measures the shortfall in worker productivity due to gaps in education and health relative to the benchmark.

The HCI captures the size of the income gains when today's children become tomorrow's workers. But this assumes that when today's child becomes a future worker, she will be able to find a job—which may not be the case in countries with low employment rates. Moreover, even if today's child can find employment in the future, she may not be in a job where she can fully utilize her skills and

(continued)

BOX 1, continued

cognitive abilities to maximize her productivity. To address these and to complement the HCI, the report includes two utilization-adjusted Human Capital Indices (UHCIs) that adjust the HCI for underutilization of human capital in the labor market. The basic UHCI adjusts a country's HCI value for labor force participation (the share of workers in each age bracket who are working or actively looking for work). The full UHCI adjusts for the possibility that when today's child becomes a worker in the future, she may not be able to fully use her skills and cognitive abilities even if she finds a job. The full UHCI also assigns a basic utilization value to workers without any human capital because they contribute productively to the economy. The full UHCI may thus be a better measure of the productivity of human capital than the basic UHCI.

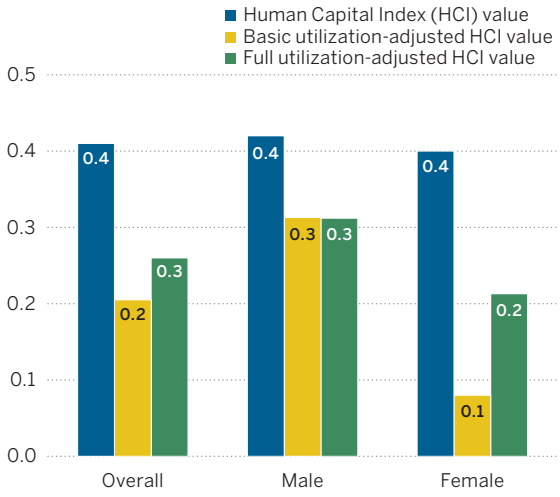
the average for Sub-Saharan Africa. On stunting and the quality of education, it performs below the average for Sub-Saharan Africa. Child survival rates until age 5 are far below the South Asia regional average and the same as the average for Sub-Saharan Africa. While children in Pakistan stay in school slightly longer than their peers in Sub-Saharan Africa, a 2019 regional assessment ranked Pakistan second from the bottom globally in science and mathematics performance by its 4th graders. Against peer and regional comparators, the only indicator on which Pakistan outperforms is adult survival rate.

Provincial inequalities are wide on the HCI and its components, notably for stunting and expected years of schooling. In schooling, Khyber Pakhtunkhwa and Punjab are at the expected level for Pakistan's economic development, with the average child growing up with at least 9 years of formal schooling—though when adjusted for quality, this is equivalent to only 5.1 years.[4] Sindh and Balochistan are at much lower levels, with the average child growing up with around 7.7 and 5.4 years of schooling, respectively. With only 89 percent of children surviving until their fifth birthday, Balochistan is at the very bottom —globally. The trajectory of child development and human capital accumulation for children born in Balochistan and Sindh is further undermined by the fact that almost half of the children under 5 in the two provinces are stunted. Even in Punjab, where stunting is the lowest among the provinces, one-third of children are stunted.

Economic gains from human capital can be realized only if people can use their skills and ingenuity in productive activities, such as gainful employment in the labor market. The basic utilization-adjusted HCI (UHCI)[5] shows that the utilization of human capital is remarkably low, especially for women. Adjusting Pakistan's HCI value for the utilization of human capital reduces it from 0.41 to 0.20 (figure 3). A child born in Pakistan today can expect to utilize only 20 percent of their human capital potential. This means that the benefits that Pakistan can realize from its human capital are further depressed because it does not have an environment for citizens to put their human capital to work. Further ringing the alarm bell, the UHCI value is only 0.08 for women. In other words, a baby girl born in Pakistan today can expect to utilize only 8 percent of her human capital potential by the time she turns 18. Gender inequality in the utilization of human capital has largely persisted over the past three decades, with basic UHCI values increasing by 3 percentage points for men and by 4 percentage points for women (figure 4).

A second adjustment to the HCI, the full UHCI accounts for the possibility that when today's child becomes a worker in the future, she may not be able to fully utilize her skills and cognitive abilities to increase her productivity even if she finds a job. The full UHCI value is designed to capture the productivity gains more closely and excludes agricultural employment. It is estimated at 0.26 for Pakistan, slightly higher than

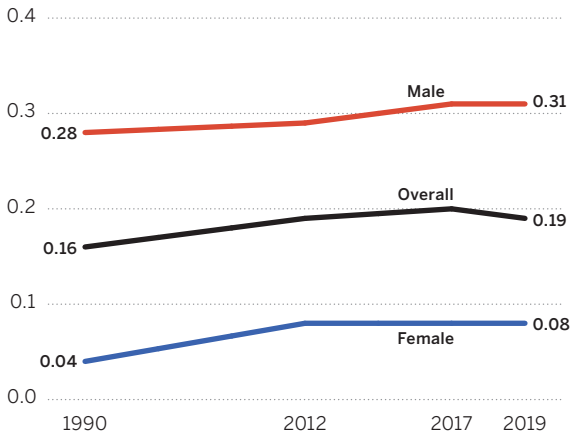
FIGURE 3 Pakistan's Human Capital Index value falls dramatically when adjusted for utilization, particularly for women



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys (see Annex 1B).
Note: Basic utilization-adjusted HCI represents all employment. Full utilization-adjusted HCI denotes nonagricultural employment.

FIGURE 4 Gender gaps on the basic utilization-adjusted Human Capital Index remain wide

Utilization-adjusted Human Capital Index value



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys.

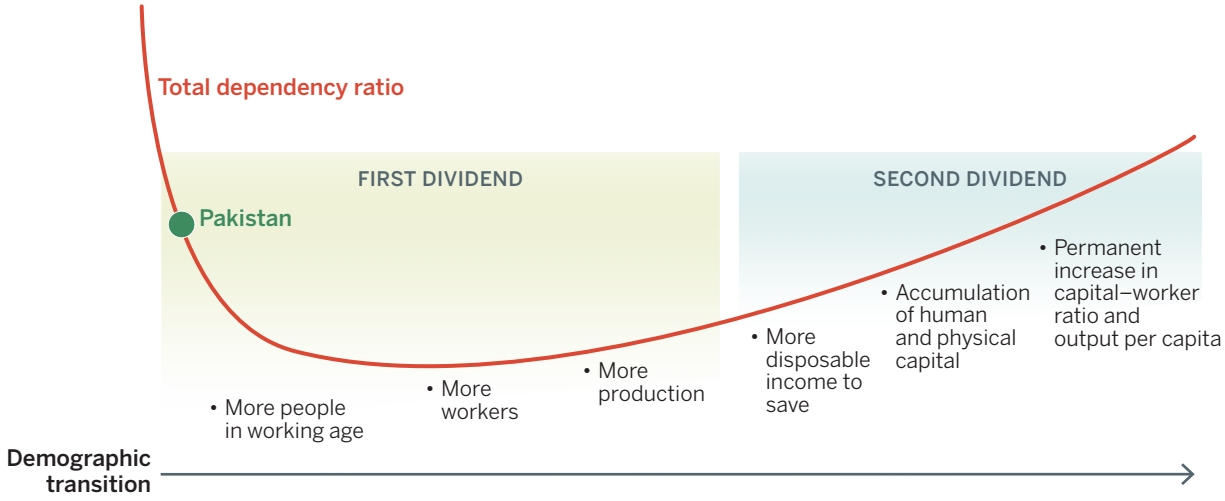
the basic HCI value (see figure 3). The gap between the two measures means that the larger problem facing Pakistan is underemployment (particularly for women) relative to job opportunities in the labor market.[6] This becomes apparent when breaking the measure down by gender. For men, there is no difference between the two UHCI values, whereas women, when they do enter the labor market, tend to secure more productive employment, attributable to the relatively large share of highly educated women joining the labor market.

The strongest driver of low human capital utilization in Pakistan is low female labor force participation rate—23 percent in 2018. Having more than three in every four women outside the labor force underscores the need to make better use of the human capital that Pakistan generates now and in the future. Women's low returns to education at the primary and secondary levels may reduce incentives for parents to invest in their daughters' schooling. Poorly educated women are ill-equipped to obtain better-paying jobs. Marriage norms (with women expected to withdraw from the labor for force after marriage) imply that their parents would not reap the benefits of investing in their education.

Pakistan is the world's fifth most populous country, with about 230 million people. An "early demographic dividend" country with immense potential for accelerated economic growth from the changes in its population age structure, Pakistan can reap dividends from two phases of the demographic transition (figure 5). The first dividend can be captured as the demographic transition speeds up and the population age structure becomes more concentrated among those of working age. The right policies and investments in human capital can lead to youth cohorts that are healthier, more educated, more skilled, and more productive and that can earn higher incomes if the economy can create good jobs for them.

The second phase comes along later in the demographic transition if Pakistan can increase

FIGURE 5 Can Pakistan harness its two distinct demographic dividends?



Source: World Bank elaboration.

savings and investments as a result of fewer dependent children, more disposable income, and prospects for longer lives. As this generation becomes older, and more children follow, the country has both a tremendous opportunity and responsibility to reinforce and solidify human capital development. Seizing the second demographic dividend through human and physical capital accumulation and higher labor productivity is going to be key to deal with the challenges presented by an aging population.

However, Pakistan is currently missing the opportunity to capitalize on its potential demographic dividend. If existing trends continue, it will miss out on the associated economic development possible from a potential demographic dividend in the future as well. This is due to a confluence of low human capital, low labor force participation, and low productivity, as well as a pace of job creation that is slower than population growth. In short, Pakistan's poor foundation for human capital development is imperiling its ability to capitalize on its demographic dividend.

High-level recommendations

- *Exercise effective stewardship over human capital and declare emergencies over the health and education crises.* This requires long-term planning beyond the tenure of any government and political cycle. With the COVID-19 pandemic and devastating floods deepening its already poor state of human capital, the Government of Pakistan needs to declare emergencies and take bold actions to tackle its health and education challenges.
- *Make family planning a priority across all human development initiatives.* Pakistan should integrate population planning in academic, religious, and national policies and develop its labor market to accommodate the growing youth population. Key actions include training more Lady Health Workers to educate women on family planning, creating more awareness about the use of modern contraceptives, increasing the provincial health budget, and focusing on structural inequalities in access to health and education.
- *Invest more and more smartly in people and develop avenues for them to deploy their human capital more productively.* Human capital externalities and market failures provide a strong rationale for the government to invest in human capital. As in most

7%

About 7 percent of newborns in Pakistan do not live to their fifth birthday.

40%

Around 40 percent of children under 5 are stunted, relegating them to a lifetime of physical and cognitive deficits.

79%

In the aftermath of the pandemic and 2022 floods, an estimated 79 percent of Pakistani children are in learning poverty, unable to read and understand a simple age-appropriate story by age 10.

developing countries, poor people in Pakistan stand to lose the most when the public sector fails to make these investments. To boost its human capital, Pakistan needs to invest more in the supply of health and education through domestic resource mobilization, shifting resources from costly energy subsidies and improving efficiency in the existing allocations to human development sectors.

FOSTER EARLY CHILDHOOD DEVELOPMENT

...by starting before birth

Key issues

The fertility rate in Pakistan is much higher than in comparator countries and limits Pakistan's development potential. High fertility creates a cycle of unmet need for basic services in health and education and for jobs. Existing family planning programs are not effective, with key gaps in supply and demand. Contraceptive usage has stagnated, and contraceptive prevalence in age 15–49 is low, at 34 percent, with only 26 percent using modern contraceptive methods. Pill usage among married women age 15–49 is low, at 2 percent, versus 25 percent in Bangladesh, for example. About 17 percent of women age 15–49 report unmet needs for family planning services,[7] with 10 percent wanting to space births and 8 percent wanting to limit births.

Pregnant women need more support to prepare for healthy childbirth. Antenatal care has been reported to reach 86 percent, but 7 in 10 women still report difficulties accessing healthcare for themselves. Immediate postnatal practices could be improved dramatically with early support. However, only 11 percent of babies have skin contact with the mother after delivery, only 20 percent of children are breastfed within 1 hour of birth, and only 48 percent are exclusively breastfed during the first six months of life. Micronutrients, such as iron and folic acid, need to be universalized during pregnancy. In Pakistan, only 29 percent of pregnant women take iron supplements, and about 43 percent of all women of reproductive age are anemic.

Malnutrition is one of Pakistan's biggest challenges, with long-term implications for human capital development and economic growth.

High-level recommendations

- *Promote demand for family planning methods toward men and women.* Continue behavioral change campaigns at the national level, complemented by community-level communication for men and women. Target information on birth-spacing, limiting family size, fertile periods, and low cost modern contraceptive methods and their side effects. Create high-trust information sources on the internet and social media, making it easy to understand for men and women in all local languages.
- *Increase the supply of long-lasting modern contraceptives.* Make pills, intrauterine devices, implants, and injectables universally available. Instill procedures for frontline providers to discuss family planning when women visit clinics.
- *Focus more on pregnant women.* Further increase coverage of antenatal provision. Provide better information on pregnancy at delivery points. Train providers and monitor service delivery.

...by boosting nutrition

Malnutrition is one of Pakistan's biggest development challenges, with long-term implications for human capital development and economic growth. It remains the top cause of death and disabilities in the country. And while there has been progress in reducing childhood malnutrition, the pace has been slow, despite two decades of national and provincial efforts. Faster change will be needed if Pakistani children are to attain their full growth and development potential.

Stunting has lifelong and even intergenerational consequences for individuals—and nations. As an indicator of chronic malnutrition, it is most closely associated with brain development, physical growth, and human capital development. Childhood stunting leads to increased mortality, increased morbidity (in childhood and later in adulthood), decreased cognitive ability, a delayed start and reduced attainment at school, and far lower individual earnings and slower national economic growth. Stunted children are a third less likely than other children to escape poverty as adults. Childhood stunting has intergenerational implications: malnourished mothers are more than twice as likely as well-nourished mothers to have stunted children.

Food intake, environmental health, and care for children and women are the main determinants of malnutrition at the most immediate level.[8] Factors such as income poverty, gender, and education underpin all three, alongside the larger political, economic, social, and cultural environments. But the adequacy of these three categories of indicators has a strong association with how well-nourished children will be. Children can receive adequate feeding, environmental health, and care—or none, or anything in between. Very few of Pakistan's children under

2 have adequacy in all three determinants, and the proportion of children with multiple adequacies is low. More than 26 percent of children lack adequacy on any of the three determinants, and fewer than 2 percent of children have adequacy on all three dimensions (figure 6). Overall, Pakistan comes up short in providing adequate feeding, environmental health, and care. The strong association between nutrition outcomes and the adequacy of food intake, environmental health, and care suggests that it is critical to ensure that all three factors reach every mother and child during the narrow window of opportunity.

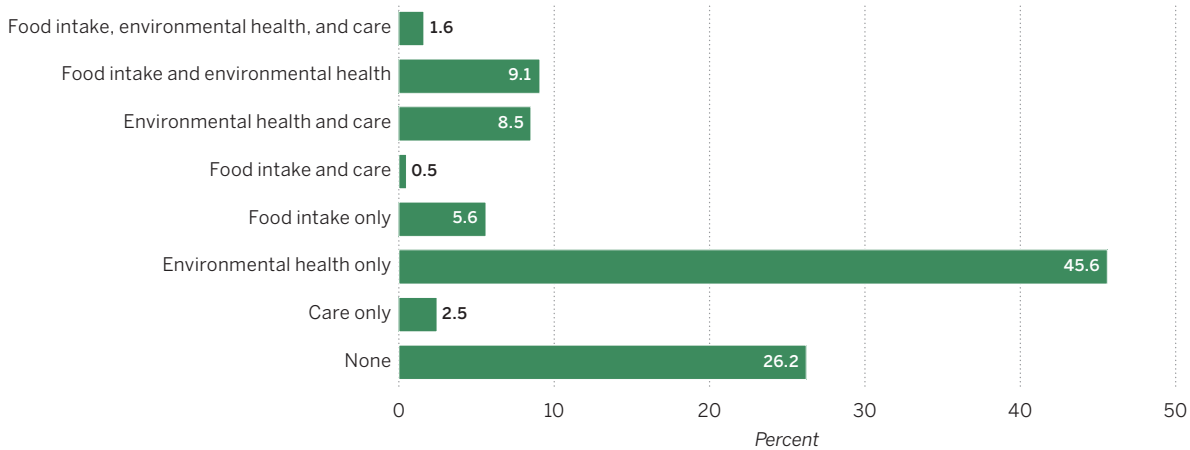
Key issues

Pakistan has a high burden of malnutrition in all its forms. One-fifth of children are born with low birthweight, and among children under 5, 29 percent are underweight, 40 percent stunted, 17 percent wasted, 54 percent anemic, and 52 percent deficient in vitamin A (figure 7). The prevalence of overweight among children under 5 almost doubled between 2011 and 2018, from 5 percent to 9.5 percent. Malnutrition is also prevalent in women of reproductive age: more than 14 percent are underweight, 24 percent overweight, 14 percent obese, 27 percent deficient in vitamin A, and 43 percent anemic. Among adolescents, about 7 percent of boys and 5 percent of girls are obese.[9]

The state of malnutrition in Pakistan is worse than in all other countries in South Asia and has improved little over the past half century. More generally, malnutrition indicators among children under 5 (stunting, underweight, wasting, overweight) are worse in Pakistan than in other South Asian countries. Malnutrition is the number one risk factor for death and disabilities in Pakistan across all ages. In particular, 7 out of 100 children do not live past the age of 5 in Pakistan compared with 4 out of 100 in the region.

The national averages mask wide subnational disparities in malnutrition. For example, stunting is worse among rural and poor households. In Khyber Pakhtunkhwa, 48 percent of children under 5 are stunted, and in Sindh, 50 percent. Even in the wealthiest income quintile, about 23 percent of children under 5 suffer from stunting, so poverty is not the only factor. Making matters worse, the repeated waves of COVID-19 since March 2020 and the floods in 2022 have reduced incomes, threatened livelihoods, exacerbated food insecurity, and disrupted the provision and use of basic health and nutrition

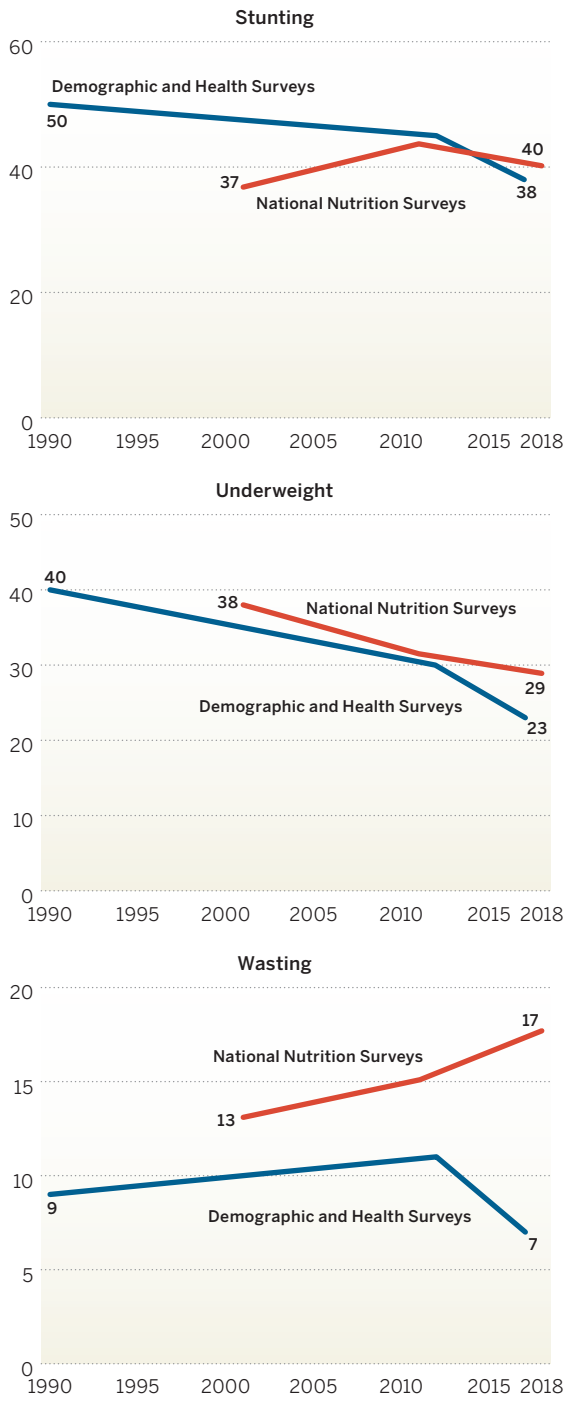
FIGURE 6 **Distribution of eight categories of adequacies in children younger than 24 months in Pakistan**



Source: World Bank calculations using data from National Nutrition Survey 2018.

FIGURE 7 **Trends in prevalence of stunting, underweight, and wasting in children under 5 in Pakistan, 1990–2018**

Percent



Source: Pakistan Demographic and Health Surveys 2001, 2013, 2018; Pakistan National Nutrition Survey 2018.

services. And they have set back Pakistan's efforts to reduce malnutrition.

Micronutrient deficiencies have substantial impacts on health and human capital. Iodine deficiency, particularly in pregnancy, affects fetal development and child intelligence quotient (IQ). An average loss of 12.5–13.5 IQ points was found in children born to iodine-deficient mothers. Children with iodine deficiency lose 13 IQ points on average, making them less educable. Iron deficiency is a common cause of anemia, which contributes to increased maternal morbidity and mortality and low birthweight. The deficiencies have impaired brain development and reduced productivity in adults. Vitamin A deficiency increases the severity of measles, malaria, and diarrhea in children and increases morbidity, including preventable pediatric blindness, and death. Vitamin A supplementation for children has been linked to a 23 percent reduction in child mortality. Zinc deficiency is associated with reduced immunity and with the increased incidence, severity, and duration of diarrhea; and it has a negative effect on child growth.[10]

High-level recommendations

Prioritize cost-effective nutrition interventions informed by evidence

- *Raise the national profile of stunting, which is a major human capital catastrophe requiring national and local efforts.* Ensure political championing for stunting reduction at the national and highest provincial levels. Strengthen nutrition-focused development partners' platforms at the national and provincial levels to improve cross-sectoral nutrition governance and coordination bodies and oversee multisectoral nutrition actions. Systematize monitoring and evaluation for debottlenecking and course adjustments.
- *Remove existing constraints to program implementation, including long delays in approvals, frequent changes in leadership, procurement delays, and funds flow issues.* Ensure timely decisions and problem resolution. Provide

The eight key risk factors disrupting children's healthy development

1. poverty
2. stunting
3. living in a rural area
4. disability
5. low maternal education
6. inadequate early stimulation at home
7. harsh parenting
8. lack of early childhood education

powers commensurate with responsibility, especially to implementation-level bodies, and strengthen their stewardship capacity. Build technical and operational capacity across the sectors that contribute to nutrition.

- *Support "kangaroo" mother care to keep the newborn skin to skin with the mother.* Replace iron and folic acid supplementation for pregnant women with multiple micronutrient supplementation.

Coordinate nutrition interventions and advocacy with those for early childhood development

- *Address constraints affecting the effectiveness of existing strategies.* Ensure timely approval and updating of strategies, particularly those that are cross-sectoral. Give more attention to the sustainability of interventions. Assess and articulate financing needs and relative priorities. Improve communication.
- *Integrate high-quality, contextually relevant parenting and behavioral change programs into health, social protection, and education platforms.* Early interventions, including access to early childhood education, are vital to mitigate risks and promote protective factors that shape healthy brain development, yielding gains for future health, learning, and productivity. For example, healthy and well-nourished children learn better and earn more as adults, and higher levels of education help improve both health outcomes and access to better employment opportunities.
- *Identify priority districts to implement interventions based on hands-on global knowledge on convergence and sequencing of interventions.* Map out interventions in water, sanitation, and hygiene (WASH); social protection; education; nutrition; and maternal, neonatal, and child health that might be able to converge. Empower district health authorities, and ensure that they have the capacity and resources commensurate with their responsibilities to implement nutrition and early childhood development programs.

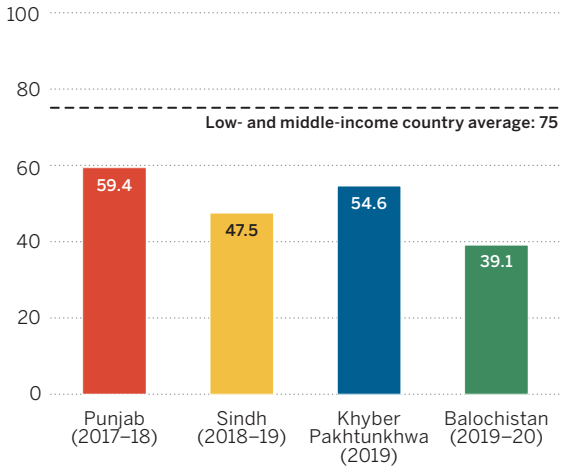
...by helping parents support their children's early development

Key issues

Young children in Pakistan are not developing as well as their low- and middle-income country peers. Fewer than two-thirds of preschool-age children are on track, according to their parents: 59.4 percent in Punjab (2017–18), 47.5 percent in Sindh (2018–19), 54.6 percent in Khyber Pakhtunkhwa (2019), and 39.1 percent in Balochistan

FIGURE 8 **Parents report that many children age 3 and 4 are not developmentally on track**

Children developmentally on track (percent)



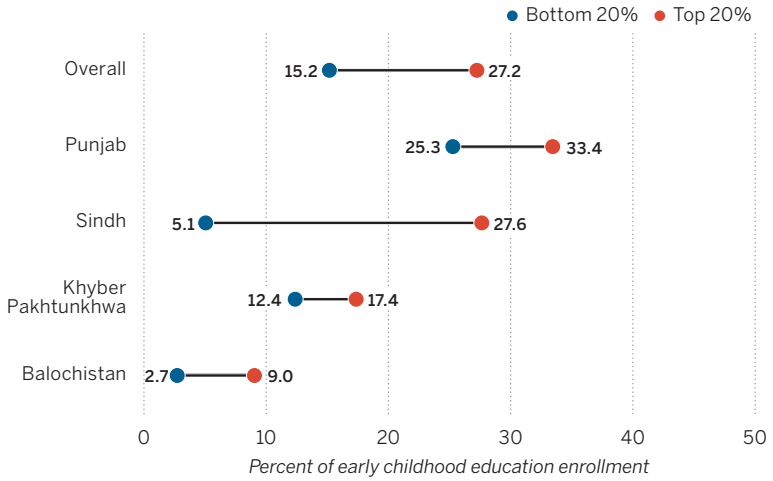
Source: Multiple Indicator Cluster Surveys.
Note: Based on parent reports of whether children age 3–4 are developmentally on track in at least three of the following four domains: literacy-numeracy, physical, social-emotional, and approaches to learning.

(2019–20) (figure 8). Every province in Pakistan shows a lower prevalence of children on track than the 75 percent average across low- and middle-income countries. The eight key risk factors disrupting children's healthy development are living in poverty, being stunted, living in a rural area, living with a disability, having a mother with low education attainment, receiving inadequate early stimulation at home, harsh parenting that includes psychological or physical aggression, and not participating in early childhood education. Each risk factor is associated independently with lower rates of being developmentally on track, but multiple risks often co-occur.

Children receive very little stimulation at home, and the prevalence of harsh punishment remains high. Early stimulation of cognitive and social-emotional skills, which takes place through reading books, telling stories, singing songs, going outside together, playing, or naming or counting, is low across the board: 35.3 percent in Punjab, 45.0 percent in Sindh, 35.0 percent in Khyber Pakhtunkhwa, and 49.3 percent in Balochistan. Lack of adequate social-emotional and cognitive support intersects with lack of proper nutrition and other critical inputs to increase the likelihood of stunting and other long-term risks to development. Use of harsh parenting (psychological or physical aggression) in the previous month among preschool-age children is also very high in Pakistan: 84.9 percent in Punjab, 81.5 percent in Sindh, 87.1 percent in Khyber Pakhtunkhwa, and 57.0 percent in Balochistan.

Inequities in access to preprimary school place some children at a deep disadvantage, particularly children living in poverty. Inequality between the rich and the poor is striking: 15.2 percent of the poorest quintile are enrolled in preprimary school relative to 27.2 percent of the wealthiest quintile (figure 9). Already behind developmentally, poor children's developmental trajectory is further undermined by the fact that they are less likely than other children to enroll in early childhood education, further widening developmental gaps. In addition, although girls and boys experience similar exposure to risks and similar early childhood development scores at age 3 and 4, gender disparities start to emerge as early as preprimary enrollment, with more boys than girls enrolled in early childhood education in every province.

FIGURE 9 **Gaps in enrollment in early childhood education between children age 3–5 in the lowest and highest income quintiles, in Pakistan and by province**



Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

Policy and program environments to support early childhood development and nutrition do not cover the majority of Pakistan's children, and implementation of those that do exist falls short. Implementation challenges facing program effectiveness range from staffing to service delivery to the households. Resources currently allocated by the education sector for early childhood education are inadequate, despite overwhelming evidence showing high returns on investment, and only 19 percent of children age 3–5 are enrolled. In 2020, national investment in education represented just 2.5 percent of GDP, down from 2.9 percent in 2017 and considerably lower than the global average of 4.5 percent. Precise financing figures on preprimary education are unclear but estimated to be low.

High-level recommendations

Expand cash transfer support to young families from pregnancy through preschool

- Supplement cash transfers, where they exist, with programs such as the Lady Health Worker Program, and develop training and awareness programs to empower mothers at the community level to support each other.
- Use community-based mother support groups to monitor child development outcomes and identify early markers for intervention.

Improve the supply of clean water and adequate sanitation with piped water delivery wherever feasible

- Improve existing tariff structures with a view to enhancing sustainability, treatment of human waste, water treatment, and water quality tracking.
- Ensure all public facilities such as schools and basic health units have adequate WASH facilities.

Encourage behavior change at the household and community levels

- Develop and implement parenting programs that teach caregivers how to engage in responsive interactions with their children and provide early stimulation. These programs would encourage breastfeeding, teach parents how to provide stimulation, and underscore the benefits of proper nutrition and positive parenting.
- Encourage reduction in the incidence of open defecation and encourage good hygiene practices such as regular handwashing.

Ensure the convergence and geographic co-location of sectoral interventions for nutrition and early development at the household level

- Empower district health and education authorities, and ensure they have the capacity and resources commensurate with their responsibilities to implement early childhood development and nutrition programs.
- Strengthen monitoring and evaluation systems for early childhood development and nutrition by incorporating children's developmental milestones into health information systems while also strengthening education information systems to collect key health markers.
- Regularly evaluate the reach and quality of such multisectoral programs to ensure they remain fit-for-purpose.

MAKE SURE CHILDREN ARE IN SCHOOL AND LEARNING

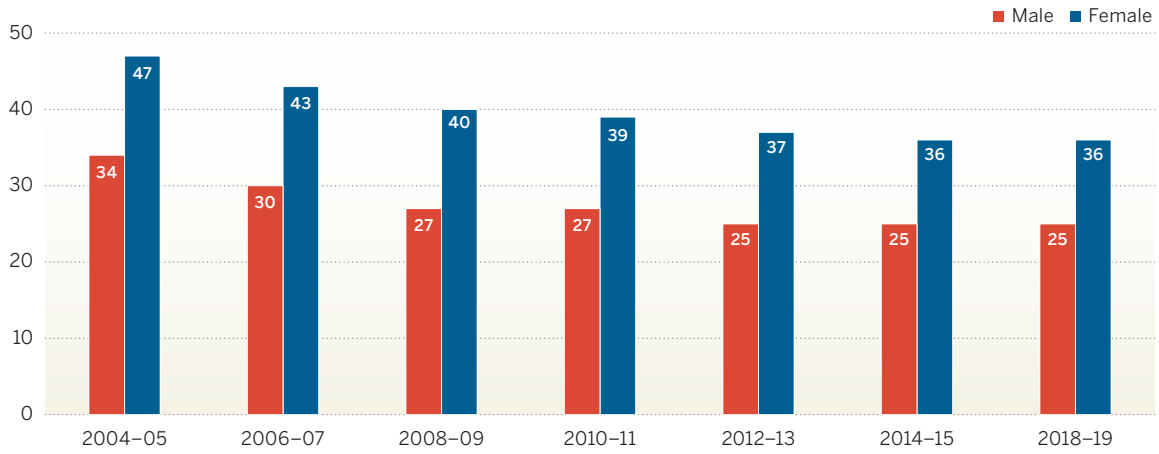
An estimated 20.3 million of Pakistan's school-age children were out of school prior to the COVID-19 pandemic and the 2022 floods that inundated nearly one-third of the country.[11] Due to school closures and the socioeconomic impact of the pandemic and the 2022 floods on families, an estimated 2–3.5 million additional children will drop out of school in Pakistan, erasing years of enrollment gains.[12] At 10 percentage points, the gender gap in enrollment has narrowed slightly, from 13 percentage points in 2007 (figure 10). In addition, Pakistan's learning poverty rate—the percentage of children unable to read and understand a short age-appropriate text by age 10—at 75 percent before the pandemic and the 2022 floods, is more than 16 percentage points above the average for South Asia and more than 19 percentage points above the average for lower-middle-income countries. The high number of primary and secondary school–age children who are not in school and the low quality of education—about 65 percent of children perform below minimum proficiency in reading—explain Pakistan's high learning poverty rate. So, simply bringing all children to school will not be enough to end Pakistan's learning poverty and build human capital.

The COVID-19 pandemic has likely increased the number of out-of-school children and worsened learning poverty, increasing the cost of bringing all children into school and improving the

Bringing all children into school while also improving learning outcomes and overall education system efficiency is challenging, but it can be done.

FIGURE 10 More girls than boys are out of school

Percent



Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement surveys 2004–19.

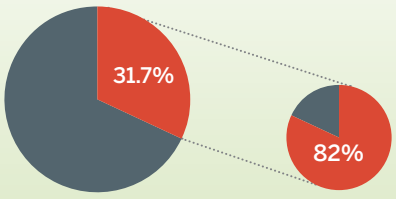
quality of education. It is estimated that learning-adjusted years of schooling will decline by one-third to two-thirds of a school year and that learning poverty will rise to at least 79 percent.[13] Disruption of education during the pandemic will disproportionately affect disadvantaged and hard-to-reach children, including girls and young women. Among the top barriers to children's enrollment and progression in school, the most common are high cost, distance to schools, perceived poor quality of education, and shortage of teachers. These problems are particularly relevant in rural schools and persist across education levels.

Pakistan needs to educate all its children to a level that promises them a more productive future. An important first step is to recognize that out-of-school children are not a uniform group. Policies need to be tailored to the characteristics of their different groups to increase impact. Bringing out-of-school children into education or training is a huge challenge. The longer children are out of school, the less likely they are to go to school, especially children who have dropped out.[14] Tackling dropout requires targeted, aggressive, and innovative approaches. Bringing all children into school while also improving learning outcomes and overall education system efficiency is challenging, but it can be done.

Key issues

With an estimated 20.3 million children out of school (age 5–16), Pakistan has one of the largest number of children in the world not attending school. The 20.3 million figure corresponds to nearly a third (31.7 percent) of Pakistan's children age 5–16, 82 percent of whom have never gone to school. Due to population increases, this absolute number remains large, even as the share of out-of-school children has fallen in the past few decades. In absolute terms, the out-of-school population is second highest in the world, behind India. The large share of children out of school contributes to nearly half of Pakistan's high (75–79 percent) learning poverty.

An estimated 20.3 million children (age 5–16) out of school ...



... equals nearly one-third of Pakistan's children ...

... 82% of whom have never attended school.

The population of out-of-school children broadly comprises three distinct groups, each with different needs, and policies need to be tailored to maximize impact. The youngest out-of-school children (age 5–9), around half of the total (9.5 million), have the most straightforward needs: access to schools, a caring teacher in front of the classroom, and perhaps a nudge to parents from the community to enroll their child in school. But children who are in school and at risk of dropping out (typically age 8–16) often require additional learning support, to make sure that parents see the value of keeping their children in school. As the labor and marriage markets start pulling older children away from school, parents may need incentives that reduce their cost of sending children to school, such as stipends. Older children who have never been to school require specific literacy interventions and short-term skills training to help them become literate and obtain job-related skills.

Making sure that all children are in school and learning will require a substantial financial investment from Pakistan's government. The total cost of providing all current children in Pakistan with a quality education would conservatively cost 4.8 percent of GDP, including 2.9 percent to increase school enrollments under current conditions and 1.9 percent to improve quality. This assumes that all children can be enrolled in public schools or low-fee private schools, at an average annual cost of US$240 for each child.

High-level recommendations

Expand the supply of safe schools so that every child has a guaranteed seat in school

- *Prioritize public sector provision and public–private partnerships.* Strong controls on providers to guarantee school outcomes, along with the safety and welfare of students and teachers, are paramount to get and keep

Making sure that all children are in school and learning will require a substantial financial investment from Pakistan's government.

children in school. Clean water and basic WASH facilities, including safe bathrooms, must be present in all schools.

- *Rehabilitate and build schools where they are needed.* School and classroom construction is particularly important in areas where difficult or no access to school is a key reason for dropouts. This has been successful in parts of Balochistan, where abandoned public buildings have been adapted and made adequate for service provision of education.
- *Hire more qualified (especially female) teachers based on merit to increase enrollment and attendance among adolescent girls.* Like girls, female teachers may require safe and dedicated transport to reach schools, particularly in remote areas. Parents often see female teachers as an indicator of security for young girls.

Support households to increase enrollment and reduce dropouts

- *Expand the education conditional cash transfer program to both boys and girls and provide dedicated and free transport for secondary school girls.* The transition to secondary school is a key attendance drop-off point for girls and boys in Pakistan. Direct provision of monetary support and safe school transport can ease families' concerns, increasing enrollment and reducing dropout. Conditional cash transfers are most effective when payments are directly linked to children's enrollment and regular attendance at school. In the most disadvantaged districts, adding a premium for food or food vouchers can offset families' need for children to participate in household or paid work, freeing resources for the education required to build human capital.
- *Raise awareness about the importance of education, particularly for girls.* Community approaches that bring parents, and other household and community members into advocating for and facilitating girls' access to education and security from home to school can increase education demand. More research is needed on measuring and shifting

social norms around girls' education. This work includes sharing information on returns to education and the value of education for all for human capital development.

Prioritize literacy to increase retention, and enable human capital accumulation

- Develop literacy training materials for caregivers and teachers of young children, using existing curriculum and materials.
- Conduct a rapid assessment of all reading initiatives across Pakistan.
- Draw on existing initiatives. Government, nongovernmental organizations, and development partners have offered early reading programs throughout Pakistan for years that can provide important resources and implementation experiences.
- Direct support to teachers. Structured pedagogy and training in teaching at the right level have shown positive impacts on children's literacy levels.
- Train teachers and school leaders to identify children at risk of dropping out and provide in-school remediation centered on foundational learning and numeracy. Low-performing students are often the first to drop out of school. International evidence is clear that teachers are key to student learning outcomes and strengthening their ability to connect with at-risk students is crucial for decreasing dropout rates. To better equip teachers to support students, preservice and in-service training curricula should instruct teachers how to identify at-risk children and common learning disorders (such as dyslexia), informing them of available support.
- Introduce basic literacy and numeracy programs, coupled with skills development programs, to prepare older children who have never attended school or are longer-term dropouts for integration into the labor market. Partner with local community organizations and potential employers to meet the needs in the locality.

IMPROVE LABOR MARKET OUTCOMES FOR THE POOR

Poorer households in Pakistan are trapped in a vicious cycle of low human capital and poor labor market outcomes, the most serious of which is low earnings. Boosting human capital through means such as education attainment would enhance earnings, but households must also increase their earnings to be able to have the resources to invest in themselves. Poorer households not only lag in human capital outcomes but also invest far less in absolute terms on education and health than wealthier households. In Pakistan, women, youth, and the less-educated generally have far poorer labor market outcomes, and women and vulnerable groups tend to suffer more from shocks, such as the COVID-19 pandemic and climate change.

Breaking the cycle of low human capital investment and poor labor market outcomes requires not just improvements in the supply of health and education services and measures to boost productivity but also financial support and other complementary measures. Multipronged interventions, including those anchored on cash transfer programs, can be powerful mechanisms to support the labor market (and human capital) outcomes of the poor. But they must clearly identify the segment of the labor market that the program will target and coordinate the package of interventions to be bundled together. And for their targeting, they should build on the National Socio-Economic Registry (NSER)

and the Benazir Income Support Program's (BISP) poverty scorecard.

Key issues

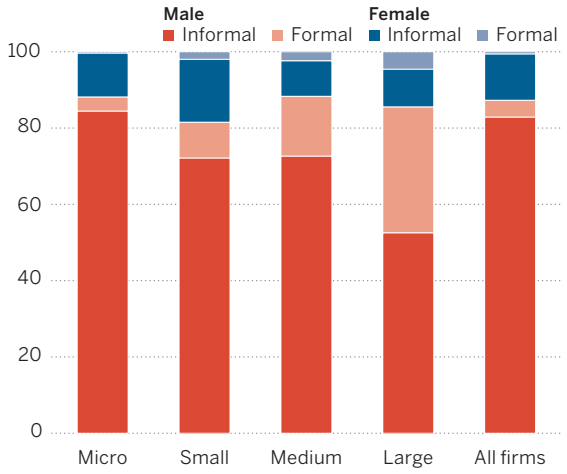
Informality predominates in Pakistan, with 94.9 percent of wageworkers not having a formal contract:[15] 83 percent of all wageworkers are informally employed male workers, and informally employed female workers account for another 12 percent (figure 11). Microenterprises (1–9 workers) account for 88 percent of all employment, formal and informal, for men and women, with small firms (10–99) accounting for another 12 percent (figure 12). Gaps are substantial in the earnings of women and informal sector workers, and informally wage-employed females have the lowest earnings. Formally wage-employed females, informally wage-employed males, and formally wage-employed males earn 1.9, 2.3, and 2.6 times as much per month.

In Pakistan, women's labor force participation rate is low, at just over 20 percent (and even lower for women age 15–24), while men's is 80 percent. And 60 percent of working-age women are not in employment, education, or training, against only 6 percent of working-age men. Social norms, limited mobility, and widespread safety concerns are associated with women's inability to be in the labor force.

Overlapping crises imply more pronounced setbacks to human capital outcomes, particularly for the poor. Pakistan now is faced with the impacts of the war in Ukraine, increasing natural disasters, and an uncertain economic outlook marked by rising debt and inflation. These challenges come on top of the COVID-19 pandemic and the 2022 floods. To cope, families are often forced to reallocate resources away from health and education and to switch to lower-quality food, resulting in less diversified food intake and nutrient deficiency. These coping mechanisms

FIGURE 11 **Four-fifths of wageworkers are informally employed**

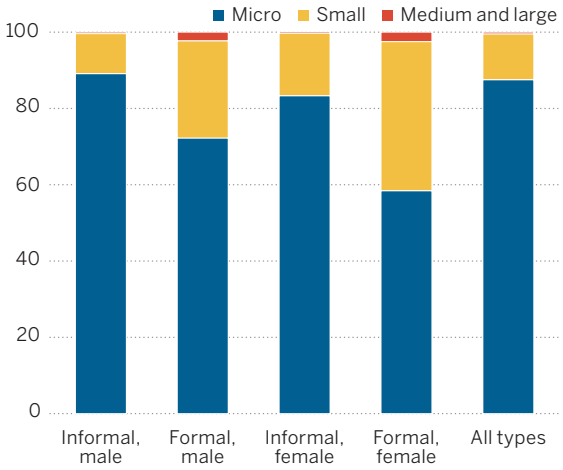
Distribution of wage-employed workers (percent)



Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.
Note: Microenterprises are firms with fewer than 10 workers, small firms are those with 10–99 workers, medium firms are those with 100–250 workers, large firms are those with more than 250 workers. See Annex 6A for the definition of formal wage employment.

FIGURE 12 **Almost 90 percent of wageworkers, formal and informal, are employed in microenterprises**

Distribution of wage-employed workers (percent)



Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.
Note: Microenterprises are firms with fewer than 10 workers, small firms are those with 10–99 workers, medium firms are those with 100–250 workers, large firms are those with more than 250 workers. See Annex 6A for the definition of formal wage employment.

Boosting human capital through means such as higher education attainment would enhance earnings, but households must also increase their earnings to be able to have the resources to invest in themselves.

have long-lasting impacts on health, education, and labor outcomes across the life cycle, with young children often the worst affected.

Even before these crises, Pakistan faced high levels of learning poverty and malnutrition. Protecting human capital is thus crucial and requires flexible measures to respond quickly to the most vulnerable.

High-level recommendations

- *Build the human capital of the poor, especially against shocks like the COVID-19 pandemic and climate change, through interventions over the life cycle to ensure long-term livelihood gains.* Cash transfers and other safety net programs protect the human capital of the poor by supporting their consumption, especially when faced with adverse shocks. When these programs are complemented with additional services, often collectively called economic inclusion programs, they can improve human capital investments, such as children's education, health, and nutrition, as well as household earnings. For households not poor enough to receive cash transfers, seed capital, microfinance, and technical and business management training are more relevant.
- *Ensure that economic inclusion programs that combine safety nets with complementary services fit the needs of different segments of the poor and vulnerable.* Productive inclusion programs that go beyond cash can help improve household resilience to withstand shocks in the long term. For programs with a focus on women, interventions must account for social norms, which have a major impact on women's social interactions by restricting access to services or certain occupations deemed not suitable for women. Possible interventions to influence norms include strategic use of positive messaging about strong female role models and engaging to change norms surrounding women's economic activities. Similarly, employing women in public leadership positions can support the acceptance of ambitions and career aspirations among women. Youth, women, and other marginalized groups may need to engage in self-employment but may lack capital, technical skills, and experience running an enterprise. Depending on the combination of needs they face, programs for them could include a combination of classroom or even on-the-job learning (such as apprenticeships), classroom-based training in business management, socioemotional skills development, and access to finance, as through collateral-free microfinance. Youth entrepreneurship programs in other emerging economies show that successful programs pair business management training with other services such as access to capital and counseling to enhance noncognitive ability.
- *Use existing programs as a basis for economic inclusion interventions.* An asset transfer–based pilot in Sindh spanned assets, finance, consumption, and time use—and its package of services significantly increased incomes and revenues. The National Poverty Graduation Program, in addition to transfers for consumption, packages coaching, business capital, financial service facilitation, market links, and skills training. As poor households

begin to expand or diversify their business under the program, they become eligible to apply for loans; asset beneficiaries and loan recipients are eligible to receive basic training to use the assets and loans effectively. And the Kamyab Pakistan Program, launched in 2021, is using financial services for entrepreneurship—rather than asset transfers—as the core intervention for bundling other services.

- *Leverage existing national systems for efficient and effective delivery of programs.* Pakistan has a strong starting point to deliver relevant and comprehensive services given its existing strategic policy initiatives, and its investments in systems. It has made notable progress in building and strengthening the social protection system through its flagship BISP. It has invested in systems such as the NSER and the poverty scorecard, as well as a robust national identification system (civil registration, digital and biometric, or voter identification). A key factor in the potential effectiveness of support programs—to both protect the human capital of the poor and improve their productivity—is whether the services reach the intended segments of the poor, by location and gender. While policymakers may still face key challenges—such as identifying the appropriate beneficiaries, the right mix of interventions for the target group, and the best mix of implementing agencies in their design of new programs—leveraging these major strengths will stand them in good stead and provide a stable and high-quality starting point for new programs, whether implemented by federal or provincial entities.

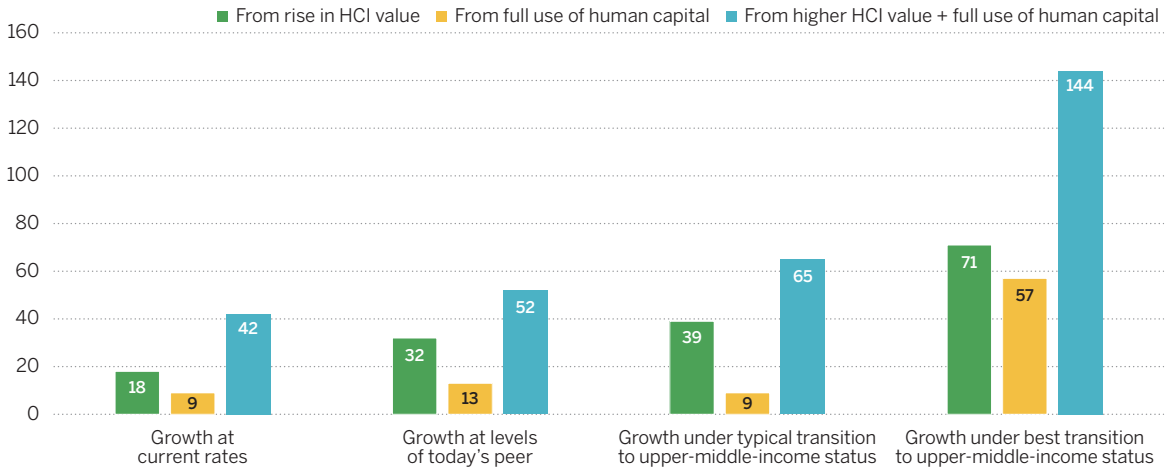
BENEFITS OF BUILDING MORE HUMAN CAPITAL

Without solid investments in human capital, no country can sustain economic growth over the long run. As Pakistan seeks to become an upper-middle-income country with a thriving economy and population by its centennial, efforts to accelerate progress in human capital development will be essential.

Simulations of several realistic scenarios show how much Pakistan's economic productivity could increase by investing more in human capital over the next 25 years—to 2047, the 100th anniversary of its founding (figure 13).

FIGURE 13 **The economic benefits of actions to build human capital are substantial**

Percentage increase in Pakistan's Human Capital Index (HCI) value by 2047



Source: World Bank simulations.
Note: Baseline is Pakistan's 2018 GDP per capita of US$1,483.

Business as usual: If Pakistan continues to improve its HCI value at the current rate, its GDP per capita is expected to grow by a mere 18 percent by 2047.

Matching its current peers: If it can boost its HCI value to the level of its peers, its per capita GDP could grow by 32 percent by 2047.

Matching the average lower-middle-income country advancing to upper-middle-income status: If it can improve its HCI value at the same rate as an average country that transitions from lower-middle-income status to upper-middle-income status, which Pakistan aspires to, its GDP per capita would rise by 39 percent.

Matching the best performing lower-middle-income country having advanced to upper-middle-income status: If it can improve both its human capital and its use of human capital, bringing adults into productive work outside farming, its GDP per capita would rise by 144 percent, eight times more than under business as usual.

NOTES

1. World Bank 2018.
2. Government of Pakistan 2022.
3. The Government of Pakistan declared a national emergency and rapidly implemented a vaccination campaign, in collaboration with many of its stakeholders. Its schooling system implemented strict standard operating procedures, allowing schools to open earlier than other countries in the region. And the shutdown of the economy was relatively short lived, giving businesses the opportunity to get back to work quickly.
4. Provincial disaggregation of learning-adjusted years of schooling is not possible.
5. "Utilization" is the HCI value adjusted for labor force participation.
6. The full utilization has a U-shaped relationship with GDP per capita. In low-income countries (as opposed to middle-income countries), the full utilization rate is usually higher than the basic utilization rate. As discussed in World Bank (2020a, p. 91 ff.), the intuition behind this is that in low-income countries, there is less human capital and hence there are also fewer opportunities for making better use of that human capital in better employment.
7. Demographic and Health Survey 2017/18.
8. *Environmental health* refers to the availability of drinking water and sanitation facilities; *care* includes such factors as antenatal care, nutritional supplementation during pregnancy, and appropriate treatment of childhood diarrhea.
9. National Nutrition Surveys.
10. Shekar et al. 2016.
11. NEMIS and AEPAM 2018.
12. This estimation comes from phone surveys carried out by the World Bank in January 2021 and September–October 2022.
13. World Bank 2020b.
14. OECD 2020.
15. Pakistan's high rates of informality are not uncommon in developing countries. Close to 90 percent of all employment in South Asia is informal (ILO 2018; Loayza and Meza-Cuadra 2018).

REFERENCES

Government of Pakistan. 2022. "Pakistan Floods 2022: Post-Disaster Damage Assessment (PDNA)." Ministry of Planning Development and Special Initiatives: Government of Pakistan. https://www.pc.gov.pk/uploads/downloads/PDNA-2022.pdf.

ILO (International Labor Organization). 2018. *Women and Men in the Informal Economy: A Statistical Picture*. Geneva: International Labor Office.

Loayza, N., and C. Meza-Cuadra. 2018. "A Toolkit for Informality Scenario Analysis." Washington, DC: World Bank. http://www.worldbank.org/informality. Accessed 3 March 2022.

NEMIS (National Education Management Information System) and AEPAM (Academy of Educational Planning and Management). 2018. *Pakistan Education Statistics 2016–17*. Islamabad. http://library.aepam.edu.pk/Books/Pakistan%20Education%20Statistics%202016–17.pdf.

OECD (Organisation for Economic Co-operation and Development). 2020. "The Impact of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students during School Closures and School Re-openings." Paris: OECD Publishing. https://www.oecd.org/coronavirus/policy-responses/the-impact-of-covid-19-on-student-equity-and-inclusion-supporting-vulnerable-students-during-school-closures-and-school-re-openings-d593b5c8/.

Shekar, M., J. Kakietek, J. D. Eberwein, and D. Walters. 2016. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting. Directions in Development: Human Development*. Washington, DC: World Bank.

World Bank. 2018. *The State of Social Safety Nets 2018*. Washington, DC: World Bank

World Bank. 2020a. *The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19*. Washington, DC: World Bank.

World Bank. 2020b. *Learning Losses in Pakistan Due to COVID-19 School Closures: A Technical Note on Simulation Results*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/34659.

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Pakistan's human capital: Opportunities amid crises

SUMMARY

Pakistan can realize major economic growth and development by investing in its people and their human capital. But the reality is that Pakistan's human capital is low and has improved only marginally over the past three decades. Inequalities in human capital outcomes have persisted or widened over time between the rich and poor, men and women, and rural and urban areas and among the provinces. Human capital outcomes are low across the board, with even the most economically advantaged groups in Pakistan having lower human capital outcomes than less economically advantaged groups in peer countries. Pakistan's Human Capital Index (HCI) value of 0.41 is low in both absolute and relative terms. It is lower than the South Asia average of 0.48, with Bangladesh at 0.46 and Nepal at 0.49. Pakistan's human capital outcomes are more comparable to those in Sub-Saharan Africa, which has an average HCI value of 0.40.

Pakistan thus remains far from realizing its potential and forgoes substantial growth and development. Despite favorable demographic tailwinds, Pakistan is currently unable to reap its rightful dividends due to inadequate investments in education, health, social protection, and the labor force. Its public investment of about 2.5 percent of GDP in education and 0.9 percent on health is much lower than the global average and the average for similar economies. Pakistan spends about 0.6 percent of GDP on social safety nets, compared with the global average of 1.5 percent.[1] The COVID-19 pandemic has deepened the challenges, adding a significant threat to human capital development at all stages of the life cycle. Disruptions to health services and income losses due to the pandemic have forced many to skip regular health checkups and treatments, with adverse consequences that are likely to be felt for decades to come. And school-age children and youths have similarly experienced huge disruptions in access to education and job opportunities. Making matters worse, the 2022 floods further limited access to health and education services and likely increased malnutrition and learning poverty.[2]

These low human capital investments will limit the realization of Pakistan's ambition to become an upper-middle-income country by 2047. If Pakistan continues on its current trajectory in human capital development, its GDP per capita would grow overall by a mere 18 percent through 2047, the 100th anniversary of its founding. If Pakistan can boost human capital investments and its HCI value to the level of its peers, per capita GDP could grow by 32 percent. But if Pakistan improves both its human capital and its use of human capital, bringing adults into employment outside farming, GDP per capita could rise by 144 percent, eight times more than under business as usual.

To boost its human capital, Pakistan needs to bring population growth under control, invest more in the supply of health and education, and enhance female labor force participation. Pakistan needs a healthy, skilled, and resilient population to ensure high economic growth that is both inclusive and sustainable. Bringing more women into education and the labor force will require increased focus on their safety, not just at school and in the workplace but also in transit to and from home, while creating more jobs accessible to them in all parts of the country. With the right policies and investments, the growing working-age population can become

healthier, more educated, more skilled, and more productive—and can earn more, if the economy generates more and better jobs. This calls for a deliberate effort from multiple stakeholders and sectors to build on intrasectoral and intersectoral externalities. For example, healthy and well-nourished children learn better and earn more as adults, and higher levels of education help improve health outcomes throughout the life cycle as well as improve access to employment opportunities.

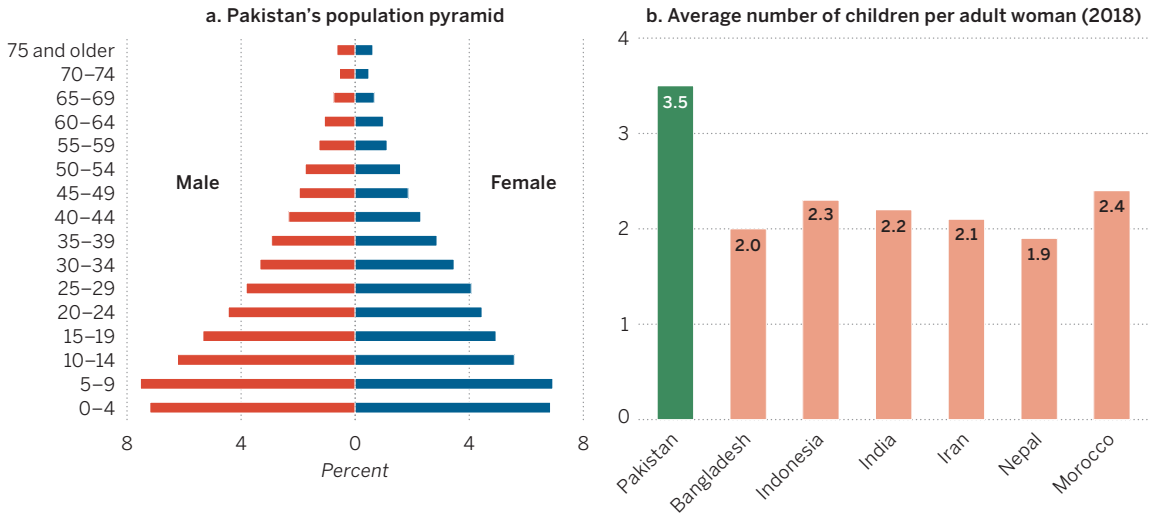
INTRODUCTION

Pakistan faces a human capital crisis. Its population, three-quarters of which is under the age of 35 (figure 1.1), has very recent memories of failures in the schooling system and in health services. Federal and provincial governments, as well as Pakistan's policymakers, often cite high stunting rates, high childhood mortality, high out-of-school populations, and low learning levels. Gender inequality is particularly stark in education and the labor market, and all outcomes remain unequal across wealth quintiles and geographic regions. Pakistani leaders are also keenly aware of public opinion polls showing voter concerns about the lack of jobs, reflecting the low utilization of human capital.

Given that better education and health translate into improved productivity, and that human capital is often the only asset for the poor, sustainable poverty reduction is unlikely to materialize without substantial investments in human capital. Despite widespread agreement that Pakistan has a human capital crisis, there is surprisingly little consensus around the enormous opportunity of investing in human capital. With a high fertility rate and a growing and young population (see figure 1.1), successive governments in Pakistan have tried to keep pace and have continued to provide subpar health and education services to ever more people.

Improving human capital takes a long-term commitment. As a first order of business, Pakistan needs to bring population growth under control, to ensure that it can invest more in its existing population and reap a demographic dividend, rather than continue to provide low-quality services to the ever-growing population. It needs to invest more in the supply of health and education services. Pakistan's population challenge can be turned into a demographic opportunity only by improving the quality of basic services and improving human capital. And Pakistan needs to enhance female labor force participation, to ensure that families and the

FIGURE 1.1 Pakistan has a young population, which is growing much faster relative to its peers



Source: 2017 population census, World Bank Open Data.

country as a whole can benefit from the talent available. The surest ways to reduce the population burden are to keep girls in school longer,[3] improve health services for young women,[4] and bring women into the labor force.[5] With the right policies and investments, the growing working-age population can become healthier, more educated, more skilled, and more productive—and can earn more if the economy generates more and better jobs.

Pakistan's handling of the COVID-19 pandemic has shown that the country can manage complex human capital challenges despite its institutional bottlenecks. While the pandemic has deepened the human capital crisis, infection and death rates in Pakistan were much lower than those of its peers. The government rapidly implemented a national vaccination campaign, in collaboration with many of its stakeholders. Its education system implemented strict standard operating procedures, allowing schools to open earlier than in other countries in the region. And the shutdown of the economy was relatively short, giving businesses the opportunity to get back to work fast. With similar commitment and urgency, Pakistan can turn a corner and enhance its human capital outcomes and economic growth in the medium to long term.

This chapter reviews the benefits Pakistan can realize from investing in its people and their human capital. Based on newly developed measures of human capital, including the World Bank's HCI, it provides a comprehensive assessment of human capital indicators in Pakistan and their state today. The chapter analyzes the level and degree of utilization of human capital, considering job opportunities available to people. It details important inequalities among the provinces and between the rich and poor and men and women. The key argument is that every group in Pakistan stands to gain from improved human capital investments, even those in the highest consumption quintile.

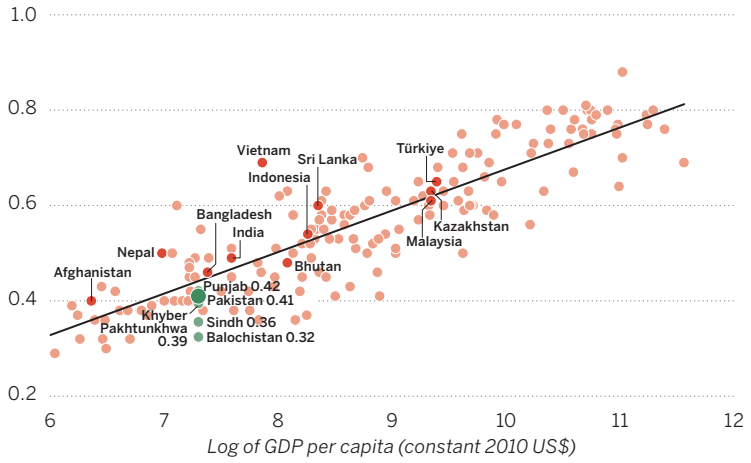
PAKISTAN'S PERSISTENT HUMAN CAPITAL CRISIS

Pakistan's human capital crisis has two facets. The first is the low absolute and relative level of human capital itself. Pakistan has an HCI value of 0.41, which is lower than expected for its level of economic development (figure 1.2). There is also substantial geographic variation, with Balochistan at the global bottom, and Punjab at the regional bottom. Pakistan's human capital outcomes are more comparable to Sub-Saharan Africa's, which has an average HCI value of 0.40 (table 1.1). The South Asia average is 0.48, with Bangladesh (0.46) and Nepal (0.49) having higher HCI values than Pakistan.

To put this in perspective, consider that a child born in Pakistan today can expect to be as productive as a child born in Sub-Saharan Africa and only 72 percent as productive as a child born in the Middle East and North Africa or 59 percent as productive as one born in Europe and Central Asia (see table 1.1). Given that better education and health translate to improved

FIGURE 1.2 **Pakistan's Human Capital Index value is among the world's lowest and lower than expected given its level of economic development**

Human Capital Index value



Source: Pakistan provincial calculations from 2017 and 2019 Demographic and Health Surveys. Country estimates from the Human Capital Project. GDP from World Bank national accounts data and Organisation for Economic Co-operation and Development national accounts data.

TABLE 1.1 Pakistan's Human Capital Index value compares poorly with those of other world regions

Indicator	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	North America	South Asia	Sub-Saharan Africa	Pakistan
HCI Component 1: Survival								
Probability of survival to age 5	0.98	0.99	0.98	0.98	0.99	0.96	0.93	0.93
HCI Component 2: Education								
Expected years of school	11.9	13.1	12.1	11.6	13.3	10.8	8.2	9.4
Harmonized test scores	432	479	405	407	523	374	374	339
HCI Component 3: Health								
Survival rate, from age 15 to 60	0.86	0.90	0.86	0.91	0.92	0.84	0.74	0.85
Fraction of children under 5 not stunted	0.76	0.90	0.85	0.82	—	0.69	0.69	0.62
Human Capital Index (HCI)	**0.59**	**0.69**	**0.56**	**0.57**	**0.75**	**0.48**	**0.40**	**0.41**

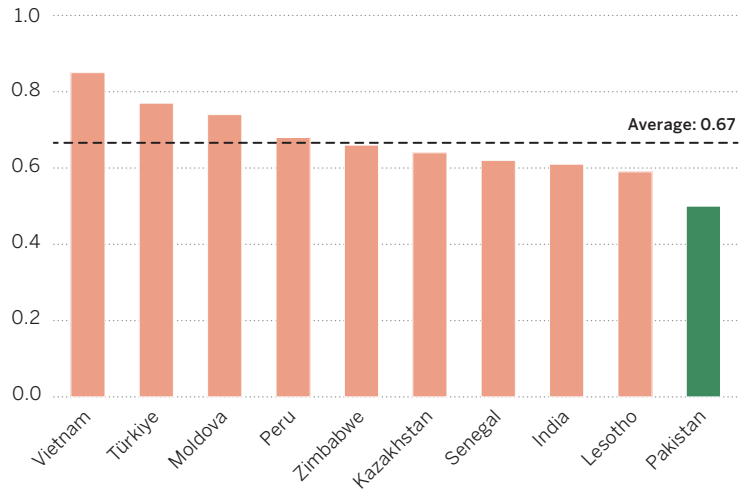
Source: World Bank 2020.

productivity, and that human capital is often the only asset the poor have, sustainable poverty reduction is unlikely to be achieved without substantial investments in education, health, and social protection.

All social groups in Pakistan suffer from low human capital, creating a strong incentive for governments to improve services for everyone. Even the population in the top quintile of Pakistan's wealth distribution experiences high stunting rates, high childhood mortality, and low learning outcomes. A child born today in a household in the top wealth quintile in Pakistan will have an HCI value of 0.50, that is, she will be only half as productive as she could be (figure 1.3). In contrast, for low- and middle-income countries such as Lesotho and Vietnam, those in the highest quintile have HCI values ranging from 0.59 to 0.85.[6]

FIGURE 1.3 Pakistan's Human Capital Index value is low even among the richest quintile, relative to the average for its peers

Human Capital Index value



Source: World Bank 2021b.

The second facet of Pakistan's human capital crisis is its low utilization. Economic gains from human capital can be realized only if people can use their skills and ingenuity in productive activities, such as gainful employment in the labor market. The basic utilization-adjusted HCI (UHCI) based on employment status is used to get an idea of how much human capital is being utilized in the labor market.[7] The basic UHCI measure simply multiplies the HCI value by the employment to population ratio to see how much human capital translates into gainful employment.

Pakistan's UHCI value is only 0.20 (figure 1.4), much lower than expected given its economic development and virtually at the global bottom.

This means that the benefits that Pakistan can realize from its human capital are further depressed because it does not have an environment for citizens to put their human capital to work. In fact, with their low UHCI values, the provinces of Balochistan (0.15) and Khyber Pakhtunkhwa (0.16) are at the very bottom of the global distribution of human capital utilization.

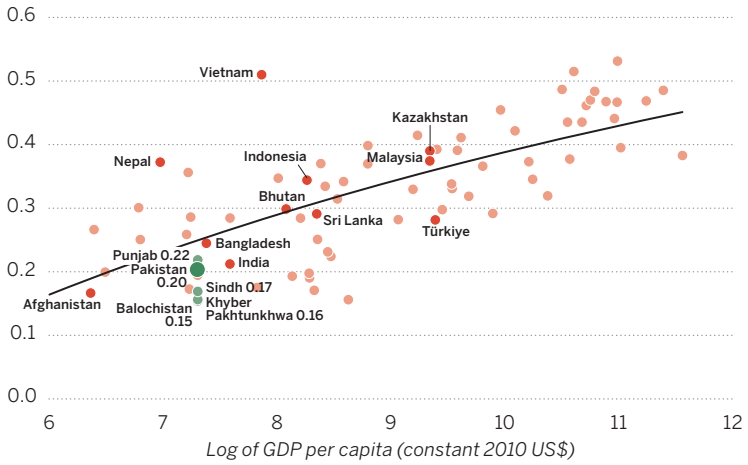
Gender is the main factor driving Pakistan's low labor force participation. Fewer than one in four (23 percent) women are in the labor force, compared with four in five men (81 percent) (figure 1.5a). Although the female labor force participation rate more than doubled between 1990 and 2018, Pakistan's value is still lower than in peer countries. Female labor force participation has a U-shaped relation with human capital, with mostly uneducated women and those with higher education degrees participating in substantial numbers (figure 1.5b). But women with primary and secondary education are mostly outside of the labor market in larger numbers.

Women's low returns to education at the primary and secondary levels may trigger a cycle that reduces incentives for parents to invest in their daughters' schooling. Poorly educated women are ill-equipped to obtain better-paying jobs. While high-paying occupations improve along the range of education levels for men, women's labor force participation—and thus their wages—increase only beyond 10 years of education. The key factors that limit female labor force participation are household work, marriage norms (with women expected to withdraw from the labor force after marriage), female mobility norms (with women not being allowed to travel outside the household or village), and safety concerns for women on the job and in transit.

While Pakistan's gender gap on both the basic and full UHCI (see below) is comparable to the regional average, South Asia has a higher UHCI among women (13 percent, against 8 percent in Pakistan).[8] Gender inequality in the utilization

FIGURE 1.4 **Pakistan's utilization-adjusted Human Capital Index value is lower than expected given its economic development**

Utilization-adjusted Human Capital Index value



Log of GDP per capita (constant 2010 US$)

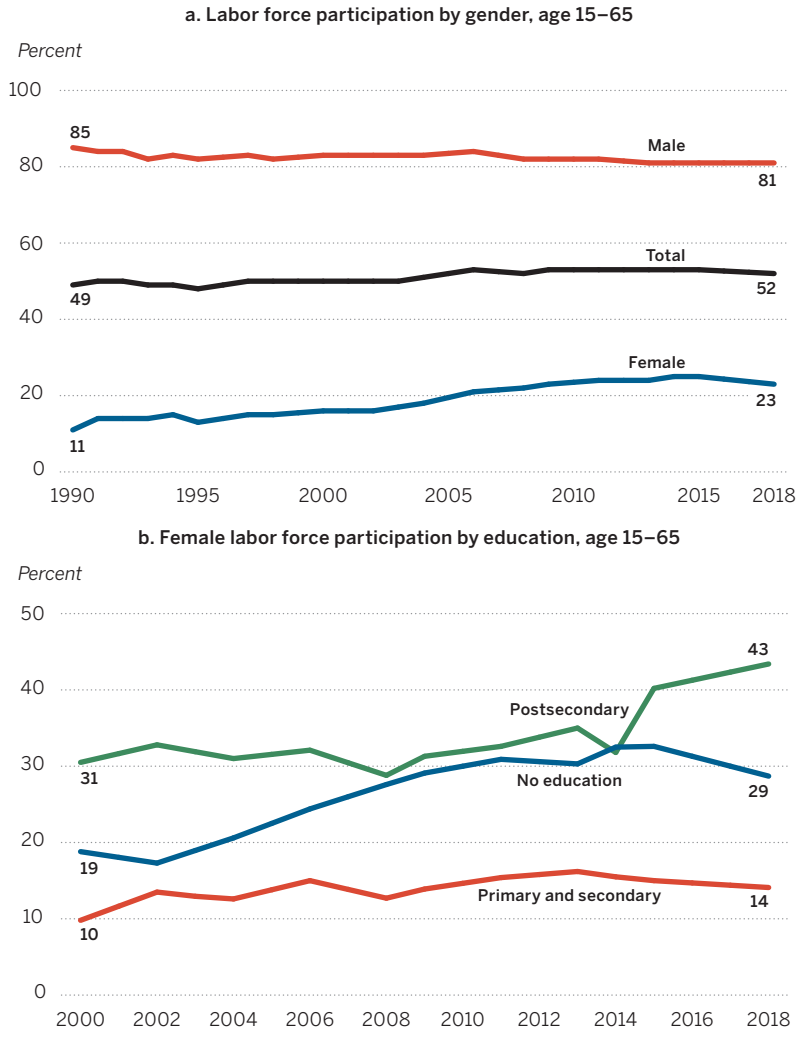
Source; Human Capital Project, World Bank national accounts data, and Organisation for Economic Co-operation and Development national accounts data.
Note: For provincial values of log GDP per capita (constant 2010 US$), country value was used.

of human capital has largely persisted over the past three decades, with basic UHCI values increasing by 3 percentage points for men and by 4 percentage points for women (figure 1.6).

The UHCI for women is also lower in Pakistan than in other countries, even those with similar UHCI gaps between men and women (figure 1.7). Gender gaps in India are similar despite overall better UHCI values for both men and women there. The gender gap is wider only in the Islamic Republic of Iran, with a similar UHCI value for women and better outcomes for men.

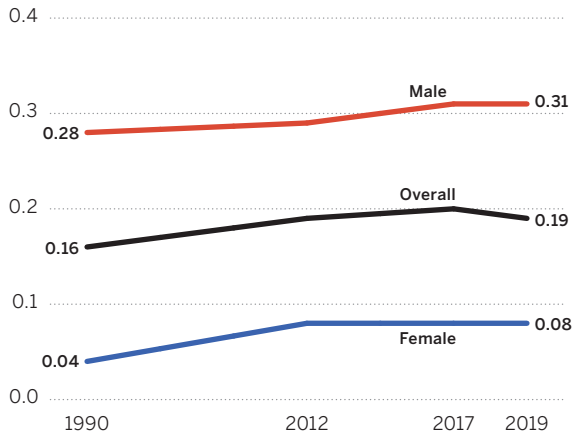
The HCI can also be adjusted for "better employment"—a full utilization-adjusted Human Capital Index (full UHCI). The idea behind the full UHCI is to measure the share of the working-age population that utilizes its human capital more productively. This is a measure designed to more closely capture the productivity gains from human capital by classifying agricultural employment as less productive employment (from a human capital perspective).[9] The full UHCI also corrects for a country's potential for realizing human capital gains, giving those of

FIGURE 1.5 Labor force participation of women remains low, though it is growing for those with postsecondary education



Source: World Development Indicators and World Bank calculations using data from Labor Force Surveys for Pakistan.

FIGURE 1.6 Gender gaps on the basic utilization-adjusted Human Capital Index remain wide



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys.

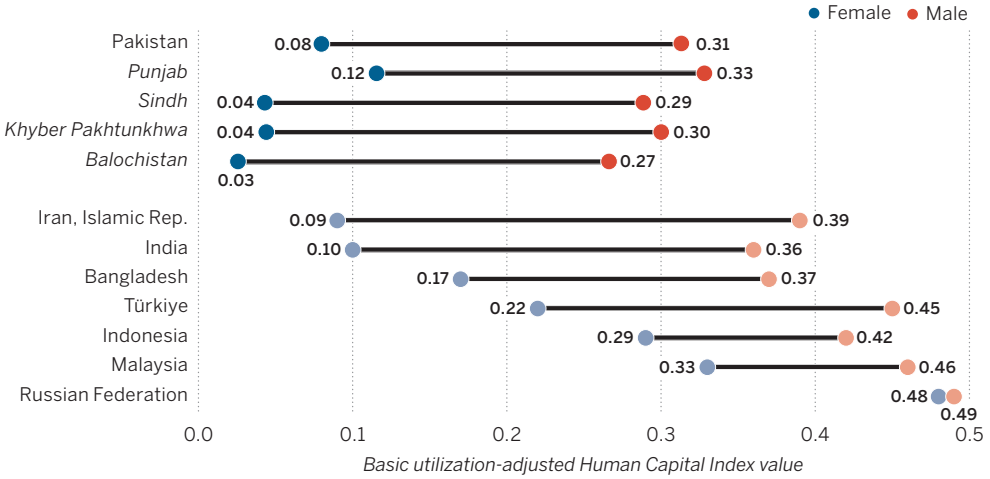
working age with no human capital (and agricultural workers) a minimum value for productivity (considering this as raw labor). In low- and middle-income countries, the full UHCI is typically higher than the basic UHCI, because there is less potential to utilize human capital in better jobs.

According to the full UHCI measure, human capital utilization in Pakistan is 26 percent (figure 1.8). The gap between the basic and full UHCI values means that the larger problem facing Pakistan is underemployment (particularly for women) relative to job opportunities in the labor market.[10] This becomes apparent when breaking the measure down by gender. For men, there is no difference between the two UHCI values, whereas women, when they do enter the labor market, tend to secure more productive employment, attributable to the relatively large share of highly educated women joining the labor market.

THE IMPORTANCE OF HUMAN CAPITAL FOR GROWTH

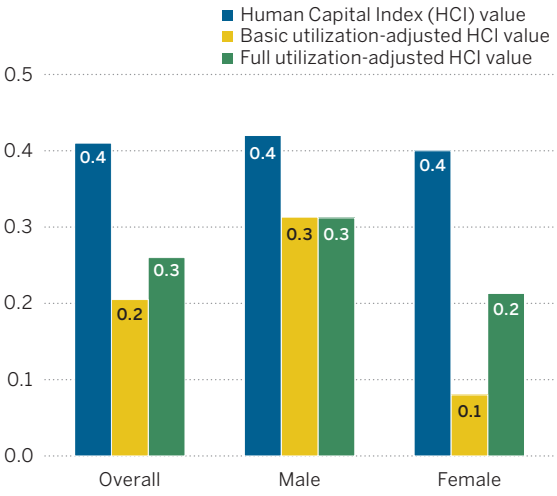
The benefits of focusing on human capital investments are well established in the economic literature. Human capital investments have a dynamic and circular relation with economic growth, and both are linked through various pathways. Improvements in early health outcomes translate into better education outcomes, leading to more opportunities for productive employment. Productive workers are better able to utilize technology, accelerating

FIGURE 1.7 Pakistan's basic utilization-adjusted Human Capital Index value for women is lower than that in peer countries



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys for Pakistan and provincial numbers. Benchmark values from the Human Capital Project.

FIGURE 1.8 Pakistan's Human Capital Index value falls dramatically when adjusted for utilization, particularly for women



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys (see Annex 1B).
Note: Basic utilization-adjusted HCI represents all employment. Full utilization-adjusted HCI denotes nonagricultural employment.

the transition to technology-based production, which in turn rewards human capital investments. And as Pakistan reaps the benefits of this growth, it will be able to invest more in health and education services that strengthen this virtuous cycle.

Human capital complements physical and natural capital in the production process and is key to technological innovation. Societies with higher human capital and equality of opportunity are more cohesive, more able to find solutions to complex challenges, and ultimately more prosperous (box 1.1). Human capital makes up 61 percent of Pakistan's wealth.[11] As the nature of work evolves in response to technological advancements, global integration, and other changes, investing in human capital becomes even more important. Labor markets will increasingly demand workers with higher human capital, especially those with advanced cognitive and socio-behavioral skills.[12]

Of course, Pakistan's economic difficulties are caused by many other factors beyond low human capital. Its economy has many structural

BOX 1.1

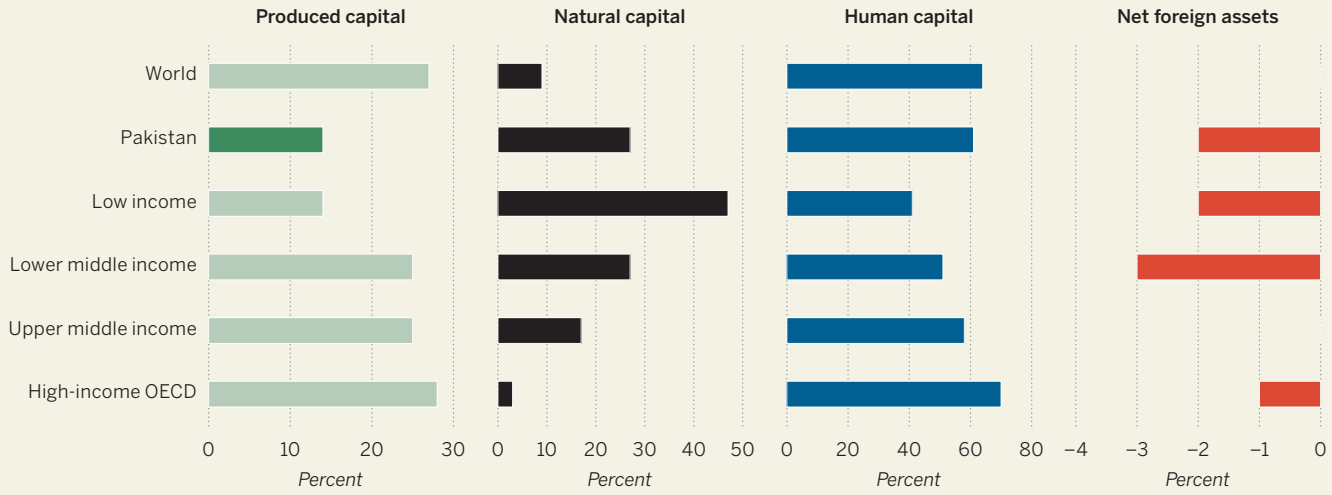
Human capital drives development

A country's assets or wealth underpins national income and well-being. These assets include produced capital (made by people), natural capital (offered by nature), human capital (embedded in people), and net foreign assets (box figure 1). Sustaining long-term growth requires investing in and managing this broad portfolio of assets. GDP indicates how much monetary income or output a country creates in a year, while a country's wealth indicates the value of the underlying national assets and therefore the prospects for maintaining and increasing that income over the long term. The Changing Wealth of Nations report series by the World Bank (2005, 2011, 2018a, and 2021a) draws on a large and unique global asset database to estimate the underlying value of a nation's wealth, considering the four asset types. The 2018 and 2021 reports presented the most comprehensive accounts to date of the wealth of nations.

A country's level of economic development is strongly correlated with its wealth composition. Human capital, measured as the value of earnings over a person's lifetime, is the most important component of wealth globally. In 2014, human capital accounted for an estimated 64 percent of global wealth. It is thus a much larger driver of economic development than traditionally understood and rises above tangible physical assets as the most crucial ingredient for economic success and poverty reduction. Natural capital is the largest component of wealth in low-income countries (47 percent) and accounts for more than one-quarter of wealth in lower-middle-income countries.

Pakistan has substantially less produced capital than the typical lower-middle-income country, but it has correspondingly more human capital than other countries in its income group—underscoring its untapped potential.

Box figure 1 Share of wealth by asset type and income level in 2014



Source: World Bank 2018a.

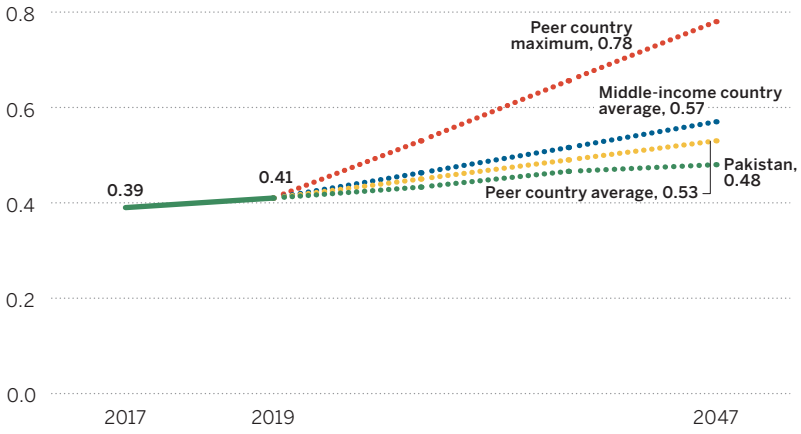
distortions that limit growth and productivity.[13] These distortions include undertaxation of real estate, export substitution because of high import duties, and crop subsidies that limit the diversification of the agricultural sector. Pakistani firms, even those that focus on exports, tend to be small, and they exhibit low growth. There are also several loss-making and so-called zombie-firms (11 percent of the top 500 firms have been loss-making for more than three years).

That said, without solid investments in human capital, no country can sustain economic growth over the long run. Pakistan has more to gain from human capital investments in economic terms than most peer countries. As Pakistan seeks to become an upper-middle-income country with a thriving populace and economy, stronger efforts to accelerate progress in building human capital are critical. Four growth scenarios for Pakistan to invest more in human capital and realize better outcomes for its citizens are presented below. Each of these scenarios is based on basic assumptions of growth and considers a timeline of 25 years, to the year that Pakistan will turn 100:

- *Business as usual:* The first scenario assumes that the long-run rate of change observed in the Pakistan data continues without any change. At this rate, Pakistan's HCI value would still be only 0.48 in 2047 (figure 1.9). Thus, even 100 years after the country's independence, a child born in Pakistan in 2047 would be less than half as productive as she could be given the risks to complete education and full health that prevail.
- *Matching its current peers:* A second scenario is where Pakistan seeks to reach the present-day average of its peers. This is also a conservative estimate, as Pakistan would still substantially lag its peers, which are likely to continue to improve their human capital outcomes in the same period. That would mean reaching an HCI value of 0.53, so children born in Pakistan in 2047 would be just over half as productive as they could be.
- *Matching the average lower-middle-income country advancing to upper-middle-income status:* A third scenario projects what would happen if Pakistan improved its human capital outcomes at the same pace as a typical country that transitions from lower-middle-income status to upper-middle-income status, reaching an HCI value of 0.57. This is perhaps the most realistic scenario that Pakistan could aim for, given its ambitions to transition to upper-middle-income status by 2047.
- *Matching the best performing lower-middle-income country advancing to upper-middle-income status: Finally, a fourth scenario—more ambitious but still realistic—would have Pakistan seek to reach the maximum of its peers.* This would result in substantially higher gains on human capital, with a child born in Pakistan in such circumstances being more than 70 percent as productive as she could be. In all scenarios, much of the progress on the HCI would come from improving learning-adjusted years of schooling, suggesting a strong focus on ensuring that children have access to quality education (figure 1.10).

FIGURE 1.9 **The Human Capital Index gains that Pakistan could make if it improves all components over the next 25 years**

Human Capital Index value



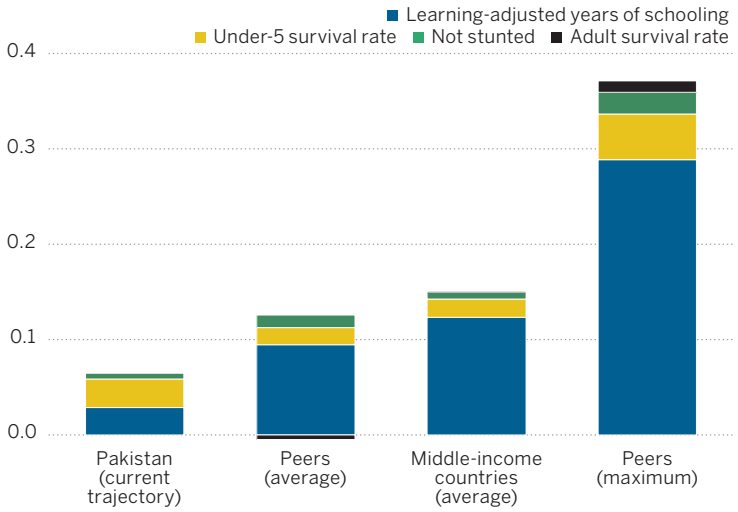
Source: World Bank calculations using data from the Human Capital Project, 2020.

Realizing the economic gains

Pakistan is three-fourths of the way to the centennial of its founding in 2047, with a goal

FIGURE 1.10 **Improving the Human Capital Index: Component contributions**

Increase in Human Capital Index value



Source: Human Capital Project.

of becoming an upper-middle-income country with a thriving economy. To reach this ambitious goal, efforts to accelerate progress in human capital development are essential. There is general consensus that countries need to boost investments in human capital to prepare their workforce for the more skilled jobs of the future and compete effectively in the global economy.

Critical inputs and care during all stages of life —starting from conception to birth and through infancy, childhood, adolescence, and adulthood —determine the development of human capital. Children's early development requires nurturing care that includes health, nutrition, water and sanitation, security and safety, responsive caregiving, and early learning, to attain their full development potential. Since this window of opportunity closes quickly, investing in the physical, cognitive, linguistic, and socio-emotional development of children is critical. When human capital investments begin in the early years, they lay a strong foundation for the prosperity and resilience of adults, and for the growth and competitiveness of nations.

Pakistan's demographic dividend

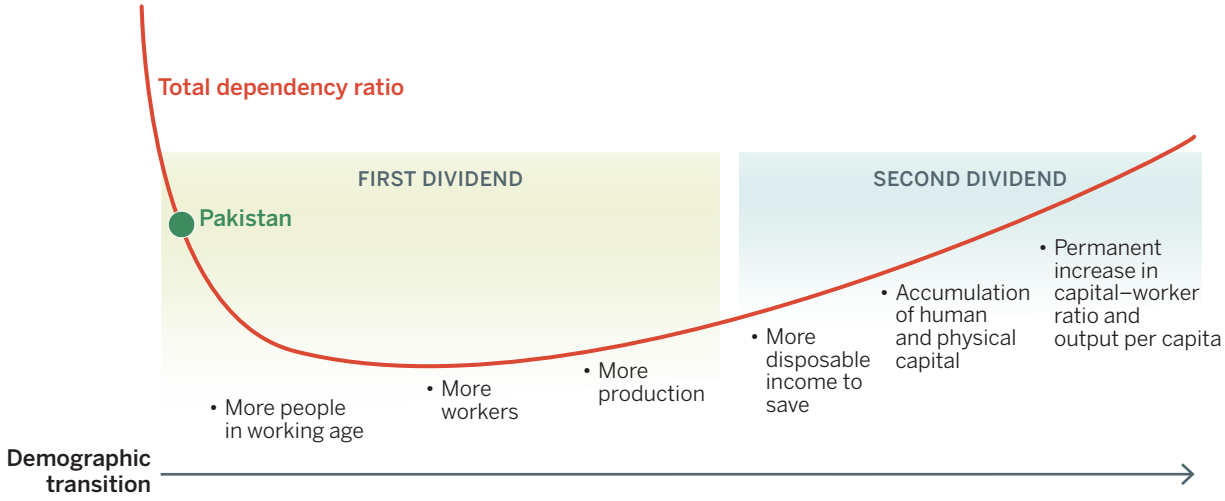
Pakistan is the world's fifth most populous country, with about 230 million people. An "early demographic dividend" country with immense potential for accelerated economic growth from the changes in its population age structure, Pakistan can reap dividends from two phases of the demographic transition (figure 1.11). The first dividend can be captured as the demographic transition speeds up and the population age structure becomes more concentrated among those of working age. The right policies and investments in human capital can lead to youth cohorts that are healthier, more educated, more skilled, and more productive and that can earn higher incomes if the economy can create good jobs for them.

The second phase comes along later in the demographic transition if Pakistan can increase savings and investments as a result of fewer dependent children, more disposable income, and prospects for longer lives. Seizing the second demographic dividend through human and physical capital accumulation and higher labor productivity is going to be key to deal with the challenges presented by an aging population.

However, Pakistan is currently missing the opportunity to capitalize on its potential demographic dividend. If existing trends continue, it will miss out on the associated economic development possible from a potential demographic dividend in the future as well. This is due to a confluence of low human capital, low labor force participation, and low productivity, as well as a pace of job creation that is slower than population growth.

In Pakistan, fertility rates are comparatively high, and government investment in human capital is low, thus producing low human capital outcomes. Even though the total fertility rate has been falling over the past six decades, from 6.6 children per woman in 1960 to 3.5 in 2018 (figure 1.12), it is still much higher than in

FIGURE 1.11 Can Pakistan harness its two distinct demographic dividends?



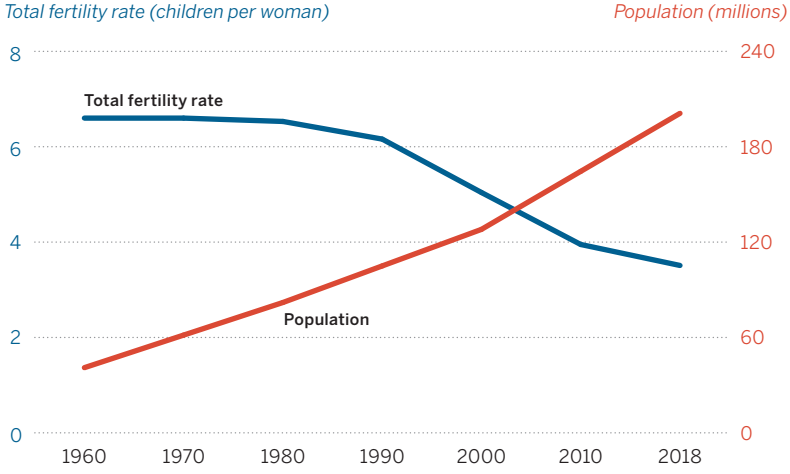
Source: World Bank elaboration.

comparator countries. Fertility rates have been falling in all provinces, but in 2018, women in Punjab and Sindh still had more than three children on average, and women in Balochistan and Khyber Pakhtunkhwa had four children on average.

Financing education and increasing the efficiency of spending remain key challenges for guaranteeing that every child receives a quality education. Public investment in education and health as a share of Pakistan's GDP remains low relative to that in comparator countries (figure 1.13), even if the real absolute amount has increased (panel a). Pakistan's total investment in education is 2.5 percent of GDP, far below the international median of 4.4 percent. Each year, the federal and provincial governments invest roughly 10 percent of their total budgets in education. The Third International Conference on Financing for Development (in Addis Ababa, July 2015) recommended that at least 4–6 percent of GDP and 15–20 percent of total public expenditure go to education to achieve the Sustainable Development Goals.

Similarly, Pakistan's total investment in health is low in international comparison, at

FIGURE 1.12 The fall in fertility that Pakistan needs to accelerate

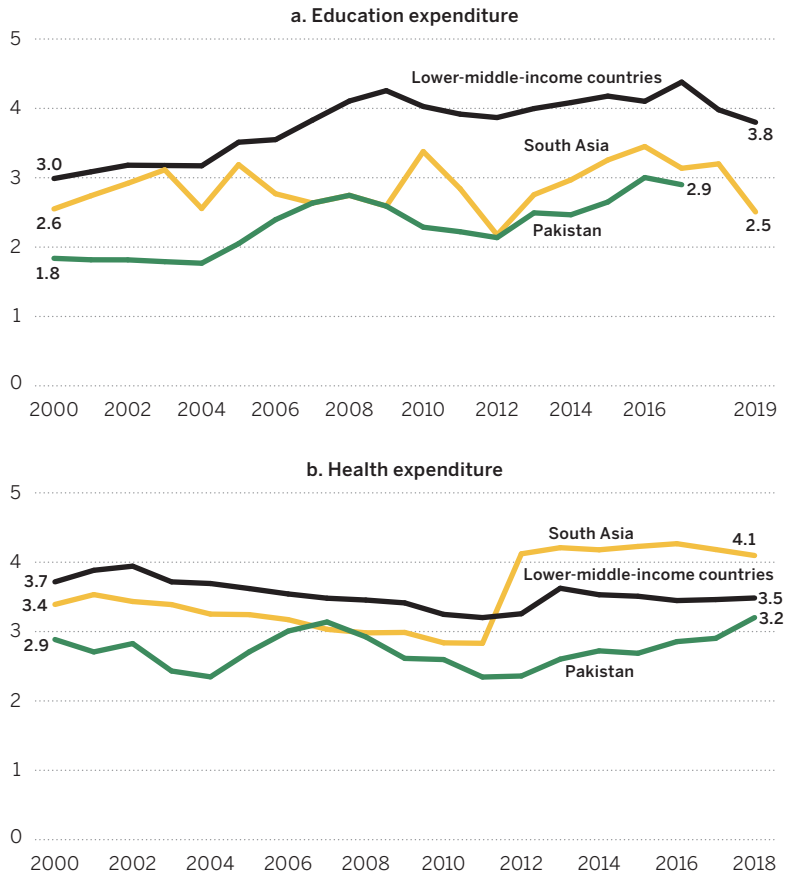


Source: World Bank calculations using data from World Development Indicators.

3.2 percent of GDP in 2018, against the global average of 6.5 percent and the average for lower-middle-income countries of 4.1 percent. While investment in health has been rising worldwide over the past two decades, Pakistan's remained stagnant at around 3 percent of GDP. Pakistan's annual investment in education, health, and social protection has grown in absolute terms but not kept pace with population growth (figure 1.14).

FIGURE 1.13 Government education and health spending in Pakistan is below that in comparator countries

Percent of GDP



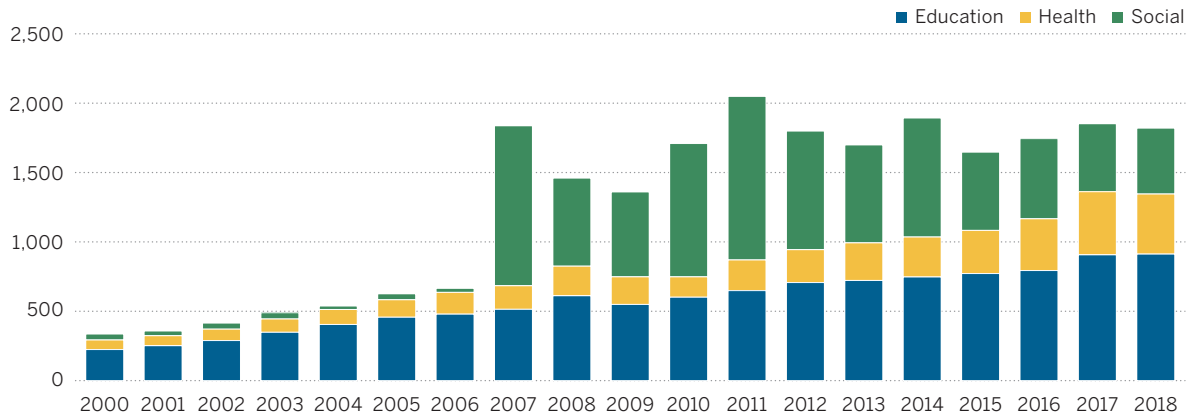
Source: World Bank elaboration.

CONCLUSION AND RECOMMENDATIONS

Despite favorable demographic tailwinds, Pakistan has not been able to reap its dividends due largely to inadequate investments in human capital, which are essential to improve the productivity and employability of the workforce. Low levels of human capital investments in Pakistan as elsewhere may be due partly to the long time it takes to see the benefits, unlike physical capital investments, which can have immediate and visible results. Returns to investments in education and health, by contrast, may take years or even decades to materialize. Some of the benefits go beyond the generation making those investments. And many individuals fail to see the benefits that investments in their human capital can have on others and society. These considerations have often led to underinvestment in human capital—missing an opportunity to create a virtuous cycle of investment and growth. In Pakistan, public expenditure on the social sectors falls short of needs. While health expenditure has increased in the past 10 years, it remains well below the average in South Asia. Expenditure on education, by contrast, has dropped in the past five years alone, bringing it even further below the average for the region.

FIGURE 1.14 Real absolute investment in public education, health, and social protection has risen in Pakistan since 2000, but changed little since 2007

Expenditure, billions BKS (adjusted for inflation)



Source: PRSP.

There is ample global evidence that no country can sustain economic growth over the long run without solid investments in human capital. As Pakistan seeks to become an upper-middle-income country with a thriving economy and population by its centennial, efforts to accelerate progress in human capital development will be essential. Given the low level of human capital, the policy agenda for Pakistan is clear. It will need to focus on fundamentals: bring its population growth rate under control, invest more in the supply and quality of health and education, and bring women to the labor force. Bringing more women into education and the labor force will require a focus on their safety, not just at school and in the workplace, but in transit to and from home, while creating more jobs accessible to them in all parts of the country.

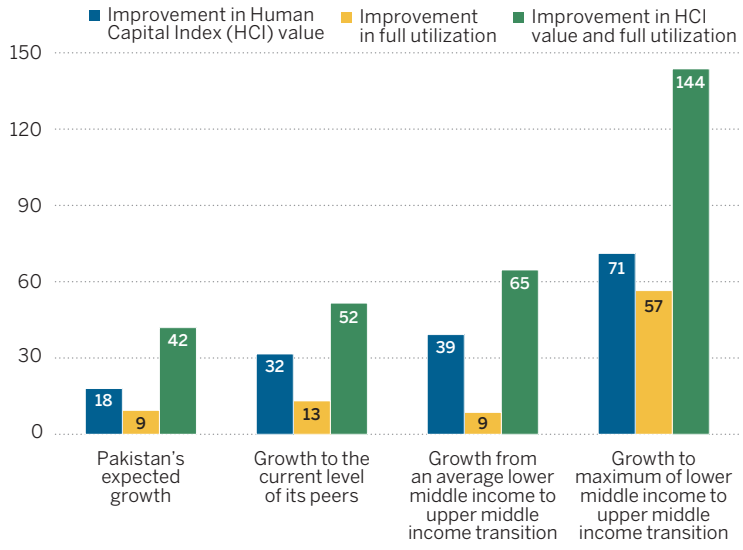
The policies, programs and processes of countries that invested heavily in human capital and reaped the resulting benefits have focused on ensuring the continuity of government support across political cycles, closely coordinating sectoral programs at different levels and branches of government and building an evidence base to improve and update human capital strategies. Therefore, there is an important role for the Government of Pakistan in breaking out of the low demand for human capital investments. The country's highly favorable demographic conditions mean that such investments can yield huge benefits in the coming decades, enhancing the income-generating potential of the workforce and Pakistan's development prospects.

Pakistan needs to invest more systematically in its people and develop avenues for them to deploy their human capital more productively. Human capital externalities and market failures provide a strong rationale for the government to invest in human capital. As in most developing countries, poor people in Pakistan stand to lose the most when the public sector fails to make these investments. The government should thus prioritize investments that ensure that quality education and health services are available to all its citizens.

Pakistan can realize major economic growth and development by investing in its people and their human capital. Simulations of several realistic scenarios show how much Pakistan's economic productivity could increase by investing more in human capital over the next 25 years —to 2047, the 100th anniversary of its founding (figure 1.15). If Pakistan continues to improve its HCI value at the current rate, its GDP per capita is expected to grow by a mere 18 percent by 2047. If it can boost its HCI value to the level of its peers, its per capita GDP growth could nearly double to 32 percent by 2047. Raising its HCI value to the maximum among its peers would allow GDP per capita to grow by 71 percent. Even greater economic gains can be realized by improving the utilization of human capital—by bringing more adults into the labor force and into more productive employment outside agriculture, where workers can make greater use of their human capital. Investments in human capital, while ensuring its full utilization, will result in

FIGURE 1.15 **The economic benefits of building human capital will be substantial**

Percent



Source: World Bank simulations.
Note: Baseline is Pakistan's 2018 GDP per capita of US$1,483.

the largest gains in Pakistan's economic growth and development. These range from an increase of 42 percent from the current GDP per capita to 144 percent, eight times more than under business as usual.

In summary, the Government of Pakistan needs to prioritize investments that ensure quality education and health services for all its citizens.

- *Exercise effective stewardship over human capital and declare emergencies over the health and education crises.* This requires long-term planning beyond the tenure of any government and political cycle. With the COVID-19 pandemic and devastating floods deepening its already poor state of human capital, the Government of Pakistan needs to declare emergencies and take bold actions to tackle its health and education challenges.
- *Make family planning a priority across all human development initiatives.* Pakistan should integrate population planning in academic, religious, and national policies and develop its labor market to accommodate the growing youth population. Key actions include training more Lady Health Workers to educate women on family planning, creating more awareness about the use of modern contraceptives, increasing the provincial health budget, and focusing on structural inequalities in access to health and education.
- *Invest more and more smartly in people and develop avenues for them to deploy their human capital more productively.* Human capital externalities and market failures provide a strong rationale for the government to invest in human capital. As in most developing countries, poor people in Pakistan stand to lose the most when the public sector fails to make these investments. To boost its human capital, Pakistan needs to invest more in the supply of health and education through domestic resource mobilization, shifting resources from costly energy subsidies and improving efficiency in the existing allocations to human development sectors.

NOTES

1. World Bank 2018b.
2. Government of Pakistan 2022.
3. For a review, see Wodon et al. (2018).
4. See, for instance, Bhuiya et al. (2004); Douthwaite and Ward (2005); Hennink and Clements (2005).
5. Bloom et al. 2009.
6. Quintile data are available for 15 low-income and 22 lower-middle-income countries.
7. "Utilization" is the HCI value adjusted for labor force participation.
8. Figure 31A, Pennings 2020.
9. The basic idea behind this is that in many developing countries, large shares of the population are employed in small agricultural settings, where work is primarily physical, and it is difficult to realize gains from higher human capital levels.
10. The full utilization has a U-shaped relationship with GDP per capita. In low-income countries (as opposed to middle-income countries), the full utilization rate is usually higher than the basic utilization rate. As discussed in World Bank (2020, p. 91 ff.), the intuition behind this is that in low-income countries, there is less human capital and hence there are also fewer opportunities for making better use of that human capital in better employment.
11. World Bank 2018a.
12. World Bank 2019.
13. See World Bank (2022).

REFERENCES

Alderman, H., and J. Behrman. 2006. "Reducing the Incidence of Low Birth Weight in Low-income Countries Has Substantial Economic Benefits." *The World Bank Research Observer* 21: 25–48.

Andrabi, T., B. Daniels, and J. Das. 2020. "Human Capital Accumulation and Disasters: Evidence from the Pakistan Earthquake of 2005." *Journal of Human Resources* 57 (2).

Aslam, M., G. Kingdon, and M. Söderbom. 2008. "Is Female Education a Pathway to Gender Equality in the Labor Market? Some Evidence from Pakistan." In M. Tembon (ed.), *Girl's Education in the 21st Century: Gender Equality, Empowerment and Growth*. Washington, DC: World Bank.

Aslam, M., G. Kingdon, and M. Söderbom. 2012. "Returns to Schooling, Ability and Cognitive Skills in Pakistan." *Education Economics* 20 (2): 139–173.

Autor, D. H., and D. Dorn. 2013. "The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market." *American Economic Review* 103 (5): 1553–97.

Azevedo, J. P., A. Hasan, D. Goldemberg, K. Geven, and S. A. Iqbal. 2022. "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates." *The World Bank Research Observer* 36 (1): 1–40. https://doi.org/10.1093/wbro/lkab003.

Bau, N., and J. Das. 2020. "Teacher Value Added in a Low-Income Country." *American Economic Journal: Economic Policy* 12 (1): 62–96.

Bhuiya, I., U. Rob, A. H. Chowdhury, L. Rahman, N. Haque, and S. Adamchak. 2004. "Improving Adolescent Reproductive Health in Bangladesh." FRONTIERS Final Report. New York: Population Council.

Bloom, D. E., D. Canning, G. Fink, and J. E. Finlay. 2009. "Fertility, Female Labor Force Participation, and the Demographic Dividend." *Journal of Economic Growth* 14: 79–101. https://doi.org/10.1007/s10887-009-9039-9.

Chandir S., D. A. Siddiqi, H. Setayesh, and A. J. Khan. 2020. "Impact of COVID-19 Lockdown on Routine Immunisation in Karachi, Pakistan." *Lancet Global Health* 8 (9): e1118–e1120.

Collin, M., and D. N. Weil. 2020. "The Effect of Increasing Human Capital Investment on Economic Growth and Poverty: A Simulation Exercise." *Journal of Human Capital* 14 (1): 43–83.

Douthwaite, M., and P. Ward. 2005. "Increasing Contraceptive Use in Rural Pakistan: An Evaluation of the Lady Health Worker Programme." *Health Policy and Planning* 20 (2): 117–123.

Field, E., S. U. Junaid, H. Majid, A. Malik, A. Shahid, and K. Vyborny. 2020. *Transport and Urban Labour Market*

Integration: Evidence on Travel Time and Congestion from a Mass Transit Quasi-experimental Evaluation and Evidence on Firms from a Randomised Control Trial in Pakistan, 3ie Grantee Final Report. New Delhi: International Initiative for Impact Evaluation (3ie).

Filmer, D., H. Rogers, N. Angrist, and S. Sabarwal. 2018. "Learning Adjusted Years of Schooling (LAYS): Defining a New Macro Measure of Education." Policy Research Working Paper 8591, World Bank, Washington, DC.

Global Financing Facility. https://www.globalfinancingfacility.org/sites/gff_new/files/documents/Pakistan-Covid-Brief-GFF.pdf

Government of Pakistan. 2022. "Pakistan Floods 2022: Post-Disaster Damage Assessment (PDNA)." Islamabad.

Hennink, M., and S. Clements. 2005. "The Impact of Franchised Family Planning Clinics in Poor Urban Areas of Pakistan." *Studies in Family Planning* 36 (1): 33–44.

Pennings, S. 2020. "The Utilization-Adjusted Human Capital Index." Policy Research Working Paper 9375, World Bank, Washington, DC.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2017. *Reducing Global Poverty through Universal Primary and Secondary Education*. UIS fact sheet, Volume 44. Paris: UNESCO.

WHO (World Health Organization). 2021. *Second Round of the National Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic*. Geneva: WHO. https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1.

Wodon, Q., C. Montenegro, H. Nguyen, and A. Onagoruwa. 2018. *Missed Opportunities: The High Cost of Not Educating Girls*. Washington, DC: World Bank.

World Bank. 2005. *Where is the Wealth of Nations? Measuring Capital for the 21st Century*. Washington, DC: World Bank.

World Bank. 2011. *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*. Environment and Development. Washington, DC: World Bank.

World Bank. 2018a. *The Changing Wealth of Nations 2018: Building a Sustainable Future*. Washington, DC: World Bank.

World Bank. 2018b. *The State of Social Safety Nets 2018.* Washington, DC: World Bank.

World Bank. 2019. *Pakistan at 100: Shaping the Future*. Washington, DC: World Bank.

World Bank. 2020. *The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19*. Washington, DC: World Bank.

World Bank. 2021a. *The Changing Wealth of Nations 2021: Managing Assets for the Future.* Washington, DC: World Bank.

World Bank. 2021b. *Insights from Disaggregating the Human Capital Index, 2021*. Washington, DC: World Bank.

World Bank. 2022. *Swimming through Sand: Pakistan's Country Economic Memorandum*. Washington, DC: World Bank.

World Bank. n.d. World Development Indicators database. Washington, DC: World Bank. https://databank.worldbank.org/metadataglossary/world-development-indicators/series.


YAMAHA
BIN TARIQ
MARINE

2

Unpacking Pakistan's human capital crises

SUMMARY

In the past three decades, Pakistan's progress on human capital has been uneven and slower than that of its peer countries. Its Human Capital Index (HCI) value improved from an estimated 0.32 in 1990 to only 0.41 in 2020, which means that babies born today can expect to reach only 41 percent of their human potential by the time they reach age 18. When adjusted for using human capital in the labor market, Pakistan's HCI value falls dramatically—to 0.20. For females, it is further depressed to 0.08, meaning that a baby girl born today can expect to reach only 8 percent of her human capital potential by the time she turns 18.

While Pakistan has slowly raised its HCI value, recent disruptions by the COVID-19 pandemic and the floods in 2022 quickly set back the modest gains. Based on simulations for education and health, the pandemic has erased more than eight years of progress on human capital, reducing Pakistan's HCI value to 0.37, which is lower than in 2012. The 2022 floods not only caused deaths and destroyed physical assets; they also reduced children's opportunities to accumulate human capital. The combined effects of the two shocks have likely worsened the already high learning poverty and malnutrition and limited the cognitive, socioemotional, and healthy development of Pakistan's next generation.

Inequalities in human capital outcomes between the rich and poor have also grown, implying that the limited gains in human capital are attributable to improvements in the top income quintiles. And provincial inequalities have worsened, with Punjab's HCI value improving faster than the rest of the country's. Children in the top districts in northern Punjab now have twice as much human capital as children in the lowest districts in rural Sindh and Balochistan.

A deeper look at the components of the HCI shows what is driving the changes in human capital outcomes: 1990–2012 saw a 34 percent gain in the quantity of schooling, a 17 percentage point reduction in the stunting rate, and a 2.6 percentage point gain in the probability of survival to age 5. These changes result in considerable differences in the extent to which the components contribute to changes in HCI values over time.

Children from the top income quintile spend twice as long in school as the poor. Pakistan has the second largest out-of-school population in the world, at 20.3 million children, with its low enrollment rate of 71 percent of all children age 6–16. This is a highly gendered problem, with 37 percent of girls age 5–16 in Pakistan out of school versus 25 percent of boys. A large share of children (22 percent of all children age 5–16) never enroll in school. The reasons include low accessibility and availability of schools, safety concerns on the way to and from school and work, poverty, and social norms preventing the enrollment of girls.

While gender gaps run deep across Pakistan's society, gender inequality on the HCI is not as large as one might expect. The main source of gender inequality in human capital accumulation is expected years of school, with boys spending 1.4 more years in school than girls. Gender gaps in the probability of survival to age 5 and the fraction of children under 5 not stunted are small and are even in girls' favor. This means that almost all of the gender inequality in HCI values comes from the education component and not from the health component.

So, by investing in girls' education and training and enhancing their physical mobility and safety to and from school and work, Pakistan can reduce gender gaps in employment and increase the use of its human capital, especially by creating platforms and institutions that match women job-seekers with firms. And workplace environments providing childcare, flexible work hours, dedicated transport, and separate rest areas for women can be more conducive to women's working.

INTRODUCTION

As the nature of work evolves in response to technological advancements, global integration, and other changes, investing in human capital has become ever more important. And since countries with higher human capital adapt better to technological changes, the returns to human capital investments are also likely to increase. While the speed of technological diffusion and subsequent demand for skills in Pakistan are still emerging, there is little doubt that children entering school today will confront labor market conditions very different from what their parents faced.[1] Pakistan thus needs to prioritize the health and education of its population so that its citizens have more opportunities to stay healthy, to learn continually, and to gain new skills to stay competitive through higher human capital. In a global environment where markets are shifting, technologies are proliferating, and competition is growing, Pakistan needs to empower its citizens to create knowledge and embody it in new technologies and products.

This chapter looks at the evolution of human capital in Pakistan using the HCI—which combines indicators of health and education into a measure of the human capital that a child born today can expect to obtain by her 18th birthday, given the risks of poor education and health in the country. It reviews the evolution of Pakistan's human capital over the past three decades and assesses the potential that has yet to materialize. It also details inequalities among the provinces and between the rich and poor and men and women.

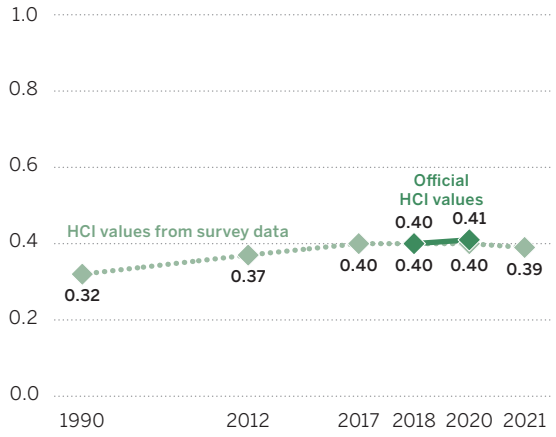
THE EVOLUTION OF PAKISTAN'S HUMAN CAPITAL

Pakistan has not improved its human capital outcomes at a rate comparable to those in other countries: between 1990 and 2020, its HCI improved from an estimated 0.32 to 0.41, or an average of 0.03 HCI point per decade (figure 2.1). Compare that with the faster HCI growth in the Russian Federation (0.08 point per decade) and Peru (0.06) (figure 2.2).

A deeper look at the components of the HCI shows what is driving the changes in Pakistan's human capital outcomes. Figure 2.3 shows the relative improvement of the HCI caused by the underlying components, and figure 2.4 the relative improvement of the components over time. The period 1990–2012 saw a 34 percent gain in the quantity of schooling,[2] a 17 percent reduction in the stunting rate, and a 2.6 percent

FIGURE 2.1 **Pakistan's Human Capital Index value increased very slowly from 1990 to 2021**

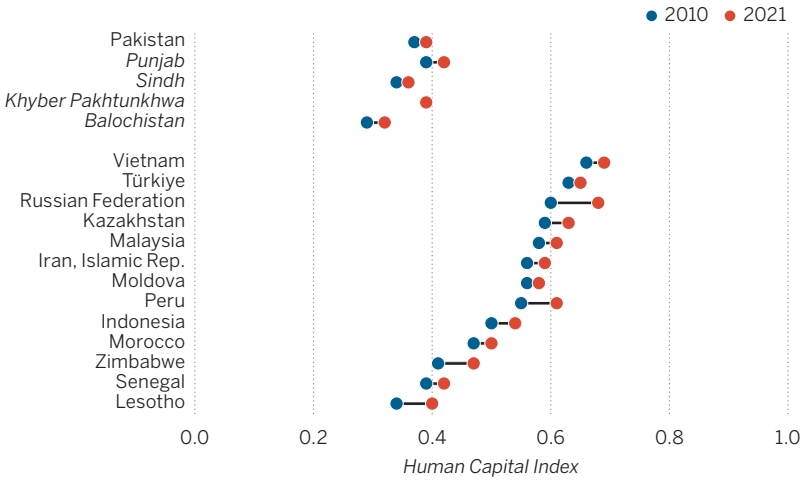
Human Capital Index (HCI) value



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys, 1990–2017, and Human Capital Project 2020.

FIGURE 2.2 Pakistan's Human Capital Index growth is similar to that of peer countries, but starting from a lower base

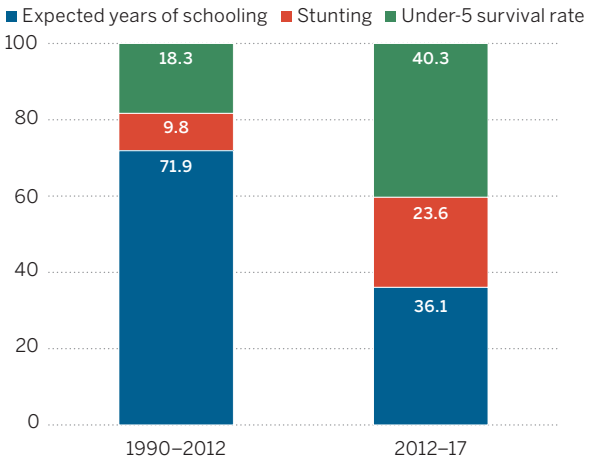
Human Capital Index growth



Source: World Bank calculations using data from Demographic and Health Surveys, 2012–19, Pakistan Social and Living Standards Measurement Surveys, 2012–17, and Human Capital Project.

FIGURE 2.3 The period 1990–2012 saw the highest relative improvements in schooling, and under-5 survival increased the most in 2012–17

Share of contribution in human capital improvement (percent)

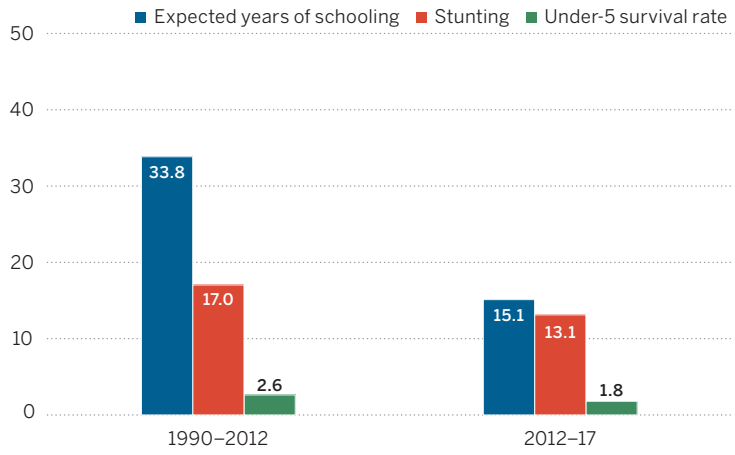


Source: World Bank calculations using data from Demographic and Health Surveys, 1990–2017, and Human Capital Project 2020.
Note: Contribution is calculated by share of increase in Human Capital Index value from the preceding year. Baseline year is 1990.

gain in the probability of survival to age 5. These changes result in considerable differences in the extent to which the components contribute to changes in HCI values over time. Between 1990 and 2012, the gain in HCI value was due largely to improvements in the quantity of schooling (72 percent), with smaller gains due to improvements in stunting (10 percent) and child mortality (18 percent). However, in the most recent period, 2012–17, gains in the quantity of schooling slowed to 36 percent due to a slowdown in enrollment growth, while reductions in child mortality (40 percent) and stunting (24 percent) contributed more to HCI growth. This shows that the relative contributions of different components depend on their starting values and improvements over time.

FIGURE 2.4 Expected years of schooling contributed the most to Pakistan's Human Capital Index growth between the two periods, but at a declining rate

Percent

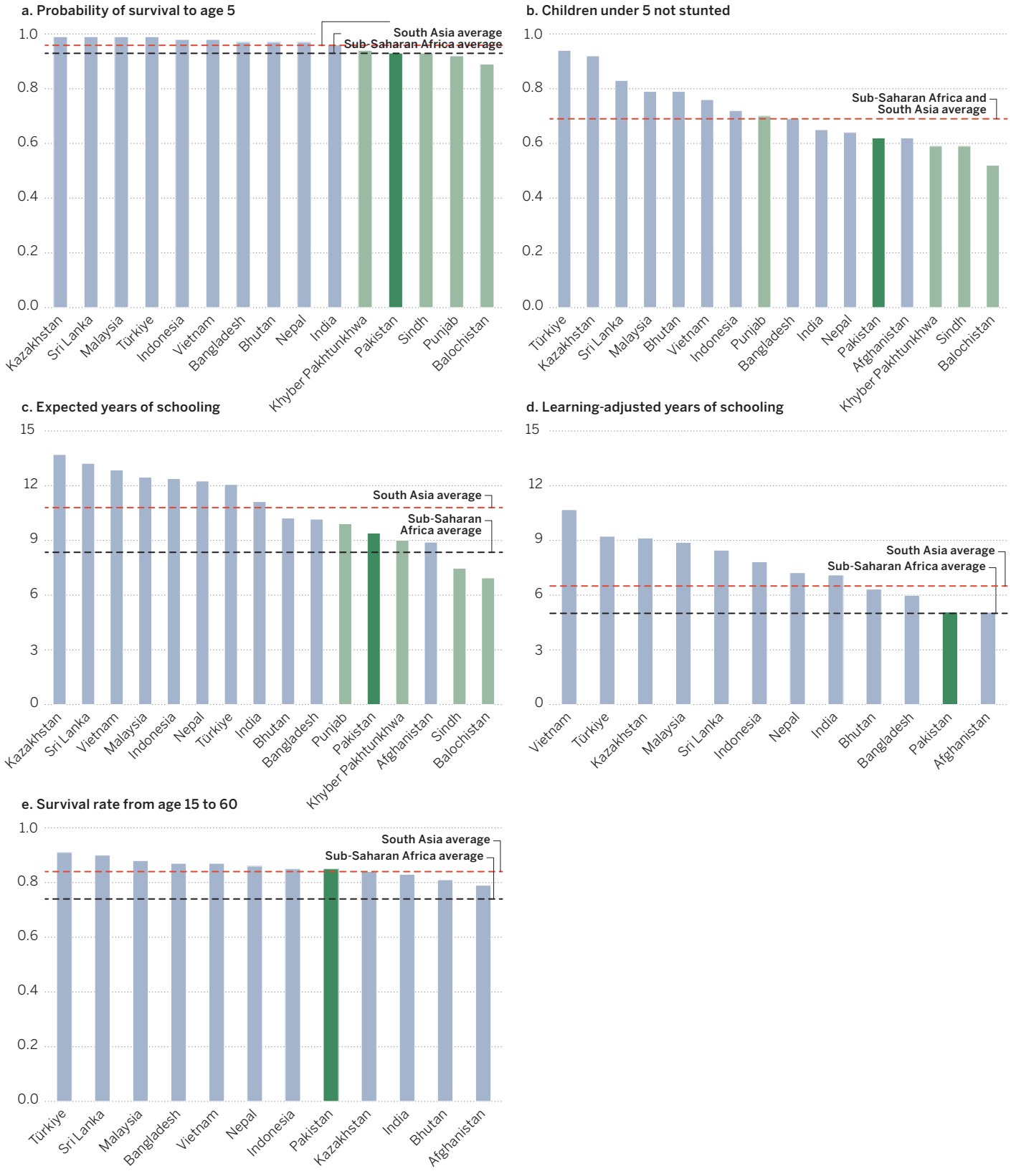


Source: World Bank calculations using data from Demographic and Health Surveys, 1990–2017.

Why do Pakistan's human capital outcomes remain low?

On most components of the HCI, Pakistan underperforms the South Asia region and even the average for Sub-Saharan Africa. On stunting and the quality of education, it performs below the average for Sub-Saharan Africa. The probability of survival to age 5 is far below the South Asia average and the same as the average for Sub-Saharan Africa (figure 2.5, panel a). While children in Pakistan stay in school slightly longer than their peers in Sub-Saharan Africa,

FIGURE 2.5 Pakistan underperforms on all Human Capital Index components except adult survival rate



Source: Pakistan provincial calculations from Demographic and Health Surveys 2017 and 2019. Country-level estimates from the Human Capital Project. GDP from World Bank national accounts data, and national accounts data from the Organisation for Economic Co-operation and Development.

Note: Provincial breakdown is not available for learning-adjusted years of schooling because the Trends in International Mathematics and Science Study is representative only at the national level.

results from the Trends in International Mathematics and Science Study (TIMSS) 2019 rank Pakistan as the second from bottom globally in the science and mathematics performance of its 4th graders (figure 2.5, panel d). Against peer and regional comparators, the only indicator on which Pakistan outperforms is adult survival rate (figure 2.5, panel e).

Provincial inequalities are wide on the HCI and its components, notably for stunting and expected years of schooling (figure 2.5, panels b and c). In schooling, Khyber Pakhtunkhwa and Punjab are at the expected level for Pakistan's economic development, with the average child growing up with at least 9 years of formal schooling—though when adjusted for quality, this is equivalent to only 5.1 years.[3] Sindh and Balochistan are at much lower levels, with the average child growing up with around 7 years of schooling. With only 89 percent of children surviving until their fifth birthday, Balochistan is at the very bottom —globally. The trajectory of child development and human capital accumulation for children born in Balochistan and Sindh is further undermined by the fact that almost half of the children under 5 in the two provinces are stunted.

High child mortality

With 93 percent of newborns surviving until age 5, Pakistan is below the South Asia average (96 percent) and on a par with Sub-Saharan Africa (93 percent).[4] Across low-income countries, the probability of survival to age 5 averages 93.8 percent. While childhood survival in Punjab (92 percent) is slightly lower than those in Sindh (93 percent) and Khyber Pakhtunkhwa (94 percent), Balochistan is at the bottom. The probability of survival to age 5 in Balochistan is one of the lowest in the world (89 percent).

As discussed in detail in chapter 4, child malnutrition is a major complication, caused by low food intake, poor environmental health (including inadequate clean drinking water and sanitation), and lack of quality care for women and children. Data from the 2018 National Nutrition Survey show that mothers and children suffer from similar deficiencies that contribute to high child and maternal mortality. In Pakistan, one in five children is born with low birthweight, 54 percent of children are anemic, and 52 percent of children lack vitamin A. Among women of reproductive age, more than 14 percent are underweight, 43 percent are anemic, and 27 percent are deficient in vitamin A.

Biological and psychosocial risks, such as maternal health and malnutrition, maternal depression, violence, poverty, and inadequate care and early-learning opportunities, all prevalent in Pakistan, expose the developing infant to stressors even if survival is not a concern (chapter 3). The onset, severity, and chronicity of these stressors can influence early brain development, which is most rapid during early childhood and has greater plasticity. While genetics establish the architecture for the developing brain, the nurturing environment and experiences exert a significant influence. Given the widespread risks to poor early development in Pakistan and the large potential gains in returns to investments in early childhood, more attention to early childhood development (ECD) is warranted.

High stunting rates

Pakistan has one of the highest rates of child malnutrition in all its forms: malnutrition (stunting, underweight, and wasting; micronutrient deficiencies; and obesity and overweight (chapter 4). Malnutrition has serious long-term implications for human capital and affects individual and national growth and productivity. While malnutrition manifests itself in various forms, the HCI focuses on stunting. As an indicator of chronic malnutrition, stunting is most closely associated with brain development, physical growth, and human capital development. Stunting varies widely across provinces, with 48 percent of children stunted in Balochistan and 50 percent in Sindh, compared with the national average of 40 percent and Punjab's 30 percent.

Low access and retention in schooling

The expected years of schooling for children age 5–18 in Pakistan (9.4 years) is just below the expected value for a country with its GDP per capita, but as with stunting rates, differences across provinces are striking. Punjab performs above the expected value for a country with Pakistan's GDP per capita but slightly below the South Asia average of 10.8 years. Khyber Pakhtunkhwa slightly underperforms both, at 9.0 years, while Sindh and Balochistan's expected years of schooling are well below expectations (7.5 and 6.9 years, respectively). Pakistan lags all regional and lower-middle-income peers on this dimension.

Pakistan has one of the largest out-of-school populations in the world, with an estimated 20.3 million school-age children not attending school. This is a highly gendered problem, with 37 percent of girls age 5–16 in Pakistan out of school versus 25 percent of boys. A large share of children (22 percent of all children age 5–16) never enroll in school. The reasons include low accessibility and availability of schools, safety concerns on the way to and from school and work, poverty, and social norms preventing the enrollment of girls. While the private sector led the expansion in access to school in the 1990s and 2000s, private school enrollment has plateaued at roughly 40 percent of all enrollments in the past decade.

Low quality of schooling

The learning-adjusted years of schooling (LAYS) combines the quantity (access) and quality (learning outcomes) of schooling in a single easy-to-understand metric. The HCI defines a complete, quality education as 14 LAYS, which serves as a benchmark for comparing performance. The LAYS value in Pakistan is only 5.1 meaning that the average child learns only the equivalent of 5.1 years of schooling versus a child growing up in countries like Singapore, which has a LAYS value of 12.8.[5] Not only is Pakistan's value far short of the expected 9.4 years of schooling, but the value also suggests that almost half the time that students spend in school is not spent in learning. Compared with its income and regional peers, Pakistan underperforms on the quality of education.

The low level of learning outcomes stems from a raft of factors, including limited access to schools, low school readiness of children, poor quality teaching, teacher absences, poor school environment, and ineffective management practices. With 31.5 percent of three- to four-year-olds having low learning levels, Pakistan ranks second from the global bottom on the Early Childhood Development Index. A recent survey in Punjab showed that 16 percent of teachers are not present in the classroom at a given time, and 90 percent of those who are present do not use effective teaching practices, such as providing feedback to students or sequencing lessons appropriately. Teachers have few incentives to perform in the public sector, and there is no relation between teacher quality and teacher tenure.[6] Schooling in Pakistan also suffers from political and social challenges around the language of instruction, with only a minority of students attending a school in the language of the parental home.

Impact of the COVID-19 pandemic on human capital

Pakistan has slowly raised its HCI value, but disruptions can quickly set back the gains. Earlier crises in Pakistan have shown that the effects of school closures can persist for many years. For example, an entire cohort of students age 3–15 at the time of the 2005 earthquake in Pakistan had lower academic scores four years later, despite substantial remedial efforts.[7] Similar effects have been seen for other crises, such as the 2010 floods, which destroyed about 11,000 schools.

The COVID-19 pandemic is a much larger setback for Pakistan's human capital than any

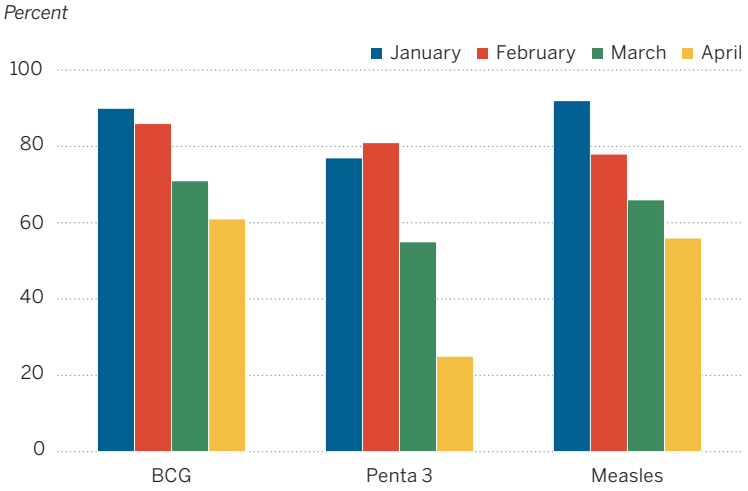
previous crisis. A strained health system coupled with people's fear of infection led many to avoid treatment or regular health checkups, thus risking Pakistan's recent gains in health outcomes (table 2.1). The disruptions in health services and COVID-19-related income losses have worsened child mortality and stunting, with effects that will be felt for decades. School-age children and young people have similarly experienced huge disruptions in access to education and job opportunities.

The COVID-19 lockdown's impact on routine immunization has also exacerbated existing inequities in access (figure 2.6). A geospatial analysis in Karachi, Sindh, revealed that declines in immunization during the initial lockdown period from April 1–9, 2020, were highest in slums and squatter settlements, which already had historically low vaccine coverage.[8] More affluent city neighborhoods were less affected by lockdown restrictions. Between January and March 2021, the share of services experiencing at least some disruptions in Pakistan was slightly higher than the global average of 38 percent.[9]

The evidence so far shows significant adverse impacts of the COVID-19 pandemic on education. Gallup data show that between March 2019 and June 2020, Pakistan lost 12 percent of students age 8–15 from the school system, with the impact particularly pronounced for adolescents. In Punjab, for example, 21 percent of adolescent boys and 8 percent of adolescent girls had dropped out by September 2021. Further, data from a student cohort in Punjab show that students scored 10 percentage points lower in grade 5 mathematics and 14 percentage points lower in English after school closures from March 2020 to September 2021 alone (this period representing less than half of all school closures). These impacts are worse on the poor and vulnerable, exacerbating poverty and inequality.[10]

Based on global simulations for education and health, the impact of the COVID-19 pandemic could have erased more than eight years of progress on human capital for both boys and girls (figure 2.7). The simulations suggest that Pakistan's HCI would be reduced from 0.406

FIGURE 2.6 **Pakistan's vaccination coverage for children under 5 fell from January to April 2020**



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys, 1990–2017, and Human Capital Project 2020.

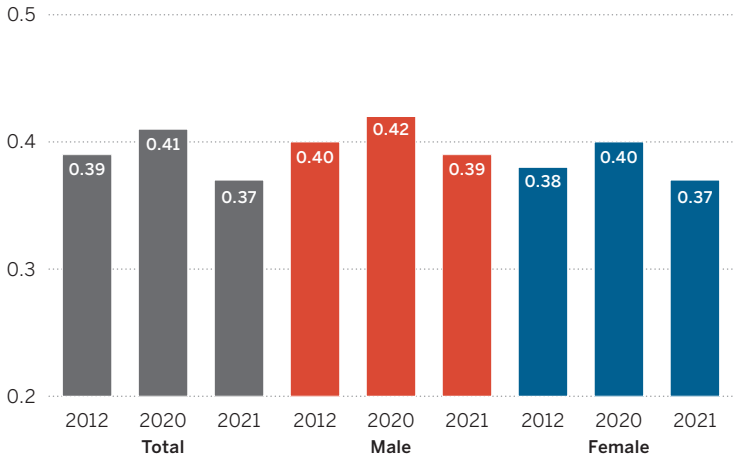
TABLE 2.1 **Disruptions to essential services mean fewer people receive services**

	Current coverage (percent)	Coverage if services disrupted (percent)	People losing services due to disruptions
Oral antibiotics for pneumonia in children	79	40	5,424,900
DPT vaccine[a] for children	75	36	5,441,800
Facility-based delivery	66	34	980,400
Contraceptive prevalence rate[b]	37	23	4,021,800

Source: Global Financing Facility.
a. Diphtheria, pertussis (whooping cough), and tetanus vaccinations.
b. Includes both modern and traditional methods and is calculated for married women only.

FIGURE 2.7 **The COVID-19 pandemic may have wiped out more than eight years of gains on Pakistan's Human Capital Index**

Human Capital Index



Source: World Bank calculations using data from Demographic and Health Surveys, Household Income and Expenditure Surveys, Pakistan Social and Living Standards Measurement Surveys, and Labor Force Surveys, 1990–2017, and Human Capital Project 2020.

to 0.373, a reduction of 0.033, lower than its 2012 level. The main culprit is a reduction in the quantity of schooling (due to dropouts) and in quality (due to learning loss). Between February 2020 and August 2021, 67–84 percent of the school system was closed, where ranges varied depending on assumptions on partial or complete closures.[11] Another factor is child survival, given that child mortality is expected to have increased sharply due to reduced household incomes and health services during lockdown periods. No simulations are available for stunting or adult survival, making it likely that the simulations here present lower bounds of the full impact of the pandemic on human capital.

Impact of the 2022 floods on human capital

Between June and August 2022, torrential rains and riverine, urban, and flash flooding put about one-third of Pakistan under water.[12] According to the National Disaster Management Authority, around 33 million people were affected by the floods, nearly 8 million of whom were displaced. The floods took the lives of more than 1,700 people, one-third of them children. Rain-induced floods, accelerated glacial melt, and the resulting landslides devastated millions of homes and key infrastructure, submerging entire villages and destroying livelihoods. The scale of the disaster is unprecedented in Pakistan, exceeding the damages of the 2010 floods. About 94 districts—more than half of all districts in Pakistan—were declared calamity hit. Of the 25 poorest districts, 19 were calamity affected. Initial estimates by the World Bank suggest that, as a direct consequence of the floods, the national poverty rate has likely increased by 3.7–4.0 percentage points, pushing 8.4–9.1 million people into poverty. The floods reveal Pakistan's high vulnerability to climate change despite accounting for less than 1 percent to global greenhouse gas emissions.

The floods exacerbated the already dire levels of learning poverty and malnutrition. Standing water, food insecurity, malnutrition, and waterborne and vector-borne diseases are serious risks for human capital development. Natural disasters not only cause death and destruction to physical capital; they also have large and long-term effects on children's opportunities to accumulate human capital due to the adverse impacts on nutrition, education, health, and income.[13] In most of the flood-affected districts, 50 percent or more of children under 5 were already stunted. Almost 24,000 schools have been damaged or destroyed, most of them in Sindh. More than 7,000 schools had to accommodate people displaced by flooding, so they could not provide schooling. As a result, an estimated 3.5 million children had their schooling disrupted.[14]

The floods made it even more difficult for children to attend school and receive quality learning. Before the floods, about 20.3 million children were out of school, and 75 percent of 10-year-olds could not read an age-appropriate text. With the COVID-19 pandemic and the floods, learning poverty could increase to 80 percent, according to simulations by the World Bank. The floods affected access to safe

drinking water, transport, and basic services. As with most disasters, the poorest families were hit the hardest. Food insecurity has become acute, affecting nutritional and health outcomes for children and older family members. And health risks have increased due to water-borne and associated diseases, including dengue and malaria (box 2.1).

BOX 2.1

Human capital impacts of the 2022 floods

To assess the human development impacts of the floods, a national phone survey gathered information from about 4,000 households with children age 3–17. Originally designed to track children's return to school following school closures due to the COVID-19 pandemic, the survey helped document and understand the challenges facing families with children.

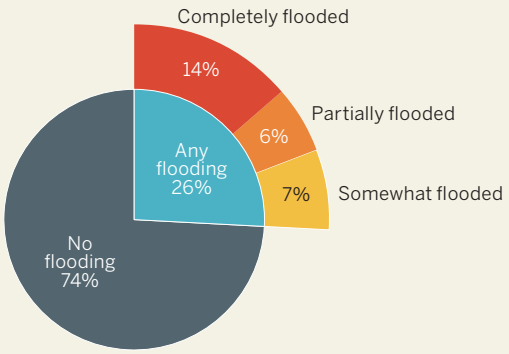
Impacts on families with children

Of households with children age 3–17, 26 percent reported living in areas somewhat, partially, or completely flooded, including 14 percent in completely flooded areas (box figure 1). These high percentages show the detrimental effects on the future human development of a substantial share of children. About 5 percent of families reported having married off one of their children to cope with the impacts, and 15 percent reported that their children are likely to stay home to help with household chores and reconstruction. Of parents surveyed, 28 percent envisioned their child working instead of returning to school due to the adverse economic impacts of the floods, with the rate of child labor expected to be the highest in Balochistan (41 percent against about 27 percent in Khyber Pakhtunkhwa and Sindh).

Of families with children in flooded areas, 39 percent reported losing agricultural crops, 32 percent losing livestock, and 15–29 percent damage to roads, bridges, and electricity (box figure 2). There were also direct hits to households, with 44 percent reporting damage to their house and 26 percent reporting losing their house. One in five households reported losing the means to earn a living, casting doubt on their capacity to quickly recover.

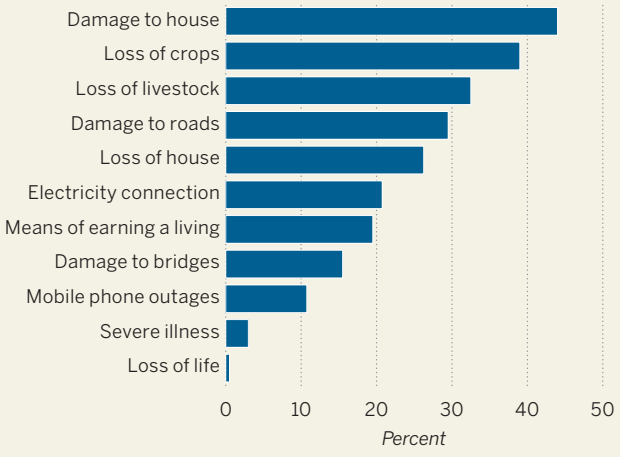
(continued)

Box figure 1 Almost one-third of families with children age 3–17 reported some flooding in their area



Source: World Bank phone survey.

Box figure 2 Families with children reported direct impacts to their household and income-related activities, and indirect impacts through limited access to public goods



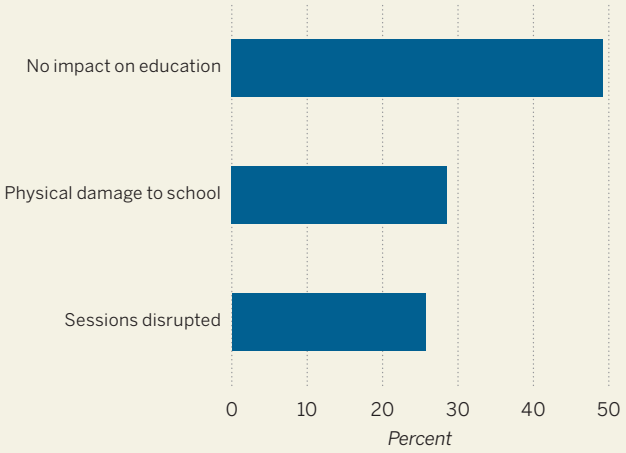
Source: World Bank phone survey.

BOX 2.1, continued

Impact on children's education

Of the families with flooding in their area, just over half reported that the floods hurt their children's education (box figure 3). More than a quarter reported that their children's schools were disrupted and/or damaged, and almost a third reported that their children's school was completely damaged. Damages to schools due to the floods occurred most often in Sindh and Balochistan. Approximately 17 percent of schools were also used as temporary shelters for displaced families, which further depleted school infrastructure.

Box figure 3 More than half of families interviewed reported that the floods hurt their children's education

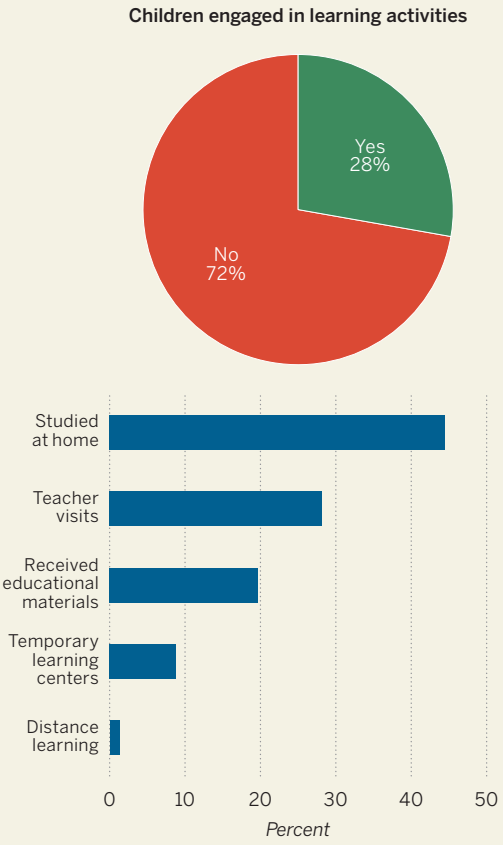


Source: World Bank phone survey.

About 72 percent of parents reported that their children were not studying during flood-caused school closures (box figure 4), while 28 percent of parents said their children were continuing to learn. Among the latter group, 28 percent reported that teachers visited their children, and 20 percent reported that their children received printed educational materials. About 9 percent indicated that their children continued their studies in temporary learning centers, and just 4 percent participated in distance learning.

About 33 percent of parents agreed that it would be more difficult for girls than boys to go back to school in the areas where roads had been destroyed. Parents were more concerned for girls than boys about the deterioration of transport, roads, and other services. This aligns with findings that parents in Pakistan generally consider transportation services to be a key determinant of school attendance for girls and young women, even before the floods.[1]

Box figure 4 Engagement of children in learning activities during school closures due to floods



Source: World Bank estimates based on phone survey.

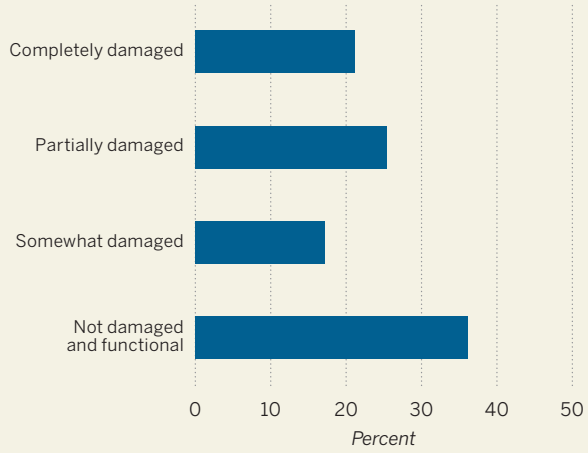
Health impacts

Survey respondents said health facilities were either completely damaged (21 percent) or partially damaged (25 percent) in their area; 17 percent of respondents said these facilities were somewhat damaged (box figure 5). In short, only one in three healthcare facilities in areas covered by the survey seem to have survived the floods unscathed. The lack of health facilities can reduce school attendance as areas underwater generate disease.

(continued)

BOX 2.1, continued

Box figure 5 Almost two-thirds of health facilities were damaged by floods



Source: World Bank phone survey.

Importantly, in response to the phone survey, 28 percent reported malaria and dengue outbreaks in the flooded areas. Unlike the unequal impact of the floods on different households with different education backgrounds, flood-related diseases show no preference—all levels of education attainment bear the burden equally. In addition, 32 percent of households reported a lack of regular access to clean drinking water, one of most common sources of infectious diseases.

Note

1. Baron et al. forthcoming.

Source: Bend and others 2022.

INEQUALITIES IN HUMAN CAPITAL FORMATION

Understanding how Pakistan can improve its human capital outcomes requires an analysis that adopts a longer timeframe and identifies the many interventions that can lead to positive changes.[15] The persistent gaps between wealth groups are only one of several dimensions of the inequality that continue to undermine Pakistan's human capital potential. The challenges of low human capital accumulation and utilization are compounded by significant inequalities between men and women and among provinces and urban–rural locations.

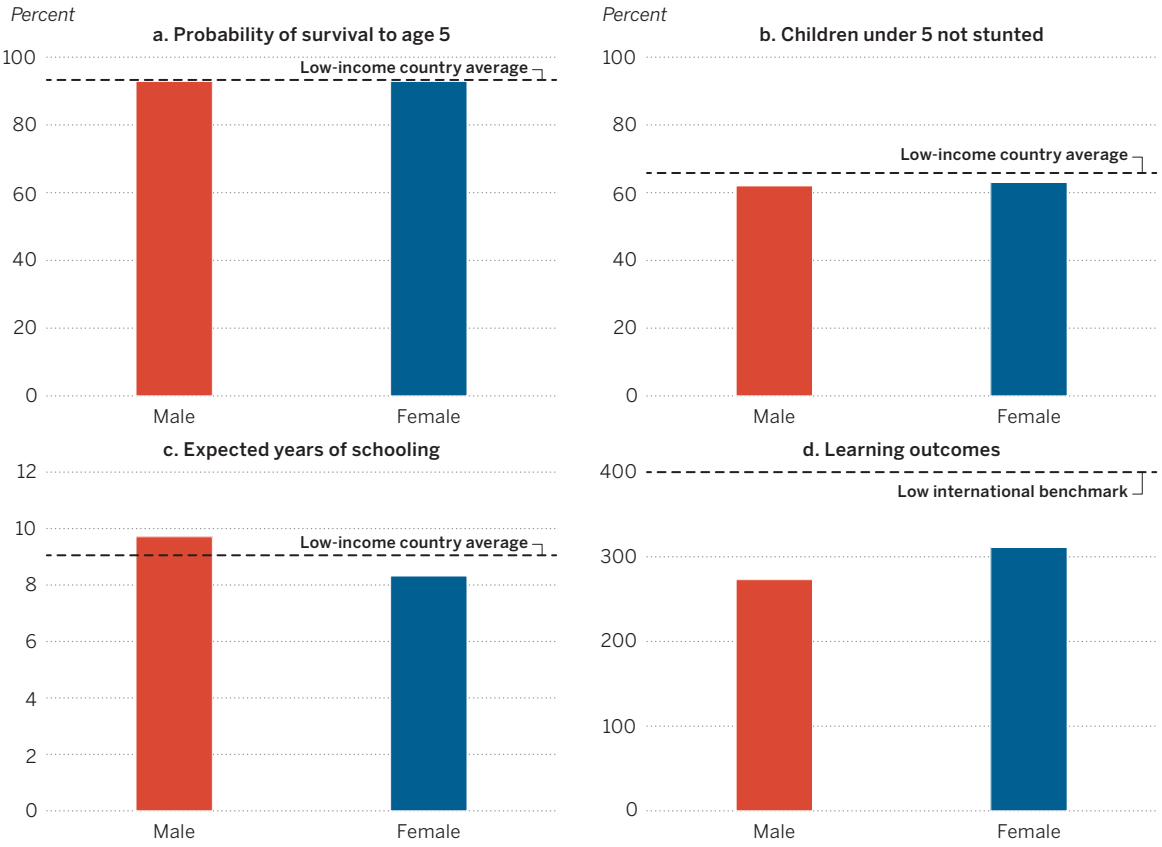
Gender inequalities

While gender gaps run deep across Pakistan's society, gender inequality on the HCI is not as large as one might expect. The main source of gender inequality in human capital accumulation is the expected years of schooling, with boys spending more time in school (9.7 years) than girls (8.3 years) (figure 2.8). Gender gaps in the probability of survival to age 5 and the fraction of children under 5 not stunted are small and even in girls' favor (see figure 2.8, panels a and b). This means that almost all the gender inequality on the HCI comes from the education component, not from the health component.

Girls in school have far higher learning outcomes, about 38 points ahead of boys on the 2019 TIMSS Science test, which is equivalent to more than a year of schooling in an average country. This again shows the great potential for Pakistan to raise its overall HCI value by improving human capital accumulation (education) and utilization (employment) for girls.

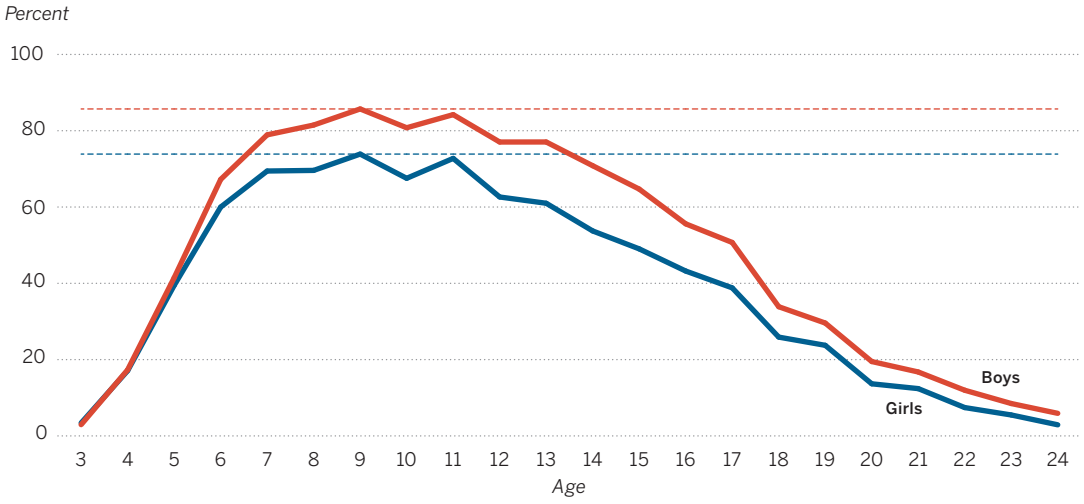
Girls are disadvantaged mostly by lower initial enrollment (figure 2.9). The peak of the figure shows the share of children who ever enroll in school at any age: 86 percent of boys and 74 percent of girls ever enroll in school. During the first five years of schooling, there are no visible gender differences in dropout patterns. But there is a large dropout of girls after grade 5, the end of primary school. About 23 percent of boys and 28 percent of girls are lost from the school system at this transition. After grade 8, boys and girls drop out at similar rates, and by grade 10, the inequality between boys and girls is virtually

FIGURE 2.8 Girls' outcomes are worse than boys in access to school, but not in other components of the Human Capital Index



Source: Demographic and Health Survey 2017; Trends in International Mathematics and Science Study (TIMSS) Science test 2019.
Note: Only one round of TIMSS has been conducted in Pakistan.

FIGURE 2.9 Girls enroll in much lower numbers than boys



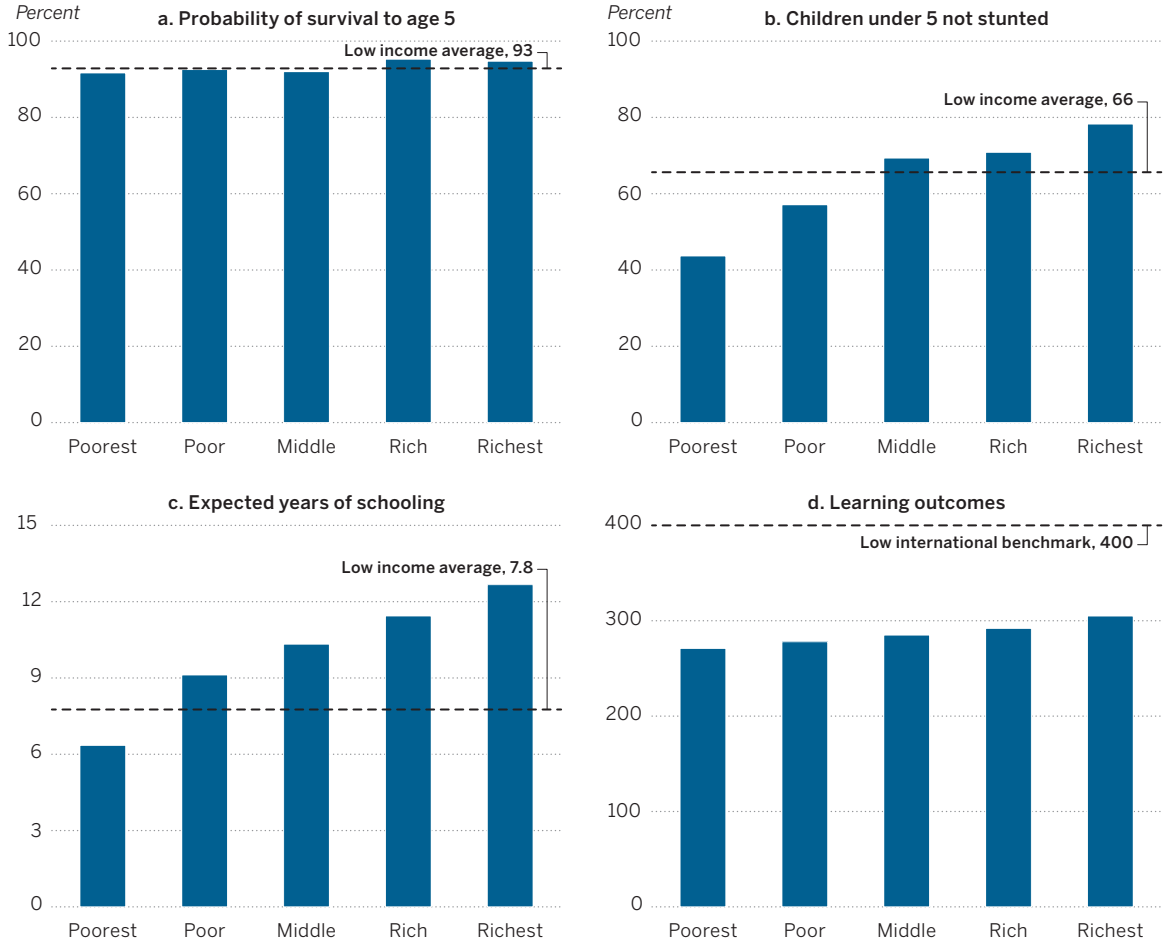
Source: Pakistan Social and Living Standards Measurement Survey 2018/19.

eliminated. The large gap between boys and girls at the end of primary school is due to inadequate access to schools beyond grade 5 (especially in rural areas, where most schools offer only primary education) and to parental views that primary education is enough for girls.

Socioeconomic inequalities

As discussed, even the richest groups in Pakistan have relatively low human capital outcomes in international comparisons. That said, human capital outcomes vary widely by socioeconomic background (figure 2.10). Children from the richest two quintiles have a 95 percent probability of survival to age 5, and those from the poorest, 92 percent. The difference in stunting is also large, with fewer than half (44 percent) of children in the poorest quintile not stunted, versus more than three-quarters (78 percent) in the richest. The difference between rich and poor is most pronounced in expected years of schooling, with the richest quintile spending twice as long in school (12.7 years) as the poorest (6.4 years). However, the difference in learning outcomes is not as large as one might expect, with about 34 points in the TIMSS Science score in favor of children of highly educated parents, or about a year of learning in an average country.

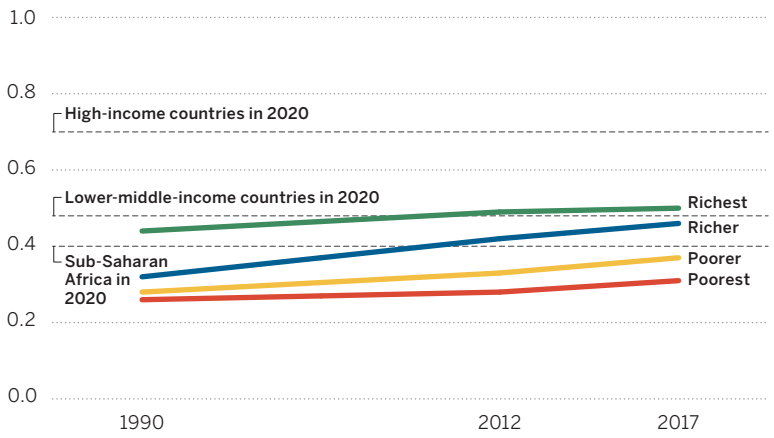
FIGURE 2.10 Components of the Human Capital Index by wealth quintiles



Source: Demographic and Health Surveys 2017; Trends in International Mathematics and Science Study (TIMSS) Science test 2019.
Note: Only one round of TIMSS has been conducted in Pakistan.

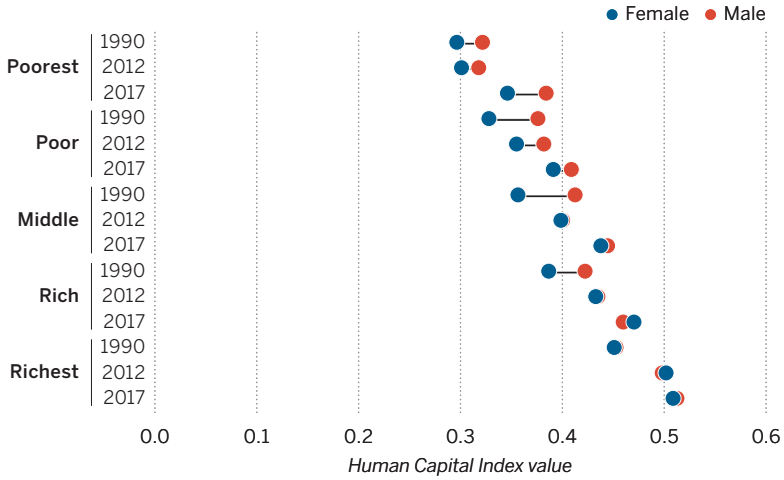
Inequalities in human capital outcomes between the richest two quintiles, and the poorest two quintiles appear to have grown in the past 30 years (figure 2.11). The richest two quintiles have improved to be roughly around the lower-middle-income country average (HCI value of 0.48), whereas the poorest two quintiles remain below the Sub-Saharan African average (HCI value of 0.40). The gap in HCI values between the richest and poorest quintiles has increased from 0.18 to 0.19. And the gap has widened between the second and fourth richest quintiles, from 0.04 to 0.09. This means that Pakistan has raised its HCI value by investing more in the richest quintiles than in the poorest two.

FIGURE 2.11 **The Human Capital Index gap between the richest and poorest groups has persisted over the past three decades**



Source: World Bank calculations using data from Demographic and Health Surveys 1990–2017. Official Human Capital Index values are from the Human Capital Project.
Note: The middle quintile is excluded to allow better comparison against benchmark values.

FIGURE 2.12 **Pakistan Human Capital Index values by gender and wealth**



Source: World Bank calculations using data from Demographic Health Surveys 1990–2017.

The gender gap in human capital accumulation also varies with wealth (figure 2.12). Between 1990 and 2017, the gap widened for those in the poorest quintile but narrowed for those in all other wealth quintiles. For the poorest quintile, the HCI gender gap increased from 0.03 to 0.04, as the HCI value rose from 0.27 to 0.31 for females and from 0.31 to 0.35 for males. In the second richest quintile, the female HCI value improved from 0.35 to 0.47, surpassing the male HCI value in 2017, which improved from 0.39 to 0.46. The gap was minimal among those in the richest quintile over the period.

Geographic inequalities

Breaking down HCI values by province suggests wide inequality of outcomes: the lowest-performing province in Pakistan—Balochistan (0.32)—is at the global bottom, at the same level as Niger. Sindh, with an HCI value of 0.36, is comparable to Nigeria and Sierra Leone (0.36). Khyber Pakhtunkhwa, with a HCI value of 0.39, is comparable to Burundi and Tanzania. The HCI value of the highest-performing province in Pakistan—Punjab (0.42)—is comparable to that of Senegal (0.42) and just below that of South Africa (0.43).

North Punjab has the highest HCI value (about 0.50), while rural Sindh and Balochistan are home to districts with some of Pakistan's lowest HCI values (about 0.25). In other words, children born in the top-performing districts of Pakistan today can expect to have, on average, twice as much human capital (be twice as productive) by age 18 as children born in the lowest-performing districts. Without urgent remedial action, this will reinforce the intergenerational cycle of inequality.

Changes in provincial inequalities

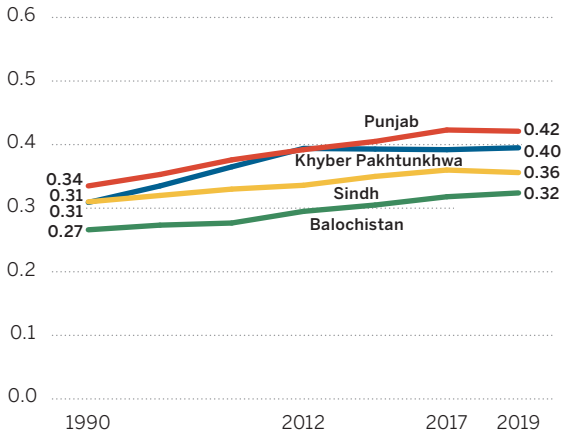
Punjab has had the highest HCI value among the provinces for the past three decades, rising from about 0.34 in 1990 to about 0.42 in 2019 (figure 2.13). Khyber Pakhtunkhwa had the fastest rate of increase in HCI of any province, going from 0.31 in 1990 to 0.39 in 2012, but then levelling off. Sindh and Balochistan grew at the same rate over the 30 years (0.05), although from different baselines. Balochistan improved at a slower pace, with its HCI value increasing from about 0.27 to 0.32, while Sindh's HCI value improved from 0.31 to 0.36 over the same period.

Pakistan's provinces do not show large variations in the probability of survival to age 5 but exhibit wide differences in under-5 stunting rates (figure 2.14). Punjab has the lowest stunting rate at 30 percent, while half the children under 5 in Sindh are stunted.

Punjab generally has higher expected years of schooling for boys and girls, and Balochistan the lowest (figure 2.14, panel c). The gender gap

FIGURE 2.13 Human Capital Index trend in Pakistan, by province

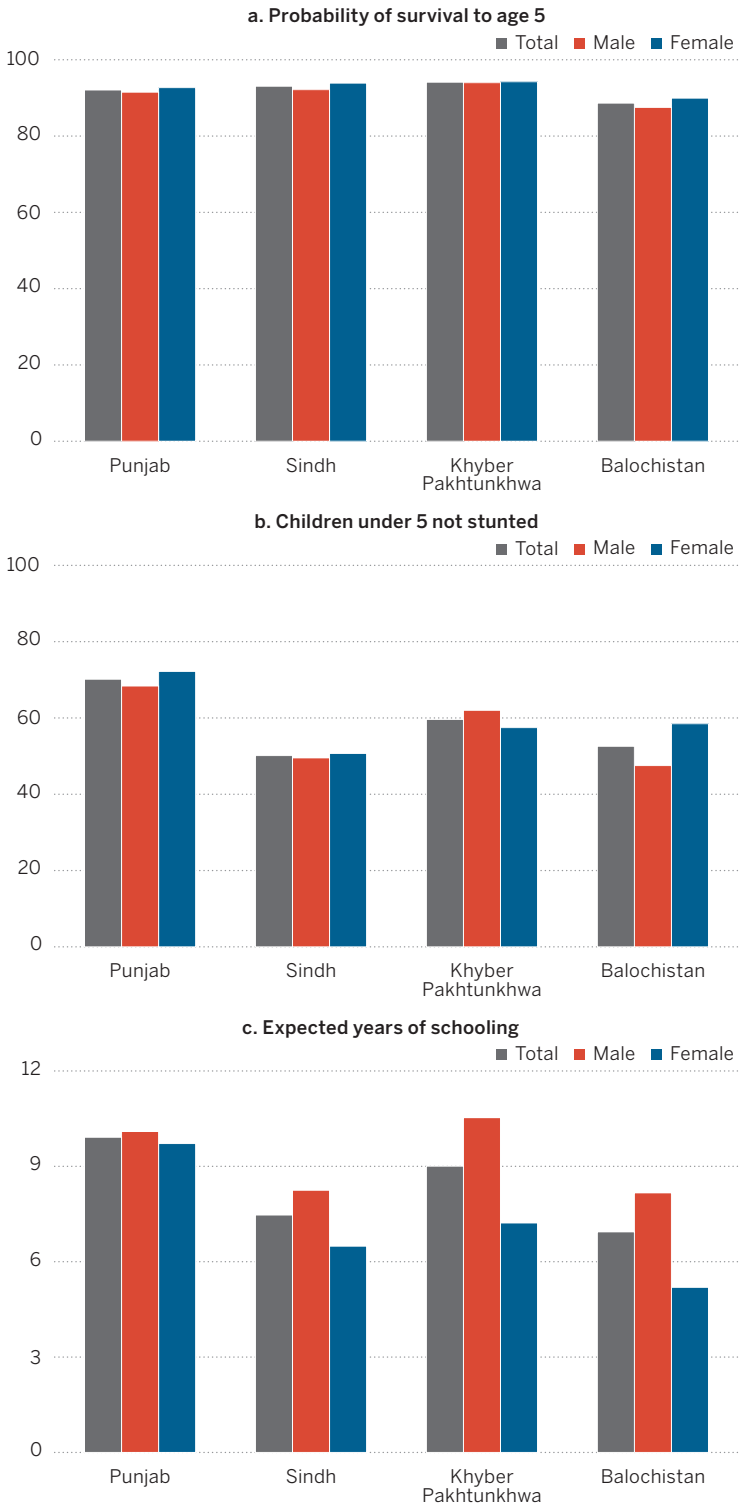
Human Capital Index value



Source: Demographic and Health Surveys 2017; Trends in International Mathematics and Science Study (TIMSS) Science test 2019.
Note: Only one round of TIMSS has been conducted in Pakistan.

FIGURE 2.14 Human Capital Index components in Pakistan's provinces vary little on survival but widely on stunting

Percent



Source: Demographic and Health Surveys 2017; Trends in International Mathematics and Science Study (TIMSS) Science test 2019.
Note: Only one round of TIMSS has been conducted in Pakistan.

for enrollment is the smallest in Punjab at about 3 percentage points, against 15–19 percentage points for the other three provinces.

The decomposition of the changes in HCI values into its components shows that the apparent provincial inequality stemmed from changes in both health (stunting) and education (enrollment and dropout).

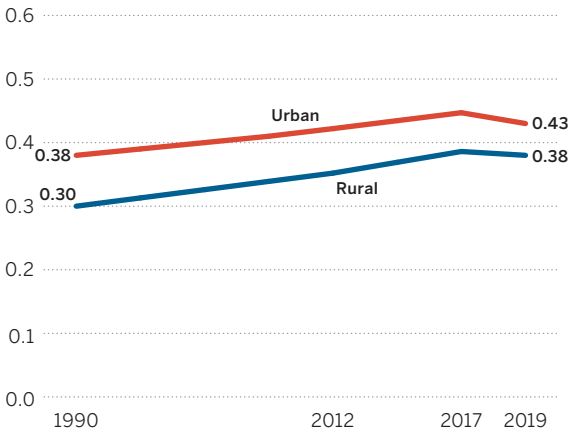
Urban–rural inequalities

Gaps in human capital outcomes between urban and rural areas are large, though they have declined a little over the past three decades. From 1990 to 2019, the HCI value rose from 0.38 to 0.43 in urban areas and from 0.30 to 0.38 in rural areas (figure 2.15). The difference in HCI values between urban and rural areas has shrunk faster in the most recent decade, due to accelerated gains in rural areas.

The main sources of the urban–rural inequality in human capital are the differences in under-5 stunting rates and expected years of schooling (figure 2.16). For TIMSS, the difference for gender is much larger, at 38 TIMSS points, than that for urban–rural location.

FIGURE 2.15 **In three decades, rural areas have closed the Human Capital Index gap with urban areas a little**

Human Capital Index value



Source: Demographic and Health Surveys, Household Income and Expenditure Surveys, and Pakistan Social and Living Standards Measurement Surveys.

WHY DOES PAKISTAN UNDERUTILIZE ITS HUMAN CAPITAL?

Women's participation in the labor force increased from the 1990s through the 2000s. In the past few years, close to half of women with postsecondary degrees consider themselves to be a full part of the labor market. But growth stalled during the past decade. And women with primary and secondary education do not have better (nonagricultural) employment. While women are gradually increasing their level of education, this trend also goes hand in hand with increasing unemployment, except for women with higher education (figures 2.17 and 2.18).

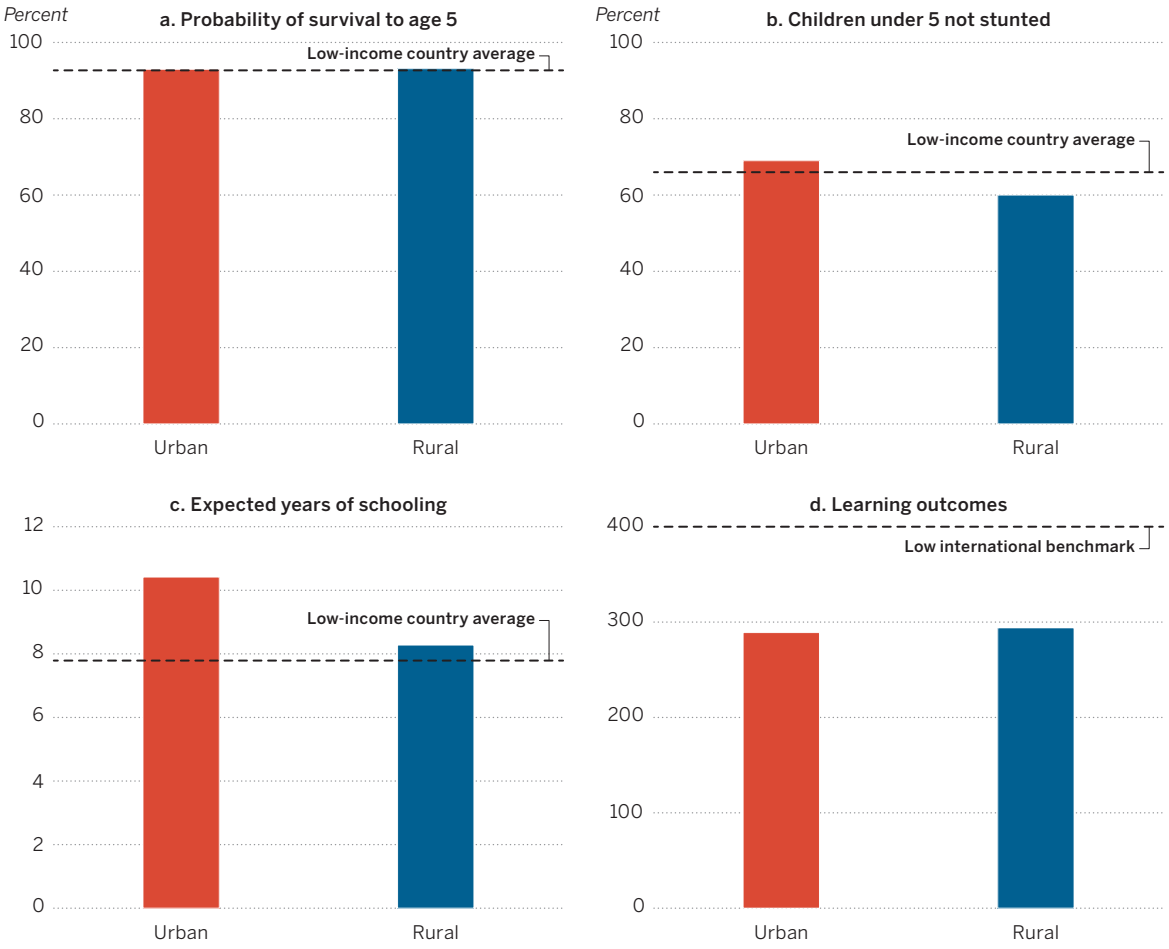
While education reduces the gender gap in employment, structural constraints in culture, including conservative attitudes and gendered division-of-labor norms, also strongly influence women's labor outcomes. Some women are willing to work if they can find employment and have safe transport to and from their jobs, and reducing physical mobility constraints has a large impact on women but not men.[16]

So, by directly addressing labor market constraints for women, such as through emphasizing higher education and increasing physical mobility and safety to and from school and work, Pakistan can reduce gender employment gaps and improve the utilization of its human capital.

CONCLUSION AND RECOMMENDATIONS

Pakistan has made some progress in its human capital over the past three decades, but its overall levels of human capital remain low, and its human capital growth is not fast enough to catch up with other lower-middle-income countries. Moreover, inequalities persist, with human

FIGURE 2.16 Human Capital Index components in Pakistan by economic development



Source: Demographic and Health Surveys, Household Income and Expenditure Surveys, and Pakistan Social and Living Standards Measurement Surveys.

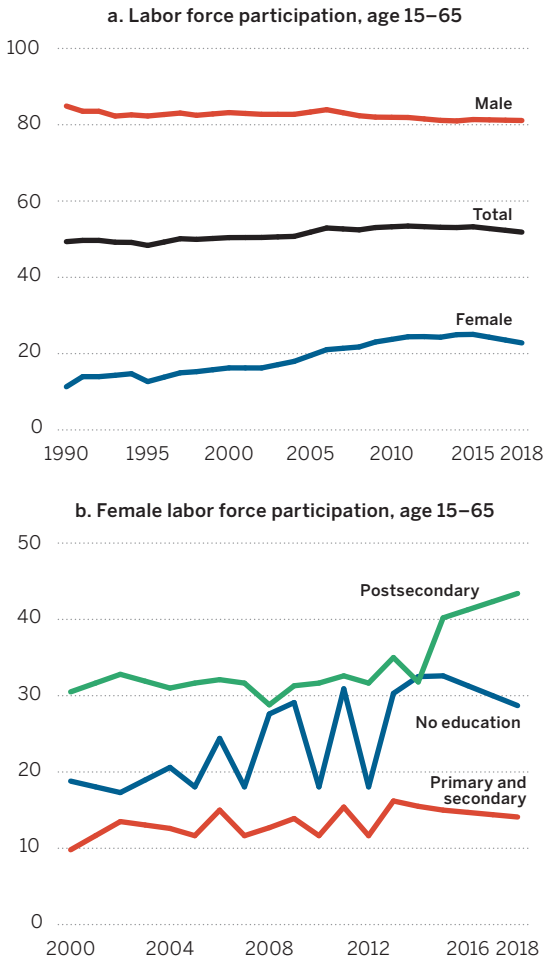
capital gaps remaining similar over time between rich and poor households, men and women, and rural and urban areas. Among women, human capital is severely underutilized due to low investments in education and to societal norms that hinder their participation in the labor market.

The COVID-19 pandemic and the 2022 floods have been serious disruptions to human capital formation in Pakistan. Delays in key health services such as immunization and losses in learning and dropouts due to school closures are estimated to have reversed eight years of hard-won gains on the HCI. Without quick and sustained action, this reversal will become increasingly hard to undo and will require a more systematic approach to put improving human capital outcomes back on track. The 2022 floods further limited access to health and education services and likely increased malnutrition and learning poverty.

Investing in girls' education and training is an important precondition to increasing female labor force participation. Addressing both demand and supply constraints that limit girls' education should be a priority. Social norms are among the most powerful factors in determining women's interactions in the public sphere. Possible interventions to influence norms include strategic

FIGURE 2.17 Labor force participation of women continues to grow for women with post-secondary education

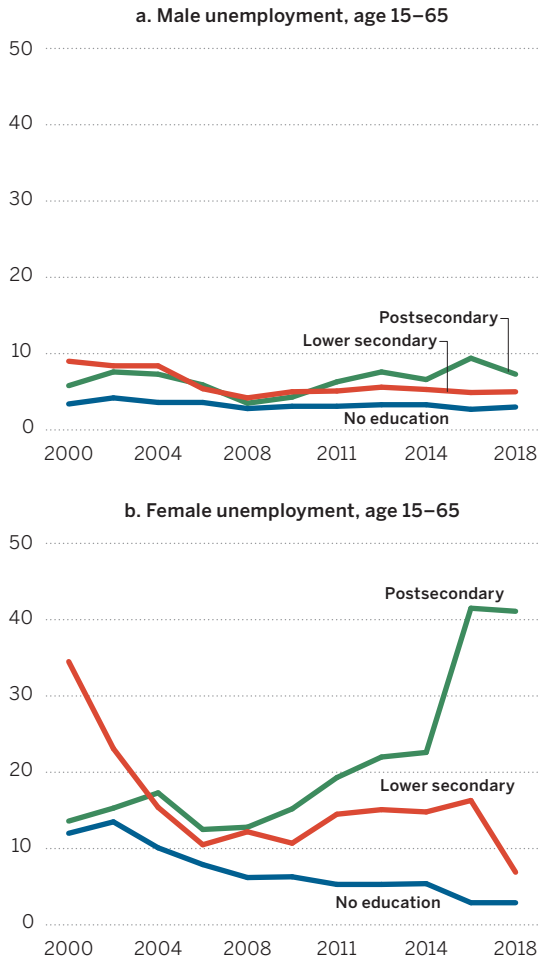
Percent



Source: World Development Indicators; World Bank calculations using data from Labor Force Surveys.

FIGURE 2.18 For women especially, having a postsecondary education means a higher chance of employment

Percent



Source: World Bank calculations using data from Labor Force Surveys.

Note: Respondents with only primary education and upper-secondary education are excluded to avoid overcrowding the graphs.

use of positive messaging about strong female role models. And engaging men is crucial in changing norms surrounding women's economic activities. Informational nudges—particularly those emphasizing the difference in earnings between females and males—can encourage women to enroll in training programs to enter more male-dominated occupations.

As Pakistan seeks to become an upper-middle-income country by its centennial in 2047, accelerating progress in human capital development is essential. The COVID-19 situation appears to be easing, but with macro-fiscal risks growing, there is a risk that investments in human development may be cut back. However, this is not a time to take the foot off the accelerator. Continued and deliberate multisectoral and whole-of-government efforts are essential to build strong education, health, and social protection systems to prepare for and mitigate potential future shocks.

NOTES

1. The evidence, primarily from developed countries, suggests a potential mismatch between the requirements of new tasks and technologies and the skills of the current workforce (Autor and Dorn 2013).
2. No historical data on the quality of schooling are available for Pakistan. The first time Pakistan participated in an internationally benchmarked student assessment was in 2019 (TIMSS).
3. Provincial disaggregation of LAYS is not possible.
4. The probability of survival to age 5 is calculated as the complement of the under-5 mortality rate. The under-5 mortality rate is the probability of a child born in a specified year dying before reaching the age of 5 if subject to current age-specific mortality rates.
5. World Bank 2020.
6. Bau and Das 2020.
7. Andrabi, Daniels, and Das 2020.
8. Chandir et al. 2020.
9. WHO 2021.
10. See chapter 3 for a snapshot of the household-level impacts of the COVID-19 pandemic on young families.
11. Azevedo et al. 2022.
12. Government of Pakistan 2022.
13. Baez, de la Fuente, and Santos 2010.
14. NDMA 2022; UNICEF 2022.
15. Changes in HCI values over a short period are typically small and might simply reflect updates to components that are measured sporadically, rather than actual changes in underlying outcomes. In contrast, the analysis of longer-term trends has a more solid basis, given the scope for smoothing out short-run idiosyncrasies.
16. Field et al. 2020.

REFERENCES

Andrabi, T., B. Daniels, and J. Das. 2020. "Human Capital Accumulation and Disasters: Evidence from the Pakistan Earthquake of 2005." *Journal of Human Resources* 57 (2).

Andrabi, T., B. Daniels, and J. Das. 2021. "Human Capital Accumulation and Disasters: Evidence from the Pakistan Earthquake of 2005." The Journal of Human Resources (June 2021): 1–67. http://jhr.uwpress.org/content/early/2021/06/02/jhr.59.2.0520-10887R1.

Autor, D. H., and D. Dorn. 2013. "The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market." *American Economic Review* 103 (5): 1553–97.

Azevedo, J. P., A. Hasan, D. Goldemberg, K. Geven, and S. A. Iqbal. 2022. "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates." *The World Bank Research Observer* 36 (1): 1–40. https://doi.org/10.1093/wbro/lkab003.

Baez, J., A. de la Fuente, and I. V. Santos. 2010. "Do Natural Disasters Affect Human Capital? An Assessment Based on Existing Empirical Evidence." IZA Discussion Paper 5164, Institute for the Study of Labor, Bonn, Germany.

Baez, J., and I. V. Santos. 2007. "Children's Vulnerability to Weather Shocks: A Natural Disaster as a Natural Experiment." Working paper, Active Learning Network for Accountability and Performance in Humanitarian Action, London, UK.

Baron, J., I. Trako, N. Ejaz, and M. Bend. Forthcoming. "Constraints to Girls' Education in Pakistan." Washington, DC: World Bank.

Baron, J., M. Bend, E. M. Roseo, and I. Farrakh. 2022. "Floods in Pakistan: Human Development at Risk." Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/38403.

Bau, N., and J. Das. 2020. "Teacher Value Added in a Low-Income Country." *American Economic Journal: Economic Policy* 12 (1): 62–96.

Beegle, K., R. H. Dehejia, and R. Gatti. 2003. "*Child Labor, Income Shocks, and Access to Credit*. Policy Research." Working Paper, 3075, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/18222.

Chandir S., D. A. Siddiqi, H. Setayesh, and A. J. Khan. 2020. "Impact of COVID-19 Lockdown on Routine

Immunisation in Karachi, Pakistan." *Lancet Global Health* 8 (9): e1118–e1120.

De Janvry, A., F. Finan, E. Sadoulet, and R. Vakis. 2006. "Can Conditional Cash Transfer Programs Serve as Safety Nets in Keeping Children at School and From Working When Exposed to Shocks?" *Journal of Development Economics* 79 (2): 349–373.

Dong, Y., and H. Yang. 2020. "Natural Disaster and Child Labor: Evidence from Indonesian Earthquake," February 21, 2020. https://ssrn.com/abstract=3542086 or http://dx.doi.org/10.2139/ssrn.3542086.

Field, E., S. U. Junaid, H. Majid, A. Malik, A. Shahid, and K. Vyborny. 2020. *Transport and Urban Labour Market Integration: Evidence on Travel Time and Congestion from a Mass Transit Quasi-experimental Evaluation and Evidence on Firms from a Randomised Control Trial in Pakistan, 3ie Grantee Final Report*. New Delhi: International Initiative for Impact Evaluation (3ie).

Global Financing Facility. 2020. "Preserve Essential Health Services during the Covid-19 Pandemic: Pakistan." https://www.globalfinancingfacility.org/sites/gff_new/files/documents/Pakistan-Covid-Brief-GFF.pdf.

Government of Pakistan. 2021. "PSLM — 2019–20: Pakistan Social and Living Standards Measurement Survey." Pakistan Bureau of Statistics, Ministry of Planning Development and Special Initiatives: Government of Pakistan. https://www.pbs.gov.pk/sites/default/files//pslm/publications/pslm_district_2019-20/Key_Finding_Report_of_PSLM_District_Level_Survey_2019-20.pdf.

Government of Pakistan. 2022. "Pakistan Floods 2022: Post-Disaster Damage Assessment (PDNA)." Ministry of Planning Development and Special Initiatives: Government of Pakistan. https://www.pc.gov.pk/uploads/downloads/PDNA-2022.pdf

Hallegatte, S., A. Vogt-Schilb, J. Rozenberg, M. Bangalore, and C. Beaudet. 2020. "From Poverty to Disaster and Back: a Review of the Literature." *EconDisCliCha* 4: 223–247.

Hicks, J. H., M. Kremer, I. Mbiti, and E. Miguel. 2011. "Vocational Education Voucher Delivery and Labor Market Returns: A Randomized Evaluation among Kenyan Youths." Washington, DC: World Bank.

Husted, L., I. M. Opper, and R. J. Park. 2022. "The Impact of Natural Disasters on Human Capital." EdWorkingPaper, 22–548, Annenberg Institute for School Reform at Brown University, London, UK. https://doi.org/10.26300/bkah-we19.

Jacoby, H., and E. Skoufias. 1997. "Risk, Financial Markets, and Human Capital in a Developing Country." *Review of Economic Studies* 64 (3): 311–335.

Jensen, R. 2000. "Agricultural Volatility and Investments in Children." *American Economic Review* 90 (2): 399–404.

Kousky, C. 2016. "Impacts of Natural Disasters on Children." *The Future of Children* 26 (1): 73–92. http://www.jstor.org/stable/43755231.

Lai, B. S., B. A. Auslander, S. L. Fitzpatrick, and V. Podkowirow. 2014. "Disasters and Depressive Symptoms in Children: A Review." *Child and Youth Care Forum 43* (4): 489–504. https://doi.org/10.1007/s10566-014-9249-y.

Lai, B. S., and A. La Greca. 2020. "Understanding the impacts of natural disaster on children." *Society for Research in Child Development (SRCD) Child Evidence Brief* 8, August.

NDMA (National Disaster Management Authority). 2022. "NDMA Floods (2022) SITREP–2022." Islamabad, Pakistan: NDMA. http://cms.ndma.gov.pk/storage/app/public/situation-reports/October2022/9WVaA9l0lwTcmtxzP1fa.pdf.

Takasaki, Y. 2017. "Do Natural Disasters Decrease the Gender Gap in Schooling?" *World Development* 94 (June 2017): 75–89.

Tang, B., X. Liu, Y. Liu, C. Xue, and L. Zhang. 2014. "A Meta-Analysis of Risk Factors for Depression in Adults and Children after Natural Disasters." *BMC Public Health 14* (1): 623. https://doi.org/10.1186/1471-2458-14-623.

UNICEF (United Nations Children's Fund). 2022. "Pakistan: Humanitarian Situation Report, 3," September 20, 2022. https://www.unicef.org/media/127711/file/Pakistan-Humanitarian-SitRep-No.3-(Floods)-20-Sep-2022.pdf.

UNICEF (United Nations Children's Fund) Pakistan. 2018. "National Nutrition Survey: Key Findings Report." UNICEF, Islamabad, Pakistan. https://www.unicef.org/pakistan/media/1871/file/KeyFindings---NationalNutritionSurvey2018.pdf.

UNOSAT (United Nations Satellite Centre). 2022. "Preliminary Satellite Derived Flood Evaluations Assessment –Islamic Republic of Pakistan" (map), October 12, 2022. https://reliefweb.int/map/pakistan/preliminary-satellite-derived-flood-evolution-assessment-islamic-republic-pakistan-11-oct-2022.

Ureta, M. 2006. "Hurricane Mitch, Family Budgets and Schooling in Nicaragua." Paper prepared for the

Inter-American Development Bank conference, Washington, DC., February 10, 2005. https://www.cerge-ei.cz/pdf/events/papers/051114_t.pdf.

WFP (World Food Programme). 2022. "WFP Pakistan Situation Report," September 19, 2022. https://reliefweb.int/report/pakistan/wfp-pakistan-situation-report-19-september-2022.

WHO (World Health Organization). 2021. *Second Round of the National Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic*. Geneva: WHO. https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1.

World Bank. 2020. *The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19*. Washington, DC: World Bank.

World Bank. 2022. *Inflation and the Poor.* Washington, DC: World Bank. https://reliefweb.int/report/pakistan/pakistan-development-update-october-2022-inflation-and-poor.

3

Fostering early childhood development

SUMMARY

Inadequate early childhood investments and outcomes undermine Pakistan's human capital development over the life cycle. From birth to age 8, brain development is at its most rapid and is highly sensitive to inputs related to nurturing care and stimulation. Due to inadequate supports, young Pakistani children's health and learning levels have been persistently low, especially for children in poor households and rural areas.

Policy and program environments that should support early childhood development (ECD) are uneven across four core sectors that underpin ECD services: health and nutrition, water and sanitation, education, and social protection. In addition to varying capacity and resources across provinces, challenges include the multisectoral nature of early childhood services, insufficient financing, inadequate workforce development, unequal parenting capacity, and lack of quality assurance systems. Data on early childhood development and relevant resources and services have not been readily available, consistent, or highlighted as a key determinant of human capital. However, Pakistan is undertaking a policy dialogue to create a national early childhood development framework.

Young children in Pakistan are not developing as well as their low- and middle-income country peers. Several risk factors impede their development and learning in the early years, including poverty, stunting, living in a rural area, disability, low maternal education, harsh parenting, inadequate early stimulation at home, and lack of early childhood education (ECE). Child development outcomes fall as these risk factors increase. Across provinces, only 39–59 percent of children are reported by their parents to be developmentally on track by age 3–4, well below the 75 percent average for low- and middle-income countries.

Parenting and ECE are among the critical areas to address. Early stimulation is low, and harsh parenting is common in Pakistan. Across provinces, between 28 percent and 48 percent of parents of children age 2–5 engage in early stimulation activities such as singing, talking, or reading with children. The use of harsh parenting —psychological or physical aggression—is high, ranging from 57 percent to 87 percent across provinces. Moreover, only 19 percent of children age 3–5 were enrolled in preprimary school in 2019. Enrollment is especially low for children in the poorest quintile, for children living in rural areas, and for children with a disability. Gender disparities in enrollment emerge as early as preprimary school. Among children age 5, when compulsory education begins, 58 percent were out of school in 2019–20. Enrollment declined for all ages of young children during 2018–20.

Parental distress and low access to resources can impair young children's development trajectories. Almost two-thirds of households reported losing income during the COVID-19 pandemic, and almost half ran out of food more frequently. Higher distress—measured by caregivers' inability to be affectionate to their children and problems with sleep, worry, irritability or anger, and nervousness or anxiety—was significantly correlated with lower childhood development levels among children age 0–2.[1]

The costs of continued inaction on ECD in Pakistan are very high. Consider ECE as an example:

failing to achieve what peer countries have already managed to achieve—preprimary education for roughly two-thirds of eligible children—will cost Pakistan 1.8 percent of its GDP for every cohort that continues to be deprived of quality, age-appropriate ECE. This conservatively amounts to US$4.7 billion for each cohort of children age 3–5.

INTRODUCTION

Investing in high-quality programs that support young children's health, nutrition, and early learning improves learning outcomes and ultimately increases adult wages and productivity. The first five years of life are the fastest period of human growth; indeed, as much as 90 percent of an individual's brain development occurs by age 5.[2] Smart investments in the physical, cognitive, linguistic, and social-emotional development of young children are critical to put them on the path to greater well-being and prosperity and to help countries break the cycle of poverty, address inequality, and be more productive and competitive in a rapidly changing global economy.[3]

This chapter presents a multisectoral examination of the national and provincial landscapes for ECD in Pakistan. It explains the critical importance of improving investments and services for young children and families if Pakistan is to realize its goal of building human capital. The chapter describes Pakistan's status quo for young children's health, well-being, and learning outcomes and discusses how ECD outcomes intersect with risk factors that pose threats to child development and human capital. Analyses from a phone survey present a snapshot of family resource reductions, parental distress, and early childhood outcomes as experienced during the COVID-19 pandemic. Cost of inaction analyses show that continuing the current low investment will be costly for Pakistan in the long run. The chapter summarizes how policy environments and program implementation in various sectors support or undermine ECD and highlights gaps that need to be redressed. It closes with recommendations on ways to elevate and accelerate progress in ECD.

Expanded and effective public investment in human development starting before birth is needed. The early childhood years, which begin at conception and continue to age 8, are a unique window of opportunity for such investment. Among Pakistan's priorities for the accumulation of human capital are reductions in stunting and in learning poverty (being unable to read and understand a simple text by age 10), which require increasing the amount and quality of investment in ECD through programming that promotes nurturing care, including early stimulation, in children's first 1,000 days, universal access to high-quality ECE, and the provision of healthcare, nutrition, and safe environments. If the attention paid to young children and the investments in ECD remain at their current low levels, despite the additional shocks created by the COVID-19 pandemic and the 2022 floods, human development in Pakistan may be undermined even more than before the pandemic.

EARLY CHILDHOOD DEVELOPMENT OUTCOMES ARE LOW

Outcomes for child health, nutrition, and education are persistently low in Pakistan relative to outcomes in other countries and have especially disadvantaged children in poor households and rural areas. Health and nutrition outcomes in early childhood, which constrain or support school readiness and longer-term cognitive outcomes and human capital development, are dire for many young Pakistani children. Only 66 percent of 1-year-old children have received all basic vaccinations, 40 percent of children under 5 are stunted, and 17 percent under 5 are wasted.[4] Pakistan has the highest rate of stunting among similar low- and middle-income countries (see chapter 4).

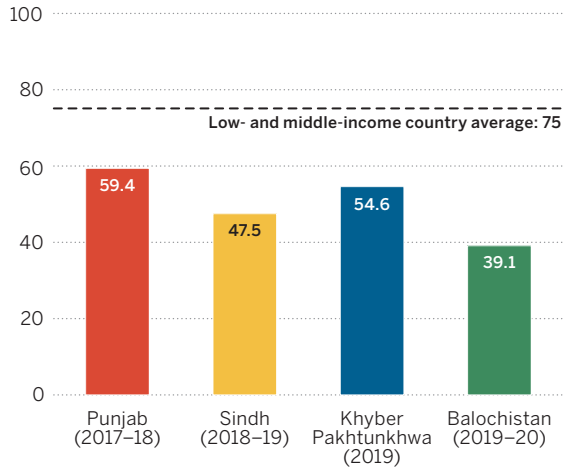
Data on early learning and primary school readiness, while limited, are concerning. Without large-scale data collection systems that regularly measure early childhood development and school readiness levels, there have been gaps in the knowledge base. Some datasets use grade 1 outcomes as a proxy for preprimary learning, while others rely on parent reporting, and data on development for children under 3 have been missing. Information on social-emotional development is particularly limited for all ages, clouding the picture relative to children's ability to follow instructions, get along with peers, solve problems, and demonstrate curiosity and creativity, which facilitate future achievement and human capital development.[5]

To better understand how preschool-age children are developing beyond physical growth, analyses were run using data from the Multiple Indicator Cluster Survey. Parents reported whether their child was developmentally on track in various domains (literacy-numeracy, physical, social-emotional, and approaches to learning) judged by the presence of age-appropriate knowledge and skills. In the literacy domain, for example, to be considered developmentally on track, a child's parent reports that the child has at least two of these three skills: she can identify/name at least 10 letters of the alphabet, can read at least four simple words, and knows the names and recognizes the symbols of numbers 1 to 10. Although not a nuanced measure of ECD, this reveals roughly where preschool-age Pakistani children stand developmentally according to their parents (figure 3.1). Results in each province are below the 75 percent average across 60 low- and middle-income countries[6]: 59.4 percent in Punjab (2017–18), 47.5 percent in Sindh (2018–19), 54.6 percent in Khyber Pakhtunkhwa (2019), and 39.1 percent in Balochistan (2019–20). Rates of being developmentally on track are lower for children exposed to various risk factors.

Without adequate early childhood development and school readiness, low education achievement continues into early primary school.

FIGURE 3.1 Parents report that many children age 3 and 4 are not developmentally on track

Children developmentally on track (percent)



Source: Multiple Indicator Cluster Surveys.
Note: Based on parent reports of whether children age 3–4 are developmentally on track in at least three of the following four domains: literacy-numeracy, physical, social-emotional, and approaches to learning.

According to the Annual Status of Education Report–Pakistan 2019, more than a quarter (26.8 percent) of children in grade 1 cannot read in their local language, and more than a third (33.7 percent) cannot read in English.[7] From 2018 to 2019, the percentage of children with knowledge of basic arithmetic decreased from 79 percent to 74 percent, although rates had improved from the 70 percent in 2015.

Substandard opportunities and development in the early years undermine children's capacity to take full advantage of later schooling because they lack the strong foundation needed for further development and learning. Three-fourths (75 percent) of children cannot comprehend a simple paragraph by age 10. Regional inequities show even higher rates based on where a child lives; learning poverty rates are approximately 50 percent in Punjab, Pakistan's most populous province, but they soar to 80 percent in Balochistan.[8] Learning poverty in Pakistan is high—the average among low- and middle-income countries is 53 percent—and forecast to become higher (79 percent) in the context of COVID-19

and the 2022 floods.[9] Failure to increase investments, service coverage, and programming quality to bolster ECD will perpetuate the conditions that result in children in Pakistan achieving only an estimated 40 percent of their potential in adulthood.

ECD is a key area for reform in the World Bank's forthcoming Country Partnership Framework for Pakistan. Improving policy environments and implementing effective programs at scale —both within sectors and as multisectoral initiatives—will help meet three key objectives for ECD. First is ensuring that young children are nourished and kept physically healthy, particularly in the first 1,000 days. Second is that they receive appropriate stimulation from responsive caregivers to support and enrich their cognitive and social-emotional development. And third is that young children need strong, positive emotional bonds with parents and protection from stress to thrive. Meeting these basic needs culminates in positive outcomes for children and contributes to Pakistan's broader goals to improve education outcomes, health metrics, inclusive economic growth, and governance systems—which all depend on human capital development.

MULTIPLE RISK FACTORS IMPEDE EARLY CHILDHOOD DEVELOPMENT AND LEARNING

Early childhood risk factors and protective factors

ECD is critical to human capital development and is affected by both risk factors and protective factors. Evidence from neuroscience points to the need for nurturing environments and early intervention to promote childhood development and establish a foundation for future human development. An estimated 250 million children in low- and middle-income countries are not achieving their developmental potential in the first five years of life,[10] with detrimental lifelong and intergenerational impacts on their physical and mental health, learning, behavior, productivity, and ultimately their country's human development.[11] ECD encompasses a young child's cognitive, language, motor, and social-emotional development. Biological and psychosocial risks (such as maternal illness and malnutrition, maternal depression, violence, poverty, and inadequate care and early learning opportunities) expose the developing infant to stressors. The onset, severity, and chronicity of these stressors can influence early brain development, which is most rapid during this period.

The widespread risks to poor early development in Pakistan and the potential gains to investments in early childhood warrant more attention to ECD in Pakistan's human development agenda through multisectoral, equitable, and inclusive actions. Early interventions are vital to mitigate risks and promote protective factors that shape healthy brain development, yielding gains for future health, learning, and productivity (figure 3.2).[12] They also reduce inequities within and between populations.[13] Evidence clearly shows that early childhood interventions yield economic benefits for individuals[14] and for countries,[15] but child outcomes in Pakistan are less favorable than they could be in spite of effective interventions (box 3.1).

Risk factors often overlap and threaten early childhood development and learning

Children in Pakistan are exposed to an array of risk factors, which include living in poverty, being stunted, living in a rural area, living with a disability, having a mother with low education attainment, receiving inadequate early stimulation at home, harsh parenting that includes psychological or physical aggression, and not participating in ECE. Each risk factor is associated independently with lower rates of being developmentally on track, but multiple risks often co-occur.

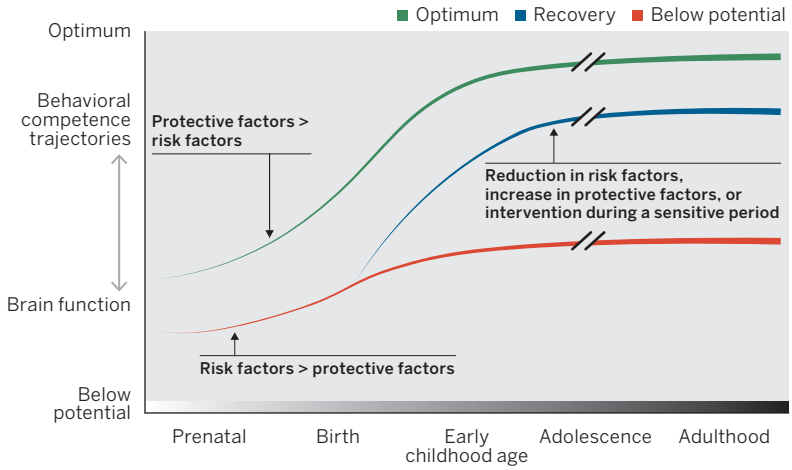
Lack of access to early childhood education

Enrollment in ECE among children age 3–5 is low by international standards and in relation to Pakistan's own goals. As a signatory to the Sustainable Development Goals (SDGs), Pakistan supports universal access to at least one year of preprimary education (SDG 4.2), but enrollment still falls far short of this goal. The national average enrollment rate of children age 3–5 in early childhood education is only 19 percent (figure 3.3). Enrollment is even lower for some groups of children, such as low-income children, rural children, children with a functional disability, and girls, as discussed below.

Living in poverty

Living in poverty predicts a lower likelihood of being developmentally on track. In Punjab, only 46.9 percent of children in the lowest income bracket are reported to be developmentally on track, assuming no other risk factors. This is better than the 26 percent in Sindh but

FIGURE 3.2 **Differing trajectories of human development as a function of exposure to protective and risk factors**



Source: Reprinted from *The Lancet,* 378/9799, Walker, S.P., Wachs, T.D., Grantham-McGregor, S., Black, M.M., Nelson, C.A., Huffman, S.L., Baker-Henningham, H., Chang, S.M., Hamadani, J.D., Lozoff, B. and Gardner, J.M.M., Inequality in early childhood: risk and protective factors for early child development, pp.1325–1338, Copyright (2011), with permission from Elsevier. DOI: 10.1016/S0140-6736(11)60555-2.
Note: The cumulative effect of exposure over time is represented by the darkening lines, which indicate the increasing strength of each trajectory.

BOX 3.1

Acting early to promote protective factors for Pakistani children: What the evidence tells us

Despite the challenges and gaps in service provision, there is evidence that effective interventions can be successfully implemented in Pakistan. Several interventions and effective programming have been shown to reduce the risks that threaten healthy child development.

Maternal health and nutrition. Maternal undernutrition (see chapter 4), which leads to infants who are small for their gestational age, remains a persistent challenge globally and in Pakistan, with risks for developmental delays and disabilities. In addition to the physical well-being of mothers, poor maternal mental health is a recognized risk for poor child development. In Pakistan, up to 53 percent of untreated women in one study met the criteria for major postpartum depression.[1] Pilot interventions have shown that low-cost mental health interventions—such as the Thinking Healthy Programme, delivered by community health workers—have multiple benefits, including reduced maternal depression, improved knowledge about play and development for young children, and improved breastfeeding practices.[2]

Young children's health and nutrition. Early deprivation leading to stunting remains a persistent national challenge (see chapter 4) and is associated with poor health, learning, and productivity in later life. Yet several studies of

(continued)

BOX 3.1, continued

interventions with potential for scaling up in Pakistan have found that community-based health interventions can promote newborn survival and infant and young child health and reduce stunting.[3]

Early learning opportunities and responsive care. High-quality, responsive interactions at home and at school contribute to young children's development and learning, whereas inadequate early learning and responsive care undermine young children's development and school readiness. Early learning, at home and in early childhood care and education centers, provides opportunities for young children to explore their world, build relationships with others, and acquire the skills and tools for lifelong learning. Research in Pakistan has shown that stimulation and responsive care in parenting programs delivered through community health services and family physicians benefit children's development and care.[4]

Safe, violence-free environments. Violence against children, commonplace in homes in Pakistan, undermines young children's development and results in difficulties throughout the child's life, including social-emotional and behavioral problems, increased aggression, and poor self-regulation[5] and early cognitive development delay,[6] which may affect education attainment. In addition to violence against children, exposure to domestic violence threatens children's safety, development, and care as well as women's safety and well-being.[7] In Pakistan, up to 65 percent of women in rural areas report experiencing domestic violence.[8] The INSPIRE report on preventing violence provides examples of parenting programs that successfully integrate key messages on gentle discipline and preventing violence at home.[9] In addition, training programs for preschool and primary school teachers that have promoted improved behavioral management with young children in classrooms in low- and middle-income countries have potential in Pakistan.[10]

Notes

1. Rahman et al. 2008
2. Rahman et al. 2008; 2012.
3. Bhutta et al. 2011; Khan et al. 2020.
4. Khan et al. 2018; Yousafzai et al. 2014.
5. Cuartas et al. 2021; Pace et al. 2019.
6. Cuartas et al. 2020.
7. WHO 2016.
8. Zakar, Zakar, and Abbas 2016.
9. WHO 2016.
10. Baker-Henningham and Walker 2018.

still puts about half of children living in poverty at risk. Moreover, living in poverty is associated with many other threats to development, including lack of access to ECE. There is a 12.1 percentage point gap nationally in enrollment in ECE for children age 3–5 between the wealthiest quintile (27.2 percent) and the poorest quintile (15.2 percent) (figure 3.4). Enrollment gaps are 22.6 percentage points in Sindh, 8.2 percentage points in Punjab, 6.3 percentage points in Balochistan, and 5.0 percentage points in Khyber Pakhtunkhwa. This pattern shows the compounding effect of the multiple risks associated with living in poverty: reduced access to ECE further reduces the probability of developing the motor, cognitive, language, and social-emotional skills necessary to achieve a child's potential.

Living in a rural setting

Living in a rural setting raises the probability that a child will experience multiple risks and will not develop to potential. In Punjab, 56.3 percent of rural young children were reported to be on track, while in Sindh, only 44.0 percent were, assuming no exposure to

other risk factors. Whereas just 6.5 percent of urban children experience four risk factors, 20.0 percent of rural children in Pakistan do.[16] Rural children have less access to the infrastructure and service delivery they need to thrive. In addition to having less access to healthcare, early stimulation at home, and piped water, rural children also have reduced access to ECE. More urban children age 3–5 than rural children were enrolled in ECE in 2019 in Punjab (33.1 percent versus 23.9 percent), Sindh (19.7 percent versus 4.1 percent), Khyber Pakhtunkhwa (21.9 percent versus 11.8 percent), and Balochistan (7.7 percent versus 4.4 percent) (figure 3.5). Balochistan sees the lowest ECE enrollment rates among rural children, but Sindh has the greatest inequality. Among rural children, poor children have the least access to ECE programs: while 21.0 percent of children in the wealthiest rural families are enrolled in ECE nationally, only 14.2 percent of poor rural children are enrolled.

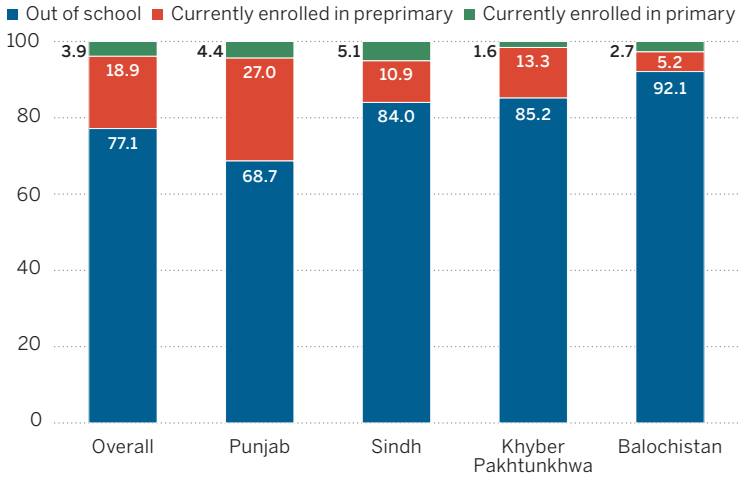
Having a disability

The prevalence of functional disabilities in Pakistan, which appears similar to that in comparable countries, correlates with a reduced likelihood of developing on track compared with peers without a disability. Nearly 5 percent of Pakistani children age 3–5 have a functional disability, according to parent reports, which indicates atypical development related to sight, hearing, difficulties with movement, memory problems, or verbal communication problems.[17] Pakistan seems on par with estimates globally and regionally.[18] The prevalence of moderate and severe disabilities for children in low- and middle-income countries from birth to age 14 is estimated at 5.1 percent globally and 5.2 percent in South-East Asia; the prevalence in high-income countries is 2.8 percent.[19]

Young children reported to have a functional disability are considerably less likely to be developmentally on track than the overall population of young children. In Pakistan, there is a large gap in enrollment in ECE between children with

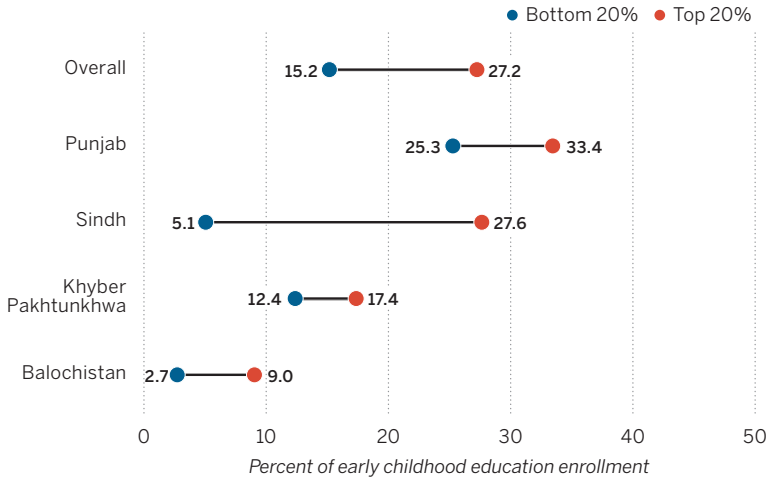
FIGURE 3.3 **Early childhood education enrollment of children age 3–5 falls far short of universal access, in Pakistan and by province, 2019–20**

Percent



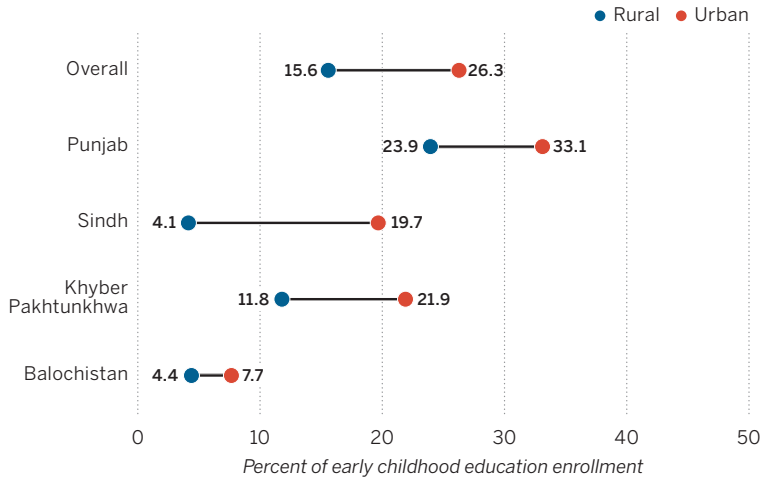
Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

FIGURE 3.4 **Gaps in enrollment in early childhood education between children age 3–5 in the lowest and highest income quintiles, in Pakistan and by province**



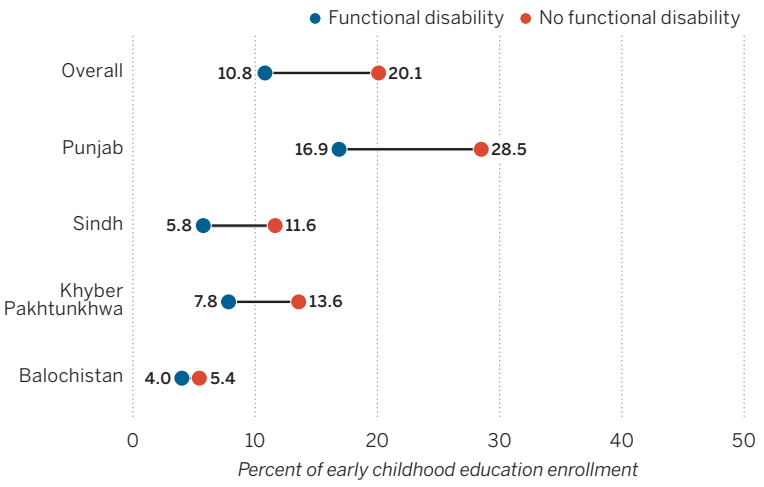
Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

FIGURE 3.5 **Gaps in enrollment in early childhood education between children age 3–5 in rural areas and those in urban areas, in Pakistan and by province**



Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

FIGURE 3.6 **Gaps in enrollment in early childhood education are large between children age 3–5 with a functional disability and those without one, in Pakistan and by province**



Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

a known functional disability (10.8 percent) and those without (20.1 percent) (figure 3.6). There is also a large gap in development outcomes. For instance, Sindh reports that 49.4 percent of children without a disability are developmentally on track but just 26.0 percent of children with a disability are developmentally on track.[20]

Lack of early stimulation

Whereas two-thirds (69 percent) of parents in low- and middle-income countries provide adequate early stimulation to their young children, less than half of parents in every province provide adequate early stimulation in Pakistan (figure 3.7).[21] Early stimulation of cognitive and social-emotional skills, which takes place through reading books, telling stories, singing songs, going outside together, playing, or naming or counting, is low across the board: 35.3 percent in Punjab, 45.0 percent in Sindh, 35.0 percent in Khyber Pakhtunkhwa, and 49.3 percent in Balochistan (figure 3.8). Access to learning materials at home is also low. Children under 3, whose brain development is at its most rapid and sensitive, receive low rates of stimulation and access to learning resources as well (figure 3.9). This seriously hinders human development given the importance of early stimulation for brain development in the first few years of life. Lack of adequate social-emotional and cognitive support intersects with lack of proper nutrition and other critical inputs to increase the likelihood of stunting and other long-term risks to development.

Harsh discipline

Closely tied to lack of early stimulation are common practices of harsh discipline and a lack of supervision, both deterrents to healthy growth and positive development. Harsh parenting measures, including psychological aggression such as yelling and name calling and physical violence such as hitting and pinching, are prevalent across Pakistan. Between 43 percent and 73 percent of children age 0–2 experience harsh discipline, based on parent reports for the prior

month (figure 3.10). Among children age 3–5, the rates are even higher: 84.9 percent in Punjab, 81.5 percent in Sindh, 87.1 percent in Khyber Pakhtunkhwa, and 57.0 percent in Balochistan.

About 10 percent of children under 3 are left without supervision in Sindh and Khyber Pakhtunkhwa, 23 percent in Balochistan, and about 6 percent in Punjab, as measured by parent reports of an hour or more of unsupervised time during the previous week. The percentage of children age 3–5 left without adult supervision is 7.6 percent in Punjab, 12.5 percent in Sindh, 6.1 percent in Khyber Pakhtunkhwa, and 27.7 percent in Balochistan (figure 3.11). Lack of supervision reduces children's well-being and safety in the absence of responsive caregiving for children's cues, such as crying, accidents, lack of protection from harm and injury, opportunities to ingest soiled materials, and increasing diarrhea and disease.

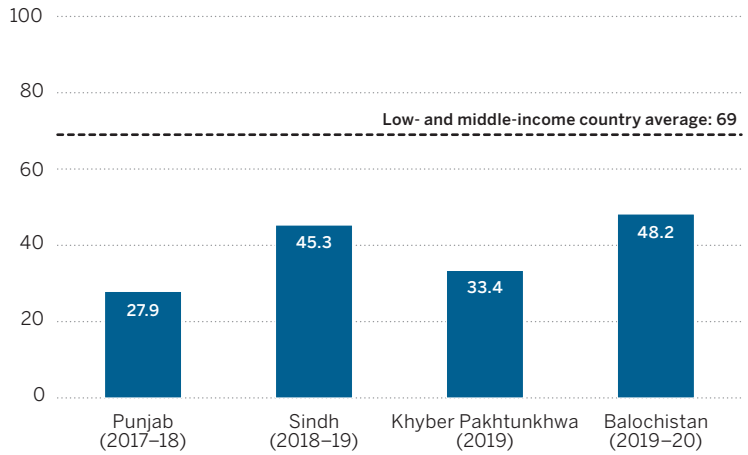
Gender disparities

Gender is not included as a risk factor in the current analyses because it does not emerge as a key determinant of exposure to risk factors or developmental outcomes prior to school entry. Although older girls and women face a large number of barriers to developing and deploying their human capital in Pakistan, in the early years, girls and boys are relatively similar in their experiences of risks and developmental outcomes (figure 3.12).[22]

However, gender disparities start to emerge as early as preprimary enrollment. While these differences are small in comparison to the gaps by income and other factors, it is important to note that gender gaps in education attainment are evident even before children start primary school. These early hurdles in access to human capital development lead to a persistent lack of parity across the life cycle for girls and women in Pakistan. Punjab has the smallest gap in enrollment between boys (27.4 percent) and girls (26.6 percent), at less than 1 percentage point

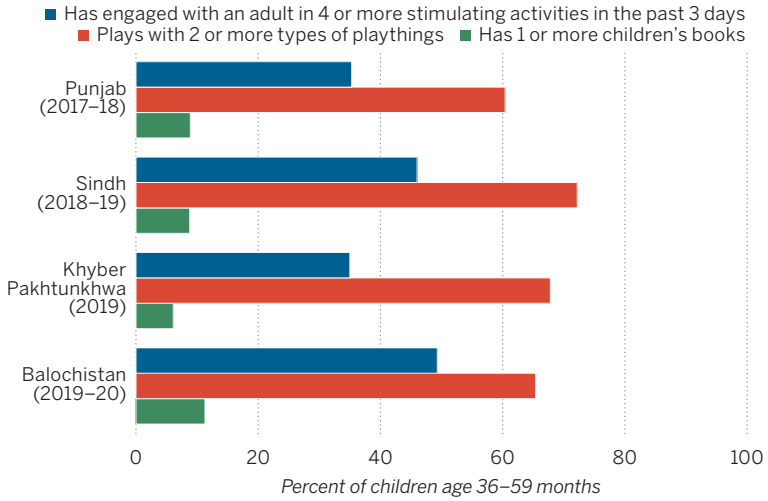
FIGURE 3.7 **Rates of early stimulation by caregivers in provinces in Pakistan are low, children age 2–5**

Percent of children 24–59 months with whom an adult has engaged in four or more stimulating activities in the past 3 days



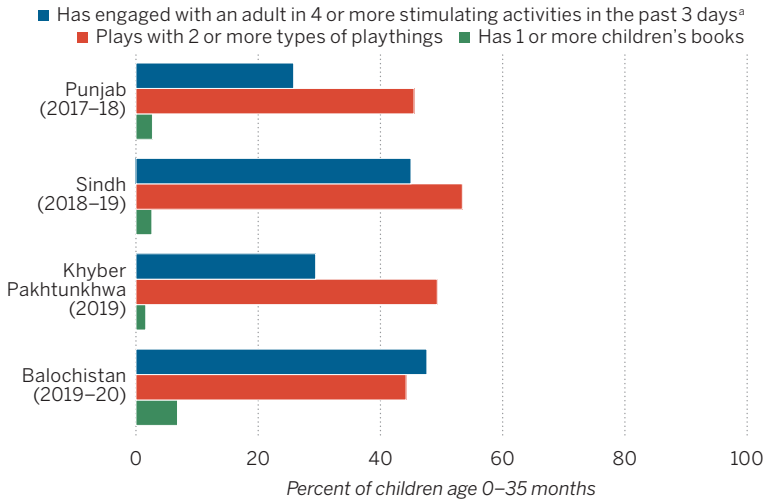
Source: Statistics as reported in Multiple Indicator Cluster Survey reports.
Note: Early stimulation is based on parent report of child's experience of four or more stimulating activities from the following list: reading books, telling stories, singing songs, taking the child outside, playing with the child or naming/counting) with adult caregivers at home in the past three days. Data are from different points in time and as such are not strictly comparable.

FIGURE 3.8 **Rates of early stimulation by caregivers and access to playthings in the household are low across provinces in Pakistan, children age 3–5**



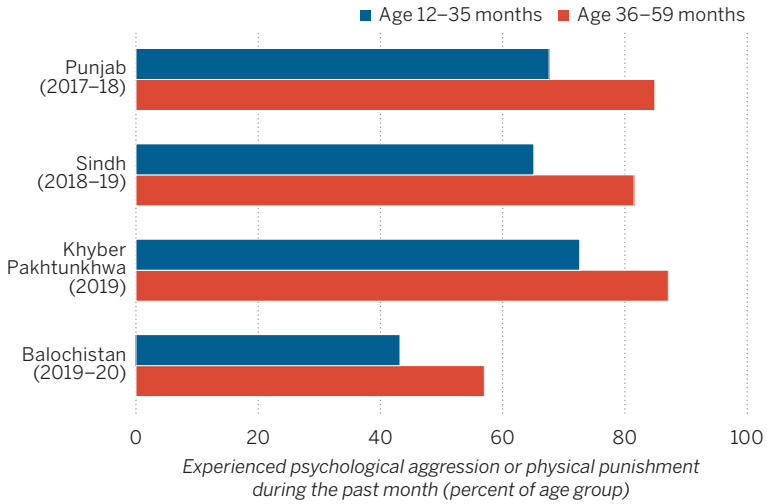
Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
Note: Data are from different points in time and as such are not strictly comparable.

FIGURE 3.9 Rates of early stimulation by caregivers and access to resources in the household are low across provinces in Pakistan, children age 0–2



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
a. Data are for children age 24–35 months.
Note: Data are from different points in time and as such are not strictly comparable.

FIGURE 3.10 Use of harsh discipline is common in Pakistan among children age 0–2 and 3–5



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
Note: Harsh discipline includes psychological aggression (name calling, yelling) and physical punishment (hitting, pinching). Parents were asked about practices in the previous month. Data are from different points in time and as such are not strictly comparable.

(figure 3.13). The gap is 1.7 percentage points in Sindh (11.7 percent for boys versus 10.0 percent for girls), 2.3 percentage points in Khyber Pakhtunkhwa (14.4 percent versus 12.1 percent), and 1.9 percentage points in Balochistan (6.0 percent versus 4.1 percent)—with low overall rates the pressing concern for both genders.

Accumulating risks

While any one risk factor is independently associated with a reduced probability of positive outcomes, an accumulation of risks further decreases a child's chances of growing and learning to potential. Exposure to multiple risks reduces children's chances of staying on track, and the more risks, the lower the chances of optimal development. Risk factors tend to cluster, so that children experience them simultaneously, sequentially, or both. For instance, there is a considerable overlap among children who lack early stimulation, those who lack access to ECE, and those whose mothers have low education attainment. These children are at risk of not experiencing the responsive and engaging interactions they need to thrive, both from parents or guardians at home and from teachers in preschool programs. Gaps between groups of children start early and widen over time.

In Punjab and Sindh, 94 percent of children experienced at least one of the top three risk factors in that province, while rates of multiple exposure were also high. Among the risk factors examined, the three most prevalent among 3- and 4-year-olds in Punjab were failing to experience early stimulation at home (72 percent), living in a rural area (67 percent), and not being enrolled in ECE (66 percent). Approximately half of these children experienced at least two of the risk factors (45 percent lived in a rural area and had no ECE, 49 percent experienced no early stimulation at home and were not enrolled in early childhood education, and 53 percent lived in a rural area and experienced no early stimulation at home). More than a third (37 percent) of children in Punjab experienced all three risks

(figure 3.14). In Sindh, the three most prevalent risk factors were not being enrolled in early childhood education (86 percent), low maternal education (74 percent), and a lack of early stimulation (49 percent). The rates of multiple exposure were even higher than in Punjab, with 42 percent of 3- and 4-year-olds experiencing all three risk factors. Stepwise regressions showed that a lack of early childhood education was the greatest single predictor of being found developmentally off track among children age 3 and 4 in both Punjab and Sindh.

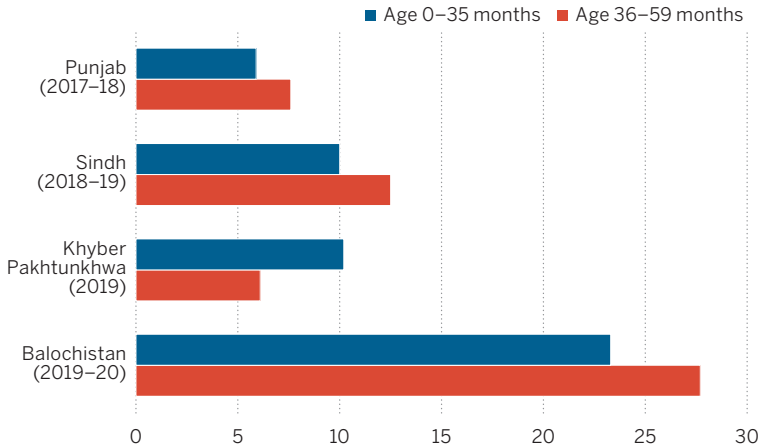
As exposure to risk factors increases, children's well-being and performance decline. For example, in Sindh, 83.0 percent of children age 3 and 4 who are exposed to zero or one risk factor are likely to be reported by their parents as being developmentally on track compared with 69.8 percent of children exposed to two risk factors (living in poverty, being stunted, living in a rural area, having a disability, having a mother with less than a primary education, not receiving early stimulation, receiving harsh punishment, and not being enrolled in ECE). However, as the number of risks mounts, children's likelihood of staying on track drops commensurately: the likelihood of being developmentally on track drops to 57.8 for three risks, to 44.7 percent for four risks, to 43.2 percent for five risks, to 37.4 percent for six risks, and to 26.5 percent for seven or more risks.

This association is disquieting because many young children experience multiple risks: in Sindh, 1 child in 5 experiences three risk factors, almost 1 in 4 experiences four risk factors, and about 1 in 10 experiences six or more risk factors. The trend is similar for the other provinces (figure 3.15).

Helping households and communities facilitate nurturing care is critical for healthy ECD, and it is equally imperative to provide access to interventions and protective factors to enable young children to develop to their potential. While it is

FIGURE 3.11 **Even very young children often lack supervision**

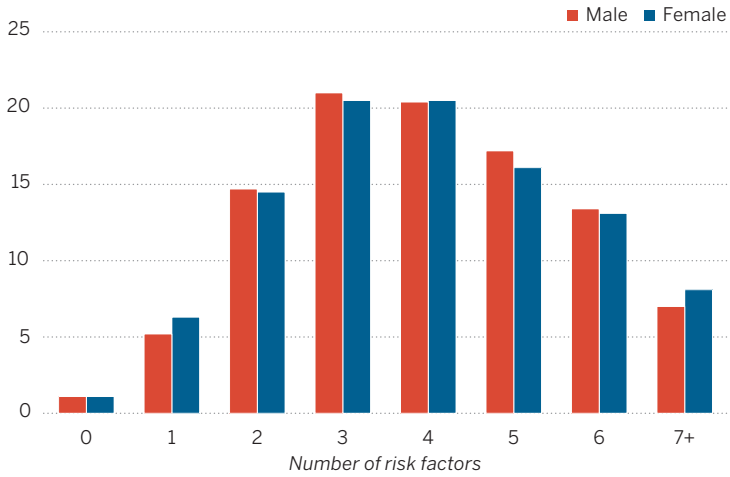
Lack of child supervision in the past week in provinces in Pakistan, children age 0–2 and 3–5



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
Note: Data are from different points in time and as such are not strictly comparable.

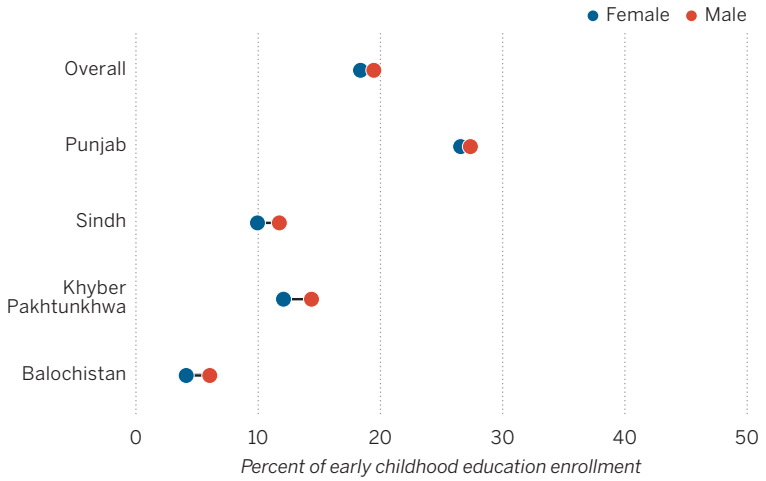
FIGURE 3.12 **At age 3–5, girls and boys are equally likely to experience multiple risks to on-track developmental outcomes, Punjab province**

Percent of children



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey in Punjab.
Note: Risk factors include being stunted, having a mother with less than primary education, not being enrolled in early childhood education, being in the poorest wealth quintile, living in a rural area, having a functional disability, and not experiencing adequate stimulation at home (engaged in less than four stimulating activities with any household caregiver over three days).

FIGURE 3.13 **Gender gaps in education attainment disadvantaging girls begin to emerge in early childhood education enrollment in Pakistan and across provinces, children age 3–5**

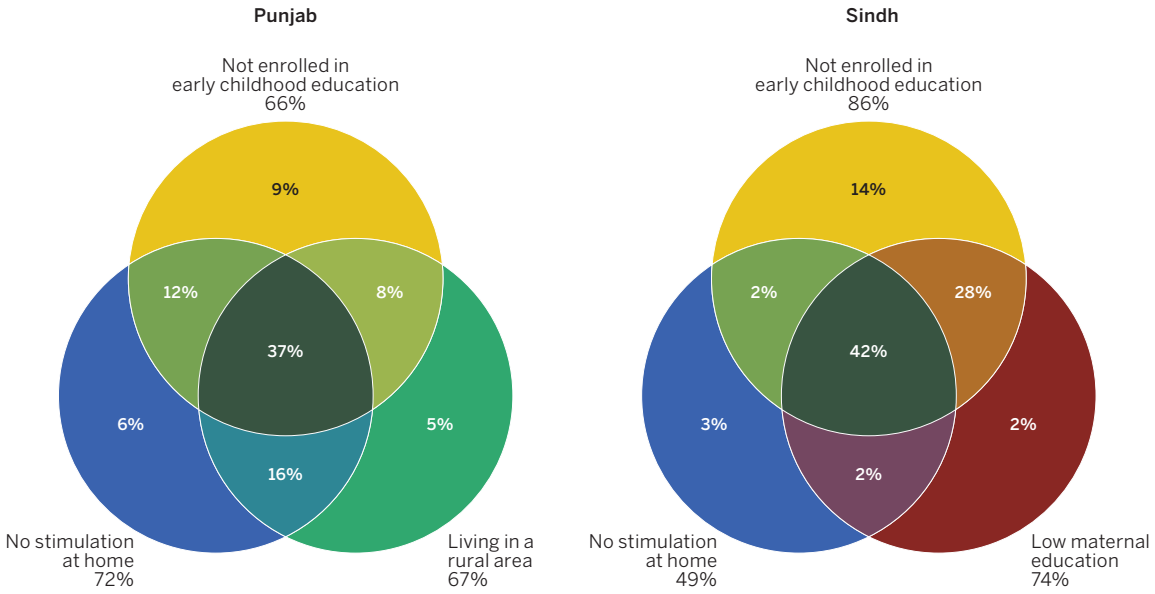


Source: World Bank calculations using data from the Pakistan Social and Living Standards Measurement Survey 2019–20.

critical to increase young children's experiences of nurturing care and mitigate exposure to risks, broader interventions at scale—such as parenting programs and access to high-quality ECE—are needed as buffers against the multiple risks that children face. For example, children in Pakistan who enroll in ECE, even when quality is not known, display higher performance in being developmentally on track at age 3 and 4 than children who never enroll (figure 3.16). In Punjab, 74 percent of children age 3 and 4 who attended an ECE program were rated as developmentally on track compared with 52 percent of children not enrolled. This pattern holds across the other provinces.

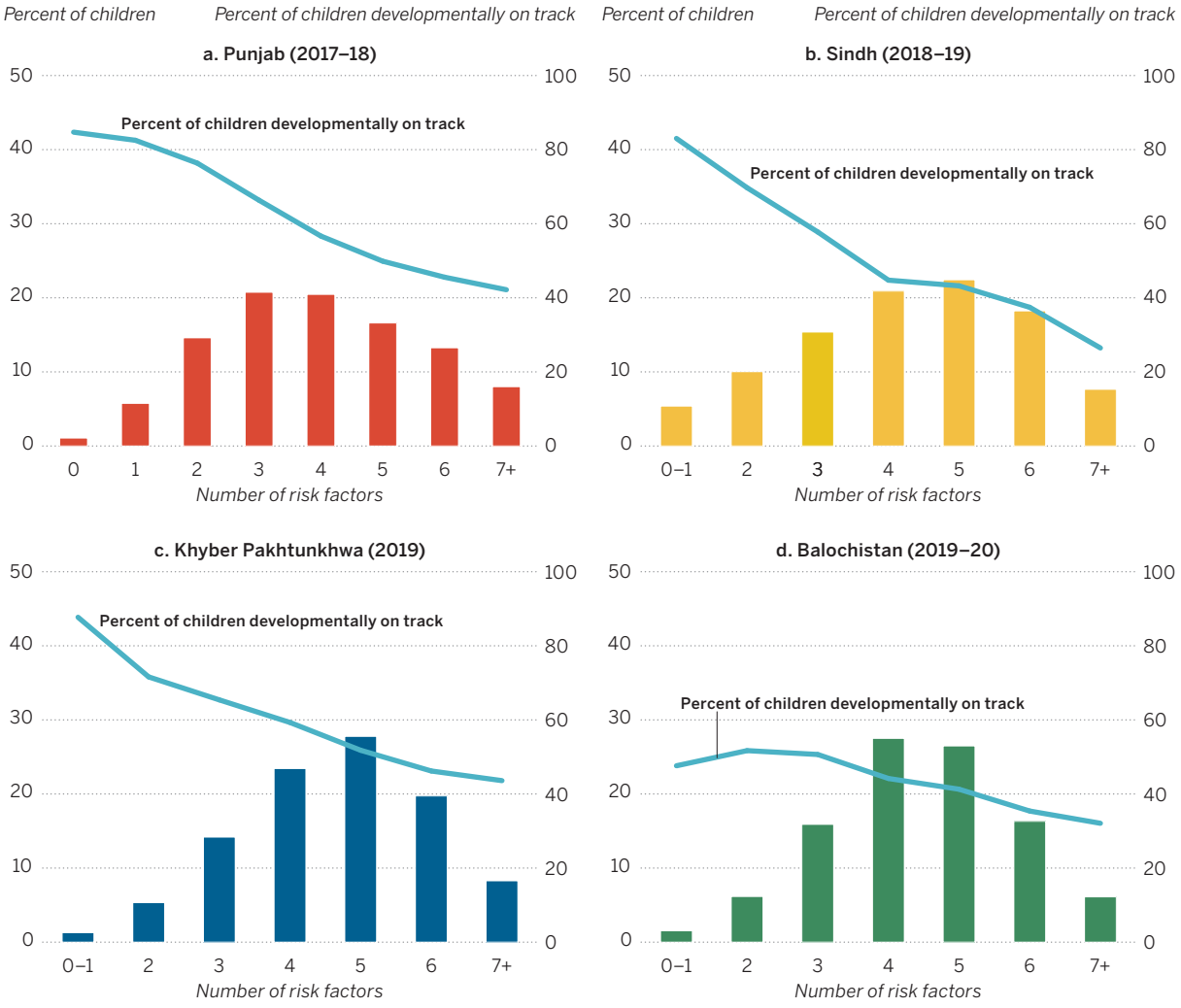
The benefits of investing in ECD far outweigh the costs. As important as investing in ECE is investing in widespread high-quality services in health and nutrition, water and sanitation, and social protection. Capacity building of parents and other caregivers is a powerful tool for improving child outcomes and long-term human capital accumulation. This requires multisectoral coordination for optimal service delivery, as well as the development of beneficial knowledge and skills about feeding, early stimulation, immunization and healthcare, sanitation practices, supervision, and positive discipline.

FIGURE 3.14 **Rates of multiple exposure to the most prevalent risk factors are high among children age 3 and 4 in Punjab and Sindh**



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey 2017–18 for Punjab and 2018–19 for Sindh.

FIGURE 3.15 The likelihood of being developmentally on track declines with the number of risk factors, children age 3 and 4



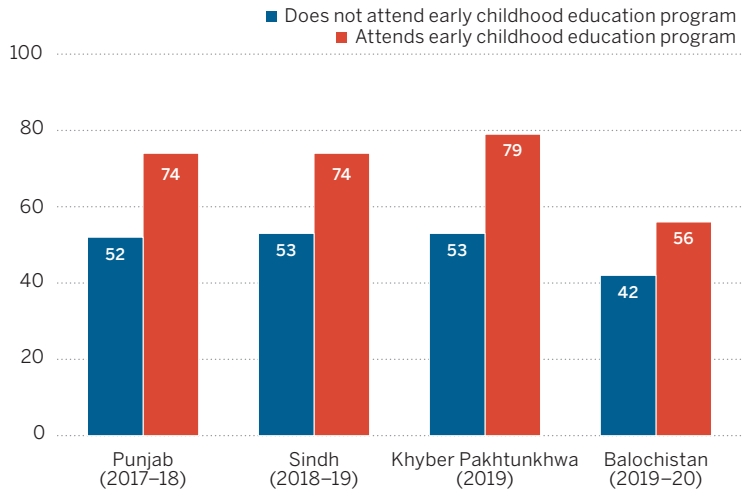
Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
Note: Risk factors include being in the lowest income quintile, stunted, living in a rural area, having a functional disability, mother with less than a primary school education, low early stimulation at home (less than four activities in the previous 24 hours), exposed to harsh parenting, and not enrolled in early childhood education.

HOUSEHOLD-LEVEL STRESS AND EARLY CHILDHOOD DEVELOPMENT IN THE ERA OF COVID-19

The COVID-19 pandemic has disrupted early childhood services and increased exposure to risks for young children around the world. Studies have found increases in mental health concerns among caregivers and young children and increases in violence against children,[23] increased levels of poverty and food insecurity, disruptions in education, decreased healthcare and social support systems, elevated stress levels, and decreased well-being for parents.[24] Results from a nationally representative phone survey of 3,021 households in 2021–22 across the country shed light on the stressors experienced by Pakistani parents during the pandemic and the current status of early childhood development. (See Annex 3 for survey details.)

FIGURE 3.16 **Across Pakistan, children age 3 and 4 who enroll in early childhood education are much more likely to be rated developmentally on track**

Percent of children age 3 and 4 rated as developmentally on track



Source: World Bank calculations using data from the Multiple Indicator Cluster Survey.
Note: Data are from different points in time and as such are not strictly comparable.

Child outcomes are affected by location, parent capacity, and preprimary enrollment

Children age 0–3

Other than nutrition data, which are often used as a proxy, no data were available to measure ECD as an independent construct for children age 0–2 in Pakistan, so the phone survey provided an opportunity to measure child development for this age group, using the Caregiver-Reported Early Development Instrument short form. Results showed that location matters for early childhood development in Pakistan, whether by urban–rural divide or by province. Significant differences were found as expected across urban–rural geographical divides, with urban children age 0–3 showing slightly higher developmental outcomes on average (0.16 standard deviation above the mean) than their rural peers (0.05 standard deviation below the mean). Irrespective of urban–rural differences, children in Punjab, Sindh, and Balochistan exhibited higher developmental outcomes than children in Khyber Pakhtunkhwa. Scores were above the mean for the former three provinces (0.06, 0.14, and 0.26 standard deviation above, respectively) and below the mean for the latter (0.26 standard deviation below). In short, children age 0–2 in Khyber Pakhtunkhwa and in rural areas nationally were particularly vulnerable during the COVID-19 pandemic.

Levels of early stimulation at home were strongly associated with levels of development for children from birth through age 2. Parents' engagement in early stimulation activities was a positive and significant predictor of infants' and young children's development. Early stimulation was evaluated using children's exposure to child-oriented learning resources, such as play objects and picture books, as well as responsive and engaging interactions between caregivers and adults, such as telling stories, singing lullabies, clapping, talking to the child, and visiting friends. The more stimulating resources and interactions parents provided, the better the child's outcomes. Even a single stimulating interaction in the prior three days doubled *z*-scores relative to none (figure 3.17). The value of early stimulation for children age 0–2 was evident for children in both urban and rural settings, regardless of the number of people in the household, and among children with less educated mothers.

Survey results also showed that caregiver capacity correlates with child development. Mothers' education attainment predicted developmental outcome scores among children age 0–2, such that children with mothers who had either not attended or not completed primary school exhibited significantly lower levels of development (0.08 standard deviation below the mean) compared with those whose mothers had completed primary school (0.21 standard deviation above the mean) ($p < .001$). Differences in children's developmental outcome scores at age 0–2 were not predicted by paternal education attainment, although those whose fathers had a primary school education or less exhibited lower levels of child development than their peers whose fathers had a secondary or higher level of education.

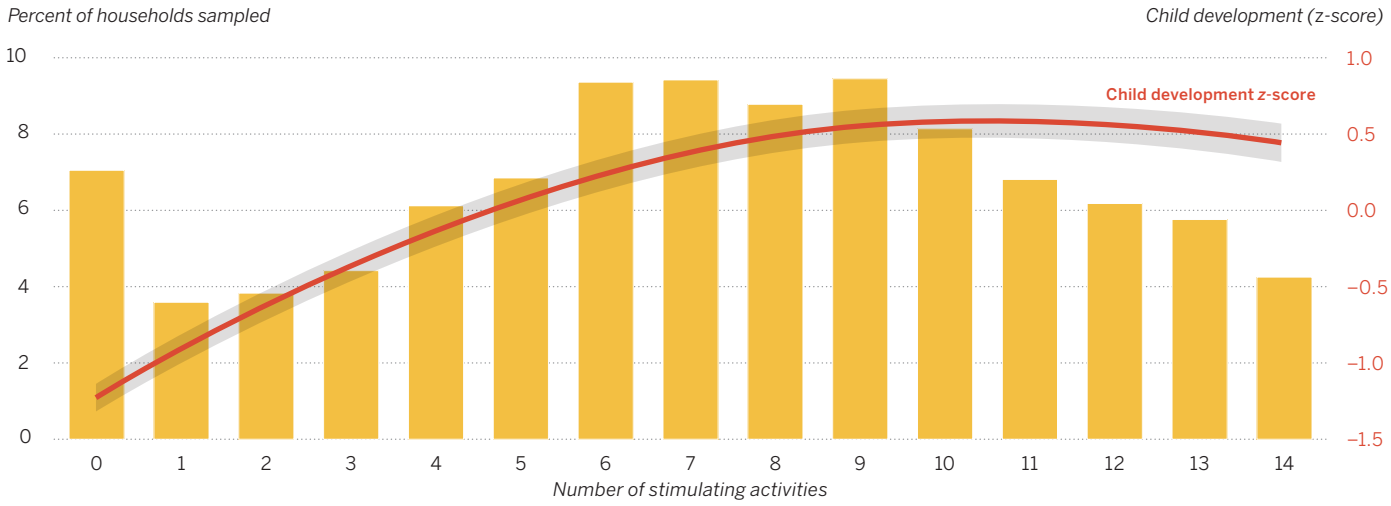
Children age 3–5

Access to opportunities to learn at home and in preprimary school are key predictors of school readiness in Pakistan. Items from the Measuring Early Learning Quality and Outcomes–Measure of Development and Early Learning Teacher/Caregiver report were adapted for the phone survey to evaluate school readiness among children age 36–72 months, and three subdomains were evaluated, language knowledge, math knowledge, and social-emotional skills. Summary scores, not age standardized, were created for 25 items. Beyond child age, strong predictors of school readiness—that is, better literacy, numeracy, social-emotional, and approaches to learning skills—included early stimulation at home and enrollment in ECE (figure 3.18). Moreover, having a mother with secondary education or higher was associated with a 1.7 point increase in school readiness scores compared with having a mother with less than primary school education.

Caregiver beliefs were a key determinant of a child's enrollment age

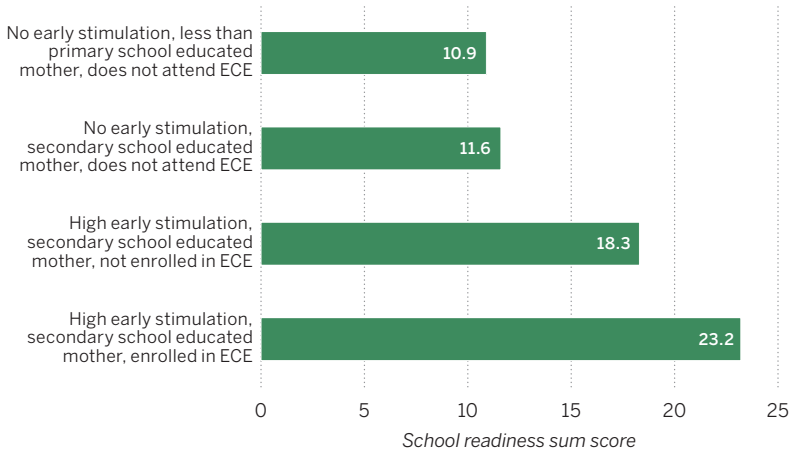
Beliefs about school entry predicted actual enrollment patterns. When asked at what age children should enroll in school, on average, parents reported that by around age 4 or 5 (mean of 4.5), children should be enrolled in school. Several factors predicted earlier age of entry beliefs: younger child age, living in the Punjab province, a mother with a secondary education, early stimulation at home, household size, and current enrollment status. For example, a parent of a 3-year-old in Punjab who is currently enrolled in school, receives maximum stimulation at home and has an educated mother is predicted to believe their child should be enrolled in school at 3.7 years. By contrast, a parent of a 5-year-old in Khyber Pakhtunkhwa who is not currently enrolled in school, receives no stimulation at home, and has a mother with less than a primary school education is predicted to believe their child should enroll at 5.6 years. This pattern is meaningful because the age the parent believes their child should begin school is closely correlated with actual age of enrollment. Among children of parents who believe children should enroll at age 3, 72.4 percent were currently enrolled in school; among children of parents who believe children should enroll at age 6, 23.0 percent were currently enrolled in school.

FIGURE 3.17 **Children under 3 in high-stimulation households have higher levels of child development than children in low-stimulation households in Pakistan**



Source: World Bank calculations using Gallup phone survey data 2021–22.

FIGURE 3.18 School readiness scores increase with access to early stimulation, maternal education and enrollment in early childhood education among children age 5



Source: World Bank calculations using phone survey data and Early Learning Partnership caregiver response survey items for school readiness measured by language, math, and social-emotional scores (range = 0–25).
Note: ECE is early childhood education. Analyses included only urban children and controlled for type of toilet and household size.

Reduced household resources, parenting distress, and lower child outcomes

Income loss during the COVID-19 pandemic affected almost two-thirds of households with young children. The majority of households in the survey sample lost income (63.1 percent). Based on parent perception of degree of loss, some reported experiencing a small (13.3 percent) or medium (25.1 percent) loss, but most felt they had experienced a large loss (61.6 percent). Losses occurred across all areas and geographies and regardless of parental education levels. Almost half of respondents (48.8 percent) said they had run out of food more frequently than before the pandemic, and 59.4 percent had skipped or cut down on the size of meals.

Income loss was associated with greater parental distress, and higher parental distress was associated with poorer child development levels from age 0–2. A five-item measure of parental distress/well-being provided insight into parents' perceptions of their well-being based on their current ability to be affectionate to their child, get enough sleep, control their worry, feelings of irritability or anger, and feelings of nervousness or anxiety. There were significant positive correlations between income loss and self-reported distress among parents surveyed for every dimension of well-being assessed (figure 3.19). The rate of irritability or anger was twice as high for those who had lost income as for those who had not. About 19.2 percent of those who had not lost income during the COVID-19 pandemic reported feeling more irritated or angry than usual in the past 15 days compared with 37.9 percent of those who had lost income. Similarly, 19.3 percent of those who had not lost income reported feeling nervous or anxious, compared with 37.3 percent of those who had lost income. Men reported slightly lower capacity than women to be affectionate to children and to control their worry, and women reported slightly higher incidence than men of feeling irritated or angry, difficulty getting enough sleep at night, and being nervous or anxious; but the differences between men and women were not significant.

Parental distress independently predicts child development from age 0–2. Regression analyses that controlled for relevant confounding variables at the $p < .05$ level—province, income loss, monthly mobile phone expenditure, and maternal education levels—showed that levels of parental distress are strongly negatively correlated with child development outcomes at age 0–2. Maximum parental distress levels, where a parent self-reported the incidence of all stressors out of a maximum of five, predict an early childhood development z-score 0.4 standard deviation lower than a household with no parental distress. In contrast, parental distress was not a significant predictor of school readiness levels at age 3–5.

HIGH COST OF INACTION: EARLY CHILDHOOD EDUCATION

There are multiple entry points for enhancing ECD outcomes, so interventions should ideally

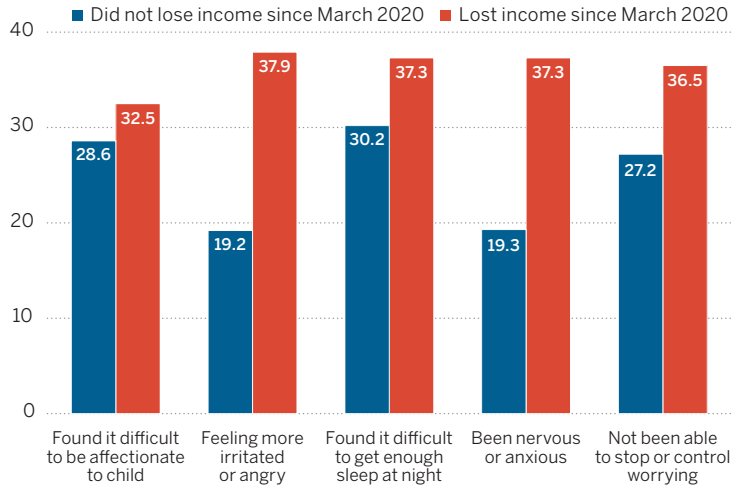
be multisectoral, but addressing even one major area of intervention can generate large returns. Consider ECE as an example. Resources currently allocated by the education sector for ECE are inadequate, despite overwhelming evidence showing high returns on investment in ECE. In 2020, national investment in education represented just 2.5 percent of GDP, down from 2.9 percent in 2017, and considerably below the global average of 4.5 percent. While the exact amount allocated to ECE is unclear due to the combining of preprimary and primary education in budget reports, Investment in ECE is estimated to be very low. In addition to overall low spending, provincial disparities disadvantage children in some provinces more than others, limiting opportunities for children in Balochistan in particular. There was an almost 30 percentage point difference across provinces in the share of recurrent education spending allocated to primary schooling (including preprimary) in 2020, from 35.2 percent in Balochistan to 40.8 percent in Sindh, 46.4 percent in Khyber Pakhtunkhwa, and 64 percent in Punjab .

Raising enrollment in ECE has immediate costs and long-term benefits. The cost of investment in ECE is immediate. Boosting enrollment has a wide range of direct and indirect benefits that are more difficult to quantify but will be realized throughout a person's life through improvements in child development, school readiness and performance, and ultimately wages. Cost-effectiveness analyses that quantify the impact of such programs on long-term wages can be used to estimate benefits.

Conservative estimates using a benefit–cost ratio of 6.4:1 reveal a high cost to inaction. Because enrollment in ECE is a key predictor of being developmentally on track, failing to improve enrollment rates is economically expensive, as well as harmful at the individual level. The cost of inaction (forgone benefits) for Pakistan was calculated using the most conservative parameters (a benefit–cost ratio of 6.4:1 and a discount rate of 6 percent) from a study modeling

FIGURE 3.19 **Parents who had lost income since 2020 report higher distress than parents who had not lost income**

Percent



Source: World Bank calculations using phone survey data 2021–22.
Note: Parental distress was based on self-report of feelings during the previous 15 days.

the impact of increased preschool participation on school attainment and subsequent changes in wages using data for 73 low- and middle-income countries.[25] The cost that society pays for failing to implement such an intervention was estimated for three scenarios in Pakistan:

- *Low coverage:* Equalizing enrollment rates between rich (highest income quintile) and poor (bottom four quintiles) households to achieve 27.2 percent enrollment across income levels (based on the Pakistan Social and Living Standards Measurement Survey 2019–20 enrollment rates for children in the highest income quintile).
- *Medium coverage:* Achieving the enrollment rates of a regional peer (Nepal, at 61.9 percent enrollment).
- *Full coverage:* Achieving one year of universal ECE enrollment, meeting Pakistan's commitment to SDG 4.2 and 2009 National Education Policy objectives.

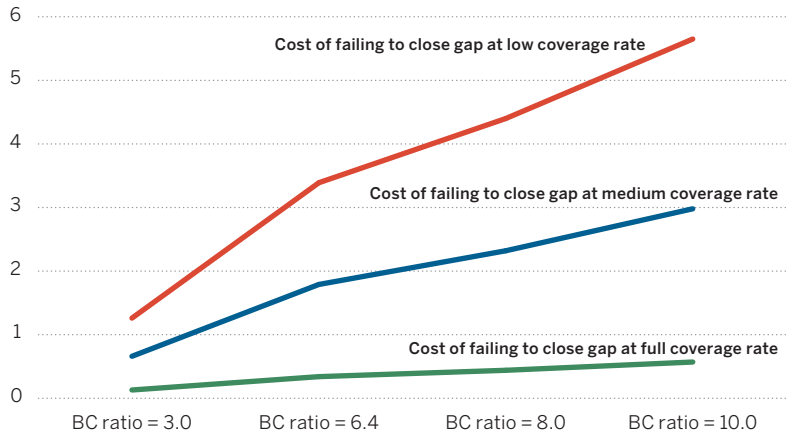
Continuing coverage at present levels, and not raising coverage levels, would be expensive. The cost of inaction would be 0.34 percent of GDP for the low-coverage scenario (failing to boost

enrollment from 18.9 percent to 27.2 percent of all 3- to 5-year-olds in preprimary school), 1.79 percent of GDP for the medium-coverage scenario (failing to enroll 61.9 percent of 3- to 5-year-olds), and 3.39 percent of GDP for the full-coverage scenario (figure 3.20). The cost of inaction on medium coverage is conservatively estimated at US$4.7 billion for each cohort that fails to receive medium coverage.

A less conservative approach using a benefit–cost ratio of 10:1 shows even higher costs of inaction (maintaining the status quo). With a benefit–cost ratio of 10:1, failing to raise ECE enrollment rates from the current 18.9 percent to 27.2 percent across income quintiles (low coverage) would cost Pakistan 0.57 percent of GDP (see figure 3.20) annually. Failing to achieve medium-level coverage of 61.9 percent would cost the country 2.98 percent of GDP for each cohort and failing to achieve full coverage would cost the country 5.65 percent of GDP for each cohort.

FIGURE 3.20 **Not raising early childhood education enrollment rates is costly in the long run**

Percent of GDP



Source: World Bank estimates using the benefit–cost ratio from Engle et al. (2011), data on population age 3–5 from the 2020 Pakistan Census, government expenditure per primary student from World Bank (2015), and GDP from World Bank (2020).
Note: BC is benefit–cost.The green line depicts the cost of failing to equalize preschool enrollment rates between rich (top quintile) and poor (bottom four quintiles) households (27.2 percent enrollment from the Pakistan Social and Living Standards Measurement Survey 2019–20). The blue line depicts the cost of failing to achieve moderate coverage of preschool enrollment using Nepal's 61.9 percent enrollment rate as a comparison. The red line depicts the cost of failing to achieve universal coverage of preschool enrollment.

THE EXISTING POLICY AND PROGRAMMING ENVIRONMENT IS UNDERMINED BY IMPLEMENTATION SHORTFALLS

Pakistan's policy environment for supporting young children to develop their potential often falls short when it comes to implementation. Pakistan's policies point in the right direction in multiple sectors that deeply impact child development in the early years. Health and nutrition policies have a long and broad history, and policy improvements are apparent in the water, sanitation, and hygiene sector in the past decade, with substantial infrastructure investments. The education sector has the ambitious goal of one year of universal preprimary education. Social protection policies include parental leave for federal employees, for example. But good intentions and knowledge of best practices are insufficient to reach young children, especially vulnerable populations, with the services they need for a strong and equal start in life if implementation remains flawed (for example, low-quality toilets increase soil and water contamination), insufficient (a vast majority of workers have no paid leave), or of unknown quality (the quality of ECE services is not evaluated). Even in areas with deep policy roots, such as health and nutrition, child outcomes fall far short (low immunization rates, high stunting rates).

In addition, service delivery for young children is fragmented. Pakistan's policies and programs recognize that early childhood spans the ages from birth to age 8, but service delivery is often split between infants and toddlers (age 0–2 years, including prenatal care) and preschool-age children (age 3–5 years). Whereas children in the younger age group are the primary focus of health and nutrition policies and programs, the older age group

receives more attention in education. Sectoral approaches to ECD remain siloed and inadequate.

Globally, ECD experts are clear about what services and experiences young children need to thrive, across the four core sectors of health and nutrition, water and sanitation, education, and social protection.[26] The global Nurturing Care Framework (NCF) calls for every child to experience good health and adequate nutrition, security and safety, early learning opportunities, and responsive caregiving.[27] International experts designate these interventions not as optional services, but as necessary foundations for the development of children's physical, social-emotional, and cognitive development and long-term human capital accumulation.

Health and nutrition

Policies and programs at the national level promote an integrated approach to health and nutrition in the first three years of life, but Pakistan has a long way to go for providing adequate services for child health, a prerequisite to improved ECD and future achievement and socioeconomic inclusion. Policies have generally aimed to tackle stunting and malnutrition, with stunting reduction goals being laid out in the National Health Action Plan 2019–2023 and prioritized in the provincial agendas, but progress has been slow relative to peers, and stunting rates (40.2 percent) remain the highest in the region. Investments and service delivery for mothers and young children are inadequate, and uptake of recommended practices is low, for example, only half of women have the recommended number of antenatal care visits, and only one-third take iron and folic acid supplements during pregnancy.[28] Despite high food insecurity, only 48.0 percent of children under 6 months are exclusively breastfed, and 21.0 percent of children age 6–23 months experience minimum dietary diversity.[29] Poor health outcomes have been exacerbated by the COVID-19 pandemic and the 2022 floods. Realizing improvements in children's health to boost human capital in Pakistan in the next 30 years will require substantial increases in public financing, massive information campaigns, and new platforms to gather and integrate feedback.[30]

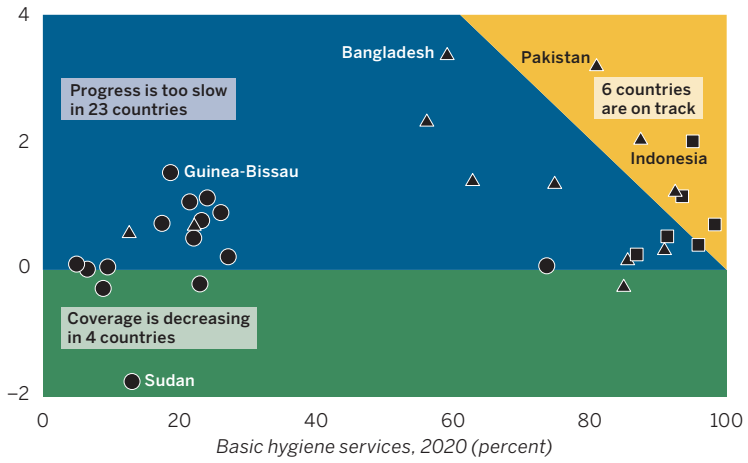
Broad-based packages of services for pregnant women and children in the first 1,000 days of life are essential. Comprehensive services aimed at mothers and young children in the first 1,000 days are needed, such as a family support package for the early years with parental support, including family planning and parenting education; a pregnancy package with pre- and antenatal care and information on nutrition; a birth package, including delivery attended by skilled providers, birth registration, and information on the benefits of exclusive breastfeeding; and a children's health and development package, including immunizations, information on deworming, and identification and treatment of acute malnutrition. Once children reach preschool age, an ECE package featuring high-quality preprimary programs that foster sharing of information on health and hygiene, nutrition, and diet at the school level would also improve health outcomes.

Water, sanitation, and hygiene

Pakistan has greatly improved and expanded water, sanitation, and hygiene infrastructure and services and made progress toward achievement of the SDGs, but improvements have not translated into adequate ECD progress. Between 2015 and 2020, Pakistan enacted policies and delivered services that improved conditions across provinces. It increased access to basic hygiene by 16 percentage points (to 80 percent) and basic sanitation by 9 percentage points (to 68 percent).[31] Over the past two decades, the national rate of open defecation (13 percent) has been more than halved.[32] For some SDG targets, such as universal basic hygiene, Pakistan is one of the few countries on track to achieve universal coverage by 2030

FIGURE 3.21 **Progress toward universal basic hygiene from 2015–20, among countries with less than 99 percent coverage in 2020**

Rate of change, 2015–20 (percentage points per year)

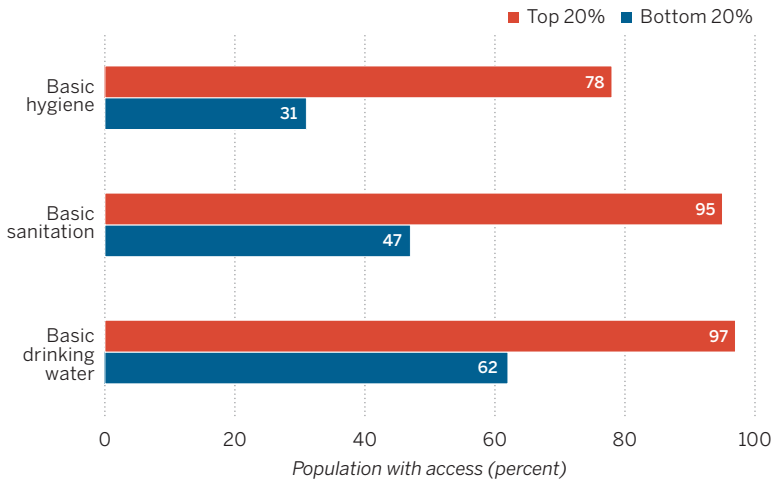


Source: WHO and UNICEF 2021.

(figure 3.21). Accelerated progress will be needed to achieve other SDG targets, such as providing universal access to safely managed drinking water and ending open defecation by 2030.

Even so, positive developments in water and sanitation infrastructure and services have not translated into adequate improvements in children's health: Pakistan's national stunting level (40.2 percent) remains alarming. Systemic factors include insufficient fecal waste management and wastewater systems and the expansion of low-quality toilets that have raised levels of soil and water, contributing to weak nutritional outcomes for children.[33] An estimated 70 percent of households drink bacterially contaminated water,[34] posing a serious hazard for young children. Consumption of *E. coli*-contaminated water can lead to irreversible intestinal damage and hinder children's long-term growth.

FIGURE 3.22 **Inequalities by wealth quintile in water, sanitation, and hygiene coverage in Pakistan**



Source: WHO and UNICEF 2021.
Note: Comparing highest wealth quintile and lowest quintile groups in 2018.

ECD outcomes remain stagnant because of undefined institutional responsibilities, uneven coverage, and varied household practices. Planning frameworks are weak at the provincial level, and local governments lack the technical capacity and tools to target resource allocation. Despite the Local Government Act of 2015, considerable overlap and confusion remain regarding the roles and responsibilities at each tier of government, resulting in weak planning, coordination, and monitoring.[35] Inequalities in water, sanitation and hygiene services by wealth and location are stark.[36] For example, there are wide urban–rural gaps in access, with piped water and flush-to-sewer latrines mainly being concentrated in urban areas.[37] Similar inequalities persist according to wealth (figure 3.22), although even the richest households living in poorer regions remain unprotected against the higher incidence of diarrhea and stunting.[38] Household health behaviors and hygiene practices are important determinants of levels of contamination in the environment and unhygienic practices remain prevalent, including unsafe stool disposal, bare feet in households, and having animals in dwellings.[39]

Education

Pakistan has articulated policy goals for young children's education, but failure to monitor investments, child outcomes, and system progress obscures evaluation. The National Plan of Action 2001–15 set 50 percent ECE enrollment as a

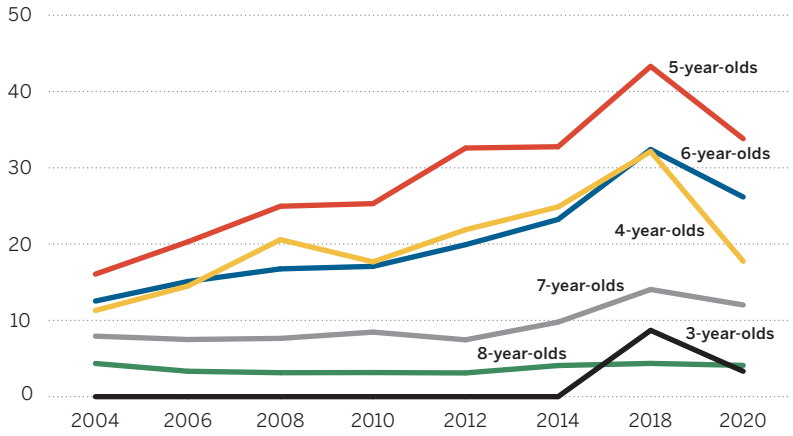
target, and the 2009 National Education Policy declared universal access to one year of ECE a target in its 10-year plan. The country has further articulated policy and standards through several acts in the past decade, including by establishing Pakistan's National Curriculum starting at age 4. However, financing data combine public primary and preprimary education spending, so how much Pakistan and the provinces invest in ECE cannot be precisely determined. Program quality and ECE participation patterns, including intensity, duration, and sequencing, are also unknown. Terminology for preprimary is ambiguous, which challenges monitoring and coordination efforts. And, there is almost no information on the quality of ECE programs in either public or private settings. In Sindh, more than half (55.6 percent) of preprimary provision occurs through private programs, which are not necessarily bound by public regulations (figure 3.23).

Fewer than one-fifth of Pakistan's preschool-age children enroll in ECE, and rates are falling. Despite its goals, Pakistan's coverage of ECE remains extremely low—only 18.9 percent of preschool-age children were enrolled in a preprimary program in Pakistan in 2019–20, as previously noted—and the rates declined for all ages of young children between 2018 and 2020 (figure 3.24).

Enforcement of existing policy is not prioritized: compulsory education begins at age 5,

FIGURE 3.24 **After rising between 2004 and 2018, preprimary enrollment began to decline in Pakistan among children age 3–8**

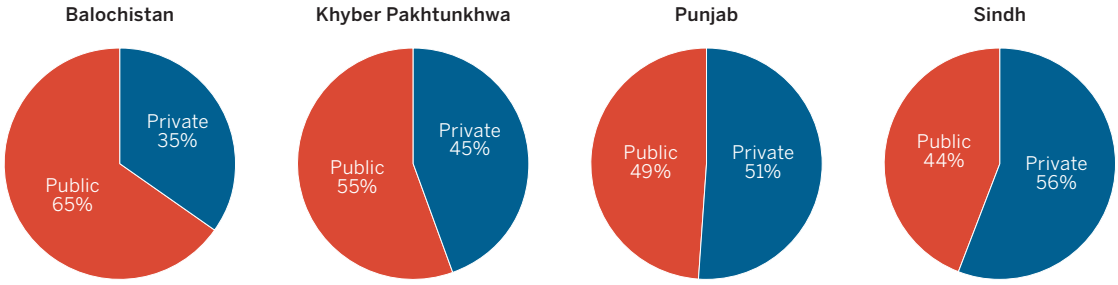
Percent



Source: World Bank calculations using Pakistan Social and Living Standards Measurement Surveys 2004–20.

yet fewer than half of 5-year-olds in Pakistan are enrolled in school (figure 3.25). Only 42.3 percent of children age 5 are enrolled (9.1 percent in primary school and 33.1 percent in preprimary), leaving 57.7 percent out of school altogether—and far fewer 3- and 4-year-olds were enrolled in preprimary school (3.2 percent and 17.2 percent respectively). Among children age 5 enrolled in an ECE program, only 11 percent are in a primary school preparation or "prep" class; the remainder go to nursery school (16 percent) or a playgroup (6 percent) (figure 3.26). The content and skills taught in these programs are unclear.

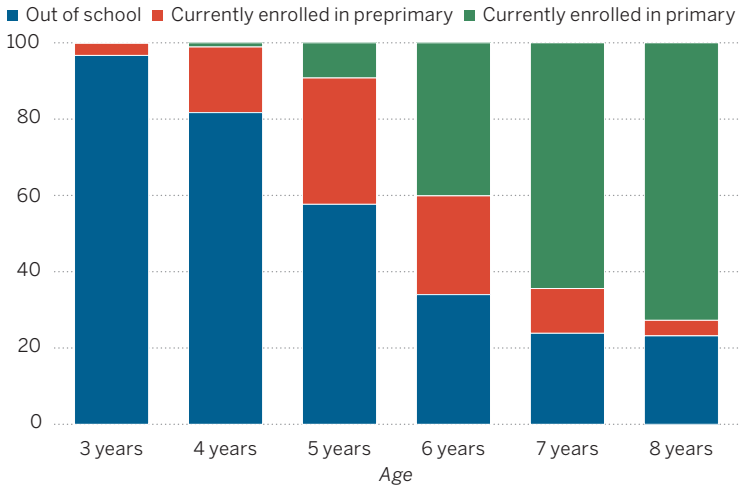
FIGURE 3.23 **Private providers of early childhood education serve large shares of children age 3–5 in Pakistan provinces, 2019–20**



Source: World Bank calculations using Pakistan Social and Living Standards Measurement Surveys 2004–20.

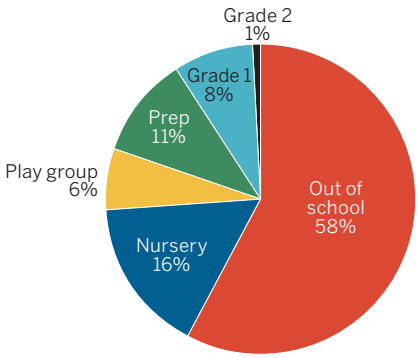
FIGURE 3.25 **Enrollment among children age 3–8 rises by age but is very low for children age 3–5 in Pakistan, 2019–20**

Percent



Source: World Bank calculations using Pakistan Social and Living Standards Measurement Surveys 2019–20.

FIGURE 3.26 **More than half of 5-year-old children in Pakistan are out of school, 2019–20**



Source: World Bank calculations using Pakistan Social and Living Standards Measurement Surveys 2019–20.

Multigrade classrooms in which children range in age from 3 to 8 and overcrowding are common at both the preprimary and primary levels, creating difficult conditions for teachers.

Though barriers to supply and demand have not been thoroughly analyzed, infrastructure, workforce issues, and costs are clearly salient. Supply-side constraints tend to focus on infrastructure, and key barriers are the lack of physically separate classrooms for preprimary children within public primary schools. Added barriers are the insufficient number of teachers, inadequate professional development for teachers of children age 3–5, and insufficient financial resources. Barriers to demand for ECD services include cost, lack of information, and, during the COVID-19 pandemic, fear of infection.[40] Fees that are prohibitive include nontuition costs such as uniforms, book fees, and transportation. "Too expensive" was the top-cited reason for not enrolling a preschool-age child in 2019 by almost all parents (89 percent), whereas "child too young" was the top-cited reason (77 percent) for not enrolling children in the same age group the year before. In addition, parents lacked information about the quality of programs, their rights, and school accountability.

Social protection

Pakistan has ratified international treaties that guarantee children special protections, but no national laws directly address child protection, and provinces have administrative authority for child protection programs. Although neither the Constitution of Pakistan nor any law at the national level directly addresses child protection, Pakistan has ratified key international treaties and enacted several national policies relevant to child protection. The government created the National Commission for the Rights of the Child in 2017, with the mandate of examining existing laws relating to children and proposing new legislation related to child rights and abuse. Provinces have a key role in administering protection and care programs for children, leaving policy and program implementation fragmented. While several initiatives are in place across the provinces, coordination, capacity, and coverage challenges persist. Provincial social welfare departments provide education facilities for children with special needs and homes for rehabilitating orphaned children.

Social assistance transfer programs provide critical poverty reduction support. While there

are some social assistance programs providing targeted support for children, most programs are targeted at reducing vulnerability and poverty at the household level. In 2007, the government developed the National Social Protection Strategy (NSPS) with the vision of developing a comprehensive social protection system covering the poorest and most vulnerable populations. NSPS served as the foundation for launching the Benazir Income Support Programme (BISP) in 2011, Pakistan's flagship safety net program, providing unconditional cash transfers to the most vulnerable. This intervention has been key because young children are overrepresented among the poor, who account for 21.9 percent of the population as a whole but 27.0 percent of children from birth to age 2 and 29.6 percent of children age 3–5. The BISP resulted in a paradigm shift in social protection and a large increase in pro-poor social protection spending, with beneficiaries amounting to 52 percent of the population.[41]

The BISP provides important protections for young children. It supports access to education by providing conditional cash transfers (CCTs) to eligible children starting at age 5; these stipends cover one year of preprimary enrollment as well as primary education. And recognizing stunting as a key challenge in the country's human capital development, BISP incentivizes uptake of health services among pregnant and lactating women and children under 2 through its Health and Nutrition CCT program. The BISP has laid out several policies and strategies to assist the work of ministries and social protection agencies and avoid duplication of efforts, and the Emergency Cash program for COVID-19 has been ranked among the top four global initiatives for social protection.[42]

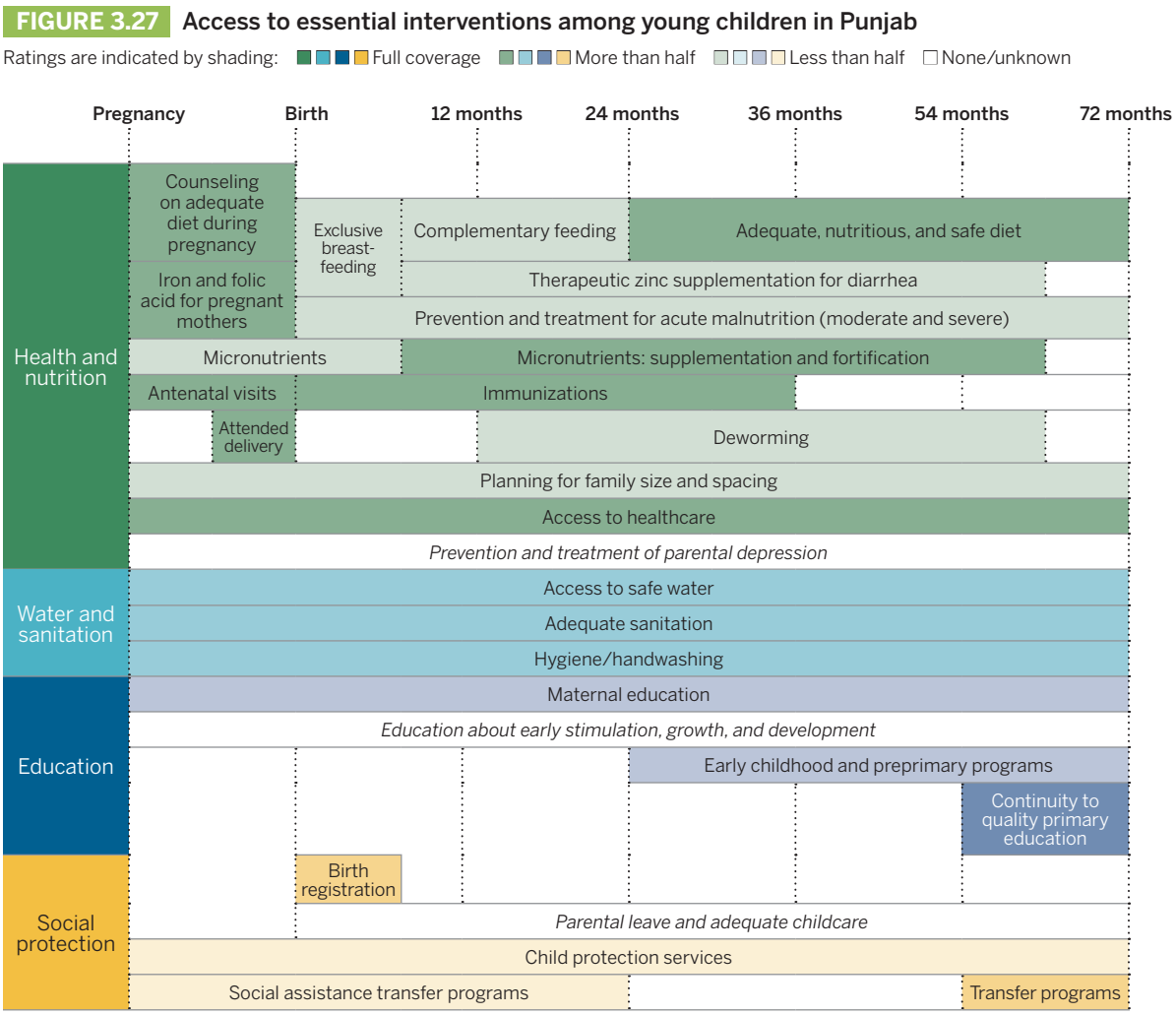
Using multisectoral approaches to improve ECD outcomes

Multisectoral policies and initiatives for ECD have been limited, and there is no coordinating body to oversee multisectoral interventions focused on children under 5. Pakistan tends to use a siloed approach to service delivery for ECD rather than developing multisectoral policies and establishing coordinated approaches to program implementation. Although there have been some efforts to implement multisectoral programs, initiatives have been small in scale and have not been managed by an overarching coordinating body working across districts or provinces. Multisectoral approaches applied through the nutrition sector have shown success in terms of multisectoral buy-in, planning, and establishing governance platforms.[43] In some cases, outcomes cannot be improved without multisectoral efforts, such as stunting, which requires support from nutrition programs, parenting education initiatives, and improved access to high-quality water and sanitation services.

There are substantial gaps in Pakistan between the country's policy goals and actual delivery of services in terms of coverage, quality, and subsequent human development. Denboba et al. (2014) outlined 25 key interventions considered by global experts to be essential for favorable child development, aligned with four core early childhood-relevant sectors: health and nutrition, water and sanitation, education, and social protection. Across sectors and provinces in Pakistan, policy environments are fair or good, whereas program implementation and uptake of recommended practices are lacking—in some cases, dramatically so. Intervention coverage in the two most populous provinces in Pakistan, Punjab and Sindh, show that policy intentions are not yet matched by access (figures 3.27 and 3.28). Challenges include unavailable or unaffordable programming, small or informal scale of programming, and weak data collection and monitoring and evaluation systems, which obscure rates of coverage, inputs and outcomes and, in turn, the use of data for program improvements.

Multisectoral policies and programs would improve ECD but require enabling environments

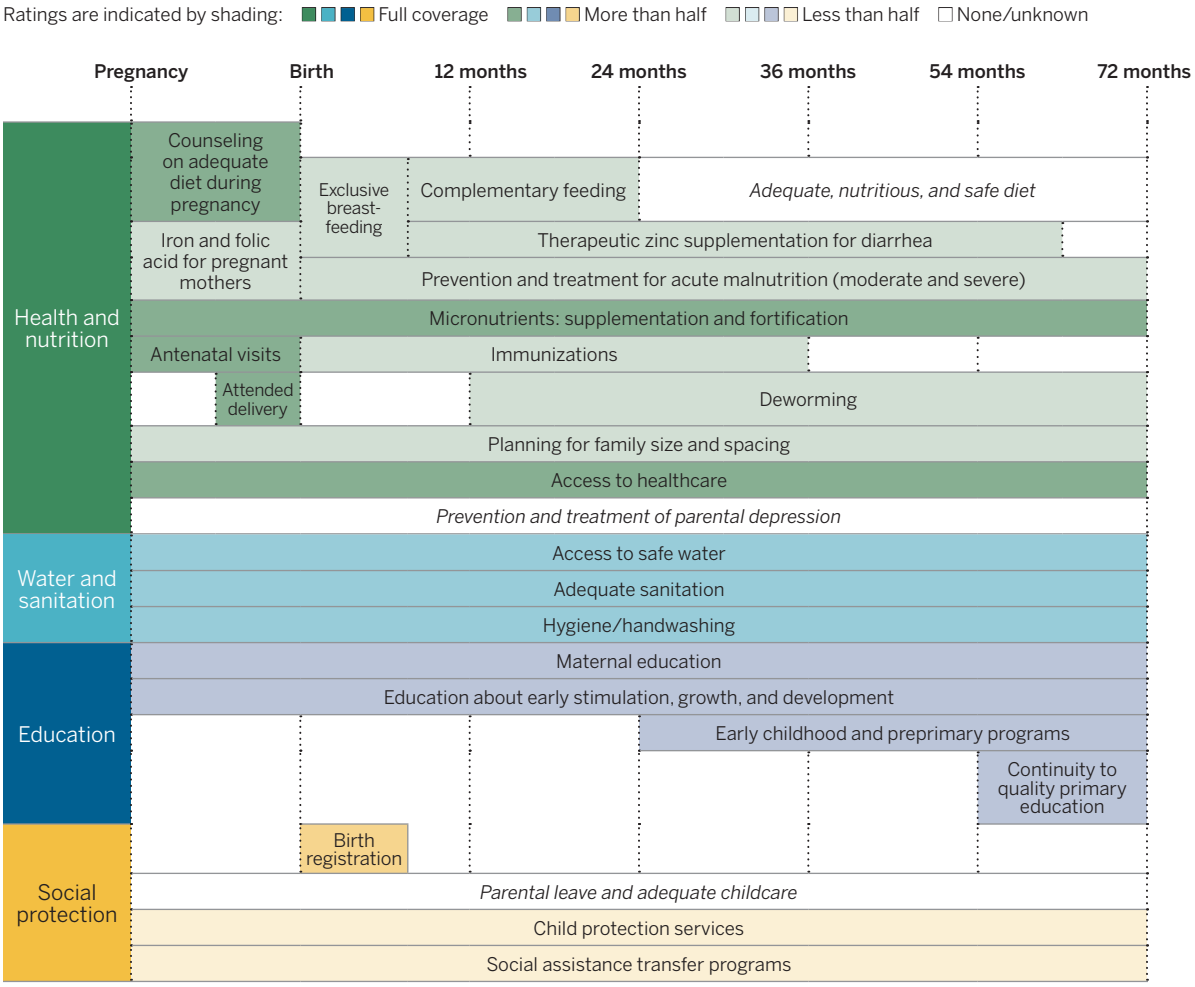
FIGURE 3.27 Access to essential interventions among young children in Punjab



Source: World Bank elaboration based on Government of Punjab reports and Multiple Indicator Cluster Survey data.

and programs that support caregivers as well as children. Coordination across sectors better supports children and families.[44] Multisectoral approaches are promoted through the NCF developed by the World Health Organization, the United Nations Children's Fund (UNICEF), and the World Bank (2018) to improve young children's access to good health, nutrition, responsive care, safety and security, and early learning. The NCF recognizes that each sector plays a role in supporting ECD; however, existing interventions being delivered by sectors may not be sufficient, there may be gaps, or services may require strengthening and coordination to amplify benefits. At the policy level, critical policy actions for caregivers as well as children include access to affordable, high-quality childcare services,[45] parental leave for both mothers and fathers, and breastfeeding and family-friendly policies. Improved infrastructure and service delivery in the water and sanitation sector would need to converge with parenting education programs promoting good health and hygiene practices. Also at the program level, multisectoral and multigenerational parenting education programs would empower families by increasing access to services supporting caregiver well-being, such as caregiver mental health services, while promoting nurturing care for children. Effective program investments in Pakistan,

FIGURE 3.28 Access to essential interventions among young children in Sindh



Source: World Bank elaboration based on Government of Sindh reports and Multiple Indicator Cluster Survey data.

including training early childhood educators, would strengthen frontline services for young children and their caregivers and continuity of services to ensure successful transitions for young children from their home to preschool to early primary school environments.

Multisectoral initiatives in process provide insights and synergistic pathways forward. In 2013, Pakistan joined the Scaling Up Nutrition (SUN) Movement through the Planning and Development division in the Prime Minister's office to improve development partner coordination and multisectoral coordination for improved nutrition at the provincial level. Under this initiative, an ECD service delivery mapping has been conducted, national ECD policy dialogue is under way, an ECD policy framework is in progress, a national steering committee and a technical working group for ECD have been established, a joint planning commission of the National SUN Secretariat and the Nutrition Section of the Ministry of Planning, Development and Special Initiatives is being set up, and a PC-II (pro forma for development projects) has been developed to secure government resources for ECD. There may be potential to further build the capacity of this ministry and its provincial counterparts to govern such initiatives. The Inter-Provincial Education Ministers' Conference may also provide

a forum for experience sharing and developing multisectoral ways forward.[46]

Parenting as a key multisectoral issue

A child-centric and cost-effective approach to service delivery in early childhood would be cross cutting, including by improving service delivery to parents. By leveraging the potential synergy of existing platforms such as the Lady Health Worker Program or ECE programs, stakeholders have opportunities to multiply the benefits of comprehensive programs through parents and guardians, who have continuous opportunity to provide for children's holistic needs.

Parenting programs increase parents' capacity to nurture child development so that children can reach their potential. The rights of the youngest citizens to receive nurturing, sensitive, and emotionally responsive care, to play, to explore their environment, and to learn are noted in the United Nations Convention on the Rights of the Child,[47] which Pakistan ratified in 1990. The important role parents and guardians play in supporting the provision of care and the obligation of states to support parenting are recognized in the Convention and by researchers.[48] However, the provision of nurturing care in Pakistan is undermined by the multiple risks reviewed above. Parenting programs provide information, resources, and skills to support parents in optimizing nurturing care so their young children can develop healthily and be protected from harm.

There is consistent global evidence that parenting programs are effective in promoting ECD. The effectiveness of parenting programs starting before and at birth is well established through international studies.[49] In Pakistan, parenting programs have been successfully delivered through a range of platforms, including community health services,[50] health clinics,[51] and parenting program research in Pakistan has addressed both child inputs and caregiver well-being.[52] Global evidence also suggests that there are opportunities to implement parenting programs through social protection and education platforms,[53] which offer new opportunities for program implementation in Pakistan. In addition, fatherhood engagement is also emerging as a key focus area for parenting to promote development, learning, and the prevention of violence in global contexts.[54] Because parenting is a constant throughout the early years, multiple parent-oriented platforms at different stages of parenting and child development can improve developmental outcomes for children as newborns, infants, toddlers, preschoolers, and primary school–age children.

ACCELERATING PROGRESS TO IMPROVE EARLY CHILDHOOD DEVELOPMENT OUTCOMES

Early childhood development is a key means of accelerating Pakistan's progress toward human capital development and becoming a middle-income country. The *Pakistan@100: Shaping the Future* report recommends easing constraints to human capital development to accelerate growth in the medium term in three ways. First is to increase parents' awareness of child development, health, nutrition, and stimulation. Second is to reduce stunting through ECD programs. Third is to improve the efficiency of public investment in human capital development, particularly health and education.[55] These recommendations directly align with policies to improve services for young children and their caregivers through access to high-quality, comprehensive programs that will directly affect ECD and learning outcomes, particularly for vulnerable populations. Protecting and augmenting children's experiences of nurturing care, mitigating risks, and expanding early interventions to close gaps in children's growth and development will advance Pakistan's human capital accumulation.

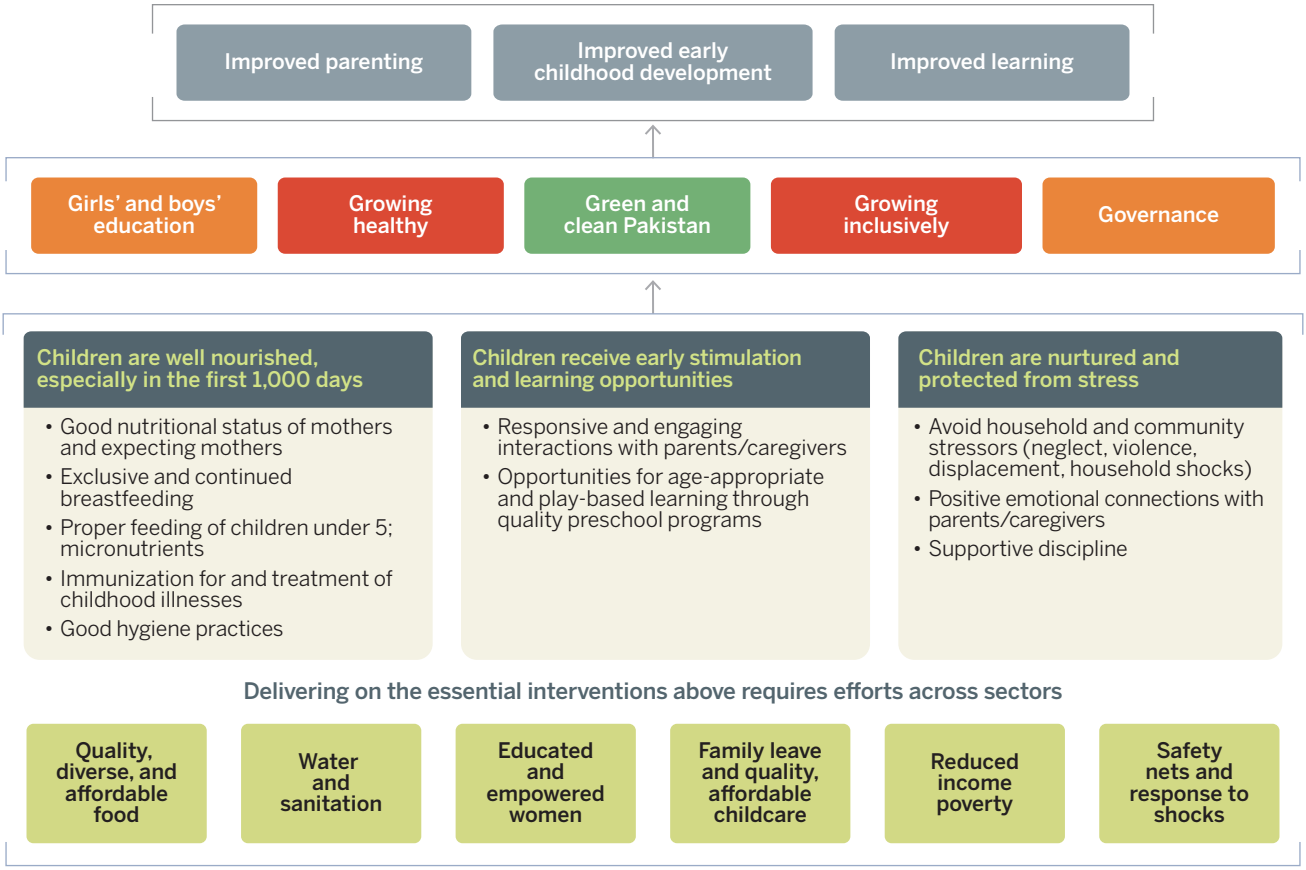
Pakistan has opportunities to improve ECD through multiple entry points corresponding to national priorities. In addition to aligning with the recommendations of immediate reform in the

Pakistan@100 report, strategies to support ECD align directly with the forthcoming World Bank–Pakistan Country Partnership Framework, which lays out the country's priorities according to five anchoring areas of need and potential, collectively referred to as the 5 Gs: girls' and boys' education, growing healthy, green and clean Pakistan, growing inclusively, and governance. ECD is one of eight areas singled out for reform, and investments in nurturing care and education for young children through each of the 5Gs would promote improved parenting, ECD and learning outcomes (figure 3.29). ECD strategies also align with the steps and priorities of the 2020 Government of Pakistan, SUN Secretariat, and UNICEF mapping exercise, which are organized around the components of the NCF.

CONCLUSION AND RECOMMENDATIONS

Efficient and meaningful progress toward human capital development in Pakistan will not occur without efficient and meaningful investments in young children. Investments in young children's healthy development from gestation through the primary years are a prerequisite for improved human capital outcomes for the country's growth. The quality of Pakistan's human capital has been uneven and lower than in comparable countries. Gaps between groups are wide, particularly disadvantaging those in low-income households, rural areas, and girls and women. As discussed throughout the chapter, risks for vulnerable children intersect and lead

FIGURE 3.29 **Investing across sectors to promote early childhood development will accelerate progress in human capital development in Pakistan**



Source: Adapted using the World Bank Investing in the Early Years framework and the upcoming Pakistan Country Partnership Framework.

to a development trajectory that fails to support achieving full potential. It is estimated that setbacks resulting from COVID-19-related setbacks may be equivalent to eight years of forgone progress—and outcomes among young children in Pakistan, although measured imperfectly, are already showing declines. Given that investments in human capital are a multiplier for productivity and that investments in ECD provide some of the best returns among human capital investments, a coordinated, multisectoral approach to improving outcomes for young children will lead to immense benefits for individual children, their families, and the country's economic prospects.

Investments must focus on caregivers, program coverage, and program quality. More efficient and effective investments in young children in Pakistan require multisectoral efforts, including investing in parents and educators. Integrating high-quality, contextually relevant parenting programs into existing health, social protection, and education platforms from gestation to age 8 will substantially improve child development and learning outcomes. Motivating parents to engage with their young children and enroll them in high-quality childcare and ECE would go far in reducing learning poverty. Access to high-quality early care and education programs will also boost women's labor force participation. While this chapter has focused more on access to programs than on their quality, the importance of quality cannot be overstated. Programs that fail to achieve minimal quality standards are ineffective, waste scarce resources, and undermine demand for services, which compromises coverage over time. Building capacity among frontline health workers and cultivating a qualified, appropriately compensated ECE workforce are the foundations of high-quality programming.

Policy and programming options to provide opportunities and accelerate progress in ECD in Pakistan include:

Expand cash transfer support to young families from pregnancy through preschool

- Supplement cash transfers, where they exist, with programs such as the Lady Health Worker Program, and develop training and awareness programs to empower mothers at the community level to support each other.
- Use community-based mother support groups to monitor child development outcomes and identify early markers for interventions.

Improve the supply of clean water and adequate sanitation with piped water delivery wherever feasible

- Improve existing tariff structures with a view to enhancing sustainability, treatment of human waste, water treatment, and water quality tracking.
- Ensure all public facilities such as schools and basic health units have adequate WASH facilities.

Encourage behavior change at the household and community levels

- Develop and implement parenting programs that teach caregivers how to engage in responsive interactions with their children and provide early stimulation. These programs would encourage breastfeeding, teach parents how to provide stimulation, and underscore the benefits of proper nutrition and positive parenting.
- Encourage reduction in the incidence of open defecation and encourage good hygiene practices such as regular handwashing.

Ensure the convergence and geographic co-location of sectoral interventions for nutrition and early development at the household level

- Empower district health and education authorities, and ensure they have the capacity and resources commensurate with their responsibilities to implement early childhood development and nutrition programs.

- Strengthen monitoring and evaluation systems for ECD and nutrition by incorporating children's developmental milestones into health information systems while also strengthening education information systems to collect key health markers.
- Regularly evaluate the reach and quality of such multisectoral programs to ensure they remain fit-for-purpose.

Multiple entry points exist for supporting better development outcomes for young children in Pakistan that fully align with the country's goals and a life cycle approach to human capital development. Recommendations related to the NCF will go far toward realizing Pakistan's ambitions to meaningfully reduce stunting and learning poverty and enable children to grow up physically healthy, and intellectually sound in safe, clean environments with responsive, nurturing caregivers. Coordinated programming across sectors will lead to improved parenting, better child outcomes, and higher learning levels today and tomorrow. In addition to the enormous economic benefits to improved human development resulting from increased performance, innovation, and productivity, effective investments in ECD will reap incalculable returns on investment for each young child who is able to receive nurturing care and thrive during childhood and beyond.

NOTES

1. The term *caregiver* in this chapter includes parents; the terms *caregiver* and *parent* are used interchangeably.
2. World Bank 2022a.
3. World Bank 2022b.
4. Government of Pakistan, UNICEF, and SUN 2021.
5. Sarfraz 2020.
6. Lu et al. 2020.
7. The data reflect children's performance at the end of grade 1 rather than in preschool, and the survey data are not weighted or nationally representative, but they point to low achievement levels.
8. Geven 2020.
9. Geven and Hasan 2020.
10. Black et al. 2017.
11. Berens and Nelson 2015; Folger et al. 2018.
12. Campbell et al. 2014; Gertler et al. 2014; Walker et al. 2011a.
13. Walker et al. 2011b.
14. Campbell et al. 2014; Gertler et al. 2014.
15. Engle et al. 2011.
16. Multiple Indicator Cluster Survey (MICS) data.
17. Pakistan Social and Living Standards Measurement Survey data.
18. It is challenging to compare prevalence of disabilities across countries—attempts to standardize question sets for disability status are under way—and country rankings are not currently available. These data do not account for children with undiagnosed intellectual or physical disabilities or children with developmental delays.
19. WHO and World Bank 2011.
20. Sindh MICS 2018–2019.
21. Lu et al. 2020.
22. In the MICS data for all four provinces, there were very small practical differences in the share of boys and girls experiencing multiple risks. These small differences were statistically significant in Punjab and Balochistan but not in Sindh or Khyber Pakhtunkhwa.
23. Proulx et al. 2021.
24. Yoshikawa et al. 2020.
25. Engle et al. 2011.
26. Denboba et al. 2014.
27. WHO, UNICEF, and World Bank 2018.
28. NIPS and ICF 2019.
29. MNHSRC Nutrition Wing 2018; NIPS and ICF 2019.
30. World Bank 2019.
31. WHO and UNICEF 2021.
32. World Bank 2018.
33. World Bank 2018.
34. UNICEF Pakistan 2021.
35. World Bank 2018.
36. WHO and UNICEF 2021.
37. World Bank 2018.
38. World Bank 2018.
39. NIPS and ICF 2019.
40. Mureed 2021.
41. Gentilini et al. 2020.
42. Gentilini et al. 2020.
43. Zaidi et al. 2018.
44. Britto et al. 2018; Richter et al. 2017.
45. Devercelli and Beaton-Day 2020.
46. National Curriculum Council 2020.
47. UN CRC 1989.
48. Britto et al. 2017.
49. Jeong et al 2021.
50. Yousafzai et al. 2014.
51. Khan et al. 2018.
52. Husain et al. 2021.
53. Britto et al. 2017.
54. Kruk et al. forthcoming.
55. World Bank 2019.

REFERENCES

Baker-Henningham, H., and S. Walker. 2018. "Effect of Transporting an Evidence-based, Violence Prevention Intervention to Jamaican Preschools on Teacher and Classwide Child Behaviour: A Cluster Randomised Trial." *Global Mental Health* 5.

Berens, A. E., and C. A. Nelson. 2015. "The Science of Early Adversity: Is There a Role for Large Institutions in the Care of Vulnerable Children?" *The Lancet* 386 (9991): 388–398.

Bhutta, Z. A., S. Soofi, S. Cousens, S. Mohammad, Z. A. Memon, I. Ali, A. Feroze, F. Raza, A. Khan, S. Wall, and J. Martines. 2011. "Improvement of Perinatal and Newborn Care in Rural Pakistan through Community-based Strategies: A Cluster-randomised Effectiveness Trial." *The Lancet* 377 (9763): 403–412.

Black, M. M., and F. E. Aboud. 2011. "Responsive Feeding Is Embedded in a Theoretical Framework of Responsive Parenting." *The Journal of Nutrition* 141 (3): 490–494.

Black, M. M., S. P. Walker, L. C. Fernald, C. T. Andersen, A. M. DiGirolamo, C. Lu, D. C. McCoy, G. Fink, Y. R. Shawar, J. Shiffman, and A. E. Devercelli. 2017. "Early Childhood Development Coming of Age: Science through the Life Course." *The Lancet* 389 (10064): 77–90.

Britto, P. R., S. J. Lye, K. Proulx, A. K. Yousafzai, S. G. Matthews, T. Vaivada, R. Perez-Escamilla, N. Rao, P. Ip, L. C. Fernald, and H. MacMillan. 2017. "Nurturing Care: Promoting Early Childhood Development." *The Lancet* 389 (10064): 91–102.

Britto, P. R., M. Singh, T. Dua, R. Kaur, and A. K. Yousafzai. 2018. "What Implementation Evidence Matters: Scaling-up Nurturing Interventions that Promote Early Childhood Development." *Annals of the New York Academy of Sciences* 1419 (1): 5–16.

Britto, P.R., H. Yoshikawa, and K. Boller. 2011. "Quality of Early Childhood Development Programs in Global Contexts: Rationale for Investment, Conceptual Framework and Implications for Equity and Commentaries." *Social Policy Report* 25 (2): 1–31.

Campbell, F., G. Conti, J. J. Heckman, S. H. Moon, R. Pinto, E. Pungello, and Y. Pan. 2014. "Early Childhood Investments Substantially Boost Adult Health." *Science* 343 (6178): 1478–1485.

Cuartas, J., 2020. "Heightened risk of child maltreatment amid the COVID-19 pandemic can exacerbate mental health problems for the next generation." *Psychological Trauma: Theory, Research, Practice, and Policy 12*(S1): p. S195.

Cuartas, J., D. C. McCoy, C. Rey-Guerra, P. R. Britto, E. Beatriz, and C. Salhi. 2019. "Early Childhood Exposure to Non-violent Discipline and Physical and Psychological Aggression in Low- and Middle-income Countries: National, Regional, and Global Prevalence Estimates." *Child Abuse & Neglect* 92: 93–105.

Cuartas, J., K. P. Ward, J. Ma, and A. Grogan-Kaylor. 2020. "Physical Punishment and Colombian Children and Adolescents' Cognitive and Behavioral Outcomes." *Journal of Applied Developmental Psychology* 68: 101140.

Cuartas, J., D. G. Weissman, M. A. Sheridan, L. Lengua, and K. A. McLaughlin. 2021. "Corporal Punishment and Elevated Neural Response to Threat in Children." *Child Development* 92 (3): 821–832.

Denboba, A. D., L. K. Elder, J. Lombardi, L. B. Rawlings, R. K. Sayre, Q. T. Wodon. 2014. *Stepping Up Early Childhood Development: Investing in Young Children for High Returns.* Washington, DC: World Bank. http://documents.worldbank.org/curated/en/868571468321240018/Stepping-up-early-childhood-development-investing-in-young-children-for-high-returns.

Devercelli, A., and F. Beaton-Day. 2020. *Better Jobs and Brighter Futures: Investing in Childcare to Build Human Capital.* Washington, DC: World Bank.

Early Learning Partnership. 2019. *Early Learning Partnership Systems Research: Phase I (2017–19) Summary Brief.*

Engle, P. L., L. C. Fernald, H. Alderman, J. Behrman, C. O'Gara, A. Yousafzai, M. C. De Mello, M. Hidrobo, N. Ulkuer, I. Ertem, and S. Iltus. 2011. "Strategies for Reducing Inequalities and Improving Developmental Outcomes for Young Children in Low-income and Middle-income Countries. *The Lancet* 378 (9799): 1339–1353.

Eshel, N., B. Daelmans, M. C. D. Mello, and J. Martines. 2006. "Responsive Parenting: Interventions and Outcomes." *Bulletin of the World Health Organization* 84: 991–998.

Fesseha, E., and A. Pyle. 2016. "Conceptualising Play-based Learning from Kindergarten Teachers' Perspectives." *International Journal of Early Years Education* 24 (3): 361–377.

Fisher, J., M. C. D. Mello, V. Patel, A. Rahman, T. Tran, S. Holton, and W. Holmes. 2012. "Prevalence and Determinants of Common Perinatal Mental Disorders in Women in Low- and Lower-middle-income Countries: A Systematic Review." *Bulletin of the World Health Organization* 90: 139–149.

Folger, A.T., E. A. Eismann, N. B. Stephenson, R. A. Shapiro, M. Macaluso, M. E. Brownrigg, and R. J. Gillespie. 2018. "Parental Adverse Childhood Experiences and Offspring Development at 2 Years of Age." *Pediatrics* 141 (4).

Gentilini, U., M. Almenfi, I. Orton, and P. Dale. 2020. *Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/33635.

Gertler, P., J. Heckman, R. Pinto, A. Zanolini, C. Vermeersch, S. Walker, S. M. Chang, and S. Grantham-McGregor. 2014. "Labor Market Returns to an Early Childhood Stimulation Intervention in Jamaica." *Science* 344 (6187): 998–1001.

Geven, K. 2020. "Learning Poverty and ASER 2019." In A. P. Idara-e-Taleem-o-Aagahi (ed.), *Annual Status of Education Report (ASER) Pakistan, National (Rural)*. Lahore, Pakistan: ASER Pakistan Secretariat and ITA.

Geven, K., and A. Hasan. 2020. *Learning Losses in Pakistan Due to COVID-19 School Closures: A Technical Note on Stimulation Results.* Washington, DC: World Bank.

Government of Pakistan, UNICEF (United Nations Children's Fund), and SUN. 2021. *Pakistan Country Experience on Early Childhood Development: Integrated Early Childhood Development (Early Childhood Development) from Policy to Programming*. Presentation at the WHO SEARO Regional Meeting, April 2021.

Haq, W., S. H. Raza, and T. Mahmood. 2020. "The Pandemic Paradox: Domestic Violence and Happiness of Women." *PeerJ* 8: e10472.

Howard, L. M., E. Molyneaux, C. L. Dennis, T. Rochat, A. Stein, and J. Milgrom. 2014. "Non-psychotic Mental Disorders in the Perinatal Period." *The Lancet* 384 (9956): 1775–1788.

Husain, N., T. Kiran, B. Fatima, I. B. Chaudhry, M. Husain, S. Shah, P. Bassett, N. Cohen, F. Jafri, S. Naeem, Z. Zadeh, C. Roberts, A. Rahman, F. Naeem, M. I. Husain, and N. Chaudhry. 2021. "An Integrated Parenting Intervention for Maternal Depression and Child Development in a Low-Resource Setting: Cluster Randomized Controlled Trial." *Depression and Anxiety* 38 (9): 925–939.

Jeong, J., E. E. Franchett, C. V. Ramos de Oliveira, K. Rehmani, and A. K. Yousafzai. 2021. "Parenting Interventions to Promote Early Child Development in the First Three Years of Life: A Global Systematic Review and Meta-analysis." *PLoS Medicine* 18 (5): e1003602.

Khan, G. N., S. Kureishy, S. Ariff, A. Rizvi, M. Sajid, C. Garzon, A. A. Khan, S. de Pee, S. B. Soofi, and Z. A. Bhutta. 2020. "Effect of Lipid-based Nutrient Supplement—Medium Quantity on Reduction of Stunting in Children 6–23 Months of Age in Sindh, Pakistan: A Cluster Randomized Controlled Trial. *PloS One* 15 (8): e0237210.

Khan, M. A., S. S. Owais, S. Maqbool, S. Ishaq, H. J. Khan, F. A. Minhas, J. Hicks, M. A. Khan, and J. D. Walley. 2018. "Is Integrated Private-clinic–based Early Child Development Care Effective? A Clustered Randomised Trial in Pakistan." *BJGP Open* 2 (2).

Kruk, M. E., T. P. Lewis, C. Arsenault, Z. A. Bhutta, G. Irimu, J. Jeong, Z. S. Lassi, S. M. Sawyer, T. Vaivada, P. Waiswa, and A. K. Yousafzai. Forthcoming. "Making Health and Social Systems Work For All Children in Low-income and Middle-income Countries: Structural Innovations to Deliver High-Quality Services." *The Lancet*.

Lu, C., J. Cuartas, G. Fink, D. McCoy, K. Liu, Z. Li, B. Daelmans, and L. Richter. 2020. "Inequalities in Early Childhood Care and Development in Low/middle-income Countries: 2010–2018." *BMJ Global Health* 5 (2): e002314.

Malik, I., and L. Pop. 2013. "Consolidating Social Protection." Pakistan Policy Note 11, World Bank, Washington, DC.

McCoy, D. C., J. Cuartas, J. Behrman, C. Cappa, J. Heymann, F. López Bóo, C. Lu, A. Raikes, L. Richter, A. Stein, and G. Fink. 2021. "Global Estimates of the Implications of COVID-19-related Preprimary School Closures for Children's Instructional Access, Development, Learning, and Economic Well-being." *Child Development* 92 (5): e883–e899.

MNHSRC (Ministry of National Health, Services, Regulations and Coordination) Nutrition Wing. 2018. *National Nutrition Survey 2018 Volume I*. http://phkh.nhsrc.pk/sites/default/files/2021-03/National%20Nutrition%20Survey%20Key%20Findings%20Volum%201%20UNICEF%202018.pdf.

Moya, A., P. Serneels, A. Desrosiers, V. Reyes, M. J. Torres, and A. Lieberman. 2021. "The COVID-19 Pandemic and Maternal Mental Health in a Fragile and Conflict-affected Setting in Tumaco, Colombia: A Cohort Study." *The Lancet Global Health* 9 (8): e1068–e1076.

Munir, M. M., U. Rubaca, M. H. Munir, and B. Munir. 2021. "An Analysis of Families Experiences with Young Children with Intellectual and Developmental Disabilities (IDDs) during COVID-19 Lockdown in Pakistan." *International and Multidisciplinary Journal of Social Sciences* 10 (1): 81–103.

Mureed, S. 2021. *Web-based Poll Survey to Assess Impact of COVID-19 on RMNCAH&N Services: Perceptions of Key Informants*. Islamabad: Health Services Academy NIH.

National Curriculum Council. 2020. *Single National Curriculum Early Childhood Care and Education Grade Pre I 2020.* Islamabad: Ministry of Federal Education and Professional Training.

Neuman, M. J., and S. Powers. 2021. "Political Prioritization of Early Childhood Education during the COVID-19 Pandemic: A Comparative Policy Analysis of Low- and Middle-Income Countries." Policy Research Working Paper 9872, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/36648.

NIPS (National Institute of Population Studies) and ICF. 2019. *Pakistan Demographic and Health Survey 2017–18*. Islamabad, Pakistan, and Rockville, MD, USA: NIPS and ICF.

Pace, G. T., S. J. Lee, and A. Grogan-Kaylor. 2019. "Spanking and Young Children's Socioemotional Development in Low- and Middle-income Countries." *Child Abuse & Neglect* 88: 84–95.

Pakistan Bureau of Statistics. 2021. "Pakistan Social and Living Standard Measurement Survey (PSLM), 2019–2020." Government of Pakistan. https://www.pbs.gov.pk/content/pslm-district-level-survey-2019-20-microdata. Accessed 17 February 2022.

Patel, V. 2021. "Scale up Task-sharing of Psychological Therapies." *The Lancet* 399 (10322): 343–345. https://doi.org/10.1016/S0140-6736(21)02736-7.

Proulx, K., R. Lenzi-Weisbecker, R. Rachel, K. Hackett, V. Cavallera, B. Daelmans, and T. Dua. 2021. "Responsive Caregiving, Opportunities for Early Learning, and Children's Safety and Security during COVID-19: A Rapid Review." *MedRxiv*.

Rahman, A., Z. Haq, S. Sikander, I. Ahmad, M. Ahmad, and A. Hafeez. 2012. "Using Cognitive-behavioural Techniques to Improve Exclusive Breastfeeding in a Low-literacy Disadvantaged Population." *Maternal & Child Nutrition* 8 (1): 57–71.

Rahman, A., A. Malik, S. Sikander, C. Roberts, and F. Creed. 2008. "Cognitive Behaviour Therapy-based Intervention by Community Health Workers for Mothers with Depression and Their Infants in Rural Pakistan: A Cluster-randomised Controlled Trial." *The Lancet* 372 (9642): 902–909.

Richter, L. M., B. Daelmans, J. Lombardi, J. Heymann, F. L. Boo, J. R. Behrman, C. Lu, J. E. Lucas, R. Perez-Escamilla, T. Dua, and Z. A. Bhutta. 2017. "Investing in the Foundation of Sustainable Development: Pathways to Scale up for Early Childhood Development." *The Lancet* 389 (10064): 103–118.

Sarfraz, H. 2020. "Early Learning Progress in Pakistan: Recent Evidence from ASER 2015–19." In A. P. Idara-e-Taleem-o-Aagahi (ed.), *Annual Status of Education Report (ASER) Pakistan, National (Rural)*. Lahore, Pakistan: ASER Pakistan Secretariat & ITA.

UNICEF (United Nations Children's Fund) Pakistan. 2021. *WASH: Water, Sanitation and Hygiene*. https://www.unicef.org/pakistan/wash-water-sanitation-and-hygiene-0. Accessed 18 February 2022.

Unwin, H. J. T., S. Hillis, L. Cluver, S. Flaxman, P. S. Goldman, A. Butchart, G. Bachman, L. Rawlings, C. A. Donnelly, O. Ratmann, and P. Green. 2022. "Global, Regional, and National Minimum Estimates of Children Affected by COVID-19-associated Orphanhood and Caregiver Death, by Age and Family Circumstance Up to Oct 31, 2021: An Updated Modelling Study." *The Lancet Child & Adolescent Health.* https://doi.org/10.1016/S2352-4642(22)00005-0.

Walker, S. P., S. M. Chang, M. Vera-Hernández, and S. Grantham-McGregor. 2011a. "Early Childhood Stimulation Benefits Adult Competence and Reduces Violent Behavior." *Pediatrics* 127 (5): 849–857.

Walker, S. P., T. D. Wachs, S. Grantham-McGregor, M. M. Black, C. A. Nelson, S. L. Huffman, H. Baker-Henningham, S. M. Chang, J. D. Hamadani, B. Lozoff, and J. M. M. Gardner. 2011b. "Inequality in Early Childhood: Risk and Protective Factors for Early Child Development." *The Lancet* 378 (9799): 1325–1338.

WHO (World Health Organization). 2016. *INSPIRE: Seven Strategies for Ending Violence against Children.* Geneva: WHO.

WHO (World Health Organization) and UNICEF (United Nations Children's Fund). 2021. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2020: Five Years into the SDGs*. Geneva: WHO and UNICEF.

WHO (World Health Organization), UNICEF (United Nations Children's Fund), and World Bank. 2018. *Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human Potential.* Geneva: WHO. https://nurturing-care.org/resources/Nurturing_Care_Framework_en.pdf.

WHO and World Bank. 2011. *World Report on Disability.* Geneva: WHO.

World Bank. 2018. *When Water Becomes a Hazard. A Diagnostic Report on the State of Water Supply, Sanitation, and Poverty in Pakistan and Its Impact on Child Stunting*. WASH Poverty Diagnostic. Washington, DC: World Bank.

World Bank. 2019. *Pakistan@100: Shaping the Future.* Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/31335. Accessed 18 February 2022.

World Bank. 2021. *Government Expenditure on Education (Total % GDP).* World Bank Data. https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS. Accessed 18 February 2022.

World Bank. 2022a. *Early Years: The Foundation for Human Capital.* Washington, DC: World Bank. https://www.worldbank.org/en/programs/earlyyears.

World Bank. 2022b. *Early Childhood Development*. World Bank: Washington, DC. https://www.worldbank.org/en/topic/earlychildhooddevelopment#1.

Yoshikawa, H., A. J. Wuermli, P. R. Britto, B. Dreyer, J. F. Leckman, S. J. Lye, L. A. Ponguta, L. M. Richter, and A. Stein. 2020. "Effects of the Global Coronavirus Disease-2019 Pandemic on Early Childhood Development: Short- and Long-term Risks and Mitigating Program and Policy Actions." *The Journal of Pediatrics* 223: 188–193.

Yousafzai, A. K., M. A. Rasheed, and Z. A. Bhutta. 2013. "Annual Research Review: Improved Nutrition: A Pathway to Resilience." *Journal of Child Psychology and Psychiatry* 54 (4): 367–377.

Yousafzai, A. K., M. A. Rasheed, A. Rizvi, R. Armstrong, and Z. A. Bhutta. 2014. "Effect of Integrated Responsive Stimulation and Nutrition Interventions in the Lady Health Worker Programme in Pakistan on Child Development, Growth, and Health Outcomes: A Cluster-randomised Factorial Effectiveness Trial." *The Lancet* 384 (9950): 1282–1293.

Zaidi, S., Z. Bhutta, S. S. Hussain, and K. Rasanathan. 2018. "Multisector Governance for Nutrition and Early Childhood Development: Overlapping Agendas and Differing Progress in Pakistan." *BMJ Global Health* 3: 1–8.

Zakar, R., M. Z. Zakar, and S. Abbas. 2016. "Domestic Violence against Rural Women in Pakistan: An Issue of Health and Human Rights." *Journal of Family Violence* 31 (1): 15–25.

Boosting nutrition

4

SUMMARY

Malnutrition is one of Pakistan's biggest development challenges, with long-term implications for human capital development and economic growth. The proportions of young children stunted (40 percent), underweight (30 percent), wasted (18 percent), and overweight (10 percent) in Pakistan are higher than in any other country in South Asia. These national averages mask wide subnational disparities. For example, stunting—an indicator of chronic malnutrition that is strongly associated with brain development, physical growth, and human capital—is worse among rural and poor households. In Khyber Pakhtunkhwa, 48 percent of children under 5 are stunted, and in Sindh, 50 percent. Even in the wealthiest income quintile, about 23 percent of children under 5 suffer from stunting, so poverty is not the only factor. Making matters worse, the repeated waves of COVID-19 since March 2020 and the floods in 2022 have reduced incomes, threatened livelihoods, exacerbated food insecurity, and disrupted the provision and use of basic health and nutrition services. And they have set back Pakistan's efforts to reduce malnutrition.

Three key factors are associated with stunting in Pakistan. The first is insufficient food intake, due to inadequate breastfeeding and complementary feeding practices. The second is a range of environmental risks such as unclean water and deficient sanitation and hygiene. And the third is the inadequacy of services for children and women, including those for reproductive, maternal, newborn, and child health and for immunization, nutrition, and family planning. Stunting starts in the womb due to poor maternal nutrition and infection and extends through the first two years of life. So, to tackle child stunting, a comprehensive multisectoral approach is needed during this critical window of opportunity. Focusing on only a subset of factors will not achieve the expected results and is likely to leave a large majority of the children with increased risk of illness and death, poor cognitive development, slower education attainment, and diminished lifelong income potential.

While there has been progress in reducing childhood malnutrition, the pace has been slow, despite decades of national and provincial efforts. Analysis of data from several years of National Nutrition Surveys puts the average annual reduction rate of stunting at 0.5 percent—too sluggish to achieve a significant reduction. The major constraints to nutrition program effectiveness lie in implementation, supervision, monitoring, and evaluation. At both the federal and provincial levels, there is commitment to improve nutrition outcomes. Recent strategic directions recognize the multisectoral nature of nutrition and seek to engage multiple stakeholders and sectors to improve nutrition outcomes. But across programs, inadequate leadership, governance, coordination, staffing, technical capacity, procurement, and financing plague their effectiveness. Appropriate stewardship and oversight bodies and institutional arrangements for implementation are not always set up in time to drive strategy and implementation. And district institutions (where they exist) often are not empowered to make local implementation decisions and resolve issues expeditiously. Although there have been improvements in data collection and tracking of indicators, their reliability, completeness, and use in decisionmaking remain weak.

Based on the analyses in this study and review of the experiences of countries that have improved nutrition, the chapter recommends strengthening stakeholder momentum and coordination to make nutrition a national priority—as well as mobilizing additional financing and tracking expenditures. It also recommends formulating a national nutrition policy and costed provincial sector plans to address bottlenecks and strengthen interventions.

INTRODUCTION

Pakistan has a high burden of malnutrition in all its forms (box 4.1). One-fifth of children are born with low birthweight, and among children under 5, 30 percent are underweight, 40 percent stunted, 18 percent wasted, 54 percent anemic, and 52 percent deficient in vitamin A. The prevalence of overweight among children under 5 almost doubled between 2011 and 2018, from 5 percent to 9.5 percent. Malnutrition is also prevalent in women of reproductive age: more than 14 percent are underweight, 24 percent overweight, 14 percent obese, 27 percent deficient in vitamin A, and 43 percent anemic. Among adolescents, about 7 percent of boys and 5 percent of girls are obese.[1]

All forms of malnutrition affect individual and national growth and productivity. Stunting, an indicator of chronic malnutrition, is most closely associated with brain development, physical growth, and thus human capital development. Stunting has lifelong and even intergenerational consequences for individuals—and nations. Childhood stunting leads to increased mortality, increased morbidity (in childhood and later in adulthood), decreased cognitive ability, a delayed start and reduced attainment at school, and far lower individual earnings and slower national economic growth. Stunted children are a third less likely than other children to escape poverty as adults. Childhood stunting has intergenerational implications: malnourished mothers are more than twice as likely as well-nourished mothers to have stunted children.

Micronutrient deficiencies have substantial impacts on health and human capital. Iodine deficiency, particularly in pregnancy, affects fetal development and child intelligence quotient (IQ). An average loss of 12.5–13.5 IQ points was found in children born to iodine-deficient mothers. Children with iodine deficiency lose 13 IQ points on average, making them less educable. Iron deficiency is a common cause of anemia, which contributes to increased maternal morbidity and mortality as well as premature birth and low birthweight. The deficiencies have impaired brain development and reduced productivity in adults. Vitamin A deficiency increases the severity of measles, malaria, and diarrhea in children and increases morbidity, including

BOX 4.1

Malnutrition: Key definitions

Underweight: Low weight-for-age, indicates a combination of long-term and immediate-term malnutrition.

Stunting: Low height-for-age, indicates chronic malnutrition.

Wasting: Low weight-for-height, indicates acute malnutrition.

Micronutrient deficiencies: A lack of essential vitamins and minerals—required in small amounts by the body for proper growth and development—includes deficiencies in iodine, iron, vitamin A, zinc, and folic acid.

Overweight and obesity: Abnormal or excessive fat accumulation that presents a risk to health. The prevalence of overweight and obesity is commonly assessed by the body mass index (BMI, the weight in kilograms divided by the square of the height in meters [kg/m^2]). A BMI over 25 kg/m^2 is defined as overweight, a BMI over 30 kg/m^2 as obese.

preventable pediatric blindness, and death. Vitamin A supplementation for children has been linked to a 23 percent reduction in child mortality. Zinc deficiency is associated with reduced immunity and with the increased incidence, severity, and duration of diarrhea; and it has a negative effect on child growth.[2]

Obesity among children, adolescents, and adults is a public health issue with serious implications for Pakistan's human capital. Several parameters associated with obesity—high basal metabolic index, high levels of low-density lipoproteins, high fasting blood glucose levels, and high blood pressure—are among the prime contributors to death and disabilities in Pakistan. The health and economic impacts of obesity are profound, particularly for child obesity, which puts children at risk of poor dietary and physical activity habits early on and of developing noncommunicable diseases later in life.

Countries that have greatly reduced stunting show the potential of implementing a proven package of interventions through policy change and programmatic action (box 4.2).[3] For

BOX 4.2

Stunting reduction in exemplar countries

This box briefly summarizes the experiences of six countries that have made substantial progress in achieving health outcomes, including reducing stunting: Brazil, Ethiopia, Nepal, Peru, Senegal, and Thailand. The common elements in their approaches include commitment and political will, donor engagement, multisectoral approaches, community mobilization, improved service delivery, strong data generation with rigorous monitoring, and strong communications. The experiences of these countries offer valuable lessons for Pakistan.

Brazil

Stunting rate: 37.1 percent in 1974, 7.1 percent in 2006/07.

Approach

- Nutrition and pro-poor social development policies beginning in the 1980s.
- During years of economic growth, policies to invest in education, health, sanitation, and food security.
- In 2002, launch of Fome Zero (Zero Hunger) policy, consolidating several health, education, and nutrition conditional cash transfer (CCT) programs and scaling them up into Bolsa Família. As a result, improvements across multiple social indicators, with maternal education the largest contributor to improved nutrition.

Key elements

- Advocacy and nutrition championship, political will, and a targeted, data-driven, multisectoral approach.
- Civil society involvement.
- Robust and comprehensive set of nutrition and food security indicators to monitor progress and guide planning.

Ethiopia

Stunting rate: 67 percent in 1992, 38 percent in 2016.

Approach

- Strategic pro-poor investments in agriculture, education, health, and sanitation:
  - In agriculture, expanded extension services, training centers for farmers, technical hotline for farmers, and social safety nets.
  - In education: new schools and improvements in access, enrollment, literacy, and gender parity.
  - In health: extension worker program to broaden reach, driving improvements in maternal and child health and in reducing open defecation.
- Adoption of a "One Plan, One Budget, One Report" slogan, under which the country successfully coordinated donor and partner support, while maintaining

(continued)

high control over strategic design and implementation decisions.
- Program design management at the national level and implementation at the community level.

Key elements
- Focus on social sector spending, multisectoral programming, and data-driven decisionmaking.
- Use of high-quality data to inform implementation.

Nepal

Stunting rate: 68 percent in 1995, 25 percent in 2022.

Approach
- Investments in health, including the Female Community Health Volunteer program, under which 50,000 trained volunteers promote family planning, provide health counselling, and deliver basic services and products, and programs to promote antenatal care and safe delivery.
- Investments in education: 98 percent of children enrolled in primary schools by 2011.
- Sanitation efforts leading to decreased open defecation.

Key elements
- Multisectoral investments, large-scale donor engagement, and community engagement and women's empowerment.

Peru

Stunting rate: 29.8 percent in 2005, 14.6 percent in 2014.

Approach
- Introducing a nutrition-focused poverty-reduction strategy targeting the 880 poorest districts.
- Consolidating about 80 nutrition-related programs to 25.
- Shifting from mostly feeding programs to a multisectoral package focusing on the first 1,000 days.
- A health insurance program, CCTs, national maternal, newborn, and child health programs, nutrition counselling, family planning, growth monitoring, and improved targeting of health services to underserved areas and sanitation and hygiene efforts.

Key elements
- Civil society advocacy, political will (political candidates committed to a 5x5x5 pledge: reducing malnutrition of children under 5 by 5 percent in 5 years), and evidence-based policy setting.
- Targeting, multisectoral approaches, and improved service delivery and demand generation.
- Strong data generation with rigorous monitoring and a strong social and behavior change communication campaign.

Senegal

Stunting rate: 34 percent in 1992, 17 percent in 2017.

Approach
- In health: A network of "health huts" and trained community health workers set up to provide basic preventive and curative care for mothers and children and access to contraceptives.
- In education: Initiatives to improve universal access to education and the quality of education and teacher training, leading to substantial increases in primary school enrollment, gender parity, and adult literacy.
- In water, sanitation, and hygiene (WASH): Donor-supported reforms privatizing provision of WASH services, which increased access to and improved the quality of water and sanitation services for the urban population. Access to piped water had a notable impact on stunting reduction.

Key elements
- Political commitment (presidential leadership), an innovative multisectoral approach, donor support that allowed piloting innovative approaches, and community mobilization.
- Improvements in the economy due to remittance inflows and increases in agricultural yields, which helped reduce household food insecurity.

Thailand

Stunting rate: Over 22 percent in 1987, about 10 percent in 2016.

Approach
- Use of community-based nutrition programs since the 1970s, followed by a "basic minimum needs" approach under which communities were mobilized to plan for and monitor interventions.
- By the early 1980s, nutrition integrated into several development policies.
- By the 1990s, visible thrust to achieve health for all, with community mobilization instrumental in helping achieve this.

Key elements
- Advocacy and nutrition championship, political will and effective policies, community mobilization for health service delivery, counselling, and data generation.
- Strong multisectoral coordination and collaboration.

Source: Brazil, Ethiopia, Nepal, Peru, and Senegal: Exemplars in Global Health (https://www.exemplars.health/). Thailand: Heaver and Kachondham 2002; Ruel 2008; Tontisirin and Gillespie 1999.

example, the Kyrgyz Republic and Peru achieved a more than 5 percent annual reduction in stunting. How? They increased the coverage of their direct healthcare sector nutrition interventions. They addressed immediate determinants that could improve maternal nutrition and newborn outcomes. They promoted early and exclusive breastfeeding. And they coupled complementary feeding practices with indirect nutrition interventions implemented by nonhealth sectors. The lessons from these countries point the way for Pakistan to build more effective programs and reduce stunting faster.

The chapter's findings are based on desk reviews and consultations with key stakeholders to collect and analyze data pertaining to nutrition interventions and their quality, coverage, service delivery and utilization, financing, and organizational arrangements. The World Health Organization (WHO) Stewardship for Health Systems framework was used to assess specific topics, such as policies and programs. Financing for nutrition was assessed at the federal level, using integrated financial management information system (IFMIS) datasets, and at the provincial level—Punjab and Sindh—using IFMIS datasets and the Annual Development Plan (ADP). The data covered fiscal years 2017–18, 2018–19, and 2019–20. The analysis followed Scaling Up Nutrition (SUN) guidelines to measure nutrition expenditures, to identify relevant ministries, departments, cost centers, and financing documents, and to classify nutrition-relevant expenditures as either *nutrition-specific* or *nutrition-sensitive*.[4] It then assigned to each intervention a weight that represents the proportion of the line item that is truly contributing to improving nutritional outcomes.

MALNUTRITION SITUATION AND TRENDS

Malnutrition is the top driver of death and disabilities in Pakistan (figure 4.1). And while there has been progress in reducing childhood malnutrition, the pace has been slow, despite two decades of national and provincial efforts. For example, the 2018 National Nutrition Survey (NNS) estimated the average annual reduction rate of stunting at 0.5 percent—too sluggish to significantly reduce the prevalence of malnutrition. Faster change will be needed if Pakistani children are to attain their full growth and development potential.

FIGURE 4.1 Top 10 risk drivers of deaths and disabilities in Pakistan, 2019

Behavioral risks · Environmental/occupational risks · Metabolic risks

2009	2019		Percent change, 2009–19
Malnutrition	1	Malnutrition	–17.0
Air pollution	2	Air pollution	–9.0
Wanter, sanitation, and hygiene	3	High blood pressure	38.4
Tobacco	4	Dietary risks	28.6
High blood pressure	5	Tobacco	3.1
Dietary risks	6	Water, sanitation, and hygiene	–28.6
High fasting plasma glucose levels	7	High fasting plasma glucose levels	41.0
High body mass index	8	High body mass index	53.0
High LDL	9	High LDL	31.1
Kidney dysfunction	10	Kidney dysfunction	33.3

Source: Institute for Health Metrics and Evaluation.

Among South Asian countries, Pakistan has one of the highest rates of malnutrition (see box 4.1). And South Asia, with stunting prevalence of 34.0 percent among children under 5, exceeds the global average of 21.3 percent. On key nutrition indicators, Pakistan's rates are the highest in South Asia (figure 4.2). On stunting, Pakistan stands at the higher end among all countries that have conducted Demographic and Health Surveys since 2010. In Pakistan, stunting, underweight, and wasting rates remain considerably high (figure 4.3).

High national stunting rates mask large variations—among provinces, and for poor, marginalized, and extremely vulnerable groups versus the rest of the population. Stunting rates range from 33 percent in Islamabad Capital Territory and 36 percent in Punjab to over 46 percent in Balochistan and 48 percent in Khyber Pakhtunkhwa and the Newly Merged Districts. Within provinces, stunting rates across districts vary considerably; prevalence in several districts exceeds 50 percent.

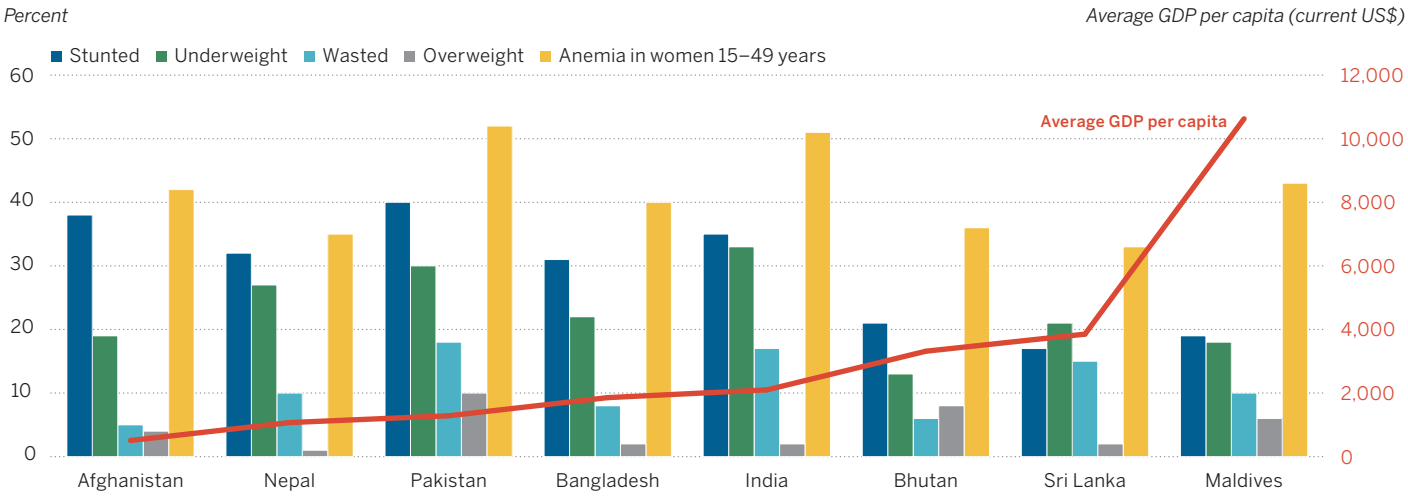
The prevalence of stunting is high (31 percent) in Pakistan's urban areas and even higher (41 percent) in rural areas (figure 4.4). The higher rate in rural areas reflects such factors as poorer access to health and nutrition services; water, sanitation, and hygiene (WASH) conditions; education; nutrition diversity; and maternal, infant, and young child feeding practices. Nutrition diversity may be considered a particularly low hanging fruit as it can be addressed by fortification policies, both voluntary and mandatory, for staples including salt fortified with iodine and iron, wheat flour and rice fortified with iron, Vitamin B12, and folate, and milk and oil fortified with Vitamin A and Vitamin D.

Stunting in Pakistan is not just a poverty issue. While malnutrition is higher in children under 5 from lower wealth quintiles, it is high even in the middle and upper wealth quintiles (figure 4.5). Knowledge of such variations is important for targeting analysis, advocacy, and communications.

Stunting in children under 5 also varies with age, peaking at 24–36 months. Around 17 percent of children are born with low birthweight,[5] and the prevalence of stunting then rises to nearly 50 percent at 24–36 months, remains almost at that level until 48 months, and then shows a small decline (figure 4.6).

Micronutrient deficiencies among children under 5 remain persistently high and vary widely across

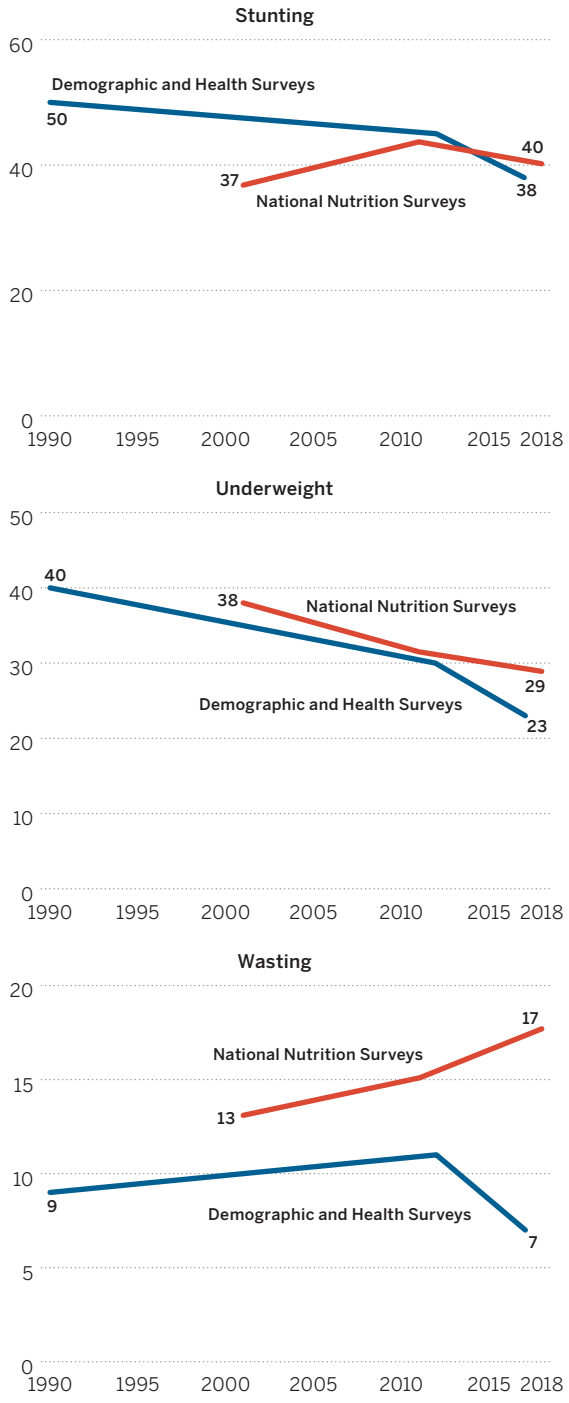
FIGURE 4.2 **Key nutrition indicators for children under 5 in South Asian countries**



Source: World Bank calculations using data from World Development Indicators 2020; Nepal Multiple Indicator Cluster Survey 2019; Pakistan National Nutrition Survey 2018.

FIGURE 4.3 Trends in prevalence of stunting, underweight, and wasting in children under 5 in Pakistan, 1990–2018

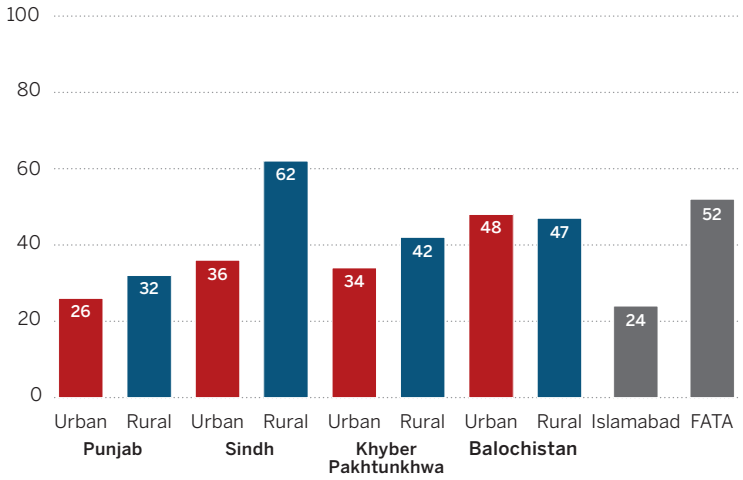
Percent



Source: Pakistan Demographic and Health Surveys 2001, 2013, 2018; Pakistan National Nutrition Survey 2018.

FIGURE 4.4 Stunting prevalence in Pakistan, rural versus urban areas

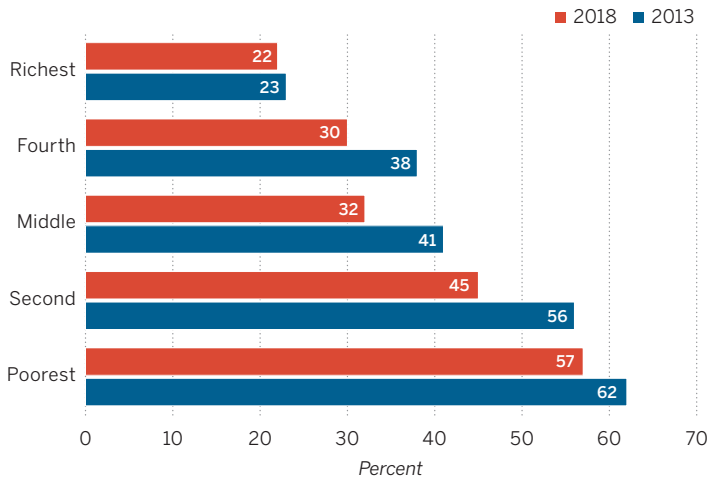
Percent



Source: World Bank calculations using data from Demographic and Health Survey 2017–18.
Note: FATA is Federally Administered Tribal Areas.

provinces. Over half of children are deficient in vitamin A (12 percent severely deficient), 6 out of 10 children are deficient in vitamin D (over 13 percent severely deficient), and 18 percent suffer from zinc deficiency. According to the 2018 NNS, over the past two decades more than half of children age 6–59 months have been anemic, with iron-deficiency anemia accounting for more than half the total. Like other indicators of malnutrition, childhood anemia also varies across provinces, with rates as high as 70.5 percent in Balochistan and 68.3 percent in Khyber Pakhtunkhwa and the Newly Merged Districts. Maternal anemia—which can contribute to stunting because anemia can lead to babies of low birthweight that are small for their gestational age—is high in Pakistan: nearly 43 percent of women of reproductive age (pregnant and not pregnant) are anemic, and the proportions are higher in Balochistan (61 percent), and Khyber Pakhtunkhwa and the Newly Merged Districts (53 percent). Among pregnant women in Pakistan 35 percent are anemic, with the highest rate of 54 percent in Balochistan. Anemia in women from the richest quintile is also high (37 percent), but less than in the poorest quintile (52 percent).[6]

FIGURE 4.5 Stunting by wealth quintiles among children under 5 in Pakistan



Source: World Bank calculations using data from Demographic and Health Survey 2017–18.

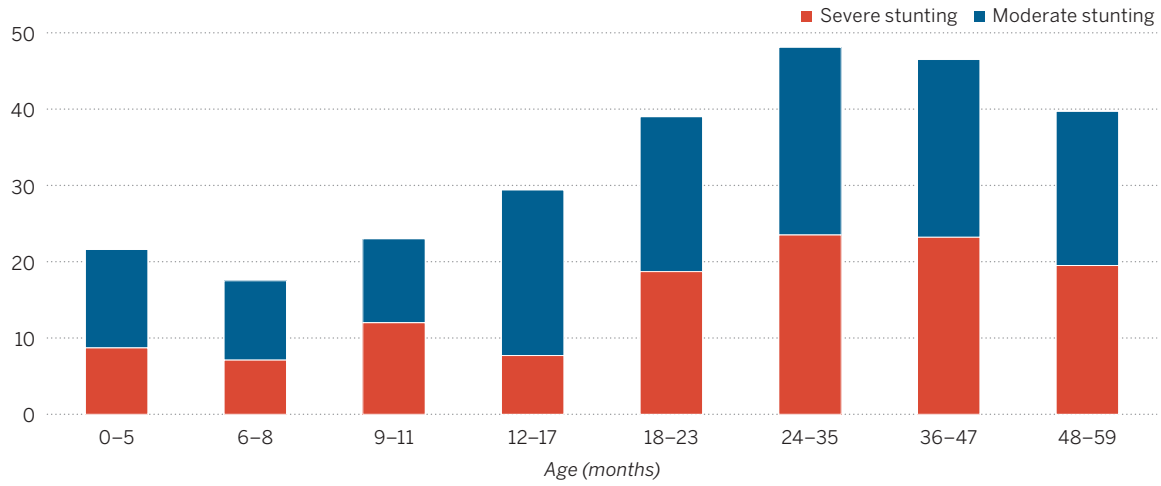
Impact of the COVID-19 pandemic on malnutrition

Since March 2020, five increasingly destructive waves of COVID-19 have swept through Pakistan, pushing millions into poverty and greater food insecurity, and thus vulnerability to all forms of malnutrition. As of March 2022, confirmed COVID-19 cases totaled 1,522,4194, and the number of deaths had reached 30,333.[7] During the pandemic, lockdowns and restrictions on movement reduced incomes, increasing poverty and limiting vulnerable households' economic and physical access to nutritious and adequate food. Disruptions in the provision and use of health and nutrition services, including reproductive, maternal, and other healthcare services, put women and their children at higher risk of malnutrition. Food insecurity disproportionately affects poor and socially disadvantaged people—the very people who both are at higher risk of COVID-19 infection and have poorer access to healthcare services.[8] The analyses in this report show that close to 36.4 million people in Pakistan are highly vulnerable to food insecurity because of natural and human-made hazards, including the pandemic. Another 49 million people (25 percent) are moderately food insecure, and 21 million households (10 percent) are severely food insecure.[9]

The disruption of routine health and nutrition services increased the risk of all forms of malnutrition. During the COVID-19 pandemic, health facilities have had to switch to isolation, quarantine, and high-dependency units to meet the increasing patient load, limiting their ability to

FIGURE 4.6 Stunting by age in months in Pakistan

Percent



Source: Demographic and Health Survey 2017–18.

deliver routine services. Outpatient therapeutic program services were limited, and admissions of severely malnourished children at stabilization centers were reduced, reflecting transport constraints and patients' fear of visiting health facilities.[10] Similar fears restricted home visits and community-based services provided by Lady Health Workers in rural areas.[11] The limited distribution of vitamin A and iron supplementation left some children and pregnant women unserved. An early estimate in May 2020 was that the disruptions in all essential services could result in a 22 percent increase in both maternal and child mortality in Pakistan by the end of 2020.[12] Reduced numbers of antenatal care visits alone brought an increased risk to the birthweights, nutrition, and health of children born during this period. However, as the pandemic has eased, the number of antenatal care visits has increased to close to the previous level.

Healthy feeding habits have been disrupted. COVID-19-related constraints on the purchase of diverse and nutritious foods (due to loss of livelihoods and reduced income) may well have kept mothers and young children from consuming healthful diets. Breastfeeding rates dropped among mothers with COVID-19 infection, who feared transmitting the disease to their babies. In addition, lockdowns and limited mobility reduced access to clean water and safe sanitation services, conditions that could exacerbate malnutrition.

The COVID-19 pandemic may have contributed to another form of malnutrition—increased obesity and overweight. Physical inactivity and lifestyle changes due to stay-at-home orders, along with disruptions in consumption patterns, may have contributed to Pakistan's already high rates of obesity and overweight. In a May 2020 study to assess the level of physical activity of the population of Pakistan during the pandemic, 89.6 percent of respondents (more females than males) reported inadequate physical activity.[13] A web-based survey conducted in Punjab in late 2020 found that the COVID-19 lockdown had reduced the physical activity of 67 percent of respondents and increased the weight of 39 percent.[14]

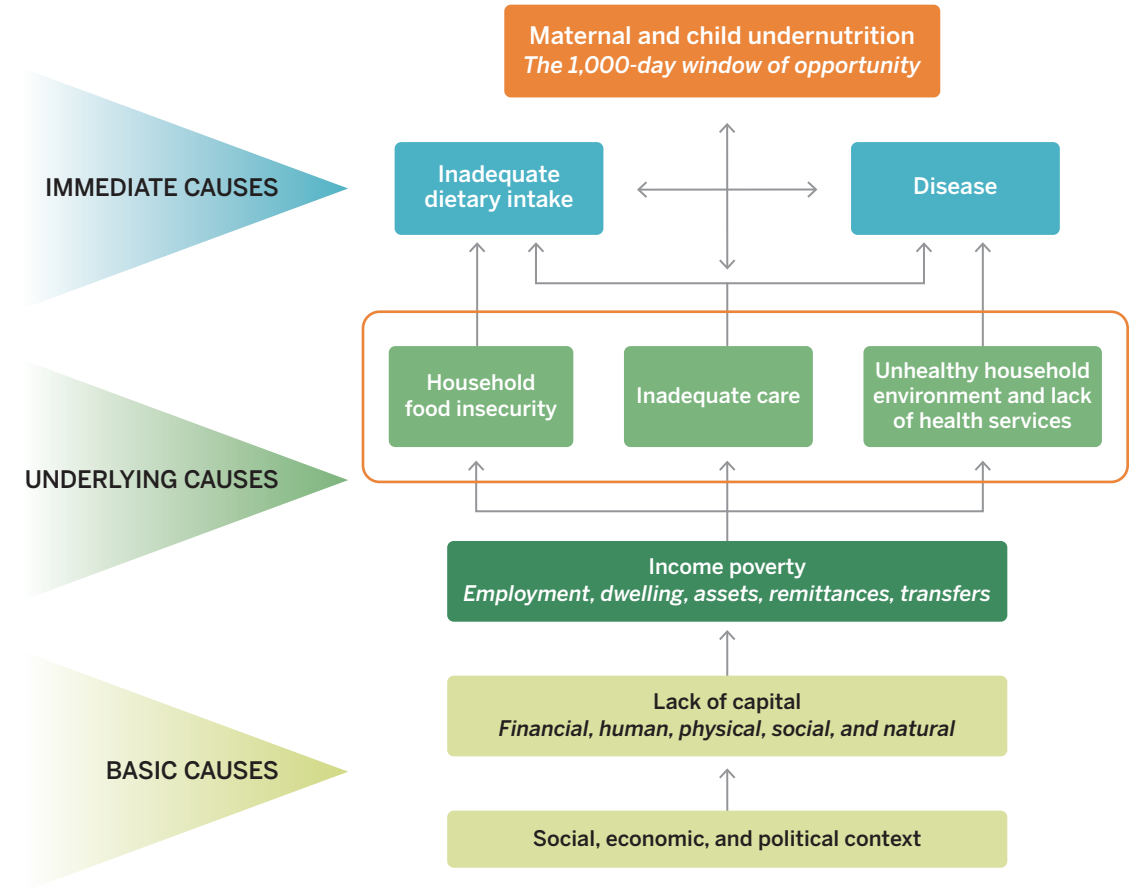
DETERMINANTS OF STUNTING

Using a well-accepted nutrition causal framework (figure 4.7), the analysis here explores the key factors associated with stunting in Pakistan. In particular, it focuses on the association between the prevalence of stunting and the immediate determinants of nutrition—adequate feeding, adequate care, and adequate environmental health (box 4.3). The association holds true at the national, provincial, and district levels. Counterfactual simulations show that stunting prevalence could decrease if a higher proportion of children benefited from adequate feeding, care, and environmental health.

Food intake, environmental health, and care for children and women are the main determinants of malnutrition at the most immediate level.[15] Factors such as income poverty, gender, and education underpin all three, alongside the larger political, economic, social, and cultural environments. The widely accepted United Nations Children's Fund Nutrition Causal Framework (adapted in figure 4.7) is a useful construct: children can receive adequate feeding, environmental health, and care—or none, or anything in between—and thus can fall into eight mutually exclusive categories that represent the various combinations (figure 4.8).

Very few of Pakistan's children under 2 have adequacy in all three dimensions, and the proportion of children with multiple adequacies is low. More than 26 percent of children lack adequacy on any of the three dimensions, and fewer than 2 percent of children have adequacy on all three dimensions. The highest percentages are those for whom only environmental health is adequate (45.6 percent), and less than 10 percent of children benefit from adequate environmental health plus either adequate feeding or adequate

FIGURE 4.7 The Nutrition Causal Framework



Source: Adapted from UNICEF (1998).

care (figure 4.8). Given these inadequacies, the country's huge malnutrition burden is no enigma.

Food insecurity has an independent effect on the probability of being stunted. If a family is food secure, it has a lower probability of being stunted, holding constant for the above adequacies, mother's education, age of child, and wealth category, regardless of the degree of food insecurity (mild, moderate, or severe). This effect on the probability of being stunted is independent of benefiting from adequate feeding. And the fact that the feeding adequacy remains significant even when the food security control is included indicates that the knowledge of what to provide the child with is also important. If only the food security were important, including the food security term would cause the feeding adequacy term to lose its significance.

Pakistan fares poorly on all of the known determinants of stunting:

- Infant and young child feeding practices are very poor; only a very small share of children under 2 are fed as recommended by WHO.
- Children born with low birthweight are at higher risk of stunting.
- The coverage of critical healthcare indicators for mothers and children in the first 1,000-day window (conception to age 2) is poor.
- Although WASH practices have improved in the past two decades, open defecation persists, and water quality remains an issue.

BOX 4.3

Indicators used for assessing the adequacy of food, environmental health, and care

Adequate feeding

- For children younger than 6 months, exclusive breastfeeding.
- For children between 6 and 9 months, breastfeeding and Minimum Acceptable Diet for age (as defined by the World Health Organization [WHO]).
- For children between 9 and 24 months: Breastfeeding and Minimum Acceptable Diet for age (as defined by WHO).
- For children between 6 and 24 months, not breastfeeding and Minimum Acceptable Diet for age (as defined by WHO).

Adequate environmental health

- Improved water source.
- Improved sanitation.
- Handwashing (before preparing food, before eating, before feeding child, after handling feces, and after defecating).
- Living in cluster with fewer than 25 percent practicing open defecation.

Adequate care

- For children under 12 months, any three of the following four: received any vitamin A or micronutrient supplementation; mother received antenatal care (more than two, with the first in the first trimester); mother received any iron and folic acid supplements; birth attended by trained personnel.
- For children between 12 and 24 months, any four of the following five: received any vitamin A or micronutrient supplementation; mother received antenatal care (in the first trimester); mother received any iron and folic acid supplements; birth attended by trained personnel; and full vaccination with or without card.

- Mother's education is strongly associated with malnutrition.
- Food security, however, improved between 2011 and 2018.

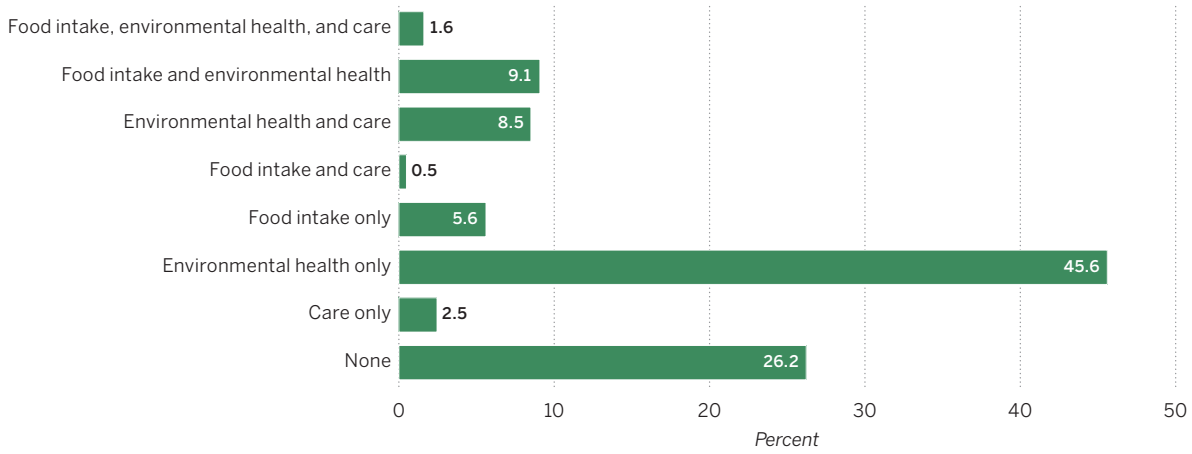
Annexes 4A, 4B, and 4C summarize, respectively, Pakistan's policies and strategies tackling child malnutrition, its programs tackling malnutrition, and the federal and provincial nutrition stewardship functions.

NUTRITION FINANCING

National financing

Analysis for this chapter shows that, in FY19/20, the federal government spent PKR 80.4 billion on nutrition—equivalent to 11 percent of the Ministry of National Health Services, Regulations and Coordination's total expenditure that year and to 2.5 percent of the federal government's total expenditure (table 4.1). It was more than what the government spent in FY17/18 (1.68 percent) and FY18/19 (1.45 percent). However, overall nutrition-specific expenditure decreased over the period, mainly because of the end of some donor-funded federal nutrition programs, and nutrition-sensitive expenditure increased (figure 4.9), largely because of the enhanced financing for social safety nets.[16] The period of the trend analysis includes the COVID-19 pandemic, so that spending patterns and trends may not be fully representative of the longer term. The data include on-budget nutrition financing only. There was no granular-level information from which to assess whether this nutrition spending was in line with national

FIGURE 4.8 Distribution of eight categories of adequacies in children younger than 24 months in Pakistan



Source: World Bank calculations using data from National Nutrition Survey 2018.

TABLE 4.1 Federal expenditure on nutrition interventions, FY19/20

Indicators	Nutrition specific	Nutrition sensitive	Nutrition total
In PKR, millions (current prices)	1,892.58	78,549.87	80,442.45
Per capita PKR (current prices)	236	9,804	10,040
Per capita USD (current prices)	1.50	62.05	63.54
Share of government expenditure (percent)	0.06	2.43	2.49
Share of expenditure of the Ministry of National Health Services, Regulations and Coordination (percent)	10.36	0.65	11.01

Source: World Bank calculations using data from federal Ministry of Finance and provincial Departments of Finance.

nutrition plans, whether it was distributed equitably across geographic areas, and whether it has benefited the poor.

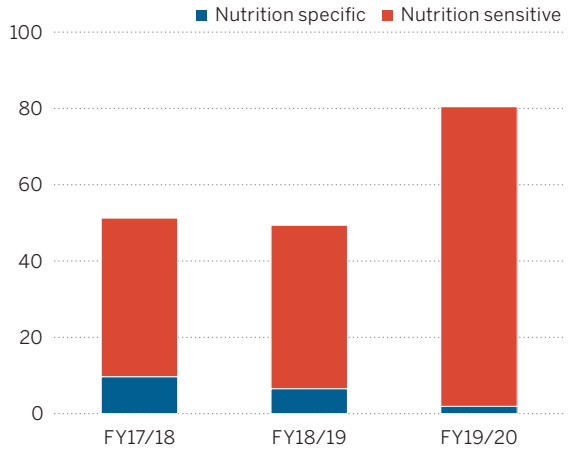
While data limitations do not allow tracking expenditure at the program and activity levels, it is useful to examine relative spending by ministries and departments. The Ministry of Finance, Revenue, and Economic Affairs accounted for the largest shares (more than 50 percent) of federal nutrition expenditure in FY17/18 and FY18/19. In FY19/20, however, more than two-thirds of nutrition spending was implemented by the Poverty Alleviation and Social Safety Net Division, a wing of the Ministry of Finance, Revenue, and Economic Affairs, as it scaled up pro-poor services during the COVID-19 pandemic. The Ministry of National Health Services, Regulations and Coordination implemented programs for immunization, maternal and child health, and population welfare.

Budget absorption capacity—the share of actual expenditure in the original budget—increased. Final nutrition-related expenditure as a proportion of the original nutrition-related budget exceeded 100 percent in FY19/20, up from 82 percent in FY17/18 (figure 4.11). More than 100 percent of budget absorption in FY19/20 is due to additional funding for cash grants, not recorded in the original budget for FY19/20, to people impacted by the COVID-19 pandemic in the second half of that financial year.

With the expected launch of the federal Tackling Malnutrition Induced Stunting in Pakistan (TMIS) nutrition program, approved in May 2021, federal and provincial financing for

FIGURE 4.9 **Expenditure trends for nutrition-specific and nutrition-sensitive interventions**

Billion PKR

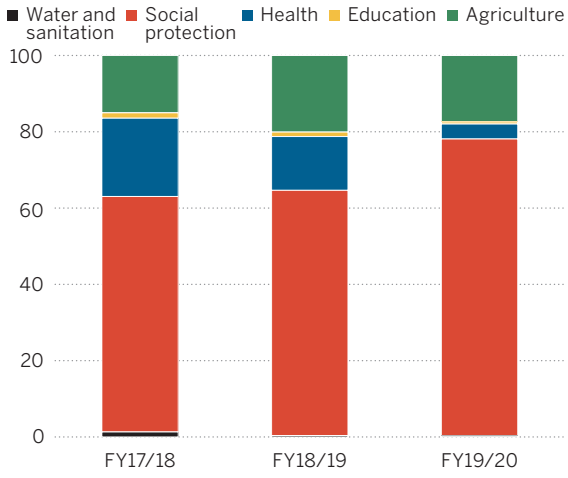


Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

Note: In FY19/20, among the thematic sectors, social protection had the highest share of total nutrition spending at the federal level, and the health sector had a small share (figure 4.10). Social protection spending accounted for more than three-quarters of overall nutrition spending, a rise due to increased spending on social safety programs, through which the federal government provided COVID-19 relief packages.

FIGURE 4.10 **Federal nutrition spending by thematic sectors, FY17/18–19/20**

Percent



Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

nutrition is expected to increase. Of the total TMIS amount (PKR 310 billion over five years, July 2021–June 2026), the federal government proposes to contribute about PKR 159.2 billion, with the remainder coming in as contributions from provinces/regions. The proposed distribution of federal funding to the provinces is as follows: Punjab, PKR 73.2 million; Sindh, PKR 34.1 million; Khyber Pakhtunkhwa, PKR 25.4 million; Balochistan, PKR 10 million; and Islamabad and other areas, PKR 7.9 million.

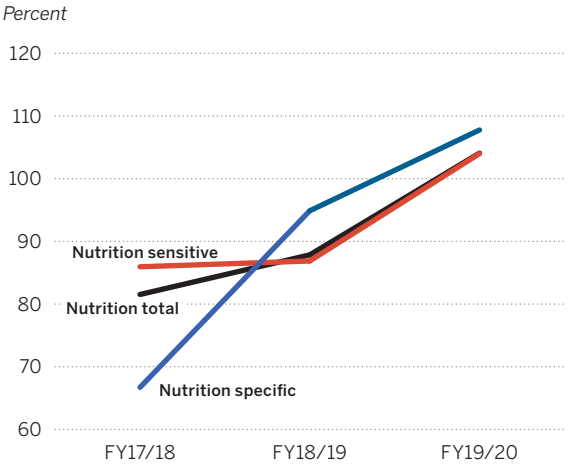
Financing in Punjab and Sindh

Nutrition finance tracking exercises supported by the World Bank in Punjab and Sindh serve as models that all other provinces can build on.[17] Similar exercises in all provinces can inform allocations for nutrition, track expenditure rates, and examine funds flows and other parameters to determine financing-related bottlenecks and constraints.

While Punjab's total nutrition expenditure for FY19/20 is almost twice that of Sindh, in per capita terms both provinces spend similar amounts (table 4.2). Both provinces have consistently increased their nutrition spending over the past three fiscal years (figure 4.12). Like federal spending, the two provinces' nutrition-specific spending is lower than their nutrition-sensitive spending. Total nutrition spending translates to more than 4 percent of Punjab government spending and a bit less than 4 percent of Sindh government spending.

Unlike relative sectoral expenditure at the federal level, in both provinces, the health sector accounts for the largest share of total nutrition-related expenditure (figures 4.13 and 4.14). Most of the expenditure under the health thematic sector is for nutrition-related counseling and treatment and for immunization, a nutrition-specific intervention. In Punjab, health accounted for almost half of the total nutrition-related expenditure for FY19/20 and agriculture for another one-third—mostly

FIGURE 4.11 Nutrition budget absorption rate by nutrition category, federal level, FY17/18–19/20



Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

incurred to ensure food security in the province but also for research, development, extension services, and so on. The social protection and education sectors together accounted for 20 percent of total nutrition expenditure in FY19/20 in Punjab. In Sindh, spending in the health sector accounted for 62 percent of total nutrition-related spending, spending in education for around 25 percent, and spending in social protection for only 0.6 percent. The Departments of Health made the largest share of nutrition-related spending in both Punjab and Sindh in FY19/20. The next-highest share was, in Punjab, the Food Department (more than 25 percent), and in Sindh, the Education Department (around 20 percent). In both provinces, nutrition budget absorption capacity is high (see figure 4.14).

NUTRITION STEWARDSHIP AND INSTITUTIONAL ARRANGEMENTS

Stewardship remains one of the most critical elements for improving nutrition. Drawing a parallel between nutrition stewardship and WHO's concept of health system stewardship (see below), it is the government's responsibility to promote the nutrition and well-being of the population. The concept also assumes that the quality of stewardship exercised can influence overall outcomes. Stewardship responsibilities could be shared between national and subnational authorities and local government, and across ministries and even some providers, but the national government remains the "steward of stewards." This does not necessarily mean, however, that the government needs to fund and provide all interventions.[18] Leadership and

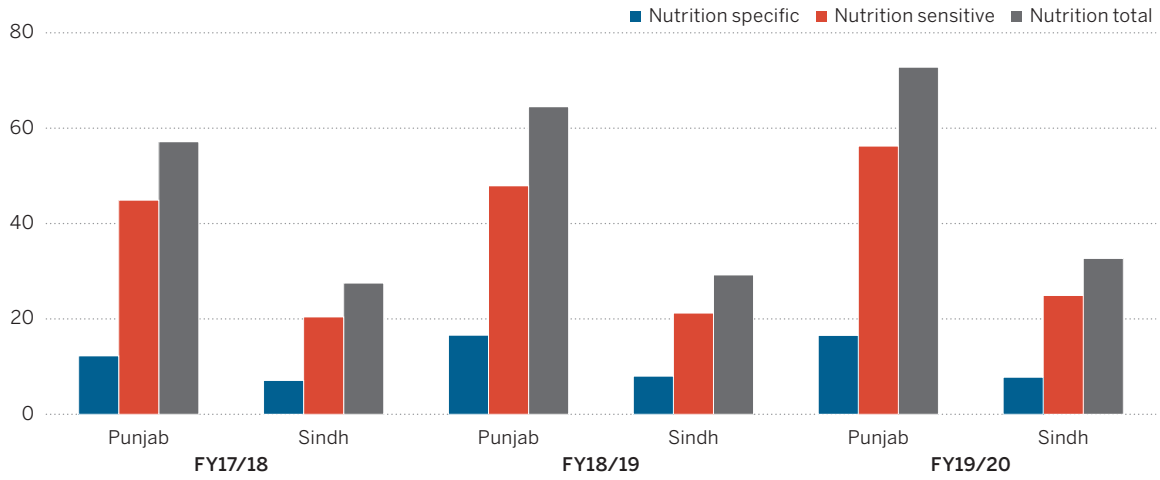
TABLE 4.2 Nutrition public spending in Punjab and Sindh (FY19/20)

	Nutrition specific	Nutrition sensitive	Nutrition total
Punjab			
In PKR, millions (current prices)	16,537.31	56,245.76	72,783.07
Per capita PKR (current prices)	141.53	481.38	622.91
Per capita USD (current prices)	0.90	3.05	3.94
As share of government expenditure (%)	0.99	3.36	4.35
Sindh			
In PKR, millions (current prices)	7,768.37	24,914.87	32,683.24
Per capita PKR (current prices)	151.09	484.58	635.68
Per capita USD (current prices)	0.96	3.07	4.03
As share of government expenditure (%)	0.87	2.78	3.65

Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

FIGURE 4.12 Nutrition spending in Punjab and Sindh, FY17/18–19/20

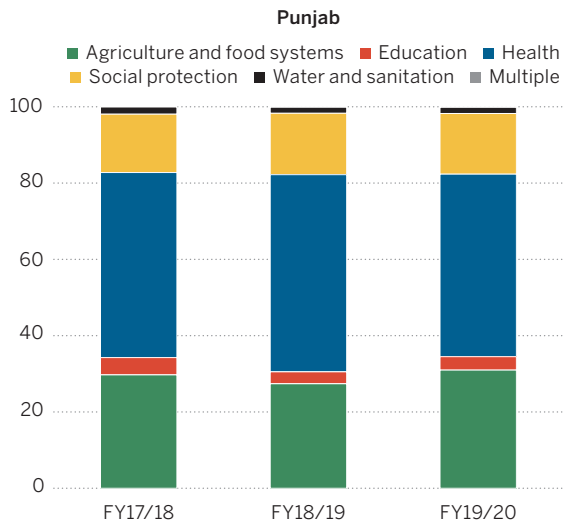
Billion PKR



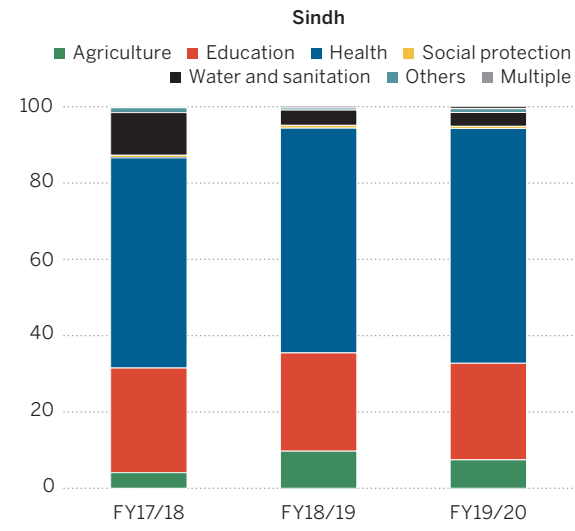
Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

FIGURE 4.13 Nutrition spending by thematic sector in Punjab and Sindh, FY17/18–19/20

Percent



Percent

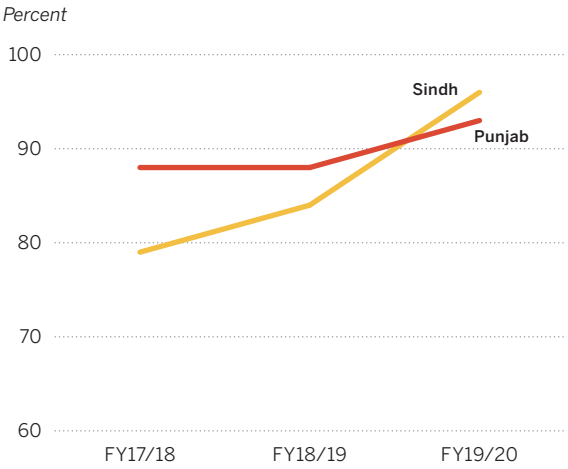


Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

sustained political commitment are among the top factors in every successful program and initiative that has improved nutrition at scale.[19] Case studies of countries that have been successful in reducing malnutrition, such as Brazil and Peru, point to the crucial role of political championing at the highest level in leveraging nutrition as a cross-sectoral agenda.

The WHO conceptual framework for the stewardship functions of health systems identifies six key functions/subfunctions that are critical for effective stewardship. While many frameworks and notions for stewardship have been proposed, the WHO framework for health system stewardship is particularly useful to assess the effectiveness of nutrition stewardship.

FIGURE 4.14 Nutrition budget absorption capacity, Punjab and Sindh, FY17/18–19/20



Source: World Bank calculations using data from the 2017–20 integrated financial management system of federal and provincial departments.

The advocacy and engagement of development partners have contributed to the development of stewardship structures and capacities in Pakistan. Development partners' funding and technical support for nutrition have been significant in building Pakistan's early nutrition programs, in developing nutrition strategies at the federal and provincial levels, and in building commitment for nutrition and positioning it as a new public policy agenda.[20] Partners' technical support and engagement allowed Pakistan to consider global evidence to inform evolving strategic directions for nutrition. Development partners continue with their participation in several stewardship bodies and with their technical and financial support for programs, innovations, and monitoring and evaluation. The SUN Movement in 2013 brought in further technical support at the federal and provincial levels and advanced the stewardship bodies and agenda in Pakistan (box 4.4).

Pakistan's stewardship functions

Analysis of the six key functional domains of stewardship of the WHO framework (table 4.3) indicates several that are functioning well in Pakistan and others that need attention for greater effectiveness. (Annex 4C outlines federal and provincial stewardship structures.) Pakistan's significant progress in policy and strategy formulation, its commitment building, and the overall enabling environment for promoting programs and interventions to improve nutrition outcomes is mainly due to the stewardship for nutrition that the country has developed over the years. At

BOX 4.4

The Scaling Up Nutrition Movement

The Scaling Up Nutrition (SUN) Movement, a global effort to build institutional capacity for nutrition within governments, has played a seminal role in steering nutrition coordination efforts. In Pakistan, the SUN Secretariat was established under the Planning Commission, with the Chief of Nutrition serving as the SUN focal person. The SUN Core Group, the National Nutrition Committee, consisting of high-level representatives from key government ministries and development partners, has been instrumental in building nutrition stewardship at the highest levels and in the creation of multisectoral and multistakeholder platforms at the federal and provincial levels.[1] Provincial SUN secretariats work at the subnational level. The provincial SUN units are at different levels of operationalization. The unit in Khyber Pakhtunkhwa takes an especially active role in steering and tracking implementation of the Khyber Pakhtunkhwa-Multisectoral Integrated Nutrition Strategy, and the SUN Punjab Unit leads the coordination of a multisectoral nutrition response plan. The SUN units in Sindh and Balochistan are not functional, however.

Note

1. SUN Movement Compendium 2014.

TABLE 4.3 Key functions of the World Health Organization health system stewardship

1. Generating intelligence	• Gaining a good understanding of: ◦ Current and future trends and the performance of the existing system and institutional arrangements. ◦ Information on important contextual factors and actors. ◦ Possible policy options, based on national and international evidence and experience.
2. Formulating strategic policy direction	• Articulating goals and objectives (medium- and longer-term), based on reliable intelligence and governing values, ethics, principles, etc. • Defining the roles of public, private, and voluntary sector actors in financing, resource generation, and stewardship functions. • Identifying the policy instruments and institutional arrangements required to achieve desired outcomes. • Outlining feasible strategies for making required changes. • Providing guidance for prioritizing expenditure, based on realistic resource and needs assessment. • Outlining arrangements to monitor performance and effects of change.
3. Ensuring tools for implementation	• Ensuring implementation of policies and strategies to achieve goals. This requires that stewards: ◦ Have powers commensurate with their responsibilities, powers that they use properly for policy implementation. ◦ Set and ensure enforcement of fair rules, incentives, and sanctions that are in line with health system goals, for actors involved in provision, financing, and resource generation. ◦ Ensure that the rights and responsibilities of users/consumers are defined and that mechanisms to protect consumers are exercised fairly.
4. Building coalitions and partnerships	• Build and maintain a wide variety of bilateral and multilateral relationships (from legally binding to formal or loose affiliations). • The purpose of the partnership determines the parties involved (professional associations, government ministries/departments, private sector, international agencies, donors, nongovernmental organizations, regulatory bodies). • The purposes of the partnership determine whether it is a "one-off" (development of new policy or legislation, a media campaign, or a reform initiative) or is for regular/repeated tasks (e.g., planning or budget-setting, routine monitoring of service quality).
5. Creating a fit between policy objectives and organizational structure and culture	• Ensure appropriate institutional arrangements to meet policy objectives. • Ensure a supportive management culture. • Establish clear linkages and lines of communication. • Remove "structural" constraints to equitable and efficient resource use.
6. Ensuring accountability	• Ensure the accountability of all actors. • Be accountable to the population.

Source: World Health Report 2000.

the same time, some areas remain where stewardship could play a greater role and institutional arrangements could be strengthened to further policy and program implementation.

Pakistan's application of three subfunctions of the WHO framework has demonstrated strengths

These subfunctions are generating intelligence, formulating strategic policy direction, and building coalitions and partnerships. Still, a few weak spots remain in each area. These domains have been instrumental in the increased commitment to and priority given to nutrition in the past decade at the federal and provincial levels.

- *Formulating strategic policy direction.* At the national and provincial levels, several strategy documents provide strategic direction to actions to improve nutrition outcomes. These documents were developed with broad stakeholder engagement, are informed by evidence on effective interventions, take into consideration the country's nutrition situation and challenges, and take a multisectoral approach. Most outline clear goals and objectives and prioritize vulnerable groups. In some, however, the targets appear to be either too ambitious or too modest. The strategies are complemented by guidelines that provide technical and operational guidance on a specific topic

or intervention. The strategies do not assign responsibilities for resource mobilization and do not provide direction for resource prioritization based on realistic resource and needs assessment—an important stewardship function, as there are rarely enough resources to do everything, and strategic choices are necessary. Further, arrangements to monitor performance, assess the effects of a new strategic direction, and make changes informed by experience are largely either not fully defined or not covered. Because there is no national nutrition policy or any provincial nutrition plans, various piecemeal strategies provide direction in different areas.

Stewardship action is required to ensure that the multiple strategies come together under the policy umbrella and include strategic directions for areas not covered by the individual strategies. A unified policy would help harmonize the multiple strategies, establish relative priorities, guide funding allocations, and establish a common results framework with defined indicators and monitoring mechanisms, including core indicators for sectors other than health, thus serving as the reference for harmonization with other sector policies. The policy development and approval process itself would bring several stakeholders together; create greater sensitization for nutrition among senior policymakers, the public, and civil society organizations; and build consensus.

- *Building coalitions and partnerships.* The stewardship bodies are some examples of the many coalitions and partnerships formed for specific purposes—some to accomplish a particular task (for example, a working group to develop strategies or guidelines), and some to exist on an ongoing basis for technical engagement, reviews, advocacy, program design, and operational support and financing.
- *Generating intelligence.* A well-functioning intelligence generation domain gives all those with stewardship responsibilities the reliable, up-to-date information they need for decisionmaking. For this stewardship function in Pakistan today, the picture is mixed. Information on specific things such as cost-effective interventions, on possible institutional arrangements for different functions, and on recent international evidence is available in most strategies and guidelines approved by stewardship bodies. In other areas, however, intelligence is not gathered. For example, results from three household surveys have become available only after several years, and there is no system to generate reliable information more frequently.[21]

Although management information systems to track nutrition indicators have been strengthened and data collection has improved, data quality and reliability are generally weak, and the data are not regularly used for decisionmaking. Vital national and provincial financing information is not gathered and tracked and is not available to stewards; efforts in this area have only just begun. This critical gap affects other stewardship domains as well—for example, effective resource planning and allocations in line with policy commitments, tracking expenditure, and ensuring accountability for spending. Further, updated information on human resources, their placements and vacancies, and their capacity and performance are not readily and systematically available. And there is no systematic sharing of key information with stewardship bodies at the district and subdistrict levels.

Three key stewardship functions require attention and strengthening

These functions are ensuring tools for implementation, creating a fit between policy objectives and organizational structure and culture, and ensuring accountability. Policies and strategies are only as effective as their implementation. Policy and program analyses conclude that now that enabling policy-equivalent strategies are generally in place, and several of them have been translated into programs (Annexes 4A and 4B), the overarching challenge across programs is implementation (box 4.5).

BOX 4.5

The biggest impediment to nutrition program effectiveness and impact is implementation

Common issues plague programs: coordination, leadership and staffing, capacity, procurement, and fiscal issues. The program designs reflect attention to stewardship bodies and institutional arrangements for implementation, but the lack of timely creation and operationalization of these arrangements undermines the stewardship necessary for providing strategic direction and driving implementation. Irregular meetings of key decisionmaking bodies, long delays in approvals, frequent changes in leadership, long-standing vacancies, procurement delays, and funds flow problems tend to be critical issues across provinces and programs, significantly impeding implementation.

Capacity constraints at various levels, including among functionaries and structures created to coordinate and facilitate implementation, are major problems. Moreover, district institutions (where they exist) are often not empowered to make local implementation decisions to resolve issues expeditiously. In addition to the many common implementation challenges across programs, multisectoral efforts also face challenges of sectoral convergence, including convergent planning and implementation to leverage the full multisectoral impacts of the interventions.

Although there has been some progress in monitoring and evaluation, tracking indicators, and collecting data, data reliability and completeness and the use of data for decisionmaking are weak areas. Program evaluations are sorely lacking, and except for some donor-supported evaluation efforts, such as the Food Fortification Programme, no evaluation or program results were available for this review. Consultations for the review found that a wealth of knowledge exists in the government system but is not documented and shared. Given the numerous approaches to nutrition programming across provinces and the number of smaller programs piloted, knowledge sharing could be of critical importance to guide smart and effective investments and implementation.

Despite an almost decade-long engagement by the national and provincial governments and various donors, the results of the 2018 National Nutrition Survey (NNS) show that neither stunting nor malnutrition has been significantly reduced. Several major provincial programs, including multisectoral ones, have been initiated and/or expanded since the conclusion of the NNS data collection for its 2018 round, and with the upcoming Tackling Malnutrition Induced Stunting in Pakistan nutrition program and the expansion of the Benazir Income Support Program Nashonuma, they have the potential to lead to improvements in nutrition outcomes, provided implementation issues are addressed in earnest and objective program evaluations are conducted to capture impact. This activity is all the more urgent, given the heightened risk of stunting due to the COVID-19 pandemic.

- *Ensuring tools for implementation.* The WHO framework is based on the premise that stewards need to have powers commensurate with their responsibilities, and that they use these powers—setting and ensuring enforcement of fair rules, incentives, and sanctions in line with the system goals. It also assumes that the rights and responsibilities of users/consumers are defined and that mechanisms to protect consumers are exercised fairly. In Pakistan, there appear to be many mismatches between the responsibilities and the powers of the stewardship bodies. And in several instances where authority is given, it is not used—one of the main reasons for delays in key decisions.

  In a federal system like Pakistan's, where the ultimate stewardship responsibility rests with the national government, the stewardship responsibilities are dispersed across

provinces, districts, and subdistricts, and implementation responsibilities are assigned to the district and local levels. The program analysis identified as one of the significant challenges to implementation the fact that the bodies responsible for nutrition at the provincial department, district, and local levels to which implementation responsibilities are assigned lack capacity and powers to carry out those responsibilities. To illustrate, the district nutrition committees in Sindh and Punjab, which are responsible for overseeing implementation, lack technical capacity, do not have the powers to hold staff and functionaries accountable, and have neither access to the information they need to objectively assess funding needs and priorities, nor control over funds and funding priorities to meet the real needs. Another aspect of implementation policy has to do with stewards having and exercising the powers to guide the behavior of different actors. For example, while the Federal Nutrition Wing in the Ministry of National Health Services, Regulations and Coordination has the ultimate responsibility for national stewardship on nutrition, it does not appear to have the powers to demand accountability for results or performance from the nutrition units in the provincial planning and development departments.

- *Creating a fit between policy objectives and organizational structure and culture.* To the credit of the high-level stewardship bodies, there has been an effort to create new institutional structures aligned with the new strategic directions—the multisectoral and Integrated reproductive, maternal, newborn, adolescent, and child health and nutrition approaches at various levels. However, these structures are largely unable to function as envisaged not only because of their lack of authority commensurate with responsibility but also because of other constraints. Funding and staffing continue to be based on vertical programs or sectoral programs with their own lines of communication and reporting, and they lack appropriate technical and operational capacities. The issue of organizational and management culture—the lack of continuity and institutional memory associated with the frequent leadership changes and staff turnover, delayed decisionmaking, long-standing staff vacancies, and procurement delays—has emerged as a salient constraint to program implementation and reflects deep-rooted organizational culture issues. Several stewardship bodies do not meet at the frequency specified in their terms of reference; this not only affects decisionmaking, timely reviews, and problem solving, but also causes loss of momentum. A detailed assessment of the most appropriate organizational structures is required, especially given the multiple departments and actors involved.
- *Ensuring accountability, responsibility, and answerability to the population.* Stewards must be accountable for their own actions to the other actors in the system and to the population, and they must ensure that all the other actors in the system at all levels are also held accountable for their actions. The accountability of stewards includes, among other things, accountability for policy/strategy implementation and achievement of goals, for efficient and effective use of resources to produce the desired outcomes, and for timely decisionmaking and provision of adequate resources to the other actors to enable them to deliver their responsibilities, and then to hold them accountable for their performance and achievement of results. While this may be linked to a larger systemic change across several levels, departments, and programs, the higher-level stewardship bodies can institute several measures and mechanisms to enhance accountability and lead to better outcomes.

Pakistan has made good progress in establishing stewardship bodies

At the highest levels, the prime minister exercises stewardship at the national level and senior leaders exercise it in several provinces, and the commitment to improve nutrition outcomes is

high. There is a recognition of the multifaceted nature of nutrition and the need for multisectoral actions to improve nutrition outcomes. To make the strategic shift in direction from nutrition as a responsibility of the health sector alone to one that brings in other sectors, several strategy documents and multisectoral stewardship structures have been developed and are operational to varying degrees across provinces. An assessment of the stewardship functions of these bodies using a WHO health stewardship function framework indicates many strengths and well-functioning areas (although some weak spots remain to be addressed): providing strategic direction, building coalitions and partnerships, and generating intelligence for decisionmaking. Functional domains that require further attention point to the fact that the stewardship bodies at the different levels need powers commensurate with their responsibilities, including those for ensuring enforcement, incentives, and sanctions; transforming organizational and management culture; and demanding greater accountability.

ADDRESSING CONSTRAINTS TO PROGRAM EFFECTIVENESS

Pakistan is committed to meeting its Sustainable Development Goals stunting target, and it has made encouraging progress on building commitment and developing strategies. But to protect and promote human capital accumulation, it will need to take urgent and effective action, building on its past work, to accelerate the reduction in stunting and address the other forms of malnutrition. The following recommendations are drawn from Pakistan's experiences, successes, and disappointments and from lessons learned in countries that have reduced malnutrition.

Prioritizing nutrition, including its financing

Pakistan needs to make nutrition an important national priority, framing it as an urgent human development issue high on the national and provincial agenda. That entails building and committing to a sense of urgency for action, engaging all stakeholders, and mounting large-scale campaigns to generate greater public awareness, concern, and engagement around critical nutrition issues.[22] To drive the agenda forward, it will be extremely important to follow through on the commitments in planning, prioritization (including allocation of resources), and monitoring.

It should protect and earmark nutrition funding, mobilize additional financing for nutrition, and introduce and institutionalize systems to track nutrition financing and expenditure. Financial allocations in line with commitments are critical to translating policy intent into action and to ensuring that nutrition programs and interventions are adequately funded.

- *Costing nutrition interventions and mobilizing resources.* Costed action plans to assess real funding needs are essential to mobilizing resources, including from domestic sources, donors, the private sector, and specific levies (of course, with due consideration of conflicts of interest).[23]
- *Earmarking nutrition funding and developing and institutionalizing a nutrition financing and expenditure tracking system.* Institutionalizing the assessment of nutrition financing is critical to protect nutrition funding and ensure the availability of reliable data on nutrition financing to inform plans, guide resource allocation, prioritize and monitor expenditure, enhance accountability, and make the case for investments by donors and government. In addition, a comprehensive system that tracks budget and expenditure (domestic, external aid, on-budget, and off-budget), using standard formats and consistent codes and wordings across years and government levels and various financial documents, such as the ADP and the integrated financial management information system, will help in tracking nutrition expenditure.

Crafting a comprehensive national nutrition policy

Pakistan needs to develop and adopt a comprehensive national nutrition policy and provincial plans. Such policy needs to address nutrition holistically and articulate the government's commitment to improve nutrition outcomes. While several strategies exist and have been serving as policy equivalents, an overarching policy, approved by Parliament, is a more powerful instrument to provide strategic direction to government ministries and departments and lay important groundwork for funding priorities, laws, and implementation.

Pakistan should address, through the nutrition policy, the immediate and underlying determinants of nutrition, and prioritize the most vulnerable areas and populations with high-impact nutrition-specific interventions. Using a phased approach, all pregnant and nursing women and children under 2 could eventually be targeted with convergent interventions so that the numbers of children who receive adequate feeding, environmental health interventions, and healthcare increase exponentially.

It should integrate nutrition services as part of primary care, to promote the co-location and convergence of service delivery and reduce the vertical silos of nutrition services. An emphasis on behavior change communication and community-focused interventions could help address social norms around feeding and WASH and generate demand for nutrition services. Approaches for improving nutrition may need to be tailored, given that stunting rates are high even in educated households of the middle and upper wealth quintiles.

It should require, through the nutrition policy, that policies and strategies in the health sector and other relevant sectors should be examined through a nutrition lens. The focus should be on prioritizing the most effective actions to address the determinants most closely associated with stunting to maximize the nutrition impacts of those policies. It would help to use the SUN system of nutrition markers to assess and then boost sectoral contributions to stunting reduction.

Improving the policy environment until the new nutrition policy is implementable

Pakistan needs to ensure timely approval and updating of strategies, particularly those that are cross-sectoral. Existing strategies and policies should be updated to clearly reflect a commitment to nutrition—better defining the most effective actions in each sector to improve nutrition outcomes, setting out the indicators to be tracked by sectors, and developing harmonized criteria across sectors for beneficiary selection to ensure the convergence of sectoral inputs and benefits. Updating is also warranted to integrate new knowledge, analysis, or implementation lessons and to strengthen the institutional structures proposed in a strategy, particularly to ensure that they have authority commensurate with their responsibility.

It should pay close attention to the sustainability of interventions in project design. Too often, interventions end when the project (that is, donor funding) ends. Short-term interventions cannot make long-term progress in reducing malnutrition. In designing and implementing projects, it is important to ensure that the interventions can be continued without the donor's involvement.

It should assess and articulate financing needs and relative priorities, an important aspect often missing in strategies. It is critical to assess and articulate the real resource needs to translate the strategy into action, prioritize the financing of the most cost-effective interventions across sectors, and outline the approach to fully cover high-burden areas. This approach helps build a common understanding of needs and priority interventions, and it can also help stewards mobilize resources.

It should improve communication. Wide dissemination of strategy and policy documents within ministries and departments and to all stakeholders is important to ensure that all parties benefit from the direction afforded by these documents. In several instances policy/strategy documents needed for this review were not accessible in the public domain and were not even available in the relevant departments.

Boosting program outcomes by scaling up the most cost-effective interventions

Pakistan needs to expand program coverage and outreach for impact in high-burden districts, ensuring convergent delivery of all sectors' interventions. Today, scattered program initiatives do not cover entire districts, even in the highest-burden areas. Outreach to the most remote and underserved areas is essential.[24] Offering incentives for nutrition tasks,[25] building capacity, and more robustly integrating nutrition indicators into the program monitoring system should all contribute to Lady Health Workers' ability to deliver high-quality nutrition interventions, particularly counseling and behavior change communication. Lady Health Workers have the potential to contribute to changing social norms around feeding and WASH and to induce demand among community members for primary care and nutrition services.[26]

It should prioritize the most cost-effective interventions and sectors to expand the coverage of direct nutrition interventions. Other sectors' contributions are important to improve nutrition outcomes but shifting resources from direct nutrition interventions to other sectoral interventions has to be carefully weighed. The importance of nutrition-specific investment among the most vulnerable populations cannot be stressed enough.

It should ensure the geographic co-location of sectoral interventions and their convergence at the household level. To dent stunting, it is critical to ensure that children under 2 receive three things simultaneously: adequate food and nutrient intake, adequate environmental health interventions, and adequate care. Thus, convergence at the village and household levels to reach beneficiaries (each mother-child dyad) with the full range of interventions is essential.[27]

It should increase demand and uptake. Initiatives to increase the uptake of services—for example, behavior change communication, social mobilization, and even conditional cash transfers—have typically started late in project life and have often not been sustained after the project's end. Demand-side efforts should go hand in hand with supply-side efforts and mechanisms for the sustainability of community structures should be well supported. The continued role of Lady Health Workers as champions of community-focused interventions should be explored.

Easing major implementation bottlenecks through the intervention of stewards and leaders across a range of structures

Pakistan needs to ensure timely decisionmaking and problem resolution. Regular meetings of high-level decisionmaking bodies to make timely decisions that are crucial to program implementation—such as appointing leaders and staff, ensuring leadership continuity, filling vacancies, initiating and moving procurement processes, ensuring adequate funding and smooth funds flow—are important to move programs. Stewards must hold themselves accountable for discharging these functions, and they must hold others accountable by setting and enforcing standards for these critical operational tasks. Instituting mechanisms, such as appointing independent watchdogs and conducting self-audits, can also enhance accountability.

It should provide powers commensurate with responsibility, especially to implementation-level bodies, and build their stewardship capacity.

Institutional structures can fulfill their responsibilities well only if they are empowered to exercise their authority and use it appropriately.

It should build technical and operational capacity across the sectors that contribute to nutrition. Because many sectoral stewards and officials lack an understanding of nutrition and of the most appropriate and cost-effective ways their sectors could advance it, it is strongly suggested that they be sensitized.[28]

It should sharpen sectoral interventions to better leverage their effect and increase efficiency through sharing common behavior change communication (BCC) resources.

- *Education.* Given the strong association of mothers' education with reduced stunting, one of the most important contributions the education sector could make to improve nutrition is to focus on girls' education and keeping girls in schools, which is also an effective measure to delay the age of marriage and childbearing. Further, school-based nutrition programs have tremendous potential to reach vulnerable children. Training teachers in screening and nutrition messages is recommended, with active coordination with the health department for further referrals as necessary.
- *WASH.* As an important contributor to addressing diarrhea and other noncommunicable diseases, WASH remains a priority area for intervention. However, there is a critical need to evaluate WASH programming with a focus on its nutrition effects. A 2018 World Bank WASH diagnostic recommends that sanitation infrastructure be improved and better regulated; additionally, it is critical that these issues be adequately discussed and resolved through multisectoral planning. [29]
- *Food, agriculture, livestock, fisheries.* Most programs and interventions in this area are concerned primarily with yields and growth rates. Successful agriculture programs have emphasized the importance of food as a path to improved nutrition, with accompanying nutrition messaging and BCC to improve dietary diversity. Every effort needs to be made to build a BCC component into agriculture programs and devise suitable food fortification policies to complement it.
- *BCC.* Behavior change is a critical yet complex aspect of improving nutrition outcomes. And at the design stage, BCC is a prominent feature of most of the programs reviewed, but BCC outcomes need to be improved. BCC materials from different programs should be assessed for their impact and viability. Critical time and resources go into creating BCC materials, often leading to implementation delays; therefore, materials from different programs should be centrally pooled then adapted as needed. The target audiences should be considered when these materials are developed, in a way to provide simple, consistent messaging. Materials for children in particular should be age-appropriate and engaging.

Strengthening stewardship functions

To inform and institute change, Pakistan should undertake an in-depth study of the three key functions that have constrained effective nutrition stewardship: ensuring tools for implementation, creating a fit between policy objectives and organizational structure and culture, and ensuring accountability (see table 4.3). The three are interrelated. Change on the margins will not bring about the transformation necessary to respond with the urgency required. An in-depth and comprehensive study is strongly recommended to examine the structure, functions, powers, capacities, and accountability mechanisms of the stewardship bodies and institutional arrangements for nutrition.

Bolstering monitoring, evaluation, and knowledge generation

Pakistan needs to develop systems to track the multisectoral impacts of nutrition not only

to monitor progress and identify target populations for intervention, but also to advance multisectoral implementation. Monitoring and evaluation is particularly weak in most programming in Pakistan, and monitoring for nutrition is no exception, despite moderately strong target-setting for most nutrition projects. Although there appears to be significant understanding within the government regarding the different programs and projects, little substantive documentation has been developed at the government level. Most reviews of government programs have been donor funded and limited to funded activities. So, there is a need for greater ownership of, capacity building for, and emphasis on monitoring and evaluation at the government level.

Pakistan should also form and revitalize bodies for knowledge exchanges, like the interprovincial Lady Health Worker Program forum, to facilitate learning, especially in key areas where provincial approaches differ. Knowledge generation is critical for informing additional programming and strategizing for challenging contexts. Program data on previous implementation experiences should also be recorded.

CONCLUSION AND RECOMMENDATIONS

Malnutrition has long-term implications for a nation's human capital and growth. The persistently high levels of malnutrition in Pakistan jeopardize human capital accumulation and economic growth. The prevalence of stunting, a measure of chronic malnutrition that has lifelong impacts on physical growth and cognition, remains at 40 percent. The slow pace of decline calls for major efforts to accelerate progress. The stunting situation varies across and within provinces, is higher in rural areas and in lower wealth quintiles, but is not insignificant even in the middle and upper wealth quintiles. The risk factors that drive high rates of stunting remain rampant; fewer than 2 percent of Pakistan's children receive adequate feeding, environmental health interventions, and health and nutrition care. Thus, policies and programs to reach children under 2 with food, care, and environmental health interventions will be critical to improve nutrition outcomes. The COVID-19 pandemic and the 2022 floods, which disrupted education and health systems including nutrition interventions, threaten to erase any gains made in recent years.

Based on the analysis in this chapter and the experiences of several other countries that have successfully reduced stunting (including Brazil, Ethiopia, Nepal, Peru, Senegal, and Thailand), the following are the main recommendations for tackling malnutrition in Pakistan.

Prioritize cost-effective nutrition interventions informed by evidence

- *Raise the national profile of stunting, which is a major human capital catastrophe requiring national and local efforts.* Ensure political championing for stunting reduction at the national and highest provincial levels. Strengthen nutrition-focused development partners' platforms at the national and provincial levels to improve cross-sectoral nutrition governance and coordination bodies and oversee multisectoral nutrition actions. Systematize monitoring and evaluation for debottlenecking and course adjustments.
- *Remove existing constraints to program implementation, including long delays in approvals, frequent changes in leadership, procurement delays, and funds flow issues.* Ensure timely decisions and problem resolution. Provide powers commensurate with responsibility, especially to implementation-level bodies, and strengthen their stewardship capacity. Build technical and operational capacity across the sectors that contribute to nutrition.
- *Support "kangaroo" mother care to keep the newborn skin to skin with the mother.* Replace iron and folic acid supplementation for

pregnant women with multiple micronutrient supplementation.

Coordinate nutrition interventions and advocacy with those for early childhood development

- *Address constraints affecting the effectiveness of existing strategies.* Ensure timely approval and updating of strategies, particularly those that are cross-sectoral. Give more attention to the sustainability of interventions. Assess and articulate financing needs and relative priorities. Improve communication.
- *Integrate high-quality, contextually relevant parenting and behavioral change programs into health, social protection, and education platforms.* Early interventions, including access to early childhood education, are vital to mitigate risks and promote protective factors that shape healthy brain development, yielding gains for future health, learning, and productivity. For example, healthy and well-nourished children learn better and earn more as adults, and higher levels of education help improve both health outcomes and access to better employment opportunities.
- *Identify priority districts to implement interventions based on hands-on global knowledge on convergence and sequencing of interventions.* Map out interventions in water, sanitation, and hygiene; social protection; education; nutrition; and maternal, neonatal, and child health that might be able to converge. Empower district health authorities, and ensure that they have the capacity and resources commensurate with their responsibilities to implement nutrition and early childhood development programs.

NOTES

1. National Nutrition Surveys.
2. Shekar et al. 2016.
3. Bhutta et al. How countries can reduce child stunting at scale: lessons from exemplar countries. Am J Clin Nutr 2020;112(Suppl):894S–904S.
4. According to the Lancet Framework, nutrition-specific interventions target the immediate determinants of malnutrition—inadequate dietary intake and ill health—and nutrition-sensitive interventions target the intermediate determinants. In this chapter, unless otherwise specified, the term nutrition interventions includes both nutrition-specific and nutrition-sensitive interventions.
5. Demographic and Health Survey 2017–18.
6. NNS 2018.
7. Government of Pakistan n.d.
8. Klassen and Murphy 2020.
9. OCHA 2020; WFP 2020.
10. In addition, statistics from the Ministry of National Health Services, Regulations, and Coordination indicate a decline in antenatal care visits and in the number of facility births during the COVID-19 wave, which could be due to disruption in services and the difficulty of traveling during a lockdown.
11. For more information, see the Nutrition International website at https://nutritionintl.org.
12. Government of Pakistan n.d.
13. Ijaz et al. 2020.
14. Ali et al. 2021.
15. *Environmental health* refers to the availability of drinking water and sanitation facilities; *care* includes such factors as antenatal care, nutritional supplementation during pregnancy, and appropriate treatment of childhood diarrhea.
16. Nutrition-specific interventions refer to interventions that address the immediate determinants of foetal and child nutrition and development, whereas nutrition-sensitive interventions are those in complementary sectors such as agriculture, health, social protection, early child development, education, and water and sanitation that affect the underlying determinants of nutrition.
17. In Sindh, the nutrition financing OPM was contracted by the World Bank to Oxford Policy Management, and the information is taken from OPM (2017).
18. WHO 2000.
19. See Exemplars in Global Health at https://www.exemplars.health/.
20. Mejia Acosta and Fanzo 2012.
21. Demographic and Health Survey 2018, NNS 2018, and Multiple Indicator Cluster Survey 2018.
22. Executive leadership, agenda-setting, and messaging all played key roles in Brazil, Peru, and Ethiopia. Peru, for example, effectively mobilized public awareness with its "5 by 5 by 5" program, with President Garcia's public commitment to reduce chronic malnutrition rates in children under 5, by 5 percent in 5 years. In Pakistan, the prime minister already leads the Pakistan National Nutrition Coordination Council, demonstrating high-level political commitment.
23. Zambia's 1 percent Medical Levy suggests that there is potential for channeling tax revenue from mining companies to fund a nutrition strategy. See Mejia Acosta and Fanzo (2012).
24. Nepal has demonstrated the key role community-based workers can play in outreach to improve nutrition outcomes. Community-based workers in Pakistan—such as the Lady Health Workers and Community Health Workers in the health sector—are among the mainstays for delivering nutrition services at the community level. More focused attention to nutrition in the training of Lady Health Workers and of their supervisors is strongly recommended, with updated training curricula providing appropriate training modules and programs.
25. J-PAL 2014.
26. TMIS proposes to support expansion of the Lady Health Worker platform and investment in Lady Health Workers' training and capacity building in 67 high-burden districts, with complementary provincial investments (Annex 4B.)
27. District nutrition committees established under Sindh's Accelerated Action Plan for Reduction of Stunting and Malnutrition are a promising platform through which to coordinate convergent actions and targeting; however, experience from the plan also demonstrated the need for the health sector to take the lead in village-level joint work. Ensuring integration of nutrition services into primary care service delivery has the potential to have synergistic effects. Sindh has demonstrated good practice in using

health sector and BISP data to inform the rollout of social protection and related interventions, and this model can be built on to achieve the combined impacts of multisectoral nutrition interventions.

28. The example from Khyber Pakhtunkhwa, where systematic sensitization of over 500 officials and joint planning across sectors was conducted, stands out.

29. It found that open-defecation-free policies and programming have overlooked waste management and toilet quality, and have not resulted in improved health outcomes, and that interventions in such sectors as agriculture and livestock overlook the WASH impacts of their programming (World Bank 2018).

REFERENCES

Ali, A., M. Sohaib, S. Iqbal, K. Hayat, A. U. Khan, and M. F. Rasool. 2021. "Evaluation of COVID-19 Disease Awareness and Its Relation to Mental Health, Dietary Habits, and Physical Activity: A Cross-sectional Study from Pakistan." *The American Journal of Tropical Medicine and Hygiene* 104 (5): 1687.

Bhutta, Z., N. Akseer, E. Keats, T. Vaivada, S. Baker, S. Horton, J. Katz, P. Menon, E. Piwoz, M. Shekar, C. Victora, and R. Black. 2020. "How Countries Can Reduce Child Stunting at Scale: Lessons from Exemplar Countries." *The American Journal of Clinical Nutrition* 112 (Supplement 2).

Government of Pakistan. 2020. "Poverty Alleviation and Social Safety Division Curtain Raiser, October 2020."

Government of Pakistan. n.d. "Coronavirus in Pakistan." http://covid.gov.pk/. Accessed 3 March 2022.

Heaver, R., and Y. Kachondam. 2008. "Thailand's National Nutrition Program—Lessons in Management and Capacity Development." HNP Discussion Paper, World Bank, Washington, DC.

Horton, S., M. Shekar, C. McDonald, A. Mahal, and J. K. Brooks. 2010. Scaling Up Nutrition: What Will it Cost? Directions in Development: Human Development. Washington, DC: World Bank.

Ijaz, S., S. Ismail, L. Fayyaz, A. Ashraf, Y. Razzaq, and M. A. Chaudhry. 2020. "Physical Activity, Screen Time and Emotional Wellbeing of Population during COVID-19 Pandemic in Pakistan." *Biomedica* 36 (4).

J-PAL (Abdul Latif Jameel Poverty Action Lab). 2014. "Pay for Performance Incentives for Healthcare Workers in Pakistan." Lahore, Pakistan: J-PAL. https://www.povertyactionlab.org/evaluation/pay-perfomance-incentives-heathcare-workers-pakistan.

Keats, E., J. Das, R. Salam, Z. Lassi, A. Imdad, R. Black, and Z. Bhutta. 2021. "Effective Interventions to Address Maternal and Child Malnutrition: An Update of the Evidence." *Lancet Child and Adolescent Health* 5 (5).

Khan, N. 2019. "Reaching the Last Mile in Universal Salt Iodization in Pakistan." Nutrition International, 4 November. https://www.nutritionintl.org/news/all-blog-posts/reaching-the-last-mile-in-universal-salt-iodization-in-pakistan/.

Klassen, S., and S. Murphy. 2020. "Equity as Both a Means and an End: Lessons for Resilient Food Systems from COVID-19." *World Development* 136: 1–4.

Mejia Acosta, A., and J. Fanzo. 2012. "Fighting Maternal and Child Malnutrition: Analysing the Political and Institutional Determinants of Delivering a National Multisectoral Response in Six Countries." Mimeo, Institute for Development Studies, Brighton, UK.

OCHA (United Nations Office for the Coordination of Humanitarian Affairs). 2020. "Pakistan Humanitarian Response Plan for COVID-19 Pandemic 2020."

OPM (Oxford Policy Management). 2017. "Government of Sindh Nutrition Expenditure Review (FY 2017–18 to FY 2019–20)."

Ruel, M. T. 2008. "Addressing the Underlying Determinants of Undernutrition: Example of Successful Integration of Nutrition in Poverty Reduction and Agriculture Strategies." *SCN News* 36: 21–29.

Shekar, M., J. Condo, M. A. Pate, and S. Nishtar. 2021. "Maternal and Child Malnutrition: Progress Hinges on Supporting Women and More Implementation Research." *The Lancet* 397 (10282): 1329–1331.

Shekar, M., J. Kakietek, J. D. Eberwein, and D. Walters. 2016. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting*. Directions in Development: Human Development. Washington, DC: World Bank.

Shekar, M., and B. Popkin (eds.). 2020. *Obesity: Health and Economic Consequences of an Impending Global Challenge*. Human Development Perspectives series. Washington, DC: World Bank.

SUN Movement Compendium 2014. Pakistan.

Tontisirin, K., and S. Gillespie. 1999. "Linking Community-Based Programs and Service Delivery for Improving Maternal and Child Nutrition." *Asian Development Review* 7 (1/2): 33–65.

Ullah, I., A. Pillai, S. Dey, S. Raza, and N. A. Khan. 2019. "Pakistan's Journey towards Universal Coverage of Iodised Salt: A Non-Systematic Review." *Pakistan Journal of Public Health* 9 (4): 195–197.

UNICEF (United Nations Children's Fund). 1998. *The State of the World's Children 1998*. New York: UNICEF.

WFP (World Food Programme). 2020. "Comprehensive Food Security and Livelihood Assessment (CFSLA) 2020." Rome: WFP. https://reliefweb.int/sites/reliefweb.int/files/resources/WFP-0000118584.pdf. Accessed 1 October 2020.

WHO (World Health Organization). 2000. *World Health Report 2000: Health Systems: Improving Performance*. Geneva: WHO.

WHO (World Health Organization). n.d. "Pakistan Integrated Nutrition Strategy Operational Framework Plan." Geneva: WHO. https://www.who.int/hac/crises/pak/pakistan_nutrition_strategy.pdf.

World Bank. 2017. *An Investment Framework for Nutrition*. Washington, DC: World Bank.

World Bank. 2018. *When Water Becomes a Hazard*. Washington, DC: World Bank.

World Bank. 2020. "South Asia Economic Update." Washington, DC: World Bank. https://pubdocs.worldbank.org/en/375781554478871276/mpo-pak.pdf.

World Bank. 2021. "Poverty and Equity Brief: Pakistan." Washington, DC: World Bank. https://databank.worldbank.org/data/download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_PAK.pdf.

Zaidi, S., S. K. Mohmand, N. Hayat, A. M. Acosta, and Z. A. Bhutta. 2013. "Nutrition Policy in the Post-Devolution Context in Pakistan: An Analysis of Provincial Opportunities and Barriers." *IDS Bulletin* 44 (3): 86–93.

5

Providing education to all children

SUMMARY

Pakistan has one of the world's highest rates of children out of school, with an estimated 20.3 million of its 63.3 million school-age children out of school.[1] In addition, Pakistan's learning poverty rate—the percentage of children unable to read and understand a short age-appropriate text by age 10—at 75 percent before the COVID-19 pandemic and the 2022 floods is more than 16 percentage points above the average for South Asia and more than 19 percentage points above the average for lower-middle-income countries. The high number of primary and secondary school–age children who are not in school and the low quality of education—about 65 percent of children perform below minimum proficiency in reading—explain Pakistan's high learning poverty rate. So, simply bringing all children to school will not be enough to end Pakistan's learning poverty and build its human capital.

Among the top barriers to children's enrollment and progression in school, the most common are high cost, distance to schools, perceived poor quality of education, and shortage of teachers. These barriers are particularly relevant in rural schools and persist across education levels. Therefore, an important first step is to recognize that out-of-school children are not a homogenous group. Policies need to be tailored to the characteristics of distinct groups to maximize impact. The longer children are out of school, the less likely they are to go to school, especially children who have dropped out. Tackling dropouts requires targeted, aggressive, and innovative solutions. Bringing all children into school while also improving learning outcomes and overall education system efficiency is challenging, but it can be done. Pakistan can create supportive environments for increased retention by training teachers and school administrators to identify children at risk of dropping out and provide in-school remediation for low-achieving children. It can also scale up the more effective and efficient existing approaches and expand them to schools in districts with high dropout rates. And it can support households in reducing dropouts by expanding the education conditional cash transfer (CCT) programs, increasing benefit amounts for secondary school children, and providing dedicated and free transport for secondary school girls and female teachers.

Bringing all children to school while ensuring a higher level of learning would cost at least 5.4 percent of GDP, up from the current investment of 2.5 percent. This would require large efficiency gains in access and improvements in quality. Employing business as usual to bring out-of-school children into school in each province and improve the quality of education would cost around 4.3 percent of GDP.

INTRODUCTION

With nearly one-third of its children out of school and three-quarters of them trapped in learning poverty, Pakistan is experiencing a human development crisis. Although enrollment of Pakistan's children age 5–16 rose from 50 percent in 1990 to 70 percent in the school year 2018/19, learning challenges persist throughout the system, and barriers to enrollment and learning increase as children grow older. For example, while 85 percent of boys and 79 percent of girls are enrolled at age 9, just 56 percent of

boys and 40 percent of girls remain in school by age 16.[2] Each year, therefore, Pakistan's education system loses a huge number of students. In 2018/19, 8 percent of students (15 million) dropped out.[3] Due to school closures and the socioeconomic impact of the COVID-19 pandemic and the 2022 floods on families, an estimated 2–3.5 million additional children will drop out of school in Pakistan, erasing years of enrollment gains.[4]

Pakistan invests only 2.5 percent of its GDP in education, far less than the international median of 4.4 percent.[5] The government invests roughly 10 percent of its annual budget in education—half the international benchmark recommended by the Education 2030 Framework for Action.[6] Increasing funding and the efficiency of that funding remain key challenges for providing every child a quality education.

Little is known about the costs of bringing out-of-school children to school, and how to do it efficiently. This chapter develops back-of-the-envelope estimates of what it would cost to provide all children with a "life raft": schooling at a minimum quality level to achieve literacy and develops a framework of interventions to better cater to the needs of out-of-school children in Pakistan. It begins with a set of stylized facts on the out-of-school population and then offers estimates of how much it will cost Pakistan to have all of its children in school under different assumptions, including the added cost of a higher-quality education. Although the debate over out-of-school children usually lumps children with different life stories and characteristics under a single label, a single solution will not bring all children into school. This chapter develops a framework that, along with higher and better targeted funding, responds to the varying needs of different groups of children to sustainably reduce learning poverty and enable Pakistan to realize its human capital potential.

CHILDREN OUT OF SCHOOL

The most recent estimate puts the number of out-of-school children at 20.3 million—just over 11 million girls and 9 million boys (table 5.1).[7] This estimate, based on data from Pakistan Social and Living Standards Measurement Survey (PSLM) 2019–20, is a substantial reduction since the Alif Ailaan estimate of 25 million in 2014.[8] To contextualize these numbers, this section presents seven stylized facts about out-of-school children in Pakistan.

A majority of Pakistan's out-of-school children are girls

During the 2019/20 school year, before the onset of the COVID-19 pandemic, 37 percent of girls and 27 percent of boys age 5–16 were not in school. At 10 percentage points, the gender gap in enrollment has narrowed slightly, from 13 percentage points in 2007 (figure 5.1).

Girls' school attendance is impeded by supply and demand constraints.[9] Obstructions on the supply side include distance to schools and low quality of schools (low-quality teaching and learning materials, lack of water and sanitation facilities and boundary walls, and shortage of female teachers). Demand constraints include

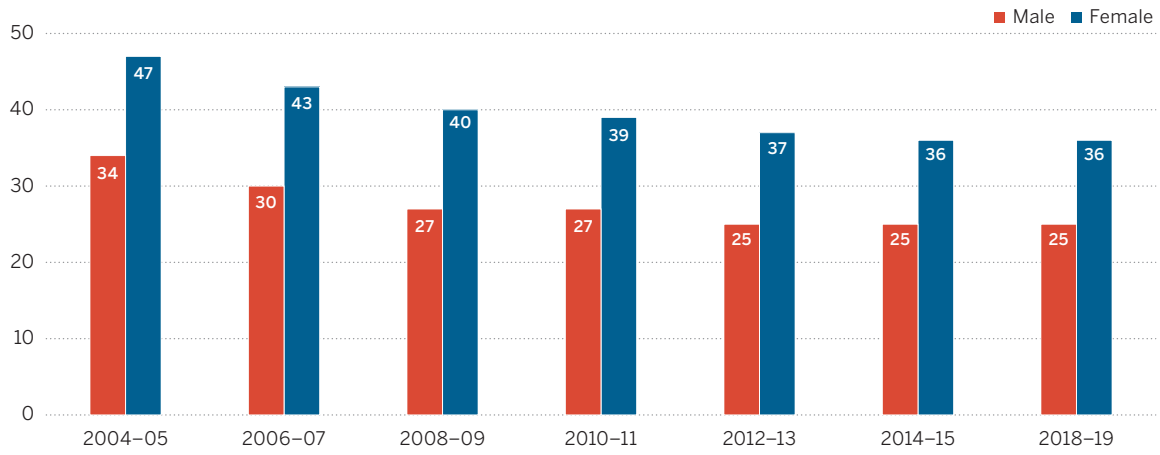
TABLE 5.1 Distribution of out-of-school children age 5–16 in Pakistan, by gender, 2019/20

Gender	Population of children age 5–16	In school	Out of school	Percentage out of school
Girls	30,135,715	19,075,908	11,059,807	37
Boys	33,187,662	24,127,430	9,060,232	27
Total	63,324,209	43,060,462	20,263,747	32

Source: World Bank calculations using data on age structure from Pakistan Census 2017 and on education participation from Pakistan Social and Living Standards Measurement Survey 2019–20.

FIGURE 5.1 More girls than boys are out of school

Percent



Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Surveys 2004–19.

poverty, concerns about girls' security to and from school and work, and social norms and attitudes about girls' education.

The likelihood that a girl will not be in school increases with age.[10] Only 1 woman in 5 in Pakistan has completed her secondary education.[11] The dropout rate for girls rises from 34 percent in primary school to 73 percent in secondary school. In recent years, the cohort survival rate in public schools has fallen for girls but increased for boys. For example, in 1996, 53 percent of boys and 63 percent of girls reached grade 5, whereas in 2016, 60 percent of boys and 53 percent of girls reached grade 5, a drop of 10 percentage points for girls against a gain of 7 percentage points for boys. In 1996, 22 percent of boys and 33 percent of girls reached grade 10, whereas in 2016, 30 percent of boys and 29 percent of girls reached grade 10, a drop of 4 percentage points for girls and a gain of 8 percentage points for boys.

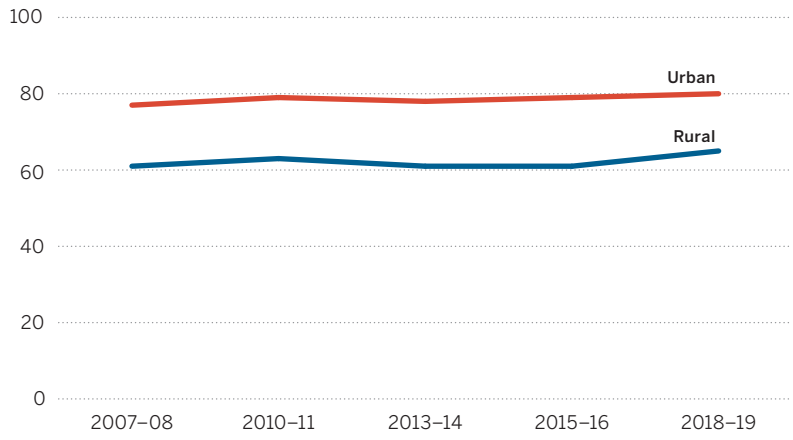
Little analytical work has been done on the impact of social norms on families' schooling decisions for girls in Pakistan. In a qualitative study of men's perceptions of girls' education in Khyber Pakhtunkhwa province, where girls' enrollment is among the lowest in the country, Pashtun men of diverse backgrounds agreed on several major barriers to girls' education. These included poverty, Pashtunwali (tribal code), religion, accessibility (transport), resources, shortage of female teachers, curriculum, and political apathy and corruption.[12] Among these barriers, social norms favoring boys' education over girls' were most frequently mentioned. These findings are in line with those of the World Bank's recent "Barriers to Girls' Education in Pakistan" and the Human Rights Watch Report, "Shall I Feed my Daughter, or Educate Her?"[13]

Out-of-school children are more likely to live in rural areas

In 2018/19, 35 percent of Pakistan's rural children (15 million) age 5–16 were out of school, compared with 20 percent (4.4 million) of urban children (figure 5.2). This sizable gap in basic education participation rates[14] has remained large over the past two decades, varying only by about 3 percentage points (from 15 to 18 percentage points). Growth in participation rates has been low in both urban and rural areas, up 3 percentage points among urban children (77 percent in 2007/08 to 80 percent in 2018/19) and 4 percentage points among rural children (61 percent in 2007/08 to 65 percent in 2018/19). In rural areas with low school density, increasing school supply can reduce the share of out-of-school

FIGURE 5.2 Rural children are more likely to be out of school

Basic school participation, by geographic location, 2007–19



Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Surveys 2007–19.

Note: The education participation rate is the number of children attending any type of school (public, private, madrassas, other) expressed as a percentage of the total number of children in the 5–16 age group during a given school year.

children and boost learning. For example, construction of new schools in rural areas increased enrollment rates and learning outcomes for all students, especially for girls, in Afghanistan and increased school attendance in Indonesia.[15] However, the cost of providing access to quality schooling is higher in rural areas, where children are dispersed across wide areas and many are not in school. The main factor limiting access to education for girls, but also for boys, is distance to school, which points to the lack of adequate infrastructure in rural areas.[16] In Pakistan, this is confounded by parental perceptions of insecurity for girls at school and on their way to and from school and work.

Among provinces, Punjab made the greatest strides in reducing out-of-school children over the past two decades

The number and share of out-of-school children differ across provinces and are highest in Punjab, followed by Sindh. More than three-quarters (76 percent) of the country's population live in Punjab (53 percent) and Sindh (23 percent). In 2019/20, these two provinces accounted for almost 14 million of Pakistan's 20.3 million out-of-school children—69 percent. Although Punjab has seen the greatest drop in its share since 1998 (down 15 percentage points), when it had more than half of all out-of-school children, the province still has the largest number (6.6 million) and share (35 percent) (figure 5.3).

While Punjab shows that it is possible to make good progress in a fairly short time, challenges remain there and in the rest of the country. Almost 62 percent of Pakistan's out-of-school children lived in the other three provinces in 2019/20, most of them in Sindh (32 percent, 6.5 million) and Khyber Pakhtunkhwa (18.7 percent, 3.8 million), along with 10 percent (2 million) in Balochistan. Balochistan and Sindh have struggled to increase enrollment in step with population growth. Between 1998 and 2017, the number of out-of-school children doubled in Balochistan, with almost 1.2 million more children out of school, while the number rose by almost 1 million in Sindh.

Balochistan and Sindh have the highest rates of out-of-school children

Higher shares of children are out of school in Balochistan (59 percent) and Sindh (42 percent) than in the other two provinces (table 5.2). Punjab's rate is roughly one-third that of Balochistan and half that of Sindh. If the policy objective is to reduce the total number of out-of-school children, focusing on Sindh and Khyber Pakhtunkhwa is the right approach; if the objective is to reduce prevalence of out-of-school children per province, the focus should be on Balochistan and Sindh, and to a lesser degree Khyber Pakhtunkhwa. Clarifying the objective matters for funding, planning, and targeting pedagogical approaches. Although this chapter argues that all children should be able to attend school, there are important policy questions about how to start, what to focus on, and what the long-term strategy should be. The answers matter for

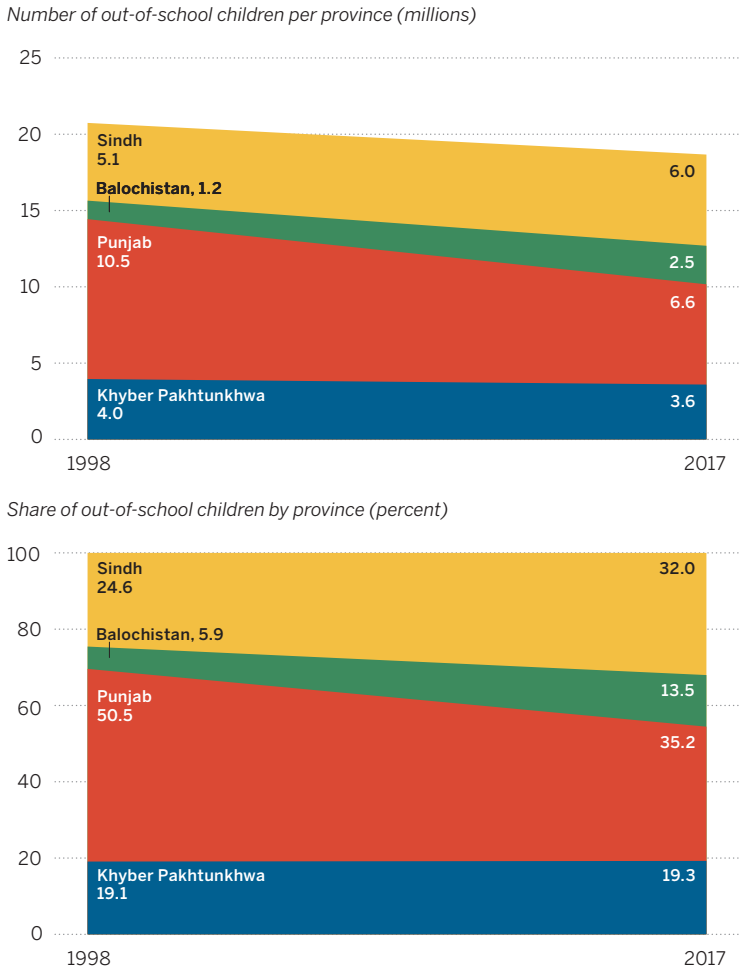
equity, funding, implementation capacity, and, especially important, education outcomes for girls and boys.

Out-of-school children tend to be older

More children are out of school at higher school levels. During the 2018/19 school year, more secondary school–age children (14–15) were out of school (40 percent) than middle school–age children (11–13; 25 percent, 3.6 million) or primary school–age children (6–10; 23 percent, 6.7 million). Between 2007 and 2019, participation rates rose slowly for children at each school level. The largest drop-off in the percentage of children enrolled in school occurred between middle and secondary school, fluctuating between 13 and 17 percentage points (figure 5.4). These facts are important for the design of programs that can address the needs and characteristics of out-of-school children to reduce out-of-school rates. It is important to pay particular attention to expanding access in middle schools, where the number of education establishments drops dramatically from primary levels.

Also important to the design of programs to reduce out-of-school rates are school completion and repetition rates. Limited public and private resources are not being used efficiently if children enroll but do not complete their studies (dropout) or take longer than expected to complete their studies (repetition). Increasing completion rates and decreasing repetition rates and improving pedagogy must be part of any effort to reduce the number of out-of-school children across Pakistan.

FIGURE 5.3 The distribution of out-of-school children by province changed between 1998 and 2017



Source: World Bank calculations using data on age structure from Pakistan Census 2017 and on education participation from Pakistan Social and Living Standards Measurement Survey 2017–18.

Only one student in three entering the school system completes secondary school on time. The cohort survival rate measures an education system's holding power and internal efficiency

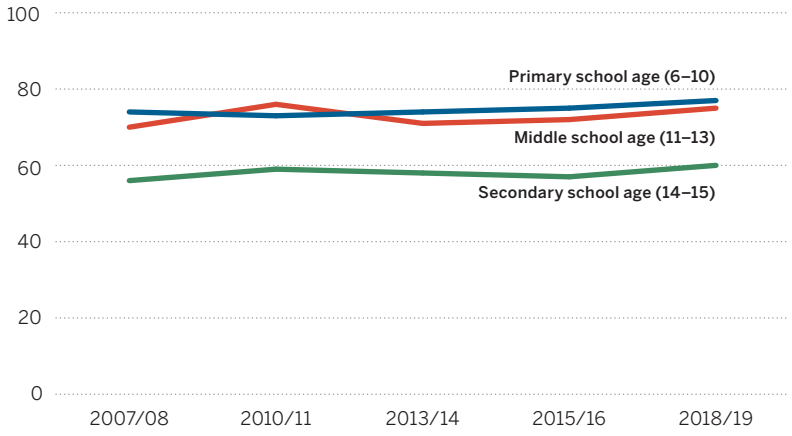
TABLE 5.2 Balochistan has the country's highest concentration of out-of-school children, 2018/19

Statistic	Punjab	Khyber Pakhtunkhwa	Sindh	Balochistan
School-age children (5–16) (% of national total)	51	19	23	7
Province rate of out-of-school children (5–16) (%)[a]	21	31	42	59

Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Survey 2018–19.
a. The number of school-age children in the province who are not enrolled in school as a percentage of total school-age children.

FIGURE 5.4 The older the child, the less likely to be in school

School participation, by school level and age group, 2007–19 (percent)

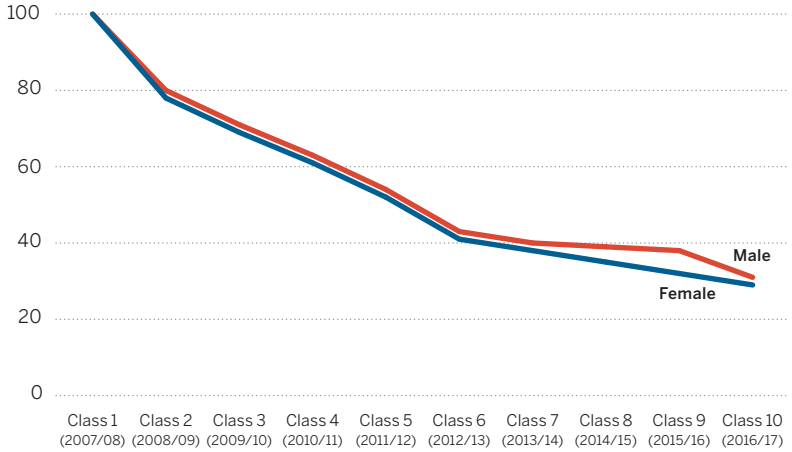


Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Surveys 2007–19.

by following a group of students as they progress through the primary and secondary levels. In the 2007 cohort, of the 3.4 million children enrolled in grade 1 in 2007/08, almost half had dropped out by grade 5 in 2011/12 (48 percent of girls and 46 percent of boys) (figure 5.5). By grade 10 in 2016/17, only 30 percent of children (0.9 million) remained in school, 70 percent had dropped out. Both boys and girls tend to complete primary school, but then more girls drop out in middle school, and more boys drop out in secondary school.

FIGURE 5.5 Only 1 student in 3 entering the education system finishes secondary school

Cohort survival rate (percent)



Source: World Bank calculations using Pakistan Education Statistics 2007–17.
Note: The cohort survival rate is calculated by dividing the total number of children originally enrolled in the first grade of primary school who reached each successive grade by the number of children in the same cohort and multiplying by 100.

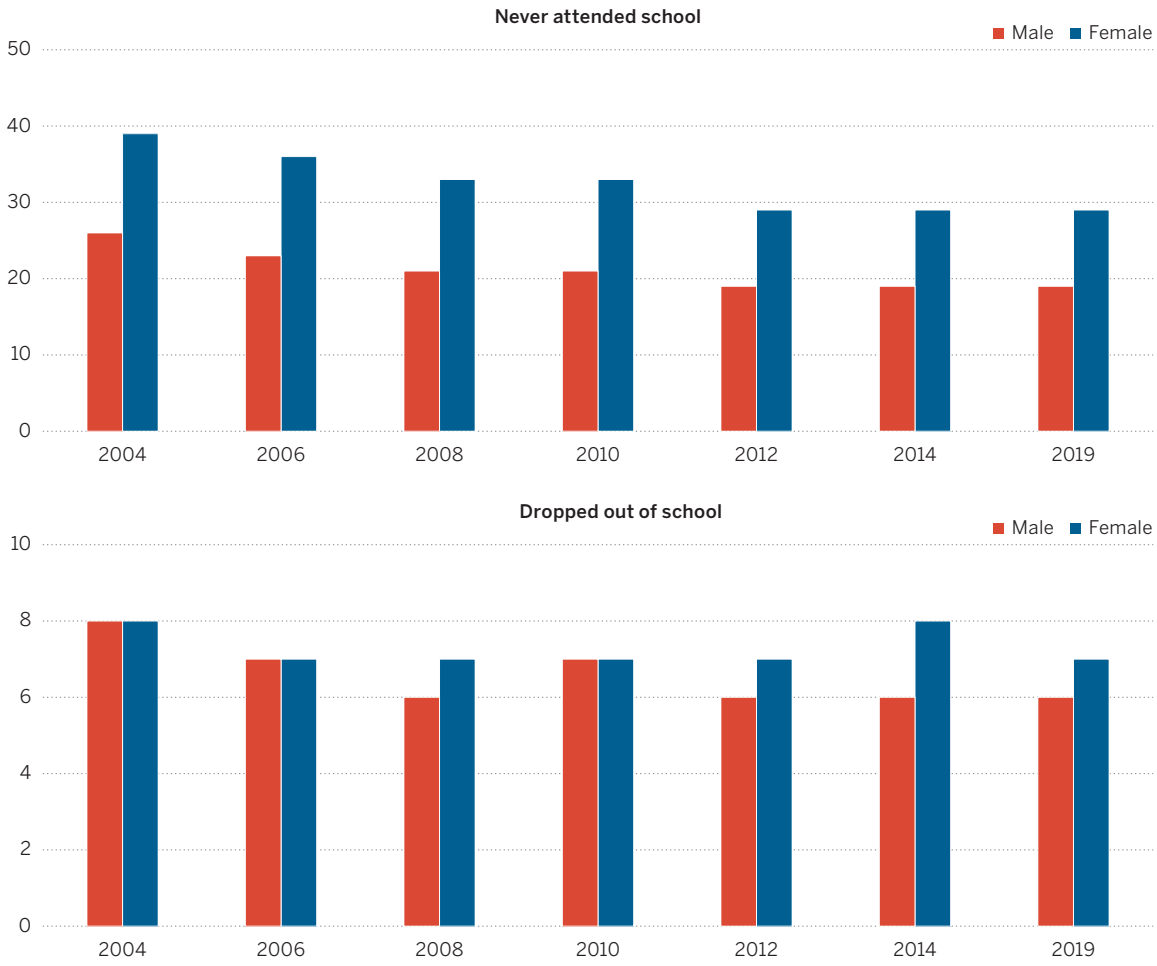
Dropout rates are higher among older children. One reason is that there are far more primary schools than secondary schools in Pakistan. With longer distances to travel to middle and secondary schools, fewer children will make the trip. This is true particularly for girls because of parental concern for their safety, which seems, at least in part, to drive the decision to keep them at home. Paired with prevailing gender norms and low labor market participation of women, girls face increasing barriers to education as they age. Well-targeted international initiatives have found that paying older children to attend school can reduce dropout rates. In South Africa, for example, expanding the Child Support Grant raised teenage enrollment by at least 10 percent among beneficiaries.[17] This is important because demand-side initiatives, such as the Waseela-e-Taleem program are being expanded to middle and secondary education, with a premium for girls' enrollment.

Many children never make it to school

The proportion of children who have never attended school fell considerably in 2004–19, particularly among girls, but the rate is still high. In 2004, 39 percent of girls and 26 percent of boys had never attended school. By 2019, these numbers had dropped 10 percentage points for girls (to 29 percent) and 7 percentage points for boys (to 19 percent) (figure 5.6). While encouraging, this still means that nearly one girl in three and one boy in five has never attended school. Dropout rates remained stable over the same period (around 7 percent). In addition, the average age of children in first grade is 7, meaning that many children are already overage by first grade. Taken together, these four facts—never attended, high dropouts, late entry, and repetition—mean that the stock of out-of-school

FIGURE 5.6 Many children have never been to school, and large numbers drop out

Percent



Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Surveys 2004–19.

children increases every year, implying an opportunity to improve the efficiency of education resource use.

Total public investment in education matters for academic achievement, and low investment levels and poor efficiency lead to poor outcomes

Most public investment decisions on school education are made and executed by the provinces. In 2020/21, nearly all financial allocations to education (98 percent) came from provincial budgets. The responsibilities of the federal government for education consist largely of coordination with provincial governments, the higher education system, and school education within areas under its direct jurisdiction. The total provincial budget for education in 2020/21 was PKR 831.18 billion (US$5,437.88 million),[18] and the federal government's education budget was PKR 15.52 billion (US$101.53 million), for a total annual expenditure per child of PKR 35,801 (US$235). Per child spending varied widely by province, from PKR 27,839 (US$182) in Punjab to PKR 57,559 (US$377) in Balochistan. These figures reflect the financing and planning

challenges in providing education in a country where efficiency levels are determined by the varied management quality and geographic characteristics of each province.

Increasing funding and spending efficiency remain important challenges. Education spending per child differs considerably across districts, affecting years of schooling, school satisfaction, and learning outcomes.[19] With nearly 30 percent of children out of school, it is not surprising that Pakistan's capacity to transform spending into outcomes is low. The results are similar when the outcomes are education quality and enrollment in secondary education.

In terms of efficiency, Pakistan is far from the international frontier for education spending, as measured by the vertical distance between the country and the efficiency frontier, which is based on the outcomes (in this case gross primary enrollment) that the most efficient countries could achieve given their utilization of resources for a given amount of resources.[20]

FACTORS AFFECTING SCHOOL ENROLLMENT

Following the framework developed in the *World Development Report 2018: Learning to Realize Education's Promise*,[21] this study identified factors in the school system (supply-side determinants) and in households and communities (demand-side determinants) that drive differences in education outcomes among children. Supply-side constraints include limited supply of schools and poor quality of learning environments, shortage and poor quality of teachers, and weak leadership and school management practices, as well as structural factors, such as corruption and lack of enforcement of compulsory education laws. Demand-side constraints include household characteristics (such as poverty, education attainment of the household head, and child labor); gender discrimination and social norms (such as early marriage); and insecurity, conflict, and emergencies (including wars and pandemics). The importance of these issues also differs across districts.

Poor and rural children, especially girls, are the most likely to be outside the education system. As children get older, the pressure to work, either at home or in the labor market, increases, and the perceived low quality of education does not incentivize them to continue in school.

Multivariable analysis pinpoints the top barriers to children's enrollment and progression in school. Analyses of PSLM Survey 2014–15 data show that the most common problem that parents identified in schools is the shortage of teachers, followed by the poor quality of education, the distance to schools, and the high cost (figure 5.7). These problems are particularly relevant in rural schools and persist across education levels.

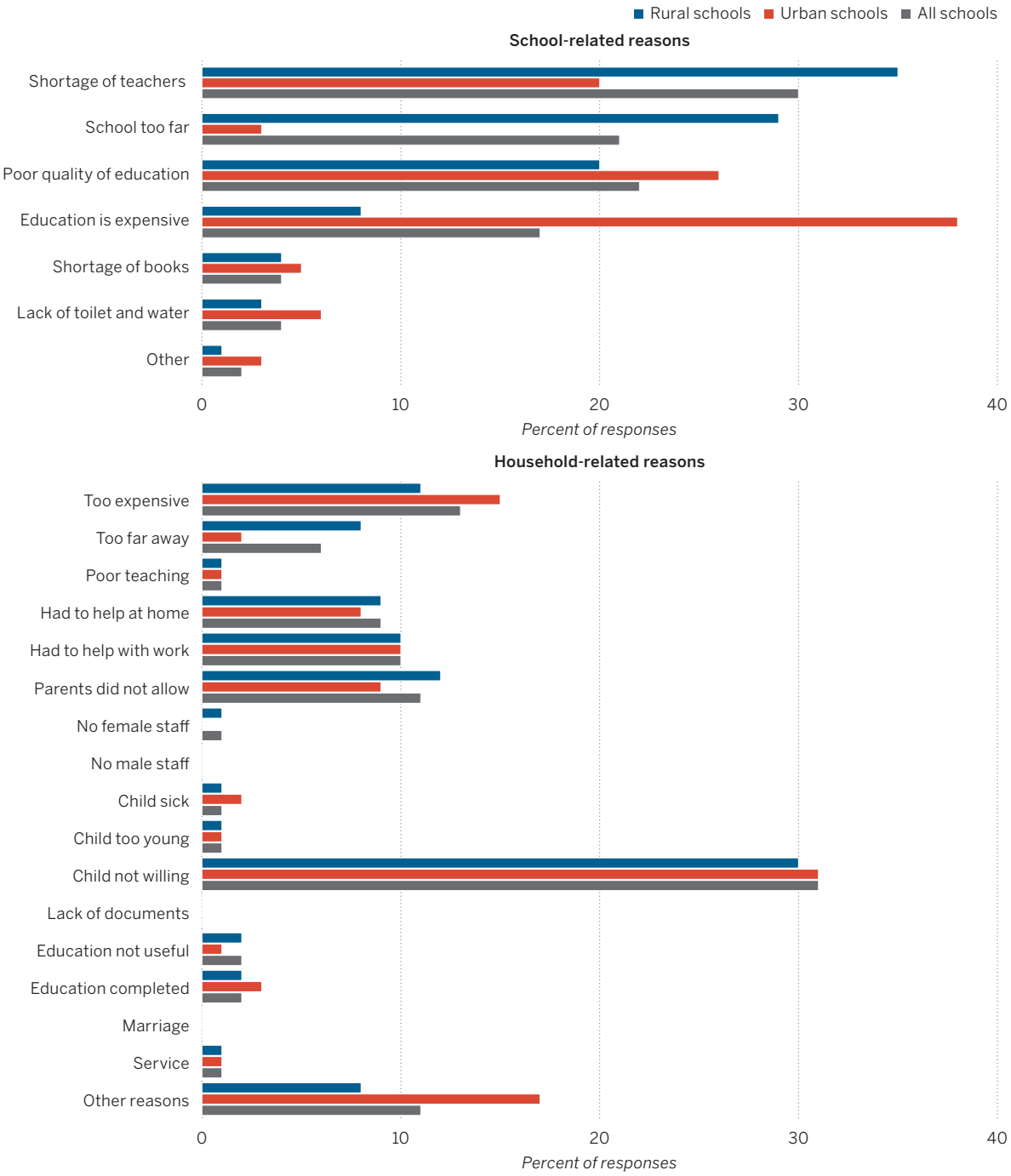
PROVIDING EDUCATION TO ALL CHILDREN

Six scenarios were developed to estimate what it would cost Pakistan to bring and keep all of its children in school. The first three scenarios consider what it would cost to expand education to all children age 5–16, without addressing quality. The scenarios consider reductions in the number of out-of-school children while incorporating efficiency improvements in public investments and alternative costing drawn from service delivery mechanisms in the private sector, as well as the differences in cost of providing education in each province's rural and urban sectors. These three scenarios are then estimated again, reflecting the cost to improve quality. All estimates are presented as percentages of GDP to allow comparisons.

Educating all children without improving quality

The first three scenarios focus only on how much it would cost to expand access to education for all out-of-school children (table 5.3).

FIGURE 5.7 Why so many children do not go to school in Pakistan



Source: World Bank calculations using data from Pakistan Social and Living Standards Measurement Survey 2014–15.

TABLE 5.3 The sticker price of having all children in school under different scenarios—lower bounds

Sticker price and assumptions	Current public expenditure in primary and secondary education	Scenario 1 Business as usual (BaU)	Scenario 2 Big efficiency gains in public education (25%)	Scenario 3 BaU + out-of-school children at the cost of low-fee private schools	Scenario 4 BaU + improved quality of public education	Scenario 5 BaU + high efficiency + improved quality for out-of-school children	Scenario 6 Higher quality for all children
Sticker price using national parameters (% of GDP)	2.5	4.4	3.7	3.3	4.9	3.8	5.4
Sticker price using provincial parameters (% of GDP)	2.1	3.8	3.1	2.9	4.3	3.4	4.8
Assumptions	Average cost during 2017–19	Bringing all out-of-school children into public schools at the average cost for the country of US$240 per child per year	Public schools absorb 25 percent of out-of-school children at the same current total cost and absorb the rest of out-of-school children at the more efficient cost of US$202 per child per year	Public schools absorb all out-of-school children at the average cost of low-fee private schools (US$107 per child per year)	Public schools absorb all out-of-school children and retain current students with an investment in quality estimated to have a unit cost at the midpoint of the difference between the cost of a low-fee private school and that of highly efficient and effective private schools of US$163 (such as those run by the Citizen Foundation and others)	Public schools retain current students at the current unit cost of US$139.85 and absorb all out-of-school children at the unit cost of highly efficient and effective nongovernmental organization schools of US$163	Public schools absorb all out-of-school children and retain current students at the current unit cost plus the quality premium calculated as the difference between the per-unit cost of highly efficient and effective nongovernmental organization schools and low-fee private schools of US$240 + US$28)

Source: World Bank calculations based on multiple data sources. These include annual budget statements, Pakistan Education Statistics, and Pakistan Social and Living Standards Measurement Survey data.

- *Scenario 1.* Business as usual (BaU): The public education system is expanded to include all out-of-school children at the average cost of providing public education (US$240 per child per year, calculated as national education expenditure divided by the number of students in the system).
- *Scenario 2.* Big efficiency gains in public education: The underlying assumption is that the public school system allocates resources inefficiently. Using this assumption, the total per student annual cost drops to US$202. The public school system becomes 25 percent more efficient, providing education to 25 percent of out-of-school children with no addition to total expenditure and incorporates all other out-of-school children into the system at the more efficient average cost per student per year of US$202. This cost provides a benchmark for increased efficiency.
- *Scenario 3.* BaU + out-of-school children enrolled at the average cost of low-fee private schools: The public school system continues to provide the same quality of education for children already in school at the current public school cost per child of US$240 but absorbs all out-of-school children at the unit cost of low-fee private schools of US$107.[22] This scenario is more of a thought experiment to analyze cost and does not imply endorsement. It could also be seen as an efficiency gain scenario, but because of fiscal constraints for the public education sector to provide education to all students at roughly the same level of quality and at the same cost, this scenario is better considered as using the private sector to provide education to all out-of-school children. This is not unrealistic as the experience of Punjab has shown in mobilizing the private sector to accompany the efforts of the public sector.

Employing BaU to bring all out-of-school children into school is expensive and would require boosting annual education investment from 2.5 percent to 4.4 percent of GDP (see table

5.3, scenario 1)—a cost virtually identical to the global median. However, bringing all out-of-school children into school at the prevailing unit cost would be an expensive and inefficient way of expanding a system that is already weak in enrollment and retention.

A big push to enhance public sector efficiency by 25 percent (see table 5.3, scenario 2) to educate out-of-school children (see table 5.3, scenario 3) would cost around 3.5 percent of GDP, a 1 percentage point increase from the current cost. This implies that under prevailing fiscal constraints expanding access to all out-of-school children would be suitable only in scenarios that enhance the efficiency of money allocated within the system.

Improved targeting of pockets of out-of-school children at provincial and district levels to inform evidence-based budgeting, using relevant metrics and results, will be a critical first step toward a more efficient public education system. Current budgeting processes do little to take into account local conditions related to out-of-school children. Mapping targeted pockets of out-of-school children in all provinces would align the budgeting process with local needs and result in more efficient allocation of money against targets, leading to better enrollment results at lower cost.

Employing BaU to bring all out-of-school children into school in each province would require boosting annual education investment from 2.5 percent of GDP to 3.8 percent of GDP; enhancing efficiency by 25 percent or using low-fee private schools would cost around 3 percent of GDP. Provinces operate at different marginal-cost efficiencies. The amount of additional budget allocations required is greatly reduced by accounting for budgets, out-of-school children, enrollment, and unit cost estimates at the provincial level. This shows that targeting at the subnational level is critical for greater effectiveness and efficiency.

These estimates are indicative only and should be interpreted cautiously as lower bounds. The estimates do not capture other factors, including that many out-of-school children are in parts of the country where the average cost of reaching them is higher than the unit cost used in these calculations. These first three scenarios also assume that functioning schools already exist where they are needed (public, private, or both) or that provincial education systems take bold measures to increase access, perhaps by maximizing school infrastructure through double shifts, shorter school days, or other measures that would allow the current supply to respond to the increased demand. Moreover, the large financial push needed for the first three scenarios would result in limited reductions in learning poverty as they do not include improvements in education quality (discussed just below). Under the first three scenarios, learning poverty would fall modestly from 75 percent to 68 percent, despite substantial increases in the education budget.

Educating all children while improving quality

The second three scenarios consider how much it would cost Pakistan to bring all children to school while ensuring a higher level of learning (see table 5.3).

- *Scenario 4.* BaU + improved quality of public education: All out-of-school children are absorbed into the public school system at the average annual cost per student (US$240) plus a premium of US$28 per child per year to improve the quality of public education. This premium is calculated as the midpoint of the difference between the cost of a low-fee private school (US$107) and the cost of highly efficient and effective schools run by nongovernmental organizations such as the Citizens Foundation (US$163).
- *Scenario 5.* BaU + high efficiency + improved quality for out-of-school children: Students in public schools remain at the current cost level (US$240 per child per year), and all out-of-school children are incorporated into the public school system at the cost associated with

schools run by a highly efficient and effective nongovernmental organization (US$163).

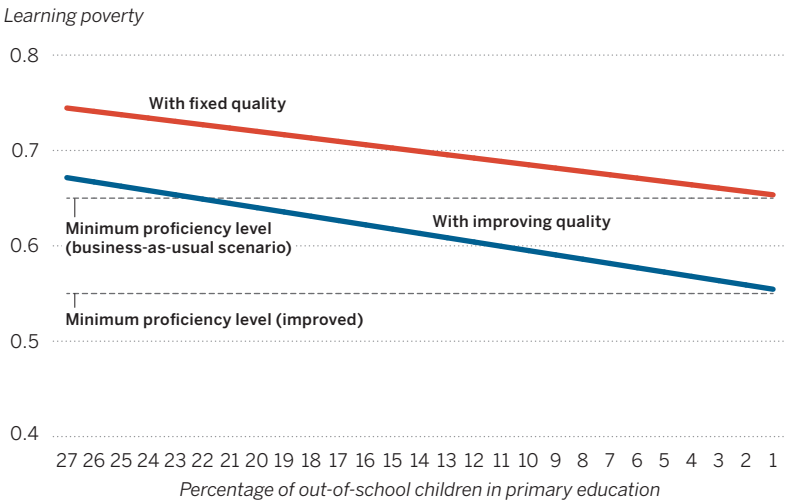
- *Scenario 6.* Higher quality for all children: Students currently attending public schools and all out-of-school children receive an education at the current unit cost plus an added amount calculated as the difference between low-fee private schools and schools run by a highly effective nongovernmental organization (US$28).

Under the BAU + improved quality scenario 4, costs rise by at least an additional 0.5 percentage point of GDP over the simple BaU case. Bringing all children into school under the BaU scenario with an annual per-child quality premium raises needed investment in education to 4.9 percent of GDP, up from 2.5 percent (see table 5.3, scenario 4). The additional cost to improve quality is lower than the cost to provide access for all children.

In the unlikely scenario 5 of BaU + high efficiency + improved quality for all out-of-school children, total expenditure would be 3.8 percent of GDP.

Under scenario 6, the cost would rise to at least 5.4 percent of GDP (up from the current 2.5 percent). This scenario would require large efficiency gains in access and improvements in quality. Employing BaU to bring out-of-school children into school in each province and improve the quality of education would cost around 4.8 percent of GDP for scenario 6. This is 0.6 percentage point lower than a national estimate that does not take different provincial parameters into account. Similarly, using provincial parameters would reduce the cost of scenario 4 to 4.3 percent of GDP and of scenario 5 to 3.4 percent of the GDP.

FIGURE 5.8 **Improving both access and quality reduces learning poverty faster**



Source: World Bank calculations using data from simulation in table 5.3.

Improving education quality, not just expanding access, is essential

Just bringing all children to school but not improving quality will involve significant financial cost, but learning poverty would not decline very much because of the poor quality of current education. Reductions in learning poverty would be limited by the high proportion of students unable to achieve minimum proficiency in reading, which is currently 65 percent in primary education. Under the BaU scenario, investment in education goes from 2.5 percent to 4 percent of GDP, reducing out-of-school children to, say, 1 percent, and learning poverty from 75 percent to 65 percent.

The cost of reducing learning poverty by 10 percentage points could be offset by efficiency gains in public education. How much learning poverty could potentially be decreased is affected by the reading proficiency that students can achieve. For example, reducing the percentage of students performing below the minimum proficiency level in reading by 10 percentage points can reduce learning poverty faster than bringing more out-of-school children into school (figure 5.8). In short, bringing all children into school will not greatly reduce learning poverty because of the low education quality in Pakistan. Investments in reducing the number of out-of-school children must be accompanied by investments in improving the quality of

education to achieve meaningful reductions in learning poverty.

The COVID-19 pandemic is undermining education gains

The COVID-19 pandemic has likely increased the number of out-of-school children and worsened learning poverty in Pakistan, increasing the cost of bringing all children into school and improving the quality of education. As part of a nationwide lockdown beginning in March 2020, Pakistan closed all of its schools, which will have a profound effect on the education system, further eroding already low learning levels. In particular, it is estimated that 1–2.5 million additional children will drop out of school, learning-adjusted years of schooling will decline by one-third to two-thirds of a school year, and learning poverty will rise to at least 79 percent.[23]

Disruption of education during the COVID-19 pandemic will disproportionately affect disadvantaged and hard-to-reach children, including girls and young women. Education inequities are likely to increase due to unequal access to remote learning technology. The full depth and scope of the impacts of the pandemic will depend on its duration, its seasonal characteristics, government and education authorities' resolve, and the financial and technical response to mitigate its effects. Incorporating the estimated impacts of the COVID-19 pandemic on enrollment is likely to substantially raise the cost of enhancing the education system to include more children and provide them with a better education. The increases reflect primarily the additional learning losses, which will increase the number of students who do not achieve minimum proficiency in reading, and, to a lesser extent, the increase in the number of out-of-school children. Preliminary data show learning losses in grades 1–5 in math and language in rural Pakistan due to school closures.[24] Data for the whole country on both dropouts and learning losses has just started to be collected and analyzed.

GIVING CHILDREN A BETTER EDUCATION

This section identifies time-bound priority policies and outlines a framework for them. The policies are designed to support current students in continuing their education and acquisition of life skills—offering "stepping stones" along their education path; and to focus on different groups of out-of-school children—providing "bridges" back into school. These policies are encapsulated in a framework to sustainably reduce the number of out-of-school children and learning poverty more widely. The recommendations below are grounded not only in the realities and experience in Pakistan but also in international evidence as per the Recommendations of the Global Education Evidence Advisory Panel reports.[25]

Building stepping stones and bridges

Pakistan needs to educate all its children to a level that promises them a more productive future. An important first step is to recognize that out-of-school children are not a uniform group. Policies need to be tailored to the characteristics of their different groups to increase impact. Bringing out-of-school children into education or training is a huge challenge. Research suggests that the longer children are out of school, the less likely they are to go to school, especially children who have dropped out.[26] Tackling dropout requires targeted, aggressive, and innovative approaches. Bringing all children into school while also improving learning outcomes and overall education system efficiency is challenging, but it can be done.

Stepping stone 1. Create supportive schools for increased retention

- Focus on foundational skills, in particular early literacy, numeracy, and socioemotional skills. Learning other subjects or skills is harder if students are still struggling to understand what they read, and communicate

appropriately what they know, think, and can do. Conduct a rapid assessment of all early grade reading support initiatives in the country and develop training materials for caregivers of young children, using existing early childhood education curriculum and materials (see chapter 2). The US Agency for International Development, the United Nations Children's Fund, and various nongovernmental organizations have offered early childhood education programs throughout Pakistan for years, and provide important resources and experience with what works, including structured lessons plans with linked materials, and some monitoring of and support to teachers.

- Scale the more effective and efficient approaches and expand them to schools in districts with high dropout rates. Implement programs in the most disadvantaged districts of the country first, to increase school readiness among the most vulnerable.
- Plan for the systematic introduction of formal preschool classrooms with minimum quality standards for later phase-in. Hiring women in the community as caregivers and training them in early childhood education can increase community buy-in while providing income and social status for women.
- To support early literacy, establish school-based libraries and read-at-home kits (for example, Read@Home) that include low-cost story and chapter books in local languages. Prioritizing early childhood education, with a focus on early literacy, through these immediate actions will prepare Pakistan's youngest learners to enter school on time and ready to learn, which can boost enrollment rates and overall education system efficiency.
- Train teachers and school leaders to identify children at risk of dropping out and provide in-school remediation for low-achieving primary school children. To better equip teachers to support all students, pre- and in-service training curricula should instruct teachers how to identify at-risk children and common learning disorders (such as dyslexia) and inform them about available support. International evidence is clear that teachers are the key to student learning outcomes[27] and that strengthening their ability to connect with at-risk students is crucial for decreasing dropout rates.[28] Low-performing students are often the first to drop out of school.[29] Offering in-school remediation to lagging students in districts with the lowest primary–secondary school transition rates will reduce dropout hot spots. Additional resources, in the form of teachers and teaching and learning material, may be needed to support these efforts.

Stepping stone 2. Support households in reducing dropouts

- Continue the expansion and improve the implementation and verification of the education CCT program, increase benefit amounts for secondary school children, and provide dedicated and free transport for middle and secondary school girls and female teachers. The transition to secondary school is a key attendance drop-off point for boys and girls in Pakistan. Providing monetary support and school transport resources directly to families of secondary school–age children can ease these concerns and stem secondary school dropout rates.[30]
- Reduce time to school by refurbishing existing spaces, create and support community schools (with local teachers), and provide materials that have shown to be impactful. Expanding public–private partnerships to middle school and across the country, with strong accountability mechanisms for private schools and ensuring teachers' conditions, can help improve supply of education services wherever public provision is inadequate.
- Improve the overall availability and targeting of CCT programs.[31] CCTs are most effective when payments are directly linked to desired behavior change,[32] for example, predicated on children's enrollment and regular attendance at school.[33] Expanding the CCT to offer nutritious meals and fresh produce in the most disadvantaged villages is a highly effective means of ensuring that children have the

energy to show up in school and learn. Community members can be employed to help with food preparation, including local farmers to provide the food and local women to prepare it.[34]

Bridge 1. Undertake remedial actions for recent dropouts

- Provide additional learning support for students who are re-enrolling after a moderate period of being out of school (less than two years). Support can be provided after school, through one-on-one or small group tutoring during the school day in parallel with regular classes, and through bridging programs held when school is not in session (summer school).
- Partner with school committees and teachers to identify recent dropouts and support their return to school. Identify common reasons for dropout (for example, for girls living in rural areas it might be a lack of transport to school or lack of latrines in the school). Next—and this is key—give school committees the authority and resources to remediate identified issues, with teacher input, perhaps through teacher representatives appointed to the school committees. For example, offer and oversee the use of dedicated grants for two years for students returning to school, predicated on consistent attendance. Re-enrollment campaigns and working with all stakeholders in the community to send children to school can pay off as it did in Punjab with SMS messaging are cost-effective ways of enhancing re-enrollment, particularly after the school closures caused by the COVID-19 pandemic.[35]

Bridge 2. Offer alternative learning pathways for children who have never been to school and for long-term dropouts

- Provide accelerated-learning programs for children who have never been to school or who dropped out. For example, offer digital learning options to educate youth who have some reading skills, primarily in urban areas. Set up computer centers that children can access, where they are able to learn in a safe environment. Local area networks can be set up to keep children safe within the digital space. For example, Idara e-Taleem o-Aagahi's Chalo Parho Barho (Let's Read and Grow) program shows learning gains for children in underperforming districts of Sindh, Punjab, and Balochistan. The program covers grades 2–5 and is open to children in school and out of school. It enables children out of school to enroll (or re-enroll) in an appropriate grade and it helps ensure that children at risk of dropping out of school (because their learning is not progressing) stay in school.[36]
- Introduce basic literacy and numeracy programs, coupled with skills development programs, to prepare older children who have never attended school or are longer-term dropouts for integration into the labor market. Partner with local community organizations and potential employers to meet the needs in the locality. For example, in rural agricultural areas, focus on agricultural skills (such as no-till farming and agri-marketing). In urban centers, partner with humanitarian organizations (such as the Edhi Foundation) to provide safe living conditions for street children, with accelerated learning opportunities, including life skills.
- Build schools in areas where difficult or no access to secondary school is the key reason for dropout. Couple it with the CCTs and a program on safe transportation services for girls and female teachers.
- Hire female teachers to increase enrollment and attendance among adolescent girls.

Reducing the number of out-of-school children and learning poverty more widely

The framework proposed below identifies three types of out-of-school children (never in school, dropped out for less than two years, dropped out for more than two years) and in-school children who are falling behind and recommends

policy packages targeted to the specific needs of each group (table 5.4). Programs are needed not only to bring out-of-school children into school, but also to prevent more children from being out of school. For each group of out-of-school students, proper targeting (by age, gender, household socioeconomic status, urban–rural location, and so on) is fundamental for devising and implementing solutions that will increase learning.

For children of all ages who are already in school, structured pedagogy and report cards and parent–teacher conferences can help keep them there. Pakistan might consider offering its teachers access to structured pedagogy, a coordinated approach to teaching to the right level that includes student materials and teacher lesson plans (including scripted), training, and ongoing support, which are shown to be effective in international studies (Annex 5). Student report cards paired with parent–teacher conferences can also improve student learning. Structured pedagogy and school report cards appear to be cost-effective means of improving student learning once children are in school.

Older children who are in school may benefit from blended-learning options that pair face-to-face classroom learning with online curriculum components. These programs work well when delivered to students through structured online and in-class settings by teachers trained to facilitate this interaction and when they include

TABLE 5.4 Matrix to guide sustainably reducing out-of-school children and learning poverty

	Proposed policies, by age		
	Age 5–9	**Age 10–12**	**Age 13 and older**
Out of school			
Never in school	School outreach to family + in-school remediation + multigrade classrooms	School outreach to family + in-school remediation + bridge program (e.g., summer school) or accelerated skills program	Accelerated skills program + technical and vocational education
Students who dropped out			
Less than one year ago	School outreach to family (identify dropout reasons) + in-school remediation	School outreach to family (identify dropout reasons) + in-school remediation	School outreach to family (identify dropout reasons) + in-school remediation
One to two years ago	School outreach to family (identify dropout reasons) + at-home reading materials + in-school remediation	School outreach to family (identify dropout reasons) + in-school remediation or accelerated skills program	School outreach to family (identify dropout reasons) + in-school remediation or accelerated skills program
More than two years ago	School outreach to family + at-home reading materials + in-school remediation	School outreach to family + in-school remediation + bridge program (e.g., summer school) or accelerated skills program	Accelerated skills program + technical and vocational education
At-risk students in school			
Started on time	Structured pedagogy	Teacher training to identify at-risk students + structured pedagogy + school report cards/parent–teacher meetings	Teacher training to identify at-risk students + structured pedagogy + school report cards/parent–teacher meetings
Overage by one to two years	Multigrade classrooms + structured pedagogy + at-home reading materials	Structured pedagogy + blended learning options	Structured pedagogy + blended learning options
Overage by two or more years	Multigrade classrooms + structured pedagogy + at-home reading materials	Structured pedagogy + blended learning options	Structured pedagogy + blended learning options

Source: Developed based on insights from Evans and Popova (2016), Evans and Yuan (2019), and World Bank (2018, 2020e).

some student control over time, place, path, or pace. With blended learning, classroom and online experiences are tailored to reinforce one another.[37]

For children who dropped out less than two years ago, in-school remediation can support curricular catch-up, including one-on-one and small-group tutoring. One-on-one and small-group support are proven catalysts for accelerated learning. Tutoring has the greatest impact on reading abilities in the early years (especially in kindergarten and first grade) and on math in later grades. Tutoring conducted during school hours is more effective than tutoring after school and tutoring by teachers or paraprofessionals is more effective than tutoring by volunteers or parents.[38]

For children who have been out of school for more than two years, bridge programs may be necessary to help them catch up on the curriculum. Key considerations for policymakers include the need to plan early, provide program and staffing continuity from year to year, and integrate summer teaching with staff development.[39]

For older children and youth who have never been to school, accelerated skills programs focusing on functional literacy and numeracy, and on professional and life skills training, are important for developing basic human capital. Training programs such as the Jóvenes programs in Latin America have demonstrated success in reaching vulnerable youth and in improving their formal employment opportunities and earnings.[40] If needed, accelerated skills programs could be followed by more formal, longer-term technical and vocational education and training options.

CONCLUSION AND RECOMMENDATIONS

The population of out-of-school children broadly comprises three distinct groups, each with different needs, and policies need to be tailored to maximize impact. The youngest out-of-school children (age 5–9), around half of the total (9.5 million), have the most straightforward needs: access to schools, a caring teacher in front of the classroom, and perhaps a nudge to parents from the community to enroll their children in school. But children who are in school and at risk of dropping out (typically age 8–16) often require additional learning support, to make sure that parents see the value of keeping their child in school. As the labor and marriage markets start pulling older children away from school, parents may need incentives that reduce their cost of sending children to school, such as stipends. Older children who have never been to school require specific literacy interventions and short-term skills training to help them become literate and obtain job-related skills.

Based on the analysis in this chapter and global best practices, policy and programming recommendations include:

Expand the supply of safe schools so that every child has a guaranteed seat in school

- *Prioritize public sector provision and public–private partnerships.* Strong controls on providers to guarantee school outcomes, along with the safety and welfare of students and teachers, are paramount to get and keep children in school. Clean water and basic WASH facilities, including safe bathrooms, must be present in all schools.
- *Rehabilitate and build schools where they are needed.* School and classroom construction is particularly important in areas where difficult or no access to school is a key reason for dropout. This has been successful in parts of Balochistan, where abandoned public buildings have been adapted and made adequate for service provision of education.
- *Hire more qualified (especially female) teachers based on merit to increase enrollment and attendance among adolescent girls.* Like girls,

female teachers may require safe and dedicated transport to reach schools, particularly in remote areas. Parents often see female teachers as an indicator of security for young girls.

Support households to increase enrollment and reduce dropouts

- *Expand the education CCT program to both boys and girls and provide dedicated and free transport for secondary school girls.* Direct provision of monetary support and safe school transport can ease families' concerns, increasing enrollment and reducing dropouts. CCTs are most effective when payments are directly linked to children's enrollment and regular attendance at school. In the most disadvantaged districts, adding a premium for food or food vouchers can offset families' need for children to participate in household or paid work, freeing resources for the education required to build human capital.
- *Raise awareness about the importance of education, particularly for girls.* Community approaches that bring parents, and other household and community members into advocating for and facilitating girls' access to education and security from home to school can increase education demand. More research is needed on measuring and shifting social norms around girls' education. This work includes sharing information on returns to education and the value of education for all for human capital development.

Prioritize literacy to increase retention, and enable human capital accumulation

- *Develop literacy training materials for caregivers and teachers* of young children, using existing curriculum and materials.
- *Conduct a rapid assessment* of all reading initiatives across Pakistan.
- *Draw on existing initiatives.* Government, nongovernmental organizations, and development partners have offered early reading programs throughout Pakistan for years that can provide important resources and implementation experiences.
- *Direct support to teachers.* Structured pedagogy and training in teaching at the right level have shown positive impacts on children's literacy levels.
- *Train teachers and school leaders to identify children at risk of dropping out and provide in-school remediation centered on foundational learning and numeracy.* Low-performing students are often the first to drop out of school. International evidence is clear that teachers are key to student learning outcomes and strengthening their ability to connect with at-risk students is crucial for decreasing dropout rates. To better equip teachers to support students, preservice and in-service training curricula should instruct teachers how to identify at-risk children and common learning disorders (such as dyslexia), informing them of available support.
- *Introduce basic literacy and numeracy programs,* coupled with skills development programs, to prepare older children who have never attended school or are longer-term dropouts for integration into the labor market. Partner with local community organizations and potential employers to meet the needs in the locality.

NOTES

1. Estimates of children out of school range between 18.7 million and 20.7 million depending on different sources of data and different simulation exercises. The estimates used here are based on census data from 2017.
2. PSLM 2018–2019.
3. PSLM 2018–2019.
4. This estimation comes from information from a phone survey carried out by the World Bank in January 2021.
5. UNESCO 2019.
6. The Education 2030 Framework for Action proposes two benchmarks as crucial reference points: allocate at least 4–6 percent of GDP to education and/or allocate at least 15–20 percent of public expenditure to education.
7. This is triangulated with the age cohort findings of the national population census conducted in 2017. The results are based on the population age 5–16.
8. Alif Ailaan 2014. Alif Ailaan was a national education campaign in Pakistan that worked on mainstreaming education data to raise education quality and decrease the incidence of out-of-school children with support from the UK Foreign, Commonwealth and Development Office.
9. Trako et al. 2020.
10. Pakistan Education Statistics 2016–2017.
11. UNESCO Institute for Statistics 2020.
12. Jamal (2016) led participants through a two-round Delphi exercise, followed by in-depth qualitative interviews.
13. Human Rights Watch 2018; Trako et al. 2020.
14. The education participation rate is the number of children attending any type of school (government, private, madrassas, other) expressed as a percentage of the total number of children in the 5–16 age group during a given school year.
15. Burde and Linden 2013; Duflo 2001.
16. Human Rights Watch 2018; Trako et al. 2020.
17. Eyal, Woolard, and Burns 2014.
18. Numbers in this paragraph are based on April 20, 2021, exchange rates.
19. World Bank 2019a.
20. Herrera and Ouedraogo (2018) used both Free Disposable Hull and Data Envelopment Analysis methods in their analysis.
21. World Bank 2018.
22. Information from Punjab suggests that low-fee private schools provide roughly the same level of education quality as public schools but at a much lower cost per student. This is a thought exercise. Pakistan's current private school sector cannot achieve this at today's human and physical capacity. It would need to expand. In essence, neither public nor private schools, or a combination of the two, have the ability to absorb all of Pakistan's out-of-school children. More capacity will need to be created.
23. World Bank 2020c.
24. ITA 2021.
25. Word Bank 2020d, 2022e.
26. OECD 2020.
27. See, for instance, Hanushek and Rivkin (2006).
28. Dinu 2015.
29. Rumberger 2001.
30. Large distances significantly limit enrollment and attendance, particularly for girls (Theunynck and Rabakoson 2017). In a review of 58 randomized controlled trial studies of presecondary schools in 28 low- and middle-income countries in Africa, Asia, and Latin America, J-PAL (2017, Roll Call: Getting Children into School. p. 11) found that "when school is far away, reducing travel time can help boost participation. This can be particularly important for girls and in areas where security is an issue."
31. Evans and Yuan 2019.
32. In Malawi, conditional and unconditional cash transfers to girls who had dropped out of school raised enrollment and English reading comprehension. Enrollment effects were almost twice as large among CCT recipients as among unconditional cash transfer recipients. Reading comprehension also increased more in the CCT group (Baird et al. 2016).
33. Baird et al. 2016.
34. Drake et al. 2016; WFP 2020.
35. Hasan et al. 2021.
36. https://www.itacec.org/CPB-(Accelerated-Learning-Programme).

37. Horn and Staker 2011, 2012.
38. Nickow, Oreopoulos, and Quan 2020.
39. Harris 2001.
40. The Jóvenes programs offer poor youth training in professional and life skills, followed by workplace internships. Based on a pilot in Chile in the early 1990s, this comprehensive approach to training has spread throughout Latin America, with countries tailoring the program to their needs. Usually, disadvantaged youth are identified through out-of-work and out-of-school statistics, socioeconomic data, and poverty mapping. Qualified private firms, nongovernmental organizations, public institutions, and training agencies then provide training on a competitive basis. Before receiving government funds for training, providers are required to arrange internships for trainees and to ascertain what kinds of skills local employers need. Life skills training focuses on problem-solving skills, workplace behavior, conflict management, job search techniques, and self-esteem (González-Velosa, Ripan, and Shady 2012; Ibarrarán and Shady 2009).

REFERENCES

Adukia, A. 2017. "Sanitation and Education." *American Economic Journal: Applied Economics* 9 (2): 23–59. https://www.aeaweb.org/articles?id=10.1257/app.20150083.

Aikman, S., and P. Pridmore. 2001. "Multigrade Schooling in 'Remote' Areas of Vietnam." *International Journal of Educational Development* 21 (6): 521–536.

Alif Ailaan. 2014. "25 Million Broken Promises: The Crisis of Pakistan's Out-of-school Children." Islamabad: Alif Ailaan.

Andrabi, T., J. Das, and A. Khwaja. 2013. "Students Today, Teachers Tomorrow: Identifying Constraints on the Provision of Education." *Journal of Public Economics* 100 (1): 1–14.

Andrabi, T., J. Das, and A. Khwaja. 2017. "Report Cards: The Impact of Providing School and Child Test Scores on Educational Markets." *American Economic Review* 107 (6): 1535–63. https://www.aeaweb.org/articles?id=10.1257/aer.20140774.

Baird, S., E. Chirwa, J. De Hoop, and B. Özler. 2016. "Girl Power: Cash Transfers and Adolescent Welfare. Evidence from a Cluster-randomized Experiment in Malawi." In S. Edwards, S. Johnson, and D. N. Weil (eds.), *African Successes, Volume II: Human Capital*. Chicago, IL: University of Chicago Press. https://www.nber.org/papers/w19479.

Banerjee, A., P. Glewwe, S. Powers, and M. Wasserman. 2013. "Expanding Access and Increasing Student Learning in Post-primary Education in Developing Countries: A Review of the Evidence." Post-Primary Education Initiative Review Paper, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA.

Behrman, J., S. Khan, D. Ross, and R. Sabot. 1997. "School Quality and Cognitive Achievement Production: A Case Study for Rural Pakistan." *Economics of Education Review* 16 (2): 127–142.

Benhassine, N., F. Devoto, E. Duflo, P. Dupas, and V. Pouliquen. 2015. "Turning a Shove into a Nudge? A 'Labeled Cash Transfer' for Education." *American Economic Journal: Economic Policy* 7: 86–125. https://www.nber.org/papers/w19227.

Bruns, B., and J. Luque. 2014. *Great Teachers: How to Raise Student Learning in Latin America and the Caribbean*. Washington, DC: World Bank.

Burde, D., and L. Linden. 2013. "Bringing Education to Afghan Girls: A Randomized Controlled Trial of Village-based Schools." *American Economic Journal: Applied Economics* 5: 27–40. https://www.aeaweb.org/articles?id=10.1257/app.5.3.27.

Charnes, A., W. W. Cooper, and E. Rhodes. 1978. "Measuring the Efficiency of Decision Making Units." *European Journal of Operational Research* 2 (6): 429–444.

Chetty, R., J. N. Friedman, and J. E. Rockoff. 2011. "The Long-Term Impacts of Teachers: Teacher Value-Added and Student Outcomes in Adulthood." Working Paper 17699, National Bureau of Economic Research, Cambridge, MA.

Conn, K. 2014. *Identifying Effective Education Interventions in Sub-Saharan Africa: A Meta-analysis of Rigorous Impact Evaluations*. Unpublished manuscript, Columbia University, New York.

Dinu, B. 2015. "Impact of Teacher-Student Communication on 'High-Risk Dropout' Students." Human Development and Sciences, Ochanomizu University, Bunkyoku, 112–8610, 2–1-2 Otsuka, Tokyo, Japan. https://core.ac.uk/download/pdf/234682592.pdf.

Drake, L., A. Woolnough, C. Burbano, and D. Bundy. 2016. *Global School Feeding Sourcebook: Lessons from 14 Countries*. Singapore: World Scientific. https://documents.wfp.org/stellent/groups/public/documents/communications/wfp284904.pdf.

Duflo, E. 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review* 91 (4): 795–813.

Duflo, E., P. Dupas, and M. Kremer. 2017. "The Impact of Free Secondary Education: Experimental Evidence from Ghana." Working Paper, Massachusetts Institute of Technology, Cambridge, MA. http://www.poverty-action.org/publication/returns-secondary-education-unpacking-delivery-senior-secondary-schooling-ghana.

Edmonds, E., and M. Shrestha. 2014. "You Get What You Pay for: Schooling Incentives and Child Labor." *Journal of Development Economics* 111: 196–211. https://www.nber.org/papers/w19279.

Eridani, T. 2020. "Online Tutoring Improves Disadvantaged School Pupils Performance and Wellbeing in Lockdown." News Release, EurekAlert, 15 July. https://www.eurekalert.org/news-releases/806598.

Evans, D., and A. Mendez Acosta. 2020. "Education in Africa: What Are We Learning?" Working Paper 542, Center for Global Development, Washington, DC. https://www.cgdev.org/sites/default/files/education-africa-what-are-we-learning.pdf.

Evans, D., and A. Popova. 2016. "What Really Works to Improve Learning in Developing Countries? An Analysis of Divergent Findings in Systematic Reviews." *The World Bank Research Observer* 31 (2). https://openknowledge.worldbank.org/handle/10986/29308.

Evans, D., and F. Yuan. 2019. "What We Learn about Girls' Education from Interventions that Do Not Focus on Girls." Policy Research Working Paper 8944, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/32128.

Eyal, K., I. Woolard, and J. Burns. 2014. "Cash Transfers and Teen Education: Evidence from South Africa." Unpublished Report.

Filmer, D., and N. Schady. 2011. "Does More Cash in Conditional Cash Transfer Programs Always Lead to Larger Impacts on School Attendance?" *Journal of Development Economics* 96 (1): 150–157.

Garcia, S., and J. Saavedra. 2017. "Educational Impacts and Cost-Effectiveness of Conditional Cash Transfer Programs in Developing Countries: A Meta-analysis." Working Paper 23594, National Bureau of Economic Research, Cambridge, MA.

Garn, J., L. Greene, R. Dreibelbis, S. Saboori, R. Rheingans, and M. Freeman. 2013. "A Cluster-randomized Trial Assessing the Impact of School Water, Sanitation and Hygiene Improvements on Pupil Enrolment and Gender Parity in Enrolment." *Journal of Water Sanitation and Hygiene for Development* 3: 592–601. https://iwaponline.com/washdev/article-abstract/3/4/592/30334/A-cluster-randomized-trial-assessing-the-impact-of?redirectedFrom=fulltext.

Glewwe, P. W., E. A. Hanushek, S. D. Humpage, and R. Ravina. 2014. "School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010." In P. Glewwe (ed.), *Education Policy in Developing Countries*. Chicago, IL: University of Chicago Press. https://doi/org/10.3386/w17554.

Global Education Evidence Advisory Panel. 2020. "Cost-Effective Approaches to Improve Global Learning: What Does Recent Evidence Tell Us Are 'Smart Buys' for Improving Learning in Low- and Middle-income Countries?" World Bank. https://documents1.worldbank.org/curated/en/719211603835247448/pdf/Cost-Effective-Approaches-to-Improve-Global-Learning-What-Does-Recent-Evidence-Tell-Us-Are-Smart-Buys-for-Improving-Learning-in-Low-and-Middle-Income-Countries.pdf.

González-Velosa, C., L. Ripan, and D. R. Shady. 2012. "How Can Job Opportunities for Young People in Latin America be Improved?" Labor Markets and Social Security Unit (SCL/LMK), Technical Notes IDB-TN-345, Inter-American Development Bank, Washington, DC.

Graham, J., and S. Kelly. 2018. *How Effective Are Early Grade Reading Interventions? A Review of the Evidence*. Washington, DC: World Bank. https://doi.org/10.1596/1813-9450-8292.

Hanushek, E., and S. Rivkin. 2006. "Teacher Quality." In *Handbook of the Economics of Education, Volume 2*. Elsevier.

Hasan, Amer; Geven, Koen; Tahir, Ayesha. 2021. SMS Girl Data Insights: How Has COVID-19 Affected Support

for Girls' Education in Punjab, Pakistan?. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/35477 License: CC BY 3.0 IGO

Harris, C. 2001. "Summer School: Research-Based Recommendations for Policymakers." SERVE (South Eastern Regional Vision for Education) Policy Brief, National Institute on the Education of At-Risk Students, Office of Educational Research and Improvement, Department of Education, Washington, DC. https://files.eric.ed.gov/fulltext/ED456557.pdf.

Herrera, S., and A. Ouedraogo. 2018. "*Efficiency of Public Spending in Education, Health, and Infrastructure: An International Benchmarking Exercise*." Policy Research Working Paper 8586, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/30431.

Horn, M., and H. Staker. 2011. *The Rise of K-12 Blended Learning*. Lexington, MA: Innosight Institute.

Horn, M., and H. Staker. 2012. *Classifying K-12 Blended Learning*. Lexington, MA: Innosight Institute.

Human Rights Watch. 2018. "Shall I Feed my Daughter, or Educate Her? Barriers to Girls' Education in Pakistan." 12 November. https://www.hrw.org/report/2018/11/12/shall-i-feed-my-daughter-or-educate-her/barriers-girls-education-pakistan.

Ibarrarán, P., and D. Shady. 2009. "Evaluating the Impact of Job Training Programs in Latin America: Evidence from IDB Funded Operations." *Journal of Development Effectiveness* 1 (2): 195–216.

International Education News. 2019. "Expanding to Say "Yes": The Ongoing Work of The Citizens Foundation in Pakistan (Part 1 of 2)." 1 May. https://internationalednews.com/2019/05/01/expanding-to-say-yes-the-ongoing-work-of-the-citizens-foundation-in-pakistan-part-1-of-2/.

Islam, A. 2019. "Parent–Teacher Meetings and Student Outcomes: Evidence from a Developing Country." *European Economic Review* 111: 273–304. https://www.theigc.org/wp-content/uploads/2016/10/Islam-2016-working-paper.pdf.

Jamal, A. 2016. "Why He Won't Send His Daughter to School—Barriers to Girls' Education in Northwest Pakistan: A Qualitative Delphi Study of Pashtun Men." *SAGE Open*. doi:10.1177/2158244016663798

J-PAL (Abdul Latif Jameel Poverty Action Lab). 2017. "Roll Call: Getting Children into School." J-PAL Policy Bulletin, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA. https://www.povertyactionlab.org/publication/roll-call-getting-children-school.

Kim, J., H. Alderman, and P. Orazem. 1999. "Can Private School Subsidies Increase Enrollment for the Poor? The Quetta Urban Fellowship Program." *The World Bank Economic Review* 13: 443–65. https://elibrary.worldbank.org/doi/10.1093/wber/13.3.443.

Kremer, M., E. Miguel, and R. Thornton. 2009. "Incentives to Learn." *The Review of Economics and Statistics* 91: 437–56. https://dash.harvard.edu/handle/1/3716457.

Krishnaratne, S., H. White, and E. Carpenter. 2013. "Quality Education for All Children: What Works in Education in Developing Countries. 3ie Working Paper 20, International Initiative for Impact Evaluation. https://www.3ieimpact.org/evidence-hub/publications/working-papers/quality-education-all-children-what-works-education.

Le, H. M. 2018. "Another Textbook Project? The Implementation of Escuela Nueva in Vietnam." *Educational Research for Policy and Practice* 17: 223–239. https://doi.org/10.1007/s10671-018-9230-x.

Lim, B., K. Lee, and C. Lee. n.d. "Free Disposal Hull (FDH) Analysis for Efficiency Measurement: An Update to DEA." *The Stata Journal*. https://www.cgdev.org/sites/default/files/archive/doc/stata/MO/DEA/free_disposal_hull.pdf.

Lim, J., and J. Meer. 2017a. "The Impact of Teacher–Student Gender Matches: Random Assignment Evidence from South Korea." *Journal of Human Resources* 52 (4): 979–997. http://jhr.uwpress.org/content/52/4/979.abstract.

Lim, J., and J. Meer. 2017b. "Persistent Effects of Teacher–Student Gender Matches." Working Paper 24128, National Bureau of Economic Research, Cambridge, MA.

Macdonald, K., and B. T. Vul. 2018. "A Randomized Evaluation of a Low-Cost and Highly Scripted Teaching Method to Improve Basic Early Grade Reading Skills in Papua New Guinea." Education Global Practice, Policy Research Working Paper 8427, World Bank, Washington, DC. https://openknowledge.worldbank.org/bitstream/handle/10986/29833/WPS8427.txt?sequence=2&isAllowed=y.

Maluccio, J., A. Murphy, and F. Regalia. 2010. "Does Supply Matter? Initial Schooling Conditions and the Effectiveness of Conditional Cash Transfers for Grade Progression in Nicaragua." *Journal of Development Effectiveness* 2: 87–116. https://www.researchgate.net/publication

/228877017_Does_supply_matter_Initial_schooling_conditions_and_the_effectiveness_of_conditional_cash_transfers_for_grade_progression_in_Nicaragua.

McEwan, P. 2012. "Improving Learning in Primary Schools of Developing Countries: A Meta-analysis of Randomized Experiments." *Review of Educational Research* 20 (10): 1–42.

Murnane, R. J., and A. J. Ganimian. 2014. "Improving Educational Outcomes in Developing Countries: Lessons from Rigorous Evaluations." Working Paper 20284, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/papers/w20284.pdf.

Nickow, A., P. Oreopoulos, and V. Quan. 2020. "The Impressive Effects of Tutoring on PreK–12 Learning: A Systematic Review and Meta-analysis of the Experimental Evidence." Working Paper 27476, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/papers/w27476.

OECD (Organisation for Economic Co-operation and Development). 2020. "The Impact of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students during School Closures and School Re-openings." Paris: OECD Publishing. https://www.oecd.org/coronavirus/policy-responses/the-impact-of-covid-19-on-student-equity-and-inclusion-supporting-vulnerable-students-during-school-closures-and-school-re-openings-d593b5c8/.

Oreopoulos, P. 2020. "Scale Up Tutoring to Combat COVID Learning Loss for Disadvantaged Students." *Scientific American,* 24 November. https://www.scientificamerican.com/article/scale-up-tutoring-to-combat-covid-learning-loss-for-disadvantaged-students/.

Pakistan Education Statistics. 2016–17. National Education Management Information System (NEMIS), Academy of Educational Planning and Management (AEPAM), Pakistan.

Piper, B., and K. Medina. 2010. "Early Grade Reading Assessment (EGRA) Plus: Liberia. Program Evaluation Report." RTI International. https://files.eric.ed.gov/fulltext/ED516080.pdf.

Psacharopoulos, G., C. Rojas, and E. Velez. 1993. "Achievement Evaluation of Colombia's Escuela Nueva: Is Multigrade the Answer?" *Comparative Education Review* 37 (3): 263–276.

RTI. 2020. "Structured Pedagogy Literature Review." https://scienceofteaching.s3.eu-west-3.amazonaws.com/index.html#/lessons/qRcSj0b2yqminRXJh7cSd_2tkJc-0blC.

Rumberger, R. 2001. *Why Students Drop Out of School and What Can be Done*. University of California: Santa Barbara, CA.

Sperling, G. B., and R. Winthrop. 2015. *What Works in Girls' Education: Evidence for the World's Best Investment*. Washington, DC: Brookings Institution Press.

Suryadarma, D., A. Suryahadi, S. Sumarto, and H. Rogers. 2006. "Improving Student Performance in Public Primary Schools in Developing Countries: Evidence from Indonesia." *Education Economics* 14 (4): 401–429.

The Economist. 2020. "England's Catch-up Tutoring Programme Has Bold Ambitions." 5 November. https://www.economist.com/britain/2020/11/05/englands-catch-up-tutoring-programme-has-bold-ambitions.

Theunynck, S., and H. Rabakoson. 2017. "School Construction for Basic Education in Burundi." School Construction Study, World Bank, Washington, DC. http://documents1.worldbank.org/curated/en/751581498759557305/pdf/P161127-06-29-2017-1498759550576.pdf.

Thomas, C., and C. Shaw. 1992. "Issues in the Development of Multigrade Schools." Technical Paper 172, World Bank, Washington, DC.

Trako, E., J. Baron, M. Bend, and N. Ejaz. 2020. *Barriers to Girls' Education in Pakistan: Special Section on the Potential Impact of COVID-19*. Washington, DC: World Bank.

UNESCO (United Nations Educational, Scientific and Cultural Organization) Institute for Statistics. 2018. "Out-of-School Children and Youth." Fact Sheet 48, UNESCO, Paris. http://uis.unesco.org/en/topic/out-school-children-and-youth.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2019. *Global Education Monitoring Report*. Paris: UNESCO. https://en.unesco.org/gem-report/.

UNESCO (United Nations Educational, Scientific and Cultural Organization) Institute for Statistics. 2020. "Educational Attainment, at Least Completed Upper Secondary, Population 25+, Female (%) (Cumulative) – Pakistan." Paris: UNESCO. https://data.worldbank.org/indicator/SE.SEC.CUAT.UP.FE.ZS?locations=PK.

UNICEF (United Nations Children's Fund). 2022. *Are Children Really Learning? Exploring foundational skills in the midst of a learning crisis.* New York: UNICEF. https://www.unicef.org/press-releases/23-countries-yet-fully-reopen-schools-education-risks-becoming-greatest-divider.

WFP (World Food Programme). 2020. *State of School Feeding Worldwide 2020*. Rome: WFP. https://www.wfp.org/publications/state-school-feeding-worldwide-2020

World Bank. 2018. *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/28340.

World Bank. 2019a. *Ending Learning Poverty: What Will It Take?* Washington, DC: World Bank.

World Bank 2019b. *South Asia Economic Focus, Fall 2019: Rethinking Decentralization*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1515-7.

World Bank. 2020c. *Learning Losses in Pakistan Due to COVID-19 School Closures: A Technical Note on Simulation Results*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/34659.

World Bank. 2020d. *Cost-Effective Approaches to Improve Global Learning. Recommendations of the Global Education Advisory Panel.* Washington, DC: World Bank.

World Bank. 2022e. *Prioritizing Learning During Covid-19: The Mos Effective Ways to Keep Children Learning During the Post-Pandemic. Recommendations of the Global Education Advisory panel.* Washington, DC: World Bank.

World Bank. Forthcoming. *Barriers to Girls' Education in Pakistan*. Washington, DC: World Bank.

6

Improving labor market outcomes of the poor

SUMMARY

There is a close relationship between human capital and labor market outcomes of the poor. Poorer households not only lag in human capital outcomes but also invest far less in absolute terms in education and health than wealthier households. Investments in poor people's human capital and labor market outcomes are self-reinforcing. Boosting incomes and livelihoods of the poor is thus critical for strengthening human capital. In Pakistan, women, youth, and the less-educated generally have far poorer labor market outcomes, and women and vulnerable groups tend to suffer more from shocks, such as the COVID-19 pandemic and climate change.

In Pakistan, women's labor force participation rate (LFPR) is low, at just over 20 percent (and even lower for women age 15–24), while men's is 80 percent. And 60 percent of working-age women are not in employment, education, or training (NEET), against only 6 percent of working-age men. Social norms, limited mobility, and widespread safety concerns are associated with women's inability to be in the labor force. Other factors that hinder women's economic activities include biases in hiring decisions and additional costs that employers may pay for segregated spaces and restrooms.

Gaps are substantial in the earnings of women and of informal sector workers. Formally wage-employed females, informally wage-employed males, and formally wage-employed males earn substantial premia for being formally employed or for being male (regardless of formality status). The gender gaps are even more glaring since informally wage-employed women are only slightly less educated than men, and formally wage-employed women are far better educated than formally wage-employed men.

Boosting the human capital of the poor, especially against shocks like the COVID-19 pandemic, requires interventions over the life cycle to ensure long-term livelihood gains. Safety net programs that augment cash transfers with other services, often called cash-plus programs —in addition to other poverty-targeted economic inclusion programs that combine social assistance with measures to boost productivity—are essential for improving the livelihoods of the poor, their human capital, and their productivity. For households not poor enough to receive cash transfers, seed capital, microfinance, and technical and business management skills training could be more relevant. Support to the self-employed could include business management training, paired with other complementary interventions. Tackling additional constraints faced by women will need to be carefully integrated into the design of interventions and with flexibility to address the challenges women may face. In this regard, new programs need to clearly identify specific targets. Identifying potential beneficiaries can be done using tried and tested existing national systems such as the National Socio-Economic Registry and poverty scorecards used by other public programs such as the Benazir Income Support Program (BISP).

INTRODUCTION

Investments in human capital and labor market outcomes are self-reinforcing. For example, an additional year of school generates higher earnings on average. Ensuring access to quality

education boosts cognitive and socioemotional skills, which enlarges human capabilities. And good health increases workers' productivity. These individual returns to human capital generate substantial benefits for the wider economy—greater affluence and thus accelerated poverty reduction—helping break the intergenerational transmission of poverty. But Pakistan's Human Capital Index (HCI) value of 0.41 suggests that a child born in Pakistan today will, by age 18, be only 41 percent as productive as she would have been if she had received adequate investments in education and health.[1] That puts the human capital of the next generation of Pakistani workers lower than the global average of 56 percent and the average for South Asia of 48 percent.

The problem is that poorer households are often unable to invest enough in human capital, so they lag in human development outcomes, contributing to the persistence of intergenerational poverty. For example, households in the bottom consumption quintile in Pakistan spend PKR 196 per month on education, those in the top quintile, PKR 3,728; the equivalent figures for health are PKR 765 and PKR 1,623.[2] As their incomes rise, households tend to invest more in health and education, with high income elasticities of education spending, especially for poorer households, and associations between household wealth and out-of-pocket (OOP) health spending.[3] OOP health spending in Pakistan accounts for 56.2 percent of total health spending on average.[4] In a study of OOP health spending in *katchi abadis* (urban informal settlements) in Islamabad, 86 percent of households had to bear such expenses, either by borrowing money from a neighbor or a relative or by selling household belongings to treat children under 5.[5] Such expenses can drain the finances of poor households.

The chapter builds on the relationship between human capital and labor market outcomes for the poor and reviews some of the few programs currently active for addressing the needs of the poor. It describes the headline labor market indicators and illustrates their broad variation across different segments of the labor force. It describes some of the key employment patterns of the poor and puts a spotlight on the prominence of the informal sector and the impact of the COVID-19 pandemic (box 6.1). The chapter then reviews the global evidence on programs that could both boost the human capital of the poor and improve their earnings to enable them to invest more in human capital. It also reviews the few prominent programs that may be relevant in this area and illustrates some entry points for new programs in Pakistan.

LOW UNEMPLOYMENT BUT POORER LABOR MARKET OUTCOMES FOR YOUTH, WOMEN, AND THE LESS EDUCATED

Low unemployment masks structural challenges for the vulnerable groups

Pakistan's unemployment rate, at 3.1 percent, is relatively low and similar to those in developing countries with high poverty rates (figure 6.1). Average unemployment rates are substantially lower in developing countries than in rich countries (2.5 percent in the poorest quartile of the world income distribution compared with 8 percent on average).[6] Since people are too poor to have the luxury of not working, most less-skilled workers in developing countries choose self-employment activities and cannot afford to be unemployed.[7]

Gender gaps are wide

Despite similar unemployment rates among women and men, Pakistan's labor market shows large gender gaps—a low LFPR among women and high rates of women NEET (figure 6.2). The LFPR among men, at 80 percent, is a startling 60 percentage points higher than that for women. On the NEET rate, the gender gap remains huge, with 60 percent of working-age

BOX 6.1

The COVID-19 pandemic has adversely affected Pakistan's labor market through a sudden drop in labor demand and an increase in unemployment

Against the same period in 2019, the number of job advertisements in Pakistan plunged by 76 percent in mid-March 2020, when the national lockdown was introduced.[1] Traditionally male-dominated industries were more resilient than industries where female employment is concentrated. Of businesses that responded to the survey, 32 percent experienced business closures, and of the firms that remained open, 51 percent reduced their working hours.

A COVID-19 impact survey by the Pakistan Bureau of Statistics suggests that almost half of the working population was severely affected by the business closures and lockdown.[2] Notably, 74 percent of the affected were daily wage earners, mainly in construction, and own-account workers in non-agriculture who either lost their jobs or saw their income reduced, suggesting that social protection programs need to cover these workers. By industry, 80 percent of workers in construction and 72 percent in manufacturing were hit the most by temporary business closures in April–July 2020.

The employment share fell from 65 percent to 51 percent, while the share who were looking for jobs increased by 20 percentage points, after the onset of the COVID-19 pandemic.[3] About 52 percent of those who reported working before the pandemic were not working in July–August 2020. Of this group, 46 percent experienced permanent layoffs, 13 percent temporary layoffs, and 26 percent cuts in salary or working hours. About 68 percent of females and 61 percent of males faced income reductions due to work loss.

A Gallup survey in 2020 found that 57 percent of Pakistani workers saw their wages cut, 54 percent had their working hours lowered, and 52 percent stopped working temporarily.[4]

These sweeping job losses had disproportional impacts on women and other vulnerable groups in the informal sector. The Pakistan Institute of Development Economics in April 2020 estimated that the share of vulnerable employment—among own-account workers, daily wage earners, and unpaid family workers—was around 56 percent (52 percent among males and 71 percent among females). It inevitably hit those working in agriculture, where more than 80 percent are in vulnerable employment. Most of the layoffs in all provinces were likely be among daily wageworkers and workers paid piece rates.[5]

Notes

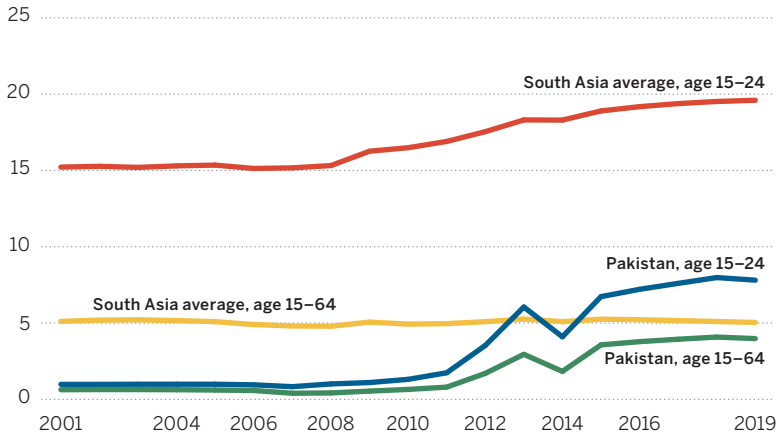
1. Tas et al. 2021.
2. Pakistan Bureau of Statistics 2020.
3. Ray 2021.
4. Tas et al. 2021
5. Nasir and Faraz 2020.

women being NEET against only 6 percent of working-age men. These gaps persist among the younger age cohort (age 15–24).

Pakistan's female LFPR ranks among the lowest globally. The overall LFPR has been relatively stable since 2001, at 52–55 percent for all age cohorts and 41–43 percent for youth (age 15–24). The LFPR for Pakistan as a whole remains comparable to the South Asia average (figure 6.3). However, Pakistan's female LFPR is only 22.2 percent for women age 15–64 and even lower for women age 15–24, in contrast to the female LFPR in other Asian economies. For example, the LFPR for young Bangladeshi women age 15–24 was 26.3 percent in 2018,

FIGURE 6.1 Pakistan's unemployment before the COVID-19 pandemic was generally much lower than the regional average

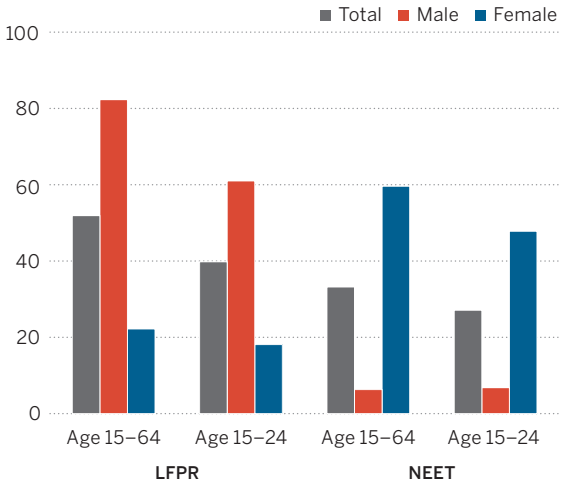
Unemployment rate, by age cohort, Pakistan and South Asia (percent)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.

FIGURE 6.2 Pakistan's labor force participation rate shows wide gender gaps

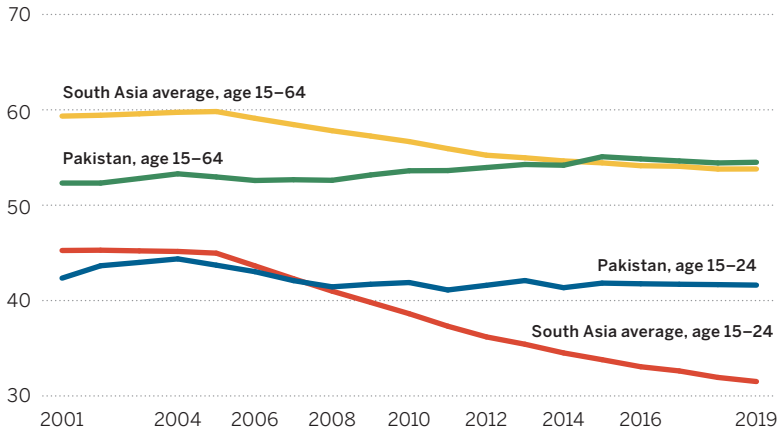
LFPR and NEET rates, by age cohort and gender, 2019 (percent)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.
Note: NEET is not in employment, education, or training. LFPR is labor force participation rate.

FIGURE 6.3 While Pakistan's overall labor force participation rate is similar to the South Asia average, the youth cohort is less so

LFPR, by age cohort for Pakistan and South Asia, regional average (percent)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.
Note: LFPR is labor force participation rate.

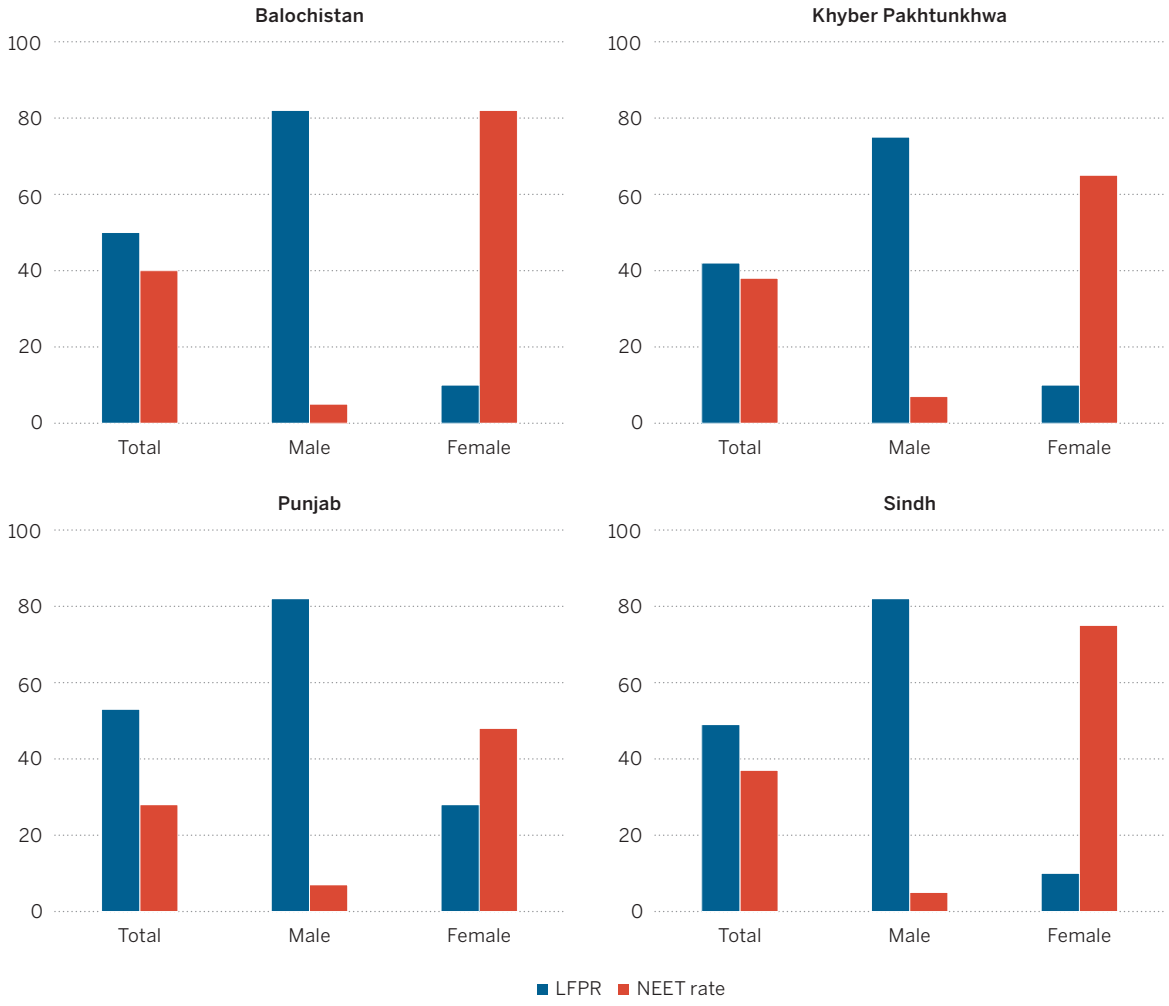
increasing to 38 percent once all women age 15 and older are considered. The equivalent figures were 35 percent and 53 percent in Malaysia and 55 percent and 79 percent in Vietnam. These LFPRs should be interpreted with caution because of a potential downward bias, particularly for women.[8] An important driver of this downward bias is measurement error arising from a lack of clarity about what constitutes "work" for women. In Pakistan, women are often employed in nonstandard forms of work such as unpaid family work or home-based work.

Gender gaps in the LFPR and NEET rates are wide in all provinces but are greatest in Balochistan (figure 6.4). The LFPR and NEET rates in Balochistan are 9.5 percent and 85.5 percent, respectively, for women, and 83.9 percent and 5.1 percent for men. Sindh and Khyber Pakhtunkhwa have similar female LFPRs (at around 13 percent), but Sindh's female NEET rate is 57.1 percent, against 5.9 percent for men. Among provinces, Punjab, the most populous, has the smallest gender gaps in the LFPR.

The female LFPR in Pakistan is constrained on both the supply and demand sides. On the supply side, the decision for a working-age female to become economically active depends on a range of factors, including social norms and early marriage.[9] There is evidence that women not in the labor force transit straight from being a student to a homemaker.[10] Marriage for women brings

FIGURE 6.4 **Gender gaps in labor force participation and not in employment, education, or training rates are similar across provinces, but greatest for Balochistan**

LFPR and NEET rates, by gender (percent)



Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.
Note: NEET is not in employment, education, or training. LFPR is labor force participation rate.

more barriers, including increased childcare duties and housework, and less ability to make independent decisions: 61 percent of women in urban areas and 45 percent in rural areas work from their dwelling because of housework and reproductive duties.[11] Men's support for women's employment is a crucial decision factor in the female LFPR. Given such limited empowerment of women in Pakistan, the education levels of husband and parents are also potential determinants of a woman joining the labor force.[12] Social norms limit the type of jobs women take—undercutting their potential income—and partly explain why about 75 percent of female employment is in agriculture[13] and the high share of home-based work.

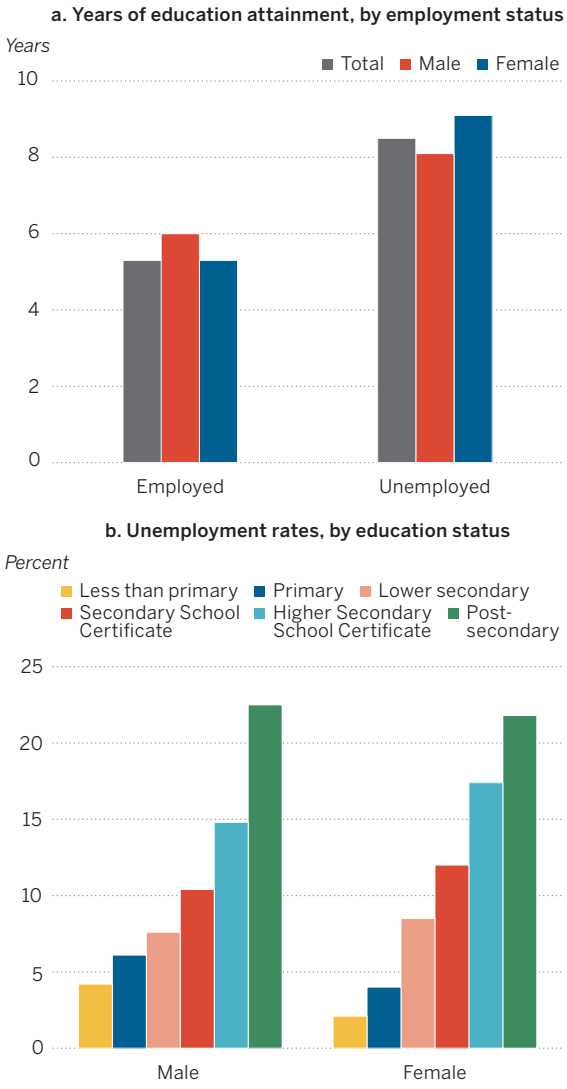
Limited mobility and widespread safety concerns are associated with women's inability to be in the labor force. A significant proportion of women respondents to the World Bank's 2013 Pakistan Labor Skills Survey reported

that they could not travel alone to essential health services, for social reasons, or to the local market. About 17 percent of women who could travel to the local market alone were in the labor force compared with 9 percent of women who reported that they could not go to the market alone. Women who felt safe walking alone outside in their communities or neighborhoods were more likely to work (17 percent) than those who did not feel safe (11 percent). These concerns also partly explain why women in Pakistan are disproportionately engaged in home-based work.[14]

On the demand side, job opportunities may not be available because of possible biases in hiring and additional costs that employers pay for women's conveniences.[15] It is not uncommon to find job postings based on gender in Pakistan's leading job portal, Rozee.pk.[16] And employers may face added expenses to provide segregated spaces, restrooms, and transport for accommodating female workers. Without dedicated spaces for females, women might not be willing to work.

The low quality of jobs and gendered occupational pattern among female workers also seem to be demand factors in determining women's economic activities. For example, in Peshawar, a sizable proportion of the already small female workforce (21 percent) is unpaid as family workers compared with 3.1 percent of the male workforce. The World Bank's Quetta Urban Household Survey 2021 reveals that only 16 percent of working-age women participate in the labor market, and most of the employed women in Quetta city perform low value-added, socially accepted occupations as self-employed or own-account workers, particularly among low-educated women: 61.7 percent of the employed women working in the textile sector and 9.9 percent in education.[17] This occupational profile of working women reflects the gender gaps in earnings and as result offers few incentives for women to participate in the labor market.

FIGURE 6.5 **Unemployment rates are higher for better educated workers in Pakistan**



Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.

The COVID-19 shocks have worsened the current low rate of economic activity for Pakistani women. Recent administrative data from the largest job-posting site reveal notable job losses in the sectors where women are more likely to be employed: education and health, particularly in urban areas. About 59 percent of previously employed female respondents reported that they lost their jobs once the pandemic hit compared with 50 percent of male respondents.[18]

The pandemic has clearly led to a disproportionate increase in women's unpaid care work, regardless of their employment status.

Unemployment rates vary widely by education and location

Unemployment rates are generally lower for less-educated workers (figure 6.5). Unemployment for men and women with at least a post-secondary degree is more than 21 percent but less than 4 percent for those with less than primary education.

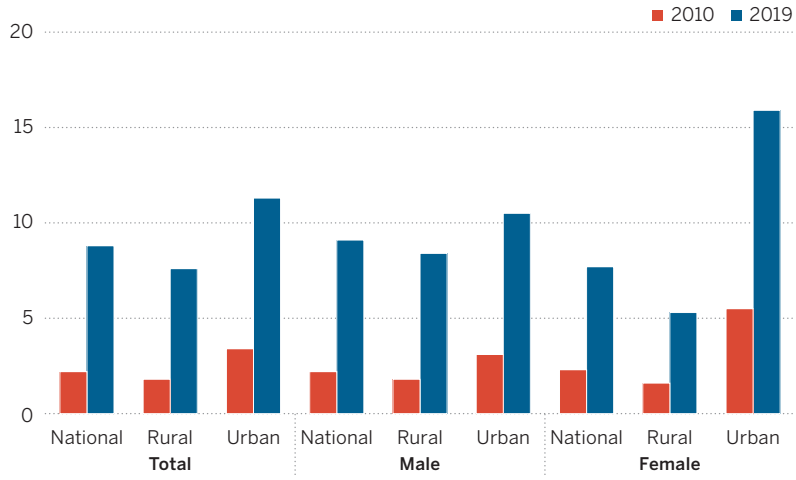
Unemployment and underemployment among youth (age 15–24) are higher in urban than rural areas.[19] This pattern partly reflects the higher education attainment of urban workers. Over 2010–19, the unemployment rate grew by 7.4 percentage points for urban males and by 6.6 percentage points for rural males (figure 6.6). For urban females, the equivalent figures were increases of 10.4 and 3.7 percentage points. For underemployment (fewer than 35 hours a week worked), there is some evidence that the key drivers in Pakistan are mismatches between labor supply and demand.[20] Although education attainment has improved in Pakistan, growing numbers of workers cannot use their education background on the job for work.

EMPLOYMENT IN PAKISTAN IS OVERWHELMINGLY INFORMAL

Informality predominates in Pakistan, with 94.9 percent of wageworkers not having a formal contract:[21] 83 percent of all wageworkers are informally employed male workers, and informally employed female workers account for another 12 percent (figure 6.7). The absence of formal contracts for wageworkers is greater, the smaller the firm: 95 percent, 89 percent, and 82 percent in micro-, small, and medium enterprises, respectively. Of wage employees in large firms, 38 percent have formal contracts (see the

FIGURE 6.6 **In Pakistan's youth age cohort, unemployment are higher in urban areas and climbed faster than in rural areas**

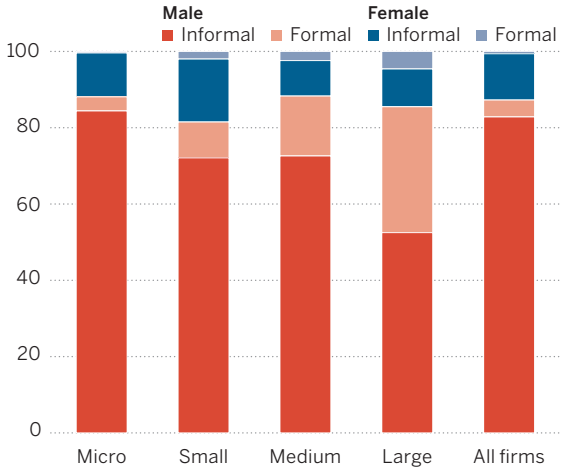
Unemployment rates, based on time-use for 15- to 24-year-old age cohort (percent)



Source: World Bank calculations using data from the International Labour Organization, LABORSTA modeled estimates.

FIGURE 6.7 **Four-fifths of wageworkers are informally employed**

Distribution of wage-employed workers (percent)

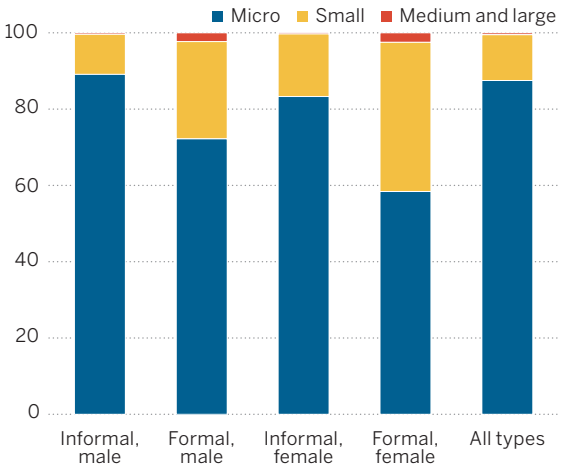


Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.

Note: Microenterprises are firms with fewer than 10 workers, small firms are those with 10–99 workers, medium firms are those with 100–250 workers, large firms are those with more than 250 workers. See Annex 6A for the definition of formal wage employment.

FIGURE 6.8 **Almost 90 percent of wageworkers, formal and informal, are employed in microenterprises**

Distribution of wage-employed workers (percent)



Source: World Bank calculations using data from Pakistan Labour Force Survey 2018–19.

Note: Microenterprises are firms with fewer than 10 workers, small firms are those with 10–99 workers, medium firms are those with 100–250 workers, large firms are those with more than 250 workers. See Annex 6A for the definition of formal wage employment.

note to figure 6.7 for number of employees by firm size). Microenterprises account for 88 percent of all employment, formal and informal, for men and women, with small firms accounting for another 12 percent (figure 6.8). Small firms are more important for formal workers than medium and large firms.

The informal sector and microenterprises were, before the COVID-19 pandemic, vital for maintaining labor demand growth.[22] Formal private sector development in Pakistan often faced constraints, including an unfavorable business environment, the lack of integration with global value chains, and the sector's own failure to innovate. The informal sector was thus crucial for absorbing the growing labor force. Three of four jobs outside agriculture were generated in the informal sector over 2001–17, with 95 percent in construction. Between 2001 and 2015, the number of informal establishments (households engaged in self-employment and microenterprises with fewer than 10 employees) more than doubled. Microenterprises increased by 60 percent, while the number of self-employed grew by 53 percent. About four-fifths of informal establishments are in services. Employment in the informal sector and in microenterprises—both traditionally associated with low productivity—has thus been a major driver of poverty reduction in recent years.[23]

In 2015, according to household survey data, 24 percent of Pakistan's population was living below the national poverty line, down from 64 percent in 2001.[24] The observed progress in poverty reduction is accounted for largely by the expansion of male off-farm economic opportunities in the informal sector and by the increase in cross-border migration and associated remittances.[25] The growth of entrepreneurship and wage work has coincided with reductions in unpaid work in household enterprises (contributing family workers), though once again wide gender gaps are apparent (table 6.1)—as are gaps among age cohorts for wageworkers (figure 6.9). Unpaid family members contributing to household enterprises accounted for 21.4 percent of employment in 2001, and this rate fell by 2.2 percentage points by 2019. Own-account work also fell by 6.5 percentage points over the same period, from 42.2 percent in 2001. Labor from unpaid contributions to household enterprises and other generally low-productivity own-account work was diverted into higher-paying wage work or entrepreneurship. On the shifts by gender, the aggregate phenomenon is driven by shifts among men. For example, the share of male labor who were wageworkers increased from 36.0 percent to 47.2 percent over 2001–19. In contrast, there was virtually no change in the percentage of working women contributing to household enterprises: the share was 49.5 percent in 2001 and 50.2 percent in 2019. The share of women who were wageworkers or entrepreneurs actually fell.

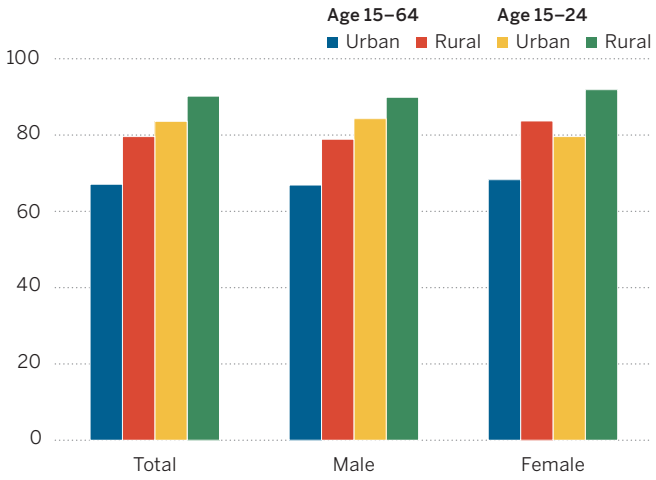
TABLE 6.1 Distribution of workers by employment type, 2001 and 2019

Employment type	2001 (percent)	2019 (percent)	Change (percentage points)
Total			
Employees	35.58	43.68	8.10
Employers	0.78	1.41	0.63
Own-account workers	42.23	35.73	−6.50
Contributing family workers	21.41	19.17	−2.23
Male			
Employees	35.96	47.20	11.24
Employers	0.90	1.74	0.84
Own-account workers	46.78	39.66	−7.11
Contributing family workers	16.36	11.39	−4.96
Female			
Employees	33.42	29.64	−3.77
Employers	0.12	0.10	−0.01
Own-account workers	16.96	20.07	3.12
Contributing family workers	49.51	50.18	0.67

Source: World Bank calculations using data from the International Labor Organization, LABORSTA.

FIGURE 6.9 Informality rates are higher among youth wageworkers in urban areas than among urban wageworkers generally

Share of wageworkers (youth and full working-age) informally employed, by location and gender (percent)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.

GENDER AND HOUSEHOLD STATUS IN INFORMAL SETTINGS DAMPEN THE BENEFITS OF HUMAN CAPITAL INVESTMENTS

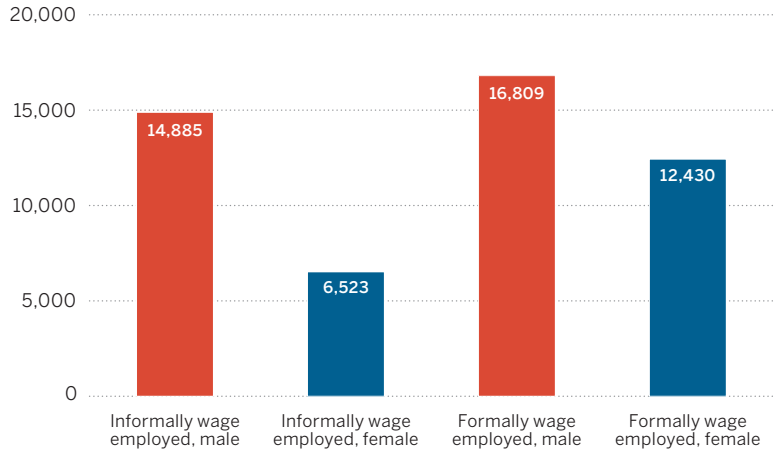
Education, employment sector, location, and work experience all affect earnings

The impact of education on earnings is consistent with findings on informal establishment owners' productivity and education in Pakistan. The productivity of establishments whose owners have at least upper-secondary education is about 1.3 times that of those who do not. Differences in productivity persist, and labor productivity is 10 percent higher for owners with upper-secondary education, after differences in work experience, sector, location, and income are controlled for. Over time, a 1 percentage point increase in the share of educated owners is associated with a 0.5 percent increase in labor productivity. Generally, the labor productivity of informal activities has been steadily increasing: that of both the self-employed and microenterprises was about three times higher in 2015 than 2001. Growth rates slowed during the Global Financial Crisis, particularly among microenterprises, but remained positive. The economy as a whole recorded a 3.1 percent decline in labor productivity over 2007–11.

An individual's monthly earnings closely reflect their education attainment, employment sector, work experience, and gender consistently across provinces and at the national level. The returns to education attainment and employment in a particular sector in Pakistan are consistent with cross-country evidence, after a range of characteristics, such as hours of work, are controlled for. Higher education attainment is associated with higher earnings, as is greater work experience proxied by age (though the returns to experience decline over time). Working

FIGURE 6.10 Gaps in income by gender and formality status are wide in Pakistan

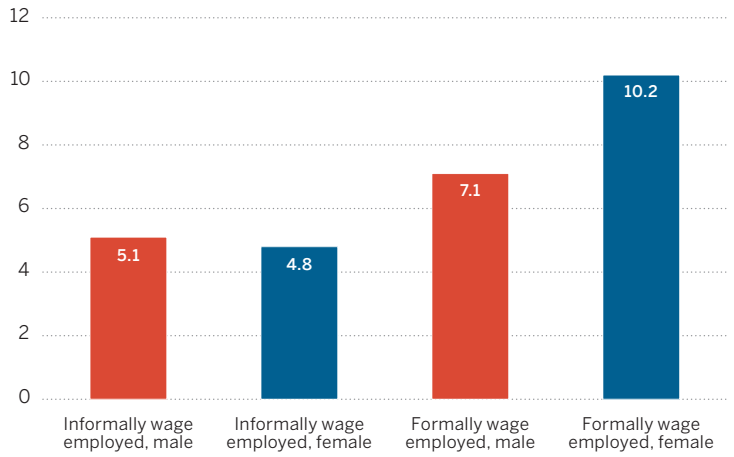
Average monthly income (PKR)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.
Note: See Annex 6A for the definition of formal wage employment.

FIGURE 6.11 Formally wage-employed women in Pakistan are the best educated among the four groups

Education attainment (years)



Source: World Bank calculations using data from Pakistan Labor Force Survey 2018–19.
Note: See Annex 6A for the definition of formal wage employment.

outside agriculture is associated with higher incomes, as is being in an urban area.

Gaps are substantial in the earnings of women and informal sector workers

Reflecting gender gaps, being female is associated with substantially lower earnings: informally wage-employed females in Pakistan have an average monthly income of only PKR 6,500. Formally wage-employed females, informally wage-employed males, and formally wage-employed males earn 1.9, 2.3, and 2.6 times as much per month—large premia for being formally employed or for being male (regardless of formality status). The gender gaps are even more glaring given that informally wage-employed women are only slightly less educated than men (4.8 years versus 5.1 years of education attainment) and that formally wage-employed women are far better educated than formally wage-employed men (10.2 years as opposed to 7.1 years of education attainment). Education attainment does not correlate with gender gaps in incomes (figures 6.10 and 6.11).

Household status affects earnings and employment type

The extent of the contributing factors to income depends on whether an individual is from a poor household (table 6.2). There is a substantial negative association between earnings and being from a household in the bottom 40 percent (B40) of the consumption distribution. This relationship is understandable since someone from a poorer household would likely have lower wages. The correlation between education attainment and monthly wages is also well understood from the literature—education attainment (whether primary, secondary, or post-secondary) always improves wages, highlighting the returns to human capital investment. However, when a household's B40 consumption status interacts with education attainment, the overall association between education and

TABLE 6.2 Mincerian regressions with log of monthly earnings as the dependent variable, Pakistan

Variable	Dependent variable = log of monthly wages
Education (base: no education)	
Primary	0.163***
Secondary	0.307***
Postsecondary	0.789***
Employment sector (base: agriculture)	
Industry	0.281***
Service	0.217***
Urban	0.123***
Female	–1.316***
Work experience (proxied by age)	0.078***
From bottom 40	–0.344***
Primary education * Bottom 40	–0.050**
Secondary education * Bottom 40	–0.159***
Postsecondary education * Bottom 40	–0.528***

Source: World Bank estimates using data from the Household Income and Expenditure Survey 2018–19.
Note: Standard errors in parentheses, *** $p < .01$, ** $p < .05$, * $p < .1$. *Bottom 40* refers to households in the bottom two quintiles of the consumption distribution. Since the dependent variable is the log of monthly wages, the coefficients on the explanatory variables can also be interpreted as percentage point changes to month wages. For example, being in an urban area would improve wages by 12.3 percent (relative to someone in a rural area), while achievement of primary education would improve wages by 16.3 percent (relative to someone with no education).

TABLE 6.3 Probit estimations of the probability of being in unpaid work or self-employment, Pakistan

Variable	Unpaid family worker = 1 versus paid wage = 0	Self-employment = 1 versus paid wage = 0
Education (base: no education)		
Primary	0.013***	0.028***
Secondary	0.027***	0.034***
Postsecondary	–0.005**	–0.018***
Employment sector (base: agriculture)		
Industry	–0.168***	–0.186***
Service	–0.149***	–0.109***
Urban	0.001	–0.011***
Female	0.067***	–0.059***
Work experience (proxied by age)	–0.279***	0.240***
From bottom 40	–0.044***	–0.023***
Primary education * Bottom 40	–0.009***	0.004
Secondary education * Bottom 40	–0.009***	0.003
Postsecondary education * Bottom 40	–0.001	0.015***

Source: World Bank estimates using data from the Household Income and Expenditure Survey 2018–19.
Note: Standard errors in parentheses, *** $p < .01$, ** $p < .05$, * $p < .1$. *Bottom 40* refers to bottom two quintiles of the consumption distribution.

higher earnings is substantially lower. These results for Pakistan are consistent with evidence from other countries. After other variables are controlled for, education had an impact on household incomes in Vietnam, but the returns to education were very heterogeneous across the income distribution and tended to be higher for better-off households, which could have had impacts on income inequality.[26] Similarly, Mincerian regressions for households in rural China found that returns to education were higher for better-off households.[27]

These same factors also affect an individual's status in paid wage employment and self-employment in Pakistan. And being from a B40 household increases the probability of being in paid wage employment or self-employment, as determined by Probit estimations (table 6.3). People with primary and secondary school completion (against no education) are more likely to be in paid wage employment than in unpaid employment and to be self-employed than in paid wage employment. Women are more likely to be unpaid than paid wageworkers and less likely to be self-employed. B40 individuals are more likely to be in paid wage employment, but the interactions between household wealth status and education attainment vary. B40 individuals who have primary or secondary education attainment only (but not necessarily those with postsecondary education) are more likely to be wage-employed than in unpaid work; however, B40 individuals with postsecondary education are more likely to be in self-employment than in wage employment.

Socioemotional skills matter for some labor market outcomes

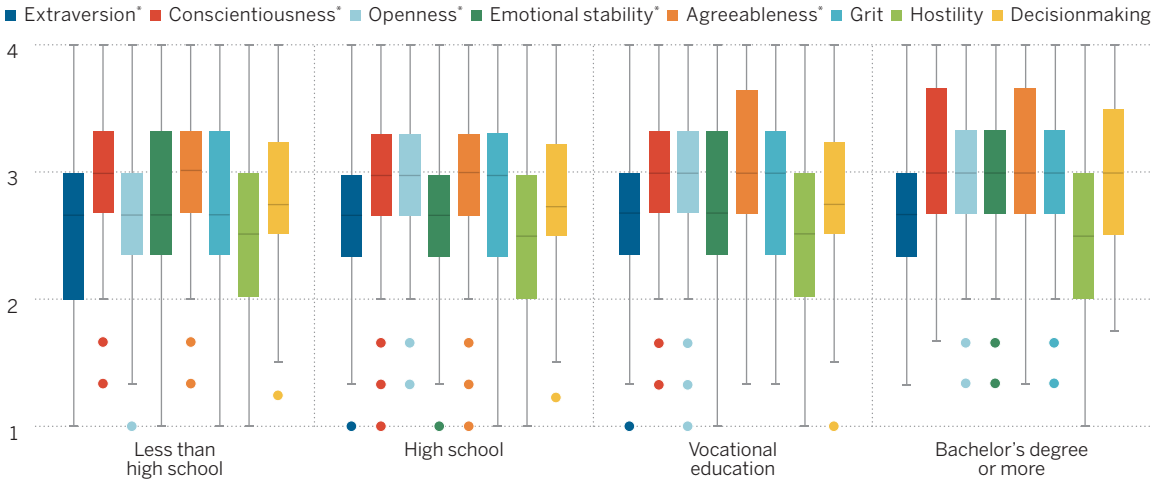
Cross-country evidence suggests that poverty status can influence cognitive and socioemotional skills acquisition. The income status of a child's family influences socioemotional skills acquisition during school and subsequently in later economic life.[28] Youth from poor households are thus likely to have lower socioemotional abilities than youth from wealthier households. Socioemotional ability influences the acquisition of cognitive skills and vice versa. Foundational cognitive skills include literacy and numeracy and are crucial for the ability to attain higher-level cognitive and job-specific technical skills in low- and middle-income countries at least.[29] There is also evidence that high cognitive test scores are associated not just with high cognitive skills but also with socioemotional attributes such as high motivation.[30]

Cross-country evidence also suggests that socioemotional abilities may be important for some labor market outcomes. While the evidence on the positive correlation between cognitive abilities and labor market outcomes is several decades old, there is growing evidence of how socioemotional skills can have as large an impact as cognitive skills, if not a larger one, on various labor market outcomes.[31] For example, extraversion is positively correlated with earnings in a service economy such as the United States.[32] The relationships between socioemotional abilities and labor market outcomes have also been found in many developing economies.[33] In Bangladesh, for instance, emotional stability has a consistently positive correlation with wages, but grit has a negative correlation, particularly among manufacturing workers and nonprofessionals.[34]

In Pakistan, socioemotional skills, such as extraversion, conscientiousness, openness, emotional stability, and agreeableness, are correlated with high education attainment (figure 6.12). Both openness and extraversion are positively correlated with monthly earnings, based on correlations with data from the Pakistan Labor Skills Survey 2013.[35] These findings are consistent with evidence from other countries. For

FIGURE 6.12 **Socioemotional skills by education level in Pakistan**

Strength (1–4, with higher numbers indicating stronger traits)



Source: Ahmed et al. (2022), based on data from the Pakistan Labor Skills Survey 2013 (World Bank 2013).
Note: The box-whisker plots describe the distribution. In a given box, the horizontal line in the box describes the median score, the edges of the box describe the interquartile range, the whiskers identify the range (excluding outliers), and dots outside the range represent statistical outliers. * indicates a personality trait.

example, US high school students with better social skills and work habits complete more years at school.[36] Though these students also exhibit higher cognitive abilities, the grades awarded by middle school teachers are affected by attendance, disruptiveness, and work habits.[37] In rural China, even in poor and rural contexts, socioemotional skills affect the education attainment.[38]

In Pakistan, most of the returns to socioemotional skills are not statistically significant, except for agreeableness (table 6.4). After cognitive skills (measured by Raven scores), education attainment, parental education, wealth, work experience, nature of the employment, access to finance, and location are controlled for, only the impact of agreeableness remains statistically significant. However, it is associated with negative returns to earnings. The impact of agreeableness on earnings may vary by culture. For example, Japanese men who reported a higher level of agreeableness earned more, whereas American men with a higher level of agreeableness experienced a penalty.[39] However, in both countries, agreeableness had a positive impact on earnings among individuals working in companies with more than 1,000 employees. This also suggests that agreeableness improves job performance and productivity directly rather than indirectly through occupational choice. Because most of the jobs in Pakistan are created by small and medium enterprises, it is possible that personality traits linked with competitiveness may be valued more than agreeableness.

There is a strong association between extraversion and openness to earnings for the self-employed in Pakistan (see table 6.4). This finding is consistent with the intuition that personal relationships are important for entrepreneurial activities. More generally, socioemotional skills are mostly statistically insignificant for wageworkers in formal and informal sectors as well as for the self-employed.

TABLE 6.4 **Heckman selection model results to illustrate the relationship between monthly wages and various characteristics including personality traits and cognitive skills**

	Outcome equation	Selection equation
Variable	Marginal effects on monthly IHS-transformed earnings conditional on being observed (selected)	Probability of observed earnings
Education (reference: no education)		
Primary	0.283 (0.293)	0.009 (0.041)
Secondary	0.459* (0.276)	−0.142*** (0.0361)
Postsecondary	1.363*** (0.325)	0.049 (0.066)
Parental education, years		
Father	0.003 (0.029)	−0.005 (0.004)
Mother	0.105*** (0.036)	−0.011 (0.008)
Raven total score	0.023** (0.011)	0.001 (0.001)
Male	1.092** (0.468)	1.079*** (0.035)
Age	0.159*** (0.057)	0.074*** (0.008)
Age-squared	−0.002** (0.001)	−0.001*** (0.0001)
Urban	0.344 (0.235)	−0.105*** (0.030)
Personality intensity		
Extroversion	0.064 (0.205)	0.009 (0.027)
Conscientiousness	−0.087 (0.209)	0.034 (0.027)
Openness	0.033 (0.187)	−0.045* (0.025)
Emotional stability	−0.042 (0.186)	−0.018 (0.027)
Agreeableness	−0.313* (0.189)	0.007 (0.027)
Grit	−0.013 (0.221)	0.117*** (0.029)
Hostility	−0.159 (0.142)	−0.034* (0.020)
Decisionmaking	0.223 (0.204)	−0.005 (0.028)
Agricultural land ownership	−0.062 (0.047)	0.080* (0.046)
Having at least one disability	0.032 (0.040)	−0.041 (0.049)
Currently married	−0.119** (0.057)	0.153*** (0.049)
Household with a bank account	0.035 (0.034)	−0.045 (0.043)
Observations	3,333	3,333
Heckman is valid; Wald test (rho = 0): (Prob > chi^2) < 0.05)	Yes	Yes

Source: Reproduced from Ahmed et al. (2022).
Note: The dependent variable is IHS-transformed monthly wage in local currency units. Marginal effects are repohisd. IHS is inverse hyperbolic sine. Numbers in parentheses are standard errors; *** $p < .01$, ** $p < .05$, * $p < .1$.

IMPROVING LABOR MARKET OUTCOMES—ECONOMIC INCLUSION PROGRAMS AND BEYOND

Social safety nets can help, but do not necessarily improve labor market outcomes

Globally, cash transfer programs focusing on the poorest segments of the income and wealth distribution can help support consumption when appropriately targeted. Substantial research has observed that such programs reduce the incidence of household poverty and its intensity.[40] Cash transfer programs have also been found to improve human development indicators, such as education, health, and nutrition.[41]

Pakistan already has poverty- and gender-targeted cash transfer programs. The BISP is the country's flagship unconditional cash transfer program targeting poor women. In addition, there are two conditional cash transfer (CCT) programs: the education-focused Waseela-e-Taleem, and a health and nutrition CCT program for mothers and children up to age 2. The one-time Emergency Cash program was launched after the COVID-19 pandemic hit Pakistan, to mitigate economic hardship and risks of hunger, and the Tahafuz program is for those who have suffered a catastrophic event. There is some evidence that the BISP has supported consumption.[42] Beyond consumption, impact evaluations have shown that such transfers in Pakistan have improved the intrahousehold decisionmaking power of women, primarily by increasing the resources under their control and by leading to greater coverage of women through the Computerized National Identity Card system.[43]

However, standalone cash transfer interventions have mixed outcomes on labor market performance, which of course is not their focus. A cross-country review of CCT programs that had substantial impacts on education outcomes and affected children both in utero and in their early education found mixed impacts on employment and education and no effects on cognitive and socioemotional skills.[44] Bangladesh's secondary education stipend program, which has been documented to have had substantial effects on female education outcomes, was also found to have mixed impacts on female labor market outcomes. The program's impacts on education were associated not only with an increased female LFPR but also with lower wages, as the stipend beneficiaries often ended up in low-productivity self-employment.[45] An evaluation of the well-known and long-running PROGRESA CCT in Mexico found that the cash transfers could not be associated with any evidence of improvements in wages, employment, or intergenerational mobility.[46]

Beyond cash transfers stand other entry points for improving labor market outcomes

CCTs are useful core, "anchor" interventions for complementary services, but to have an impact on labor market outcomes, notably productivity, they need to be paired with other interventions. Cash transfers made without an explicit employment focus tend to result in little to no change in labor market outcomes.[47] In contrast, transfers made explicitly for job search assistance or business startup tend to increase adult labor supply and earnings. The likely main channels are the alleviation of liquidity and risk constraints.

Programs that augment cash transfers with other services are now being referred to as "cash-plus" programs. Worldwide, such programs are increasingly packaging services for greater impact. Of youth employment programs spanning skills development, entrepreneurship support, subsidized employment, public information systems, and comprehensive programs, ones that integrate multiple interventions are more likely to have positive impacts, especially in low- and middle-income countries.[48]

The collection of programs with bundled services often described as "economic inclusion

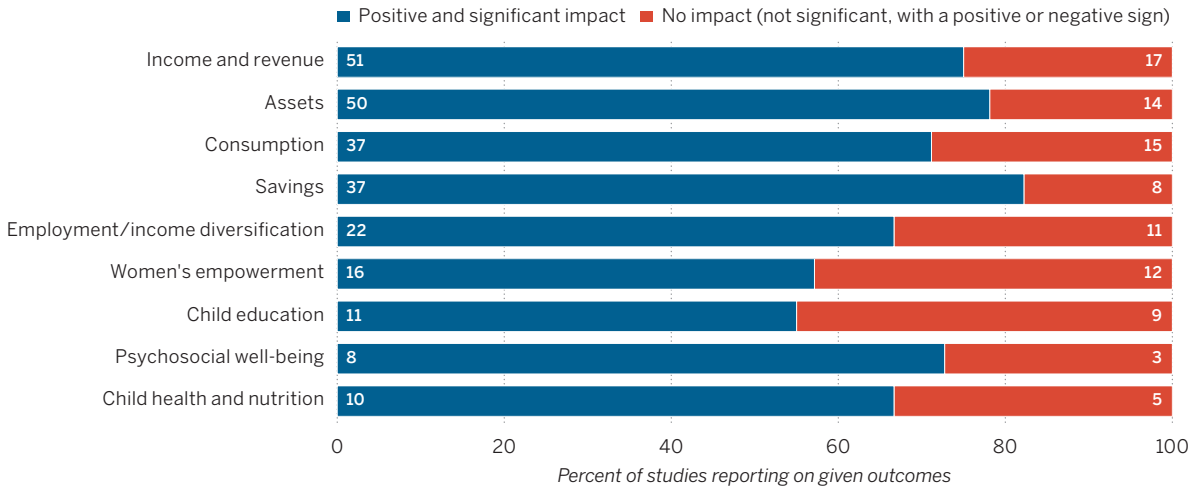
programs" include many that are anchored on cash transfers when targeting lower-income groups.[49] A recent meta-analysis of 97 impact evaluations of economic inclusion programs found that most programs with combined interventions had significant impacts, and not only on measures of livelihoods and poverty (figure 6.13). This meta-analysis covered programs with a single anchoring intervention—whether cash transfers, livelihood support, or financial inclusion—but were augmented by complementary services. The latest generations of these cash-plus programs are increasingly incorporating innovative design features, such as psychosocial support services.[50] (See the sections "Moving beyond cash transfers" and "World Bank–supported multipronged economic inclusion programs in the Sahel" in Annex 6B.)

The package of services needed varies by socioeconomic status. In a framework that delineates a continuum of services across the income distribution, most households at the bottom of the distribution need consumption support.[51] Moving up the distribution, nonpoor but still low-income households in the informal sector may need other services such as social insurance or other productivity-enhancing measures (for example, microfinance). These households may not be poor enough to need immediate consumption support, but they tend to be vulnerable to shocks, are at risk of poverty, tend to be liquidity constrained, and typically have limited precautionary savings. At the other end of the income distribution are richer and better-educated households for which services such as commercial finance, formal tertiary education, and formal skills development may be appropriate. Still, financial inclusion and entrepreneurship support could be core interventions in Pakistan for a package of services for the B40 if the services are targeted well and tailored to the specific needs of the poor.

For households not poor enough to need cash transfers, other core services could be more relevant.[52] They include such measures as seed capital, microfinance, and technical and business management skills training. Support to the self-employed could include business management training, paired with other interventions.[53] For technical skills development, programs geared toward those with lower formal education attainment could be the basis of a

FIGURE 6.13 **Economic inclusion programs boost not just livelihoods of the poor but also education, health, and nutrition outcomes**

Number of impact evaluations out of 97 reporting a statistically significant impact on a particular indicator



Source: Andrews et al. 2021.

core intervention. Pakistan's entrepreneurship-focused interventions tend to be geared toward segments of the labor market that have far higher levels of education attainment, are from households with greater access to services, or are involved in small and medium enterprises. Important for developing a dynamic private sector no doubt, these programs are generally less relevant for the poor or the mass of the wage-employed, because only 12.4 percent of workers in Pakistan are employed in small and medium enterprises.

An apprenticeship approach for on-the-job learning, like the *ustad-shagrid* (master–apprentice) model could be poverty-targeted and augmented with additional services (see the section on "The Skills Training for Advancing Resources program in Bangladesh" in Annex 6B). The program features an informal apprenticeship program that places youth in pairs under a master crafts person who is usually an experienced shop-owner or worker within a trade. On average, these youth are 16–17 years old and have had five or six years of education. The apprentices receive hands-on training five days a week for six months.[54] In addition to the workplace-based practical training, apprentices receive classroom-based soft-skills training once a week on issues including financial literacy, market assessment, and English-language skills. Once the training is completed, participants are linked with potential employers and are certified through the National Training and Vocational Qualifications Framework. The on-the-job training increased labor market participation of program participants by 23 percentage points (up to 59 percent) and earnings by 44 percent through both self-employment and wage employment.[55]

Beyond the core elements of economic inclusion programs, tackling additional constraints that women face should be included with purposeful design, depending on individual women. The result of the randomized controlled trial of Tunisia's Community Works and Local Participation program targeting highly marginalized and poor women provides an important lesson given that Pakistan has few programs for women microentrepreneurs focused on poor women or those with less work experience and education attainment. For example, the Pakistan Women Entrepreneurship Program targets women with an existing business and 14 years of formal education, making it (and similar programs) less relevant for the vast majority of the female working-age population.

CONCLUSION AND RECOMMENDATIONS

Poorer households in Pakistan are trapped in a vicious cycle of low human capital and poor labor market outcomes, the most serious of which is low earnings. Boosting human capital through means such as education attainment would enhance earnings, but households must also increase their earnings to be able to have the resources to invest in themselves.

The review of evidence from several countries suggests multipronged interventions, including those anchored on cash transfer programs, can be powerful mechanisms to support the labor market (and human capital) outcomes of the poor. But they must clearly identify the segment of the labor market that the program will target and coordinate the package of interventions to be bundled together.

Based on the analyses in this chapter and global best practices, policy and programming recommendations for Pakistan may include:

- *Build the human capital of the poor, especially against shocks like the COVID-19 pandemic and climate change, through interventions over the life cycle to ensure long-term livelihood gains.* Cash transfers and other safety net programs protect the human capital of the poor by supporting their consumption, especially when faced with adverse shocks. When these programs are complemented with additional services, often collectively

called economic inclusion programs, they can improve human capital investments, such as children's education, health, and nutrition, as well as household earnings. For households not poor enough to receive cash transfers, seed capital, microfinance, and technical and business management training are more relevant.

- *Ensure that economic inclusion programs that combine safety nets with complementary services fit the needs of different segments of the poor and vulnerable.* Productive inclusion programs that go beyond cash can help improve household resilience to withstand shocks in the long term. For programs with a focus on women, interventions must account for social norms, which have a major impact on women's social interactions by restricting access to services or certain occupations deemed not suitable for women. Possible interventions to influence norms include strategic use of positive messaging about strong female role models and engaging to change norms surrounding women's economic activities. Similarly, employing women in public leadership positions can support the acceptance of ambitions and career aspirations among women. Youth, women, and other marginalized groups may need to engage in self-employment but may lack capital, technical skills, and experience running an enterprise. Depending on the combination of needs they face, programs for them could include a combination of classroom or even on-the-job learning (such as apprenticeships), classroom-based training in business management, socioemotional skills development, and access to finance, as through collateral-free microfinance. Youth entrepreneurship programs in other emerging economies show that successful programs pair business management training with other services such as access to capital and counseling to enhance noncognitive ability.
- *Use existing programs as a basis for economic inclusion interventions.* An asset transfer–based pilot in Sindh spanned assets, finance, consumption, and time use—and its package of services significantly increased incomes and revenues. The National Poverty Graduation Program, in addition to transfers for consumption, packages coaching, business capital, financial service facilitation, market links, and skills training. As poor households begin to expand or diversify their business under the program, they become eligible to apply for loans; asset beneficiaries and loan recipients are eligible to receive basic training to use the assets and loans effectively. And the Kamyab Pakistan Program, launched in 2021, is using financial services for entrepreneurship—rather than asset transfers—as the core intervention for bundling other services.
- *Leverage existing national systems for efficient and effective delivery of programs.* Pakistan has a strong starting point to deliver relevant and comprehensive services given its existing strategic policy initiatives, and its investments in systems. It has made notable progress in building and strengthening the social protection system through the flagship BISP. It has invested in systems such as the National Socio-Economic Registry and the poverty scorecard, as well as a robust national identification system (civil registration, digital and biometric, or voter identification). A key factor in the potential effectiveness of support programs—to both protect the human capital of the poor and improve their productivity—is whether the services reach the intended segments of the poor, by location and gender. While policymakers may still face key challenges—such as identifying the appropriate beneficiaries, the right mix of interventions for the target group, and the best mix of implementing agencies in their design of new programs—leveraging these major strengths will stand them in good stead and provide a stable and high-quality starting point for new programs, whether implemented by federal or provincial entities.

NOTES

1. Based on World Bank (2020a). Pakistan's HCI value is 0.41, putting it in the bottom quintile of countries. The methodology for the HCI is documented in Kraay (2018, 2019).
2. Estimated from the Household Integrated Economic Survey 2018–19.
3. See Azevedo et al. (2020) for elasticities. Geven and Hasan (2020) note that the high elasticity is driven by several socioeconomic factors, including high poverty levels, which lead families to push their children into labor or marriage from an early age, and the cost of private schooling. For OOP health spending, Khalid et al. (2021) estimated that expenditures increased with increasing wealth, decreased with increasing household size, and differed by province and region.
4. Based on 2018 data from the World Development Indicators. For comparison, the South Asia average is 62.4 percent, and the middle-income country average is 36.5 percent. OOP spending is the dominant mode of healthcare financing in developing countries (Malik and Syed 2012). In Pakistan, it is 67 percent of total health spending. Analysis of determinants of OOP health spending is a key aspect of equity in healthcare financing, as it helps formulate effective health policy. Evidence on OOP spending in Pakistan is sparse, but there is evidence that economic status and number of old-age family members are significant, positive predictors of OOP spending.
5. Rehman, Shaikh, and Ronis 2014.
6. Feng, Lagakos, and Rauch 2018.
7. Fields 2004.
8. Amir et al. 2018.
9. Solotaroff et al. 2019.
10. Amir et al. 2018.
11. Cho and Majoka 2020.
12. Shaheen, Sial, and Awan 2011.
13. Sarwar and Abbasi 2013.
14. Amir et al. 2018.
15. World Bank 2022, forthcoming.
16. Matsuda et al. 2019.
17. World Bank 2022a.
18. Tas et al. 2021.
19. See Annex 6A for definitions of key concepts.
20. Farooq and Ahmed 2007; Farooq, Ahmed, and Ali 2008.
21. Pakistan's high rates of informality are not uncommon in developing countries. Close to 90 percent of all employment in South Asia is informal (ILO 2018; Loayza and Meza-Cuadra 2018).
22. World Bank 2020b.
23. World Bank 2020b.
24. World Bank 2020b.
25. World Bank 2020b.
26. Tran, Tran, and Nguyen 2020.
27. Wei et al. 1999.
28. Fletcher and Wolfe 2016; Kautz et al. 2014.
29. Valerio et al. 2016.
30. Brunello and Schlotter 2011.
31. Deming 2017; Heckman, Stixrud, and Urzua 2006.
32. Fletcher 2013.
33. This literature is reviewed in Nomura and Adhikari (2017).
34. Nomura and Adhikari 2017.
35. World Bank 2013.
36. Lleras 2008.
37. Farkas 1996.
38. Glewwe, Huang, and Park 2017.
39. Lee and Ohtake 2016.
40. See, for instance, Ferreira et al. (2009) and Molyneux, Jones, and Samuels (2016).
41. Afzal, Mirza, and Arshad 2019; Cotto 2018; Ferreira et al. 2009.
42. Afzal, Mirza, and Arshad 2019; Amrin and Ashfaq 2020; Iqbal, Padda, and Farooq 2020; Nayab and Farooq 2014; Shehzad 2011.
43. Ambler and de Brauw 2017.
44. Millán et al. 2019.
45. Shamsuddin 2015.
46. Rodriguez-Oreggia and Freije 2012.
47. Baird, McKenzie, and Özler 2018.
48. Kluve et al. 2019.
49. World Bank (2021) defines economic-inclusion programs as those that include a combination of cash or in-kind transfers, skills training, coaching, access to finance, and links to market support.

50. Bossuroy et al. 2022.
51. Guven, Himanshi, and Joubert 2021.
52. Andrews et al. 2021.
53. Youth entrepreneurship programs from other countries, such as Kenya and Nigeria, show that successful programs pair business management training with other services like access to capital and counseling to enhance socioemotional ability (Honorati 2015; McKenzie 2015). Traditional business training programs in other countries that teach financial recordkeeping, marketing, and other business management skills have been found to yield mixed results (McKenzie and Woordruff 2014).
54. Bhattacharjee and Kamruzzaman 2016; Das 2018.
55. Das 2018.

REFERENCES

Afzal, A., N. Mirza, and F. Arshad. 2019. "Conditional vs Unconditional Cash Transfers: A Study of Poverty Demographics in Pakistan." *Economic Research/Ekonomska Istraživanja* 32 (1): 3360–3377.

Ahmed, S.A., P. Chen, Z. Majoka, and J. Saha. 2022. "What Is the Role of Socio-emotional Skills in Supporting South Asia's Informal Sector Poor? Insights from Pakistan and Sri Lanka." Chapter 7 in Bussolo, M. and S. Sharma (eds). 2022. *Rethinking Informality in South Asia*. Washington, DC: World Bank.

Ambler, K., and A. De Brauw. 2017. "The Impacts of Cash Transfers on Women's Empowerment: Learning from Pakistan's BISP Program." Social Protection and Labor Discussion Paper 1702, World Bank, Washington, DC.

Amir, S., A. Kotikula, R. P. Pande, L. L. Y. Bossavie, and U. Khadka. 2018. "Female Labor Force Participation in Pakistan: What Do We Know?" World Bank, Washington, DC.

Amrin, S., and M. Ashfaq. 2020. "The Impact of Benazir Income Support Program (BISP) on Household Food Expenditures in Faisalabad." *Pakistan Journal of Agricultural Sciences* 57 (1).

Andrews, C., A. de Montesquiou, I. Arevalo Sanchez, P. V. Dutta, B. V. Paul, S. Samaranayake, J. Heisey, T. Clay, and S. Chaudhary. 2021. *The State of Economic Inclusion Report 2021: The Potential to Scale*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/34917.

Azevedo, J. P. W. D., A. Hasan, D. Goldemberg, S. A. Iqbal, and K. M. Geven. 2020. "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates." Policy Research Working Paper Series 9284, World Bank, Washington, DC.

Baird, S., D. McKenzie, and B. Özler. 2018. "The Effects of Cash Transfers on Adult Labor Market Outcomes." *IZA Journal of Development and Migration* 8 (1): 1–20.

Bhattacharjee, A., and M. Kamruzzaman. 2016. "Towards Employability and Better Livelihood: An Evaluation of BRAC's Skills Development Initiative." Skills Development Working Paper 1, BRAC Institute of Governance and Development, Dhaka.

Bossuroy, T., M. Goldstein, B. Karimou, D. Karlan, H. Kazianga, W. Parienté, P. Premand, C. C. Thomas, C. Udry, J. Vaillant, and K. A. Wright. 2022. "Tackling Psychosocial and Capital Constraints to Alleviate Poverty." *Nature* 605: 291–297.

Brunello, G., and M. Schlotter. 2011. "Non-cognitive Skills and Personality Traits: Labor Market Relevance and Their Development in Education & Training Systems." Discussion Paper 5743, Institute for the Study of Labor, Bonn, Germany.

Cho, Y., and Z. Majoka. 2020. "Pakistan Jobs Diagnostic: Promoting Access to Quality Jobs for All." Jobs Working Paper 20, World Bank, Washington, DC.

Cotto, S. 2018. "The Effect of Cash Transfer Programs on Poverty Reduction." *Business and Public Administration Studies* 12 (1): 1.

Das, N. C. 2018. "Training the Disadvantaged Youth and Labor Market Outcomes: Evidence from a Randomized Controlled Trial in Bangladesh." Dhaka: BRAC.

Deming, D. J. 2017. "The Growing Importance of Social Skills in the Labor Market." Working Paper 21473, National Bureau of Economic Research, Cambridge, MA.

Farkas, G. 1996. *Human Capital or Cultural Capital? Ethnicity and Poverty Groups in an Urban School District*. New York: Routledge.

Farooq, S., and U. Ahmed. 2007. "Underemployment, Education, and Job Satisfaction." *The Pakistan Development Review* 46 (4): 895–907.

Farooq, S., U. Ahmed, and R. Ali. 2008. "Education, Underemployment, and Job Satisfaction." *Pakistan Journal of Commerce and Social Sciences* 1: 83–91.

Feng, Y., D. Lagakos, and J. E. Rauch. 2018. "Unemployment and Development." Working Paper 25171, National Bureau of Economic Research, Cambridge, MA.

Ferreira, F. H. G., A. Fiszbein, M. Grosh, K.N. Ellen, P. Olinto, N. Schady, and E. Skoufias. 2009. *Conditional Cash Transfers: Reducing Present and Future Poverty*. Washington, DC: World Bank Group.

Fletcher, J. M. 2013. "The Effects of Personality Traits on Adult Labor Market Outcomes: Evidence from Siblings." *Journal of Economic Behavior & Organization* 89: 122–135.

Fletcher, J. M., and B. Wolfe. 2016. "The Importance of Family Income in the Formation and Evolution of Non-cognitive Skills in Childhood." *Economics of Education Review* 54: 143–154.

Geven, K., and A. Hasan. 2020. *Learning Losses in Pakistan Due to COVID-19 School Closures: A Technical Note on Simulation Results*. Washington, DC: World Bank.

Glewwe, P., Q. Huang, and A. Park. 2017. "Cognitive Skills, Noncognitive Skills, and School-to-work Transitions in Rural China." IZA Discussion Paper 10566, Institute of Labor Economics, Bonn, Germany.

Guven, M., J. Himanshi, and C. Joubert. 2021. "*Social Protection for the Informal Economy: Operational Lessons for Developing Countries in Africa and Beyond*." World Bank, Washington, DC.

Heckman, J. J., J. Stixrud, and S. Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior." *Journal of Labor Economics* 24 (3): 411–482.

Honorati, M. 2015. "The Impact of Private Sector Internship and Training on Urban Youth in Kenya." Policy Research Working Paper 7404, World Bank, Washington, DC.

ILO (International Labor Organization). 2018. *Women and Men in the Informal Economy: A Statistical Picture*. Geneva: International Labor Office.

Iqbal, T., I. U. H. Padda, and S. Farooq. 2020. "Sustainable Impacts of Social Safety Nets: The Case of BISP in Pakistan." *Pakistan Journal of Applied Economics* 30 (2): 153–180.

Kautz, T., J. J. Heckman, R. Diris, B. Ter Weel, and L. Borghans. 2014. "Fostering and Measuring Skills: Improving Cognitive and Non-cognitive Skills to Promote Lifetime Success." Working Paper 20749, National Bureau of Economic Research, Cambridge, MA.

Khalid, F., W. Raza, D. R. Hotchkiss, and R. H. Soelaeman. 2021. "Health Services Utilization and Out-of-pocket (OOP) Expenditures in Public and Private Facilities in Pakistan: An Empirical Analysis of the 2013–14 OOP Health Expenditure Survey." *BMC Health Services Research* 21 (1): 1–14.

Kluve, J., S. Puerto, D. Robalino, J. M. Romero, F. Rother, J. Stöterau, F. Weidenkaff, and M. Witte. 2019. "Do Youth Employment Programs Improve Labor Market Outcomes? A Quantitative Review." *World Development* 114: 237–253.

Kraay, A. 2018. "Methodology for a World Bank Human Capital Index." Policy Research Working Paper, 8593, World Bank, Washington, DC.

Kraay, A. 2019. "The World Bank Human Capital Index: A Guide." *The World Bank Research Observer* 34 (1): 1–33.

Lee, S. Y., and F. Ohtake. 2016. "Is Being Agreeable a Key to Success or Failure in the Labor Market?" ISER Discussion Paper 960 (February), Institute of Social and Economic Research, Osaka University, Osaka, Japan.

Lleras, C. 2008. "Do Skills and Behaviors in High School Matter? The Contribution of Noncognitive Factors in Explaining Differences in Educational Attainment and Earnings." *Social Science Research* 37 (3): 888–902.

Loayza, N., and C. Meza-Cuadra. 2018. "A Toolkit for Informality Scenario Analysis." Washington, DC: World Bank. http://www.worldbank.org/informality. Accessed 3 March 2022.

Malik, A. M., and S. I. A. Syed. 2012. "Socio-economic Determinants of Household Out-of-pocket Payments on Healthcare in Pakistan." *International Journal for Equity in Health* 11 (1): 1–7.

Matsuda, N., T. Ahmed, and S. Nomura. 2019. "Labor Market Analysis Using Big Data: The Case of a Pakistani Online Job Portal." Policy Research Working Paper 9063, World Bank, Washington, DC.

McKenzie, D. 2015. "Identifying and Spurring High-Growth Entrepreneurship: Experimental Evidence from a Business Plan Competition." Policy Research Working

Paper 7391, Impact Evaluation Series, World Bank, Washington, DC.

McKenzie, D., and C. Woodruff. 2014. "What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World?" *World Bank Research Observer* 29 (1): 48–82.

Millán, T. M., T. Barham, K. Macours, J. A. Maluccio, and M. Stampini. 2019. "Long-term Impacts of Conditional Cash Transfers: Review of the Evidence." *The World Bank Research Observer* 34 (1): 119–159.

Molyneux, M., W. Jones, and F. Samuels. 2016. "Can Cash Transfer Programmes Have 'Transformative' Effects?" *The Journal of Development Studies* 52 (8): 1087–1098.

Nayab, D., and S. Farooq. 2014. "Effectiveness of Cash Transfer Programmes for Household Welfare in Pakistan: The Case of the Benazir Income Support Programme." *The Pakistan Development Review* 53 (2): 145–174.

Nasir, M., and N. Faraz. 2020. "PIDE COVID-19 Bulletin No. 13." Lahore: Pakistan Institute of Development Economics.

Nomura, S., and S. Adhikari. 2017. "The Influence of Non-Cognitive Skills on Wages within and between Firms: Evidence from Bangladesh's Formal Sector." Policy Research Working Paper 8053, World Bank, Washington, DC.

Pakistan Bureau of Statistics. 2020. "Special Survey for Evaluating Socio-Economic Impact of COVID-19 on Well-being of People."

Ray, J. 2021. "COVID-19 Put More Than 1 Billion Out of Work." *Gallup*, 3 May. https://news.gallup.com/poll/348722/covid-put-billion-work.aspx. Accessed 3 March 2022.

Rehman, A., B. T. Shaikh, and K. A. Ronis. 2014. "Health Care Seeking Patterns and Out of Pocket Payments for Children under Five Years of Age Living in Katchi Abadis (Slums), in Islamabad, Pakistan." *International Journal for Equity in Health* 13 (1): 1–6.

Rodríguez-Oreggia, E., and S. Freije. 2012. "Long Term Impact of a Cash-Transfers Program on Labor Outcomes of the Rural Youth." Working Paper 230, Center for International Development at Harvard University, Cambridge, MA.

Sarwar, F., and A. S. Abbasi. 2013. "An In-Depth Analysis of Women's Labor Force Participation in Pakistan." *Middle East Journal of Scientific Research* 15 (2): 208–215.

Shaheen, S., M. Sial, and M. Awan. 2011. "Female Labor Force Participation in Pakistan: A Case of Punjab." *Journal of Social and Development Sciences* 2 (3): 104–110.

Shamsuddin, M. 2015. "Labor Market Effects of a Female Stipend Programme in Bangladesh." *Oxford Development Studies* 43 (4): 425–447.

Shehzad, I. 2011. "Benazir Income Support Programme (BISP) and Its Impact on Women's Empowerment." *SAARC Journal of Human Resource Development* 7 (1): 71–81.

Solotaroff, J. L., G. Joseph, A. Kuriakose, and J. Sethi. 2019. *Getting to Work: Unlocking Women's Potential in Sri Lanka's Labor Force.* Directions in Development: Countries and Regions. Washington, DC: World Bank.

Tas, E. O., T. Ahmed, N. Matsuda, and S. Nomura. 2021. "Impacts of COVID-19 on Labor Markets and Household Well-Being in Pakistan: Evidence from an Online Job Platform." Policy Brief, World Bank, Washington, DC.

Tran, T. A., T. Q. Tran, and H. T. Nguyen. 2020. "The Role of Education in the Livelihood of Households in the Northwest Region, Vietnam." *Educational Research for Policy and Practice* 19 (1): 63–88.

Valerio, A., M. L. Sanchez Puerta, N. Tognatta, and S. Monroy-Taborda. 2016. "Are There Skills Payoffs in Low- and Middle-Income Countries? Empirical Evidence Using STEP Data." Policy Research Working Paper 7879, World Bank, Washington, DC.

Wei, X., M. C. Tsang, W. Xu, and L. K. Chen. 1999. "Education and Earnings in Rural China." *Education Economics* 7 (2): 167–187.

World Bank. 2013. *Pakistan Labor Skills Survey 2013*. Washington, DC: World Bank.

World Bank. 2020a. *The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19*.

World Bank. 2020b. "Islamic Republic of Pakistan: Leveling the Playing Field." Systematic Country Diagnostic, World Bank, Washington, DC.

World Bank. 2021. *Women in the Workforce in Peshawar: Pakistan Gender and Social Inclusion Platform and the Pakistan Poverty and Equity Program*. Washington, DC: World Bank.

World Bank. 2022a. *Women in the Workforce in Quetta: Results from the Quetta Urban Household Survey*. Washington, DC: World Bank.

World Bank. 2022b. *Swimming through Sand: Pakistan's Country Economic Memorandum*. Washington, DC: World Bank.

Annexes

ANNEX 1A
DATA AVAILABILITY

Indicator	PSLM	HIES	DHS	LFS	Years
Expected years of school	✔	✔	✔		1990, 1998, 2001, 2004–08, 2010–15, 2017–19
Under-5 mortality rate			✔		1990, 2006, 2012, 2017
Prevalence of stunting			✔		1990, 2012, 2017
Labor force participation rate				✔	2000, 2002, 2004, 2006, 2008–09, 2011, 2013–15, 2018
Human Capital Index value	✔		✔		1990, 2012, 2017
Utilization-adjusted Human Capital Index value	✔		✔	✔	1990, 2012, 2017

Note: All indicators can be disaggregated by province, age, gender, wealth, and urban–rural location. PSLM is Pakistan Social and Living Standards Measurement Survey (https://www.pbs.gov.pk/content/pakistan-social-and-living-standards-measurement). HIES is Household Integrated Economic Survey (https://www.pbs.gov.pk/form/data-information-request-form). DHS is Demographic and Health Survey. LFS is Labor Force Survey.

ANNEX 1B
DATA SOURCES AND METHODOLOGY FOR MEASURING HUMAN CAPITAL

Data sources

Multiple rounds of the Pakistan Social and Living Standards Measurement Survey (PSLM), the Household Integrated Economic Survey (HIES), a Demographic and Health Survey (DHS), and the Pakistan Labor Force Survey (LFS) were combined to calculate human capital outcomes. For learning-adjusted years of schooling, Pakistan's assessment results from the 2019 Trends in International Mathematics and Science Study (TIMSS) were used. Data from the Human Capital Project and the World Development Indicators were also used to benchmark outcomes.

PSLM: The PSLM is a district-level survey that collects information on key social indicators. It is the main source of multidimensional poverty estimates.

HIES: The HIES is a national household survey that collects information on household income, savings, liabilities, and consumption expenditure. Its data can be used to analyze consumption patterns at the national and provincial levels and by urban–rural location.

DHS: DHSs are nationally representative household surveys that collect information on a wide range of population, health, and nutrition indicators for monitoring and impact evaluation.

Labor Force Survey (LFS): A major aim of the LFS is to collect a set of comprehensive statistics on the various dimensions of the country's civilian labor force to pave the way for developing skills, planning, generating employment, assessing the role and importance of the informal sector, and measuring the volume and characteristics of employment.

TIMSS: TIMSS, conducted by the International Association for the Evaluation of Educational Achievement, measures the mathematics and

science achievement of students across the world and is typically conducted in grades 4 and 8. In 2019, TIMSS's seventh cycle was administered in 64 countries and eight benchmarking systems. Data for Pakistan cover grade 4.[1]

Definitions of indicators

Expected years of school: The number of years that a child of school entrance age is expected to spend at school, including years spent on repetition. It is the sum of the age-specific enrollment ratios for primary, secondary, postsecondary nontertiary, and tertiary education.[2]

Learning-adjusted years of schooling: A measure of data quality calculated by multiplying expected years of school by the ratio of the most recent harmonized test score to 625, which corresponds to advanced attainment on the TIMSS test.[3]

Under-5 mortality rate: The probability of dying between birth and age 5, expressed per 1,000 live births.[4]

Stunting: The percentage of girls or boys under 5 whose height-for-age is more than two standard deviations below the median for the international reference population age 0–59 months. For children up to age 2, height is measured by recumbent length.

Labor force participation rate: The proportion of the population age 15 and older that is economically active—all people who supply labor to produce goods and services during a specified period.[5]

Methodology behind human capital measures

Imagine the trajectory from birth to adulthood of a child born in Pakistan today. There is a risk that the child may not survive to her fifth birthday. Even if she does reach school age, there is a further risk that she will not start school, let alone complete the full cycle of preprimary, primary, and secondary education that is the norm in more advanced countries. The time she does spend in school may translate unevenly into learning. When she reaches age 18, she carries with her lasting effects of poor health and nutrition in childhood that limit her physical and cognitive abilities as an adult.

Traditionally, human capital has been measured using proxies for the quantity of education, such as years of schooling. However, a large body of evidence built over the past decades has revealed other equally important dimensions of human capital. The quality of education—not just its quantity—is an important predictor of individual earnings. Health in the first years of life—and perhaps even earlier—has a long-term impact on individual productivity. Children who are in good health have better labor market outcomes not only because they tend to spend more time in school and learn more but also because they have higher productivity for a given level of education attainment. Beyond health and cognition, skills have a strong association with better labor market outcomes. One of the most striking findings of the literature that has improved understanding of human capital during the first years of life is that all the dimensions of human capital are complementary and start interacting with each other early.

The Human Capital Index (HCI), developed as part of the World Bank's Human Capital Project, measures the amount of human capital that a child born today can expect to attain by her 18th birthday, given the risks of incomplete education and poor health that prevail in her birth country. It highlights how investments that improve education and health outcomes today will affect the productivity of the next generation of workers. The HCI measures current education and health outcomes since they can be influenced by current policy interventions to improve their quantity and quality. Unlike traditional measures, the HCI quantitatively illustrates the key stages in the trajectory described above and their

consequences for the productivity of the next generation of workers, in a summary measure. The HCI consists of three components:

- *Survival:* This component reflects the fact that children born today need to survive until human capital accumulation through formal education can begin. Survival is measured using the under-5 mortality rate.
- *Education:* This component combines information on the quantity of education a child can expect to obtain by age 18 with a measure of quality: how much children learn in school based on countries' relative performance on international student achievement tests. By adjusting for quality, this component reflects the reality that children in some countries learn far less than those in other countries, despite being in school for a similar amount of time. This measure is the same as learning-adjusted years of schooling.
- *Health:* This component uses two indicators of a country's overall health environment: the prevalence of stunting among children under 5 and the adult survival rate, defined as the proportion of 15-year-olds who will survive until age 60. The first indicator reflects the health environment experienced during prenatal, infant, and early childhood development; the second reflects the range of health outcomes that a child born today may experience as an adult.

The education and health components of human capital described above have intrinsic value that is undeniably important but difficult to quantify. This in turn makes it challenging to combine them into a single measure. One solution is to interpret each component in terms of its contribution to worker productivity, relative to a benchmark corresponding to complete education and full health. Accordingly, the HCI transforms each component into a measure of this contribution. The HCI uses returns to education and health to convert the related indicators into worker productivity. The resulting overall index measures the productivity of a worker relative to this benchmark. The HCI ranges from 0 to 1, and a value of x means that a worker of the next generation will be only $x \times 100$ percent as productive as she would have been under the benchmark of complete education and full health. Equivalently, the gap between x and 1 measures the shortfall in worker productivity due to gaps in education and health relative to the benchmark.

The components are combined into a single index by first converting them into contributions to productivity relative to the benchmark of complete education and full health. Multiplying these contributions to productivity together yields the overall HCI value:

$$HCI = Survival \times Education \times Health.$$

For survival, the relative productivity interpretation is stark: children who do not survive childhood never become productive adults. As a result, expected productivity as a future worker of a child born today is reduced by a factor equal to the survival rate, relative to the benchmark where all children survive:

$$Survival = \frac{1 - Under\text{-}5\ Mortality\ Rate}{1}.$$

The benchmark of complete high-quality education corresponds to 14 years of school and a harmonized test score of 625. The relative productivity interpretation for education is anchored in the large empirical literature measuring the returns to education at the individual level. A rough consensus from this literature is that an additional year of school raises earnings by about 8 percent. The parameter $\phi = 0.08$ measures the returns to an additional year of school and is used to convert differences in learning-adjusted years of schooling across countries into differences in worker productivity:

$$Education = e^{\phi(Expected\ Years\ of\ School \times \frac{Harmonized\ Test\ Score}{625} - 14)}.$$

Compared with a benchmark where all children obtain a full 14 years of school by age 18, a child

who obtains only 10 years of education can expect to be 32 percent less productive as an adult (a gap of 4 years of education, multiplied by 8 percent a year).

For health, the relative productivity interpretation is based on the empirical literature measuring the economic returns to better health at the individual level. With the HCI, the estimated contributions of health to worker productivity are based on the prevalence of stunting and adult survival rate averaged together. The contribution of health to productivity is expressed relative to the benchmark of full health, defined as the absence of stunting and a 100 percent adult survival rate:

$$Health = e^{(\gamma_{ASR} \times (Adult\ Survival\ Rate - 1) + \gamma_{Stunting} \times (Not\ Stunted\ Rate - 1))/2}.$$

The utilization-adjusted Human Capital Index (UHCI) adjusts the HCI for labor market underutilization of human capital, based on the employment to population ratio (the fraction of people age 15–65 who are employed) or the better employment rate (the fraction of people who are in the type of job where they might be better able to use their skills and abilities to increase their productivity):

$$UHCI\ (Basic) = ETP \times HCI$$
$$UHCI\ (Full) = BER \times HCI + (1 - BER) \times HCI_{min}$$

where *ETP* is the employment to population ratio, *BER* is the better employment rate, and HCI_{min} is the productivity of raw labor (with 0 years of schooling, 100 percent stunting, and 0 chance of adults surviving to age 60), or 0.2.

Source: World Bank 2020b.

ANNEX 2
METHODOLOGY FOR THE PHONE SURVEY ON IMPACTS OF THE 2022 FLOODS

The data on the impacts of the 2022 floods come from a nationally representative phone survey carried out by Gallup Pakistan from September 29 to October 28, 2022. Random digit dialing of mobile phones was used to reach active numbers across Pakistan from all four telecom providers. Approximately 93 percent of households have access to a mobile phone.[6] Despite the high penetration of mobile phones, lower-income households are overrepresented in the remaining 7 percent of households that do not have access to mobile technology. Thus the results likely underestimate the true impacts of the floods on families and their children in Pakistan.

Each random number was called until a call was answered (with a maximum of three attempts). To maximize the response rate, calls were placed at different times on different days of the week. Once individuals were contacted by mobile phone, consent was obtained, a screening questionnaire was administered, and a unique study identification number was generated for each respondent. Interviewers entered data into a tablet with Survey CTO software that had the preloaded questionnaire with automatic skipping patterns (computer assisted phone interviewing).

The target population of the survey was parents or caregivers of children age 3–17. If more than one child lived in the household, one child was randomly selected as the subject of inquiry. The sample was stratified by gender of the child. The survey also oversampled households that reported any impact of floods, aiming for a sample of at least 1,000 households that suffered effects of floods in their area. The survey collected information on the education status of children, food security, child work, health, environment, and household composition. A limited set of sociodemographic characteristics was also collected, including education of parents, assets, gender, family composition, rural or urban area, district, and province.

The survey randomly called 40,800 numbers, reaching 15,750 individuals who answered the phone, 5,420 of whom agreed to the interview, and 4,044 of whom completed the survey. At the beginning of the survey, enumerators offered a PKR 200 phone credit for completing the survey to 75 percent of those who answered the phone (selected randomly). To better capture the aggregate impact, weights were created for the selection of province, urban–rural, sex, and education of household head.

Phone surveys are known to miss households at the bottom of the income distribution because those households often lack mobile phones or live in hard-to-reach areas (where mobile phone coverage is limited). Further, flood damage may have exacerbated those issues. In most instances, the results likely underestimate the magnitude of effects given the characteristics of those who might not be reachable via phone.

ANNEX 3
DESCRIPTION AND DEMOGRAPHICS OF RESPONDENTS TO THE GALLUP SURVEY

Gallup Pakistan was commissioned to conduct a phone survey from November 2021 to February 2022. The process relied on random digit dialing of mobile phones using all four telecom providers with active numbers across the country. (Landline penetration is extremely limited in Pakistan, at less than 3 percent, whereas 90 percent of households use a mobile phone, according to the 2019–20 Pakistan Social and Living Standards Measurement Survey [PSLM].) Respondents were caregivers age 18 and older in households with at least one child age 72 months or younger. Roughly half the selected children were in the 0–35 months (0–2 years) age group, and roughly half were in the 36–72 months (3–5 years) age group, inclusive of children age 72 months (that is, who just turned 6 years old). Gender-wise, the sample largely reflects the population (55.9 percent boys in the sample versus 52.2 percent boys in the population and 44.1 percent girls in the sample versus 47.8 percent girls in the population). Of 3,907 potential respondents reached, 448 declined to be interviewed (11 percent), 433 (11 percent) partly completed the interview, and 3,021 (77 percent) fully completed the interview.

All areas and types of families were represented in the survey. Households in all provinces and territories across Pakistan were represented: Punjab (n = 1,301), Sindh (n = 425), Khyber Pakhtunkhwa (n = 903), Balochistan (n = 223), and Islamabad Capital Territory and other areas (n = 169). The share of respondents from Sindh was smaller than the province's share of the total population (14.1 percent versus 24.5 percent), whereas the share from Khyber Pakhtunkhwa was larger (29.9 percent versus 19.1 percent). The shares of respondents from Punjab and Balochistan were within 4 percentage points of each province's share of the national population. The sample included more rural (57.6 percent) than urban (42.4 percent) households, whereas the actual composition of households in Pakistan is more urban (68.6 percent) than rural (31.4 percent). Monthly household expenditure distribution in the sample ranged from PKR 1,000 (US$5.65) to PKR 90,000 (US$509), with a median of PKR 25,000 (US$142). In 2019, based on PSLM data, median household expenditure was PKR 21,750 (US$122). In the month prior to the survey, 34.6 percent of respondents had not worked for pay, including 26.9 percent of men and 63 percent of women, and a majority of households had lost income during the COVID-19 pandemic, discussed further below.

Mothers, fathers, and other caregivers took part in the survey. Respondents included parents (70 percent) and other caregivers (30 percent). More specifically, 16 percent were mothers, 54 percent were fathers, 8 percent were grandparents, and 22 percent were other caregivers. Overall, 56 percent of respondents were male, and 44 percent were female.

Respondents were asked about their education and water and sanitation conditions. About 46 percent of mothers and 28.9 percent of fathers had not completed primary school, 20.2 percent of mothers and 21.5 percent of fathers had completed primary school, and 33.8 percent of mothers and 49.6 percent of fathers had completed secondary school or higher. Most households (90.2 percent) had a toilet in the house. While most had access to an improved water source, less than half (42 percent) had piped water inside the house. The rest had access to bore water (22.2 percent), a neighborhood tap (12.4 percent), well water (9.2 percent), or bottled or sachet water (9.5 percent); 4.8 percent of the sample relied on river water as their primary source of drinking water.

To measure child development for children under 3, the Caregiver-Reported Early Development Instrument (CREDI) short form was used.

CREDI is a globally validated, population-level, developmental assessment tool for children age 0–3. It has been used in more than 17 countries and is designed to be culturally and linguistically neutral. CREDI captures development across four domains, motor skills, language, cognition, and social-emotional development. The short form questionnaire has 20 items to be completed by parents or caregivers about their child. Items represent developmentally appropriate skills aligned with the rapid changes that occur from birth to age 3, and forms are standardized within subgroups by age. Therefore, a question about social-emotional development looks different for a 6-month-old child than a 30-month-old child, and so forth. The current survey provides the first CREDI measurements taken in Pakistan.

ANNEX 4A
TACKLING CHILD MALNUTRITION: A REVIEW OF POLICIES AND STRATEGIES

Pakistan's development blueprint, Pakistan Vision 2014–2025, takes a comprehensive view of the country's development challenges across sectors. Nutrition is also highlighted in overarching provincial development visions.

Emergence of the multisectoral approach

The Pakistan Intersectoral Nutrition Strategy 2011 was seminal in framing nutrition as a multisectoral issue, especially at the planning level. It emphasized the roles of health, social protection, agriculture (including livestock and fisheries), water and sanitation, education, and family planning in contributing to nutrition.

Provincial nutrition strategies, which are rooted in the local context, attempt to improve nutrition through the convergent action of multiple sectors, expanding nutrition actions beyond the health sector. The strategies emphasize geographic convergence to varying degrees. Sindh's strategy most comprehensively plans for it, prioritizing districts with a high burden of stunting, with all sectoral interventions converging at the union council level. In Punjab, health and water, sanitation, and hygiene interventions target high-risk populations but with likely divergent geographic rollout. Khyber Pakhtunkhwa's strategy proposes nutrition interventions through health and education in all high-burden districts and a "model district" approach where nutrition interventions related to agriculture, livestock, and fisheries converge.

Based on the provincial strategies, the comprehensive Pakistan Multisectoral Nutrition Strategy 2018 (PMNS) was developed. The strategy sets clear, achievable goals for nutrition and emphasizes nutrition-sensitive programming, including advocating for all sectors to adopt a "nutrition lens" in planning. It also proposes common results frameworks to guide provincial spending and planning. It targets socioeconomically vulnerable populations, pregnant and nursing mothers, adolescent girls, and children up to age 2 and prioritizes areas with high stunting and other malnutrition indicators. Geographic convergence of the multisectoral interventions is a key guiding principle. The PMNS tasks the federal government with coordination and monitoring as provinces implement their nutrition strategies.

Nutrition policies and strategies in the health sector

National health vision documents advocate for an integrated and multisectoral approach to health and nutrition. The National Integrated Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAH&N) Strategy 2016–2020 and the provincial workplans following the strategy set the stage to mainstream nutrition services within existing health programs.

Provinces have operationalized the integration into their health programs and projects to different degrees. Khyber Pakhtunkhwa and Punjab have integrated their vertical health programs, including the Expanded Programme on Immunization; Maternal, Newborn, and Child Health and Nutrition; and the Lady Health Worker Program. Sindh has mainstreamed nutrition into health sector programs as part of its Nutrition Support Program in nine districts, and in 2020, it integrated eight vertical health programs to operationalize the strategy. Sindh's integrated RMNCAH&N strategy is also a part of its Accelerated Action Plan for Reduction of Stunting and Malnutrition.

The National Health Action Plan 2019–2023 and individual provincial health sector reform strategies emphasize nutrition. The national plan outlines health sector priorities, envisages universal

access to high-quality healthcare, and sets targets to reduce stunting and malnutrition. However, it does not adequately link to the nutrition strategies, particularly the multisectoral approach, nor does it specify the implementation and oversight arrangements needed to achieve its nutrition targets.

With devolution, provincial governments started to steer the health sector through independent strategies. They developed these strategies in response to challenges related to service delivery quality and coverage (especially of poor and vulnerable people), health workforce competence, and health sector governance and regulation. Most of the strategies identified nutrition as important within health, and each adopted an integrated approach through essential health services packages at all levels. The strategies clearly identified the macro issues and goals of the health sector, but few presented monitoring targets or detailed specific implementation or targeting methods. They guided positive steps toward reforming the health sector, but structural and operational challenges limited their impact.

Policies and strategies in nonhealth sectors vary in their attention to nutrition. Although several sectoral actions in and of themselves —for example, educating women, keeping girls in school longer, making communities free of open defecation, and providing safe water— contribute to better nutrition outcomes, a coordinated and convergent program, focusing on actions that leverage each sector's vantage points, is crucial to reap the full benefits of the multisectoral approach. To create such a program, the sectoral policies and strategies must explicitly identify their sector's roles, actions, coordination mechanisms, and resource requirements to contribute to nutrition outcomes, along with meaningful indicators to track progress.

From policies to programs to impacts

Pakistan has a comprehensive enabling policy environment to provide direction and guidance for nutrition actions and programs. It does not have a nutrition policy, but several vision and strategy documents at the federal and provincial levels are used as policy equivalents. These documents were developed by engaging stakeholders across provinces, sectors, civil society, and academia as well as development and nutrition partners. They were also informed by the global evidence base of effective interventions and consider direct or nutrition-specific interventions implemented through the health sector and nutrition-related interventions by nonhealth sectors that can improve nutrition outcomes.

Most of the strategies outline clear goals and objectives and explicitly prioritize vulnerable groups. In several instances, however, the targets appear either too ambitious—almost aspirational—or too modest and overly cautious. The strategies are complemented by guidelines that further define and provide technical and operational guidance on a specific topic or intervention—such as food fortification and dietary guidelines. Going forward, a phased approach—prioritizing the most vulnerable people with the highest-impact integrated and co-located interventions—may yield the largest impact in the shortest timeline.

The strategies and their development process have introduced sensitization and built commitment for nutrition at the national and provincial levels and provide an enabling framework. However, for several years they remained mostly on paper, and several still do; operationalization into programs has lagged, remaining weak and limited. It will take commitment, stewardship, capacity, and financial and human resources to implement the strategies at scale and harness their full benefit to improve nutrition outcomes.

ANNEX 4B
TACKLING MALNUTRITION: A REVIEW OF PROGRAMS

National nutrition programs and projects

While devolution provided provinces with program leadership opportunities, including in nutrition, national nutrition programs remain important. National programs are being rolled out across the country, focusing on provinces and territories with poorer nutrition outcomes. These programs—providing mainly financial, technical, and oversight support for direct nutrition interventions—include donor-funded programs such as micronutrient supplementation and food fortification programs, federal government–funded programs such as the Benazir Income Support Program (BISP) Nashonuma and Tackling Malnutrition Induced Stunting in Pakistan (TMIS), continued federal support for health and nutrition programs in territories and regions where responsibilities were not devolved or not fully devolved, nutrition support as part of the response to natural or human-caused emergencies, and stewardship for programmatic and operational research and knowledge generation.

TMIS includes evidence-based interventions in the 67 districts in Pakistan with the highest prevalence of stunting, targeting the first 1,000 days of life (pregnant and nursing mothers and children under 2) and adolescents. The interventions include nutrition counseling, supplementary feeding, food fortification, systems strengthening, increased coverage and capacity of the Lady Health Worker Program (LHWP), and capacity building. Close to 40 percent of funds (most of the federal contribution) is earmarked for lipid-based nutrition supplements, ready-to-use supplementary food, and ready-to-use therapeutic food. TMIS also supports clear referral mechanisms to avoid counterproductive competition between the LHWP and the Community Midwife Program. At the health facility level, TMIS supports updating guidelines, strengthening supply chains (including those for therapeutic foods), ensuring emergency and inpatient services for severe acute malnutrition at nutrition stabilization centers, and building system capacity and protocols to respond to emergency nutrition situations.

TMIS champions pooled procurement and advocacy for legislative change for the Food Fortification Programme (FFP). It leverages existing social mobilization structures such as mothers' groups to trigger behavior change at the household level and increase demand for nutrition services. The program proposes implementation arrangements at multiple levels with clear roles and responsibilities. The Federal Nutrition Wing coordinates among stakeholders; provides technical assistance and guidance; builds capacity; prepares and implements the monitoring and evaluation framework; advocates with policymakers; oversees a mass media campaign; establishes nutrition guidelines, frameworks, and mechanisms; handles financial procurement; and manages the supply chain. Provinces and territories develop and review nutrition plans and implement and monitor project interventions. Districts bear the responsibility for implementation and coordination.

BISP Nashonuma provides conditional cash transfers to pregnant and lactating women and children under 2 from ultrapoor households in nine districts with high stunting. It incentivizes the uptake of health and nutrition services such as counseling; immunization; awareness sessions on breastfeeding, sanitation, hygiene, and dietary diversity; antenatal care; and consumption of specialized nutritious foods. It awards a higher cash transfer for girls and, as of September 2021, had more than 66,000 registered beneficiaries.

The LHWP is an important delivery platform for nutrition services at the community level. It provided primary healthcare outreach to about

54 percent of Pakistan's population in 2019, particularly in rural communities and urban slums. Its mandate has evolved to include infant and young child feeding; immunization; diarrhea management; antenatal care; micronutrient supplementation; and water, sanitation, and hygiene. The LHWP is integrated with other health sector verticals in Khyber Pakhtunkhwa, Punjab, and Sindh, while in Azad Jammu and Kashmir, Balochistan, and Gilgit-Baltistan it continues as a separate program. Maximizing the program's potential to deliver its nutrition mandate is important. Lady Health Workers are typically regarded with respect and considered influential, particularly in infant and young child feeding practices,[7] which are crucial to improving nutrition outcomes. There is evidence that programmatic focus on specific functions has led to improvements (as with poliomyelitis[8]); thus, bolstering the status of nutrition within the program could have a marked impact. Enhancing the focus on nutrition will entail building capacity and support, which can include offering incentives for nutrition tasks.[9] The nutrition indicators tracked by the program vary by province; developing a core set of meaningful indicators to track the program's progress and using the information to drive future improvements would be useful. Knowledge exchange can be especially valuable in key areas where provincial implementation differs. TMIS can play a valuable role in strengthening these crucial areas to improve the LHWP's nutrition performance.

Programs to address micronutrient deficiencies

To address micronutrient deficiencies, Pakistan has both large-scale food fortification programs for its entire population and micronutrient supplementation programs for specific groups. Micronutrient supplementation interventions include iron-folate and multiple micronutrient supplementation for pregnant and nursing women, vitamin A supplementation for children age 6–59 months, and micronutrient powder sachets for all children age 6–23 months and for undernourished children up to age 5. These interventions are delivered through the health sector. Food fortification efforts were initiated in the 1980s with salt iodization but have not been continuous. Strong technical and financial support from donors, particularly the National Fortification Alliance, has been instrumental in advocating for renewing, expanding, and institutionalizing the country's two large food fortification initiatives—Universal Salt Iodization (USI) and the FFP.

USI, a long-standing initiative to protect people from iodine deficiency disorders, demonstrates robust design features and responsiveness to implementation issues. Revitalized in 2002, the program was successfully piloted in 20 districts and by 2012 covered all 110 salt-producing districts in the country.[10] It is slated to continue until at least 2025. USI has many strengths: its design drew on lessons from similar initiatives in Pakistan and across Asia; it provides technical assistance, support for equipment, fortificant supplies, capacity building, advocacy for legislation, and public awareness activities to promote consumption; it is attentive to the need for monitoring, building in mechanisms both for quality assurance and internal monitoring at the processor level and for community-based monitoring; and it is attentive to implementation issues and responsive in finding appropriate solutions. For example, when small- and medium-scale processors faced financial issues with purchasing the fortificant, a revolving fund was created to procure it, and it was repackaged into smaller units that those processors could afford.[11]

According to the 2011 and 2018 rounds of the National Nutrition Survey, household use of iodized salt rose substantially at the national level —from 17.0 percent to 79.6 percent. However, use remains much lower in Balochistan (60 percent in 2018) and Khyber Pakhtunkhwa (31 percent), and additional efforts to expand coverage and consumption in those two provinces are required. USI is not yet backed by the necessary legislation in every province,[12] making adequate

iodization challenging and leaving program sustainability at risk. TMIS incorporates objectives and interventions to increase household consumption of iodized salt to 88 percent by 2026 and proposes providing iodized oil capsules in areas with high incidence of iodine deficiency disorders and low supplies of adequately iodized salt. It is important that the federal and provincial governments invest in and support the USI to ensure program continuity, expansion, and strengthening.

The FFP aims to reduce micronutrient deficiencies by fortifying wheat flour and edible oil. It supports fortifying roller mill wheat flour with iron, folic acid, zinc, and vitamin B12 and fortifying edible oil/ghee with vitamins A and D. The program has set clear targets to reduce iron and vitamin A deficiency in women and children under 5, as well as targets for population coverage of fortified wheat/flour and edible oil/ghee. Its four key components to support fortification efforts—technical assistance to federal, provincial, and district governments for monitoring and enforcement; technical assistance and incentives to the relevant industries; consumer awareness and advocacy; and targeted studies to better inform implementation—reflect global best practices in food fortification programs and responsiveness to country needs.

Emergency nutrition responses across provinces

To protect the nutrition status of the most vulnerable people during natural or human-caused emergencies, including during the ongoing COVID-19 pandemic, nutrition interventions are incorporated as key elements of the government's response. In the affected areas nutrition support efforts, including donor support, typically focus on establishing outpatient therapeutic programs, screening children and improving the coverage of operational health sector nutrition interventions (such as providing micronutrient powder and iron and folic acid), and promoting breastfeeding. For example, at least eight of Balochistan's drought-affected districts are receiving humanitarian responses to malnutrition: seven are serviced through a United Nations Children's Fund (UNICEF) intervention and one through a Central Emergency Response Fund. Through UNICEF, emergency nutrition support has also been extended to drought-affected areas in Khyber Pakhtunkhwa and Sindh. Through the National Disaster Management Agency, nutrition clusters for coordinated responses to emergency situations already exist in Pakistan. TMIS includes additional measures for integrating nutrition response during emergencies, including building capacity for disaster risk reduction, preparedness, and coordination.

The need to improve implementation

Pakistan has seen a concerted move in recent years to develop programs that deliver direct nutrition interventions across all provinces and territories. While commitment to developing integrated, multisectoral programs is strong and strategies and approaches for multisectoral programs have been developed by all provinces, the health sector remains the primary sector delivering nutrition interventions, and multisectoral programs are few. The new national TMIS program, while committed to multisectoral convergence, is also rooted in the health sector. Going forward, a more multisectoral view will likely yield larger impacts on nutrition outcomes.

The design, scope, and coverage of provincial programs vary considerably, but overall, programs and projects are designed well, aligning with national and provincial policies and strategies. Projects and programs are typically designed consultatively and draw on lessons from earlier programs and pilots. Most set clear, measurable, and reasonable goals for reducing stunting and demonstrate a shift from only screening for and treating severe acute malnutrition to incorporating approaches and interventions to prevent stunting. Most programs target adolescent girls, pregnant and nursing mothers, and children under 2—individuals at

the crucial times when appropriate nutrition interventions can have the most impact, not only during childhood but throughout life. Most programs also target the most vulnerable and disadvantaged people. However, some areas with vulnerable and at-risk people are not reached or are minimally reached by nutrition interventions. TMIS aims to fully cover the districts with the highest stunting, addressing this issue in a phased manner.

ANNEX 4C
ENSURING FEDERAL AND PROVINCIAL STEWARDSHIP OF NUTRITION

Federal stewardship structures

The recently established interministerial Pakistan National Nutrition Coordination Council, chaired by the prime minister, is the country's highest stewardship body. A first in the history of Pakistan, the council was created to lead national nutrition policy and strategy development, build synergies, and ensure cross-country, cross-ministerial, intersectoral, and interprovincial collaboration to prevent childhood stunting and malnutrition. It has four core functions—formulating strategy and policy; developing human capital; monitoring and assessing impact; and advocating and raising awareness—and will be supported by the Planning Commission and the Ministry of National Health Services, Regulations and Coordination. Nutrition is a decentralized subject and a provincial responsibility, but this high-level stewardship at the federal level will be critical to supporting and providing direction to provinces, leading synergistic and collaborative multisectoral policy and program action for nutrition.[13]

The Federal Nutrition Wing at the Ministry of National Health Services, Regulations and Coordination plays a pivotal role in moving the nutrition agenda forward. As the dedicated home for nutrition both before and after devolution, the wing has served as the primary advocate for nutrition, including the development of multisectoral strategies. In 2009, with United Nations Children's Fund support, it initiated the development of the Pakistan Intersectoral Nutrition Strategy 2011 to facilitate cross-sectoral action on nutrition—a major shift from the previous practice of confining nutrition to the health department. Despite being overtaken by the devolution of health under the 18th Constitutional Amendment, the strategy served as a strategic framework for guiding provinces to define nutrition in their postdevolution development agendas.[14] The wing has been the chief coordinating body for all stakeholders in nutrition, including provinces and development partners, setting technical guidelines that are aligned with international commitments and global strategies,[15] supporting their implementation with the help of development partners, and coalescing alliances and technical committees. It was instrumental in developing TMIS, which is expected to strengthen and better coordinate nutrition leadership at all levels—provincial, regional, and district.

The National Nutrition Cluster (NC) coordinates with national and international partners on agreed priorities to ensure coherent, strategic, and effective provision of nutrition services during emergencies. It focuses on coordination, capacity building, emergency preparedness, assessment, and response for nutrition. It developed a common framework, the NC Preparedness and Response Plan, to guide the actions of all partners in the nutrition sector against disaster. It does not replace the need for planning by individual agencies in relation to their mandate and responsibilities within clusters, but it provides focus and coherence to the various planning levels that are required to respond effectively. It is designed to be a flexible plan that is updated to incorporate lessons and strengthen future emergency response. In cooperation with

the Provincial Disaster Management Authority and the Department of Health, provincial NCs are expected to develop their own preparedness and response plans aligned with the national plan.[16]

Over time, several institutions—alliances, technical groups, advisory bodies, and steering committees—have been created for specific interventions and areas. Each group has a mandate and has served a valuable purpose in drawing attention to its issue area; advocating for it; collaborating to develop appropriate strategies, interventions, and guidelines for addressing it; and supporting and, to an extent, monitoring implementation. They have worked closely with the Federal Nutrition Wing and the provincial nutrition stewardship institutions, helping bring in new knowledge and international good practices.

Provincial stewardship structures

The devolution of nutrition to the provinces brought the role of provincial stewardship to the fore. Provinces' previous role had been confined to delivering health services, but with devolution they received greater autonomy, with responsibility for financing[17] and stewarding the health and nutrition functions. A look at strategic opportunities for and barriers to action on nutrition in Pakistan's four provinces in the first few years after devolution reveals that the provinces faced common constraints: lack of a comprehensive policy and minimal allocations by the state, driven by the low visibility of nutrition, siloed working of sectors, and weak coalitions. Provinces also faced the common contextual impediments of poverty, patriarchy, and inadequate health and water, sanitation, and hygiene coverage.[18] With increased attention to nutrition and with advocacy and support from donors and UN agencies, provinces developed stewardship structures, including for both horizontal coordination and vertical integration. These structures have evolved in recent years, and nutrition units have been established in each province's planning and development department.

All four provinces have stewardship bodies for nutrition. While capacity for stewardship varies, each province has developed its own intersectoral nutrition strategy and stewardship and institutional structures to support its implementation and other nutrition programs. Each has a Nutrition Steering Committee with representation by the sectors identified in the relevant Multi-sectoral Nutrition Strategies, chaired by senior leadership—by the chief minister in Punjab, by the additional chief secretaries in Balochistan and Khyber Pakhtunkhwa, and by the chairperson of the Planning and Development Board in Sindh. The steering committees are supported by technical working groups that provide technical advice. Stewardship and institutional arrangements for planning, implementation, coordination, and monitoring have also been set up at the district levels. Provincial food fortification alliances exist in all provinces.

Federal-provincial coordination

Formal coordination mechanisms are not defined, but the Federal Nutrition Wing lends technical support to provinces and coordinates periodic reviews. Joint annual reviews of provincial programs include a review of provincial strategies, with cross-learning by all provinces. As part of the Ministry of National Health Services, Regulations and Coordination, the Federal Nutrition Wing has key provincial counterparts in departments of health, but this makes coordinating with the provincial nutrition units in the planning and development departments somewhat challenging. The technical bodies at the national and provincial levels coordinate as required. In Balochistan, Punjab, and Sindh the provincial health departments coordinate the activities of the technical working group; however, in Khyber Pakhtunkhwa there is a technical working group for each sector, and they involve public officials.

ANNEX 5
INTERNATIONAL EXPERIENCE IN REDUCING THE NUMBER OF OUT-OF-SCHOOL CHILDREN

Reducing the number of out-of-school children in Pakistan requires understanding what works to get more children into school and to improve retention, learning outcomes, and attainment once they are there. This annex summarizes the international literature on what works to improve schooling, focusing on interventions that have undergone rigorous evaluation through randomized controlled trials and quasi-experimental studies. Both supply- and demand-side issues limit children's access to education.

Supply-side issues

Among the explanatory variables examined in the literature, those most relevant to Pakistan are distance to school; teacher quality and gender; water, sanitation, and hygiene facilities; structured pedagogy; and complete information to parents in the form of engaging report cards.

Distance to school

Pakistan's bottleneck in basic education infrastructure translates into long walks to school for many students. In 2016/17, 80 percent of public schools in Pakistan were primary schools, 11 percent were middle schools, and 9 percent were secondary schools (table A5.1).

TABLE A5.1 **Most public schools in Pakistan are for primary education**

School level	Number of schools	Percentage
Primary	119,149	80
Middle	16,428	11
High	12,576	8
Higher secondary	1,698	1
Total	149,851	100

Source: Pakistan Education Statistics 2016–17, chapter 3, pp. 13–17.

Building schools—or providing transport to schools—increases enrollment. Tellingly, in Pakistani villages with a secondary school for girls, there are twice as many educated women as in villages without one.[19] In areas with sufficient enrollment to populate new schools, building more schools can increase enrollment. In Quetta, Balochistan, opening new private girls' schools in poor urban neighborhoods led to a 33 percent increase in enrollment.[20] Pakistan's experience is not unique: constructing new schools raised enrollment rates and learning outcomes for all students, especially girls, in rural areas of Afghanistan and boosted school attendance in Indonesia.[21]

Teacher quality

Research on rural schools in Pakistan has found that improving the quality of teachers is likely to have higher returns than improving the quality of school buildings.[22] In Punjab, Pakistan's wealthiest province, only 56 percent of teachers demonstrated basic mastery of the curriculum. A study in Indonesia of a nationally representative sample of primary students found, unsurprisingly, that students learn more when teachers are present, schools and their teachers are of higher quality, and class sizes are smaller.[23] Given the extensive evidence from many countries showing the importance of teachers in increasing student learning,[24] improving the quality of Pakistan's teachers should be an urgent priority. Students who receive a high-quality education are more likely to stay and succeed in school.

Teacher gender

Female teachers are helpful in creating a supportive environment for girls' education.[25] In Pakistan the Citizens Foundation employs only female teachers in its schools.[26] After finding

that an all-female staff could increase girls' enrollment and recognizing challenges to women's mobility in Pakistan, it began providing transport to its teachers. The schools are coeducational, and their female-only staff has helped increase the number of girls, allowing many schools to achieve gender parity in education. This is impressive given that across Pakistan's public schools nearly 60 percent of girls are out of school by grade 6.[27] Hiring female teachers may improve girls' learning too. In middle schools in the Republic of Korea, a study of random assignment of students to classes with female teachers found that "female students perform substantially better on standardized tests when assigned to female teachers," with results persisting five years later.[28]

Water, sanitation, and hygiene facilities

The availability of water, sanitation, and hygiene facilities can improve enrollment and gender parity.[29] About 26 percent of Pakistan's primary and secondary schools lack clean drinking water and toilets.[30] Improved water and sanitation facilities support school attendance and performance, particularly among adolescent girls.[31] Providing sex-specific latrines in India raised girls' enrollment across districts, though it had no impact on test scores.[32]

Structured pedagogy

Structured pedagogy—a coordinated, combined approach that includes student materials and teacher lesson plans, training, and ongoing support—appears to be a cost-effective means of improving student learning. In several countries structured pedagogy improved student outcomes in functional literacy and numeracy.[33] Structured pedagogy programs lead to learning improvements in literacy and numeracy in low- and middle-income countries, and this type of intervention can be more effective than many others.[34] For example, an early-grade reading program accelerated literacy among Liberian children by the equivalent of three years of schooling in just one year.[35] Grade 3 students' reading skills improved by 0.6–0.7 standard deviation, with greater gains for girls than for boys. Also in Liberia an evaluation of the Early Grade Reading Assessment Plus found that targeting the quality of reading instruction in grades 2 and 3 can substantially raise student literacy. Students' reading comprehension more than doubled, rising an average of 33.6 percentage points over baseline scores.[36] And in Papua New Guinea teachers learned a low-cost (US$60 per child) structured pedagogy method to improve early-grade reading skills that they could apply in just one hour a day.[37]

Tutoring

Students can make as much progress in 12 weeks of tutoring as in three to five months of normal schooling.[38] In Italy middle school students who received three hours of online tutoring a week achieved a 4.7 percent boost in performance in mathematics, English, and Italian.[39] Programs pioneered by Match Education in Boston, Massachusetts, and scaled by Saga Education in Chicago, Illinois, provide students who are below grade level in mathematics with an individualized 50 minute class each day. Tutors work with two students at a time and cover content appropriate to their current skills while also linking to what is being taught in the regular classroom. Costs are kept (relatively) low by using paraprofessionals (for example, recent college graduates) to provide the tutoring. The results are impressive: participating students advanced one to two years in math learning in one year of instruction.

Effective multigrade classrooms

Out of necessity, some countries have managed to create well-functioning multigrade classrooms on a larger scale. Such classrooms have appropriate texts and materials, effective teaching practices, and teachers who are supported through ongoing training programs.[40] In remote areas with low population density, such

as those served by Colombia's Escuela Nueva and in mountainous areas of Vietnam, multigrade classrooms have proven effective for increased enrollment and positive student learning outcomes.[41]

Report cards

When parents know how their children are doing in school, children begin to do better. An experiment in 112 Pakistani villages through the Learning and Educational Achievements in Pakistan Schools initiative found that issuing report cards increased enrollment by 4.5 percent and test scores by 42 percent.[42] A survey confirmed that parents shifted their perceptions of school quality to reflect their children's higher scores. The report card intervention—including testing, printing, and distribution—cost US$1 per child. In Bangladesh a randomized field experiment encouraging parents to discuss report cards with teachers showed that doing so improved learning outcomes by 0.26 standard deviation in the first year and 0.38 standard deviation in the second year, with no statistically significant difference between girls and boys.[43]

Demand-side factors

Families that can afford to send their children to school often do. Pakistan's government offers free schooling and textbooks across the country and stipends and cash transfers in some districts, but households prefer private schools, due possibly to negative perceptions of public school quality. Rigorous studies in many countries have examined demand-side initiatives to reduce the number of out-of-school children. Among those most relevant to Pakistan are household-level challenges tied to poverty: the solution is to decrease the cost of schooling through a range of targeted interventions.

Household-level challenges tied to poverty

Poverty is negatively related to school enrollment. When income falls, school enrollment drops as poorer families struggle to pay for schooling.[44] This reality is even starker for girls, as many lower-income families prioritize boys' education. For households in the poorest income quintile in Pakistan, the probability of attending school is about 8 percentage points lower for a girl than for a boy.[45]

Transfers to lower the cost of education

Reducing school fees boosts enrollment. "Student participation is sensitive to the perceived costs and benefits of education. Because the costs of education are immediate and easy to observe, even small changes in costs can have important impacts on participation."[46] The most effective way to increase enrollment is to reduce the cost of schooling by offering cash directly to poor families.[47] Cash can be in the form of conditional or unconditional transfers, merit-based scholarships, or criteria-based grants. Reducing the cost of schooling is an effective way to bring low-income children, especially girls, into school, even with supply-side constraints and even when social norms favor boys' education.

Cash transfers

Cash transfers spur enrollment. Conditional cash transfers have a significant, positive effect on the likelihood of school participation at both the primary and secondary levels.[48] The evidence is especially strong for girls, with enrollment increases as large as 20 percentage points.[49] For girls in Malawi who had dropped out of school, both conditional and unconditional cash transfers raised enrollment and English reading comprehension. However, the enrollment effects were almost twice as large among recipients of conditional cash transfers as among recipients of unconditional cash transfers, and reading comprehension also increased more in the conditional cash transfer group.[50] Pakistan has countrywide conditional cash transfers implemented through the Waseela-e-Taleem program under the Benazir Income Support Program umbrella.

Conditional cash transfers also promote education progression. Half the improvement in grade progression in Nicaragua over 1999–2003 was accounted for by lower dropout and repetition rates among beneficiary children who were already in school when the conditional cash transfer program began.[51] The program was especially effective in areas with poor initial school supply conditions, suggesting that low initial school supply is not an insurmountable obstacle, as long as such constraints are identified in planning and dealt with in implementation. This finding has important implications for Pakistan, where inadequate school supply is a serious barrier to continuing education, particularly middle and secondary schooling.

Merit-based scholarships

Merit-based scholarships reward students for studying while making school more affordable and providing an incentive to value it more highly. In Ghana, for example, secondary school scholarship recipients were 26 percentage points more likely to complete secondary school and 3 percentage points more likely to enroll in college.[52] Offering merit-based scholarships in Kenya increased girls' learning by 0.19 standard deviation.[53]

Grants

Grants increase school enrollment and, if continued, school progression. In South Africa beneficiaries of an unconditional grant had enrollment rates at least 10 percentage points higher than nonbeneficiaries. Expanding the South African Child Support Grant raised teenage enrollment at least 10 percentage points among beneficiaries.[54]

Reducing the cost of schooling can even alter social norms. In Morocco a small cash transfer to fathers of school-age children in poor rural communities that was explicitly labeled an education support program but was not conditional on school attendance led to large gains in school participation.[55] Adding conditions and targeting mothers made almost no difference. The program seemed to increase parents' belief that education was a worthwhile investment.

ANNEX 6A
KEY LABOR MARKET CONCEPTS AND DEFINITIONS

Employment: Employment covers any work for wage, salary, profit, or family gain, including the production of goods for own consumption. The employed comprise all people age 15–64 who in the week prior to the survey worked at least an hour for wage, salary, profit, or family gain or who temporarily did not work during the reference period but had a formal attachment to a job or enterprise.

Unemployment: People who are unemployed are those who simultaneously are without work, currently available for work, and seeking work. The unemployed comprise all people age 15–64 who in the week prior to the survey were not in paid or self-employment, were available for work, and were seeking work.

Underemployment: People in time-related underemployment are those who are willing to work additional hours, are available to work additional hours (that is, they are ready, within a specified subsequent period, to work additional hours given opportunities for additional work), and have worked less than a threshold relating to working time.

Wage employment: Wage employment covers any employment where the people employed receive payment—salary or wage—for their work. The wage employed comprise people age 15–64 who in the week prior to the survey worked at least an hour for wage or salary paid in cash or in kind or who temporarily did not work during the reference period but had a formal attachment to a job.

Self-employment: Self-employment covers any work where people engage in work to earn profit or family gain, including the production of goods for own consumption. The self-employed comprise people age 15–64 who in the week prior to the survey worked at least an hour to earn profit or family gain or who temporarily did not work during the reference period but were with an enterprise. Unpaid family work is considered self-employment.

Economically active: The economically active comprise people age 15–64 who in the week prior to the survey were either employed —engaged in paid or self-employment—or unemployed.

Labor force: The labor force comprises both the employed and unemployed.

Formal wage employment: Wage employment is formal if the employee has a written contract.

Source: International Labor Organization, Pakistan Bureau of Statistics.

ANNEX 6B
PACKAGE OF PROGRAMS TO IMPROVE LABOR MARKET OUTCOMES

Moving beyond cash transfers

While cash transfer programs are an important instrument to support poor people, they need to be paired with other interventions to improve labor market outcomes. When Argentina's Plan Jefes conditional cash transfer program was paired with support for skill upgrading, job search, and placement, the augmented program increased the probability of a formal job and higher wages, especially for young men.[56] Peru's Haku Winay program, which seeks to improve social and economic outcomes among the rural population, highlights the impacts on incrementing productivity of beneficiaries, asset accumulation, income generation, and

market access through capacity development. The programs reviewed were characterized by a package of services for formal employment that featured socioemotional support, labor market intermediation, case management, and internships.

Cash transfers made without an explicit employment focus tend to result in little to no change in labor market outcomes.[57] In contrast, transfers explicitly made for job search assistance or business startup tend to increase adult labor supply and earnings. The main channel is likely the alleviation of liquidity and risk constraints. Programs that augment cash transfer with other services are now referred to as "cash-plus" programs.

Impact evaluations of several labor market programs in Latin America supported by the Inter-American Development Bank found that comprehensive and demand-driven programs can have high impact when focused on poor (or otherwise) disadvantaged youth who have difficulty in labor market insertion.[58]

World Bank–supported multipronged economic inclusion programs in the Sahel

In six countries in the Sahel, the World Bank supports multipronged economic inclusion programs that prominently feature psychosocial interventions. Bossuroy et al. (2021) evaluated the impact of national cash transfer programs, identifying a core package that includes a lump-sum cash grant, a second package that substitutes the cash grant with psychosocial interventions, and a third that includes both the cash grant and the psychosocial interventions. All three packages showed large impacts on consumption and food security and increased participation and profits in women-led off-farm business and livestock activities. The benefit–cost ratio for the "pure" psychosocial package was 126 percent; the complete package, 95 percent; and the core cash-grant package, 58 percent.

Focusing on a program in Niger, Bossuroy et al. (2022) conducted an impact evaluation of a multi-intervention program anchored on a national cash transfer program targeting extremely poor women. The additional services included group savings promotion, coaching, and entrepreneurship training and added a lump-sum cash grant, psychosocial interventions, or both. Packages of services with psychosocial interventions were the most cost-effective, highlighting the value of including well-designed psychosocial interventions.

The Skills Training for Advancing Resources program in Bangladesh

One example of an apprenticeship approach is Skills Training for Advancing Resources by BRAC in Bangladesh. It features an informal apprenticeship program that places young people in pairs under a master craftsperson who is usually an experienced shop owner or worker in a trade. On average, these young people are age 16–17 and have five or six years of education. The apprentices receive hands-on training five days a week for six months.[59] In addition to the workplace-based practical training, apprentices receive classroom-based soft-skills training once a week on such issues as financial literacy, market assessment, and English language skills. Once the training is completed, the project links the participants with potential employers, and they are certified through the National Training and Vocational Qualifications Framework. On-the-job training increased participants' labor market participation by 23 percentage points (up to 59 percent) and earnings by 44 percent through both self-employment and wage employment.[60]

A randomized control trial of a program targeting poor women in Tunisia

Tunisia's Community Works and Local Participation program shows the need to design programs targeting women entrepreneurs.[61] The effects of cash grant intervention had positive

impacts on the economic well-being of beneficiaries, highly marginalized and poor women, but raised concerns that the effects may not persist in the long run. A cash grant intervention paired with financial training through simple exercises and videos had positive results for income-generating activities of other members of the household but not beneficiaries' entrepreneurship. Findings related to a subintervention adding "gender dialogue" that invited male partners to the training were inconclusive on whether the gender dialogue added value related to labor market participation, income-generating activities, asset accumulation, or women's autonomy. These results show the potential and limitation of capital injection interventions to promote women's entrepreneurship and suggest designing more country-specific programs. Moreover, psychology-based training was particularly effective for woman who owned businesses, for whom traditional training has often been ineffective. Women who received personal initiative training saw their profits increase by 40 percent, compared with 5 percent for traditional business training.[62]

A review of a wide array of women-targeted interventions elsewhere found that the same type of interventions had significantly different outcomes depending on the profiling of women (poor versus nonpoor and young versus adult). For example, impoverished women need a more intensive package of services than nonpoor women do to break out of subsistence production and grow their businesses.[63]

Pilot of an asset transfer–based economic inclusion program

The pilot was implemented through the Pakistan Poverty Alleviation Fund and its local partner network of nongovernmental organizations in Sindh. Beneficiary households had to meet three of five eligibility criteria that established their status as a vulnerable and poor household. The package of services included a savings component, a health component, an asset transfer, consumption support, and follow-up visits from the participating nongovernmental organization. The savings component encouraged households to save with the help of rotating savings and credit associations; the health component used the services of Lady Health Workers for frequent checkups, health and hygiene training, and other basic health services; the asset transfer was a transfer of a productive asset equivalent to PKR 15,000 (commonly livestock); consumption support was in the form of monthly transfers of PKR 1,000 to the household; and nongovernmental organization follow-up involved weekly visits from partner staff.

NOTES

1. The World Bank's Harmonized Learning Outcome puts learning data from international and regional assessments on a comparable scale. The data can be accessed at https://datacatalog.worldbank.org/dataset/harmonized-learning-outcomes-hlo-database.
2. World Bank n.d.
3. Filmer et al. 2018.
4. https://childmortality.org/methods.
5. Pennings 2020.
6. Government of Pakistan.
7. National Nutrition Survey 2018. Evidence from Nepal shows that a similar community health worker program with wide coverage has resulted in major improvements in breastfeeding outcomes, which in turn contributed to the country's substantial reduction in stunting over two decades—from close to 70 percent in 1995 to 36 percent in 2016.
8. National Nutrition Survey 2018.
9. J-PAL 2014.
10. Khan 2019.
11. Ullah et al. 2019.
12. Only Sindh has legislated mandatory salt iodization (in 2013); three other provinces have enacted amendments to provincial food rules to the same effect, and the remaining provinces are enacting legislation for USI.
13. Government of Pakistan 2020.
14. WHO n.d.
15. Some examples include the development of multisectoral nutrition strategies, the Food Fortification Strategy, the IYCF and IYCF Communication Strategy, and several guidelines, such as those for adolescent nutrition and supplementation, community-based management of acute malnutrition, vitamin A supplementation, and infant and young child feeding in emergencies.
16. https://www.nutritioncluster.net/country/pakistan.
17. Although the 2010 devolution shifted financing responsibility for devolved ministries to provincial governments, the seventh National Finance Commission increased the financial share of resources to 56 percent and introduced a more equitable distribution formula that factored in economic underdevelopment, inverse population density, and revenue collection and generation, in addition to the previous purely population-based model.
18. Zaidi et al. 2013.
19. Andrabi, Das, and Khwaja 2013.
20. Kim, Alderman, and Orazem 1999.
21. Burde and Linden 2013; Duflo 2001.
22. Behrman et al. 1997.
23. Suryadarma et al. 2006.
24. For example, Bruns and Luque (2014) and Chetty, Friedman, and Rockoff (2011).
25. Sperling and Winthrop 2015.
26. For more information, see https://www.tcf.org.pk.
27. Human Rights Watch 2018; International Education News 2019.
28. Lim and Meer 2017a, 2017b.
29. Garn et al. 2013.
30. Pakistan Education Statistics 2016–17.
31. Sperling and Winthrop 2015.
32. Adukia 2017.
33. RTI 2020.
34. Banerjee et al. 2013; Conn 2014; Evans and Mendez Acosta 2020; Evans and Popova 2016; Glewwe et al. 2014; Global Education Evidence Advisory Panel 2020; Graham and Kelly 2018; Krishnaratne, White, and Carpenter 2013; McEwan 2012; Murnane and Ganimian 2014.
35. Piper and Medina 2010.
36. Piper and Medina 2010.
37. Macdonald and Vul 2018.
38. The Economist 2020; Nickow, Oreopoulos, and Quan 2020; Oreopoulos 2020.
39. Eridani 2020.
40. Thomas and Shaw 1992.
41. Aikman and Pridmore 2001; Le 2018; Psacharopoulos, Rojas, and Velez 1993.
42. Andrabi, Das, and Khwaja 2017.
43. Islam 2019.
44. Evans and Popova 2016; Evans and Yuan 2019.
45. World Bank forthcoming.
46. J-PAL 2017, p. 1.

47. Benhassine et al. 2015; Duflo, Dupas, and Kremer 2017; Edmonds and Shrestha 2014; Evans and Yuan 2019; Eyal, Woolard, and Burns 2014; Maluccio, Murphy, and Regalia 2010.
48. Garcia and Saavedra 2017.
49. Filmer and Schady 2011.
50. Baird et al. 2016.
51. Maluccio, Murphy, and Regalia 2010.
52. Duflo, Dupas, and Kremer 2017.
53. Kremer, Miguel, and Thornton 2009.
54. Eyal, Woolard, and Burns 2014.
55. Benhassine et al. 2015.
56. Mourelo and Escudero 2017.
57. Baird, McKenzie, and Özler 2018.
58. Ibarrarán and Rosas Shandy 2009.
59. Bhattacharjee and Kamruzzaman 2016; Das 2018.
60. Das 2018.
61. Ferrah et al. 2021.
62. Campos et al. 2017.
63. Buvinic and Furst-Nichols 2014.

REFERENCES

Adukia, A. 2017. "Sanitation and Education." *American Economic Journal: Applied Economics* 9 (2): 23–59. https://www.aeaweb.org/articles?id=10.1257/app.20150083.

Aikman, S., and P. Pridmore. 2001. "Multigrade Schooling in 'Remote' Areas of Vietnam." *International Journal of Educational Development* 21 (6): 521–536.

Andrabi, T., J. Das, and A. Khwaja. 2013. "Students Today, Teachers Tomorrow: Identifying Constraints on the Provision of Education." *Journal of Public Economics* 100 (1): 1–14.

Andrabi, T., J. Das, and A. Khwaja. 2017. "Report Cards: The Impact of Providing School and Child Test Scores on Educational Markets." *American Economic Review* 107 (6): 1535–63. https://www.aeaweb.org/articles?id=10.1257/aer.20140774.

Baird, S., E. Chirwa, J. De Hoop, and B. Özler. 2016. "Girl Power: Cash Transfers and Adolescent Welfare. Evidence from a Cluster-randomized Experiment in Malawi." In S. Edwards, S. Johnson, and D. N. Weil (eds.), *African Successes, Volume II: Human Capital*. Chicago, IL: University of Chicago Press. https://www.nber.org/papers/w19479.

Baird, S., D. McKenzie, and B. Özler. 2018. "The Effects of Cash Transfers on Adult Labor Market Outcomes." *IZA Journal of Development and Migration* 8 (1): 1–20.

Banerjee, A., P. Glewwe, S. Powers, and M. Wasserman. 2013. "Expanding Access and Increasing Student Learning in Post-primary Education in Developing Countries: A Review of the Evidence." Post-Primary Education Initiative Review Paper, Abdul Latif Jameel Poverty Action Lab, Cambridge, MA.

Behrman, J., S. Khan, D. Ross, and R. Sabot. 1997. "School Quality and Cognitive Achievement Production: A Case Study for Rural Pakistan." *Economics of Education Review* 16 (2): 127–142.

Benhassine, N., F. Devoto, E. Duflo, P. Dupas, and V. Pouliquen. 2015. "Turning a Shove into a Nudge? A 'Labeled Cash Transfer' for Education." *American Economic Journal: Economic Policy* 7: 86–125. https://www.nber.org/papers/w19227.

Bhattacharjee, A., and M. Kamruzzaman. 2016. "Towards Employability and Better Livelihood: An Evaluation of BRAC's Skills Development Initiative." Skills Development Working Paper 1, BRAC Institute of Governance and Development, Dhaka.

Bruns, B., and J. Luque. 2014. *Great Teachers: How to Raise Student Learning in Latin America and the Caribbean*. Washington, DC: World Bank.

Burde, D., and L. Linden. 2013. "Bringing Education to Afghan Girls: A Randomized Controlled Trial of Village-based Schools." *American Economic Journal: Applied Economics* 5: 27–40. https://www.aeaweb.org/articles?id=10.1257/app.5.3.27.

Buvinic, M., and R. Furst-Nichols. 2014. "Promoting Women's Empowerment: What Works?" Policy Research Working Paper 7087, World Bank, Washington, DC.

Campos, F., M. Frese, M. Goldstein, L. Iacovone, H. C. Johnson, D. McKenzie, and M. Mensmann. 2017.

"Teaching Personal Initiative Beats Traditional Training in Boosting Small Business in West Africa." *Science* 357 (6357): 1287–1290.

Chetty, R., J. N. Friedman, and J. E. Rockoff. 2011. "The Long-Term Impacts of Teachers: Teacher Value-Added and Student Outcomes in Adulthood." Working Paper 17699, National Bureau of Economic Research, Cambridge, MA.

Conn, K. 2014. *Identifying Effective Education Interventions in Sub-Saharan Africa: A Meta-analysis of Rigorous Impact Evaluations*. Unpublished manuscript, Columbia University, New York.

Das, N.C. 2018. "Training the Disadvantaged Youth and Labor Market Outcomes: Evidence from a Randomized Controlled Trial in Bangladesh." Dhaka: BRAC.

Duflo, E. 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review* 91 (4): 795–813.

Duflo, E., P. Dupas, and M. Kremer. 2017. "The Impact of Free Secondary Education: Experimental Evidence from Ghana." Working Paper, Massachusetts Institute of Technology, Cambridge, MA. http://www.poverty-action.org/publication/returns-secondary-education-unpacking-delivery-senior-secondary-schooling-ghana.

Edmonds, E., and M. Shrestha. 2014. "You Get What You Pay for: Schooling Incentives and Child Labor." *Journal of Development Economics* 111: 196–211. https://www.nber.org/papers/w19279.

Eridani, T. 2020. "Online Tutoring Improves Disadvantaged School Pupils Performance and Wellbeing in Lockdown." News Release, EurekAlert, 15 July. https://www.eurekalert.org/news-releases/806598.

Evans, D., and A. Mendez Acosta. 2020. "Education in Africa: What Are We Learning?" Working Paper 542, Center for Global Development, Washington, DC. https://www.cgdev.org/sites/default/files/education-africa-what-are-we-learning.pdf.

Evans, D., and A. Popova. 2016. "What Really Works to Improve Learning in Developing Countries? An Analysis of Divergent Findings in Systematic Reviews." *The World Bank Research Observer* 31 (2). https://openknowledge.worldbank.org/handle/10986/29308.

Evans, D., and F. Yuan. 2019. "What We Learn about Girls' Education from Interventions that Do Not Focus on Girls." Policy Research Working Paper 8944, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/32128.

Eyal, K., I. Woolard, and J. Burns. 2014. "Cash Transfers and Teen Education: Evidence from South Africa." Unpublished Report.

Ferrah S, J. Gazeaud, N. Khan E. Mvukiyehe, V. Shrotri, O. Sterck, and S. B. Zineb. 2021. *Enhancing Female Entrepreneurship through Cash Grants*. Washington, DC: World Bank.

Filmer, D., H. Rogers, N. Angrist, and S. Sabarwal. 2018. "Learning Adjusted Years of Schooling (LAYS): Defining a New Macro Measure of Education." Policy Research Working Paper 8591, World Bank, Washington, DC.

Filmer, D., and N. Schady. 2011. "Does More Cash in Conditional Cash Transfer Programs Always Lead to Larger Impacts on School Attendance?" *Journal of Development Economics* 96 (1): 150–157.

Garcia, S., and J. Saavedra. 2017. "Educational Impacts and Cost-Effectiveness of Conditional Cash Transfer Programs in Developing Countries: A Meta-analysis." Working Paper 23594, National Bureau of Economic Research, Cambridge, MA.

Garn, J., L. Greene, R. Dreibelbis, S. Saboori, R. Rheingans, and M. Freeman. 2013. "A Cluster-randomized Trial Assessing the Impact of School Water, Sanitation and Hygiene Improvements on Pupil Enrolment and Gender Parity in Enrolment." *Journal of Water Sanitation and Hygiene for Development* 3: 592–601. https://iwaponline.com/washdev/article-abstract/3/4/592/30334/A-cluster-randomized-trial-assessing-the-impact-of?redirectedFrom=fulltext.

Glewwe, P. W., E. A. Hanushek, S. D. Humpage, and R. Ravina. 2014. "School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010." In P. Glewwe (ed.), *Education Policy in Developing Countries*. Chicago, IL: University of Chicago Press. https://doi/org/10.3386/w17554.

Global Education Evidence Advisory Panel. 2020. "Cost-Effective Approaches to Improve Global Learning: What Does Recent Evidence Tell Us Are 'Smart Buys' for Improving Learning in Low- and Middle-income Countries?" World Bank. https://documents1.worldbank.org/curated/en/719211603835247448/pdf/Cost-Effective-Approaches-to-Improve-Global-Learning-What-Does-Recent-Evidence-Tell-Us-Are-Smart-Buys-for-Improving-Learning-in-Low-and-Middle-Income-Countries.pdf.

Graham, J., and S. Kelly. 2018. *How Effective Are Early Grade Reading Interventions? A Review of the Evidence*. Washington, DC: World Bank. https://doi.org/10.1596/1813-9450-8292.

Government of Pakistan. 2020. "Poverty Alleviation and Social Safety Division Curtain Raiser, October 2020."

Human Rights Watch. 2018. "Shall I Feed My Daughter, or Educate Her? Barriers to Girls' Education in Pakistan." 12 November. https://www.hrw.org/report/2018/11/12/shall-i-feed-my-daughter-or-educate-her/barriers-girls-education-pakistan.

Ibarrarán, P., and D. Rosas-Shady. 2009. "Evaluating the Impact of Job Training Programmes in Latin America: Evidence from IDB Funded Operations." *Journal of Development Effectiveness* 1 (2): 195–216.

International Education News. 2019. "Expanding to Say "Yes": The Ongoing Work of The Citizens Foundation in Pakistan (Part 1 of 2)." 1 May. https://internationalednews.com/2019/05/01/expanding-to-say-yes-the-ongoing-work-of-the-citizens-foundation-in-pakistan-part-1-of-2/.

Islam, A. 2019. "Parent–Teacher Meetings and Student Outcomes: Evidence from a Developing Country." *European Economic Review* 111: 273–304. https://www.theigc.org/wp-content/uploads/2016/10/Islam-2016-working-paper.pdf.

J-PAL (Abdul Latif Jameel Poverty Action Lab). 2014. "Pay for Performance Incentives for Healthcare Workers in Pakistan." Lahore, Pakistan: J-PAL. https://www.povertyactionlab.org/evaluation/pay-perfomance-incentives-heathcare-workers-pakistan.

Khan, N. 2019. "Reaching the Last Mile in Universal Salt Iodization in Pakistan." Nutrition International, 4 November. https://www.nutritionintl.org/news/all-blog-posts/reaching-the-last-mile-in-universal-salt-iodization-in-pakistan/.

Kim, J., H. Alderman, and P. Orazem. 1999. "Can Private School Subsidies Increase Enrollment for the Poor? The Quetta Urban Fellowship Program." *The World Bank Economic Review* 13: 443–65. https://elibrary.worldbank.org/doi/10.1093/wber/13.3.443.

Kremer, M., E. Miguel, and R. Thornton. 2009. "Incentives to Learn." *The Review of Economics and Statistics* 91: 437–56. https://dash.harvard.edu/handle/1/3716457.

Krishnaratne, S., H. White, and E. Carpenter. 2013. "Quality Education for All Children: What Works in Education in Developing Countries. 3ie Working Paper 20, International Initiative for Impact Evaluation. https://www.3ieimpact.org/evidence-hub/publications/working-papers/quality-education-all-children-what-works-education

Le, H. M. 2018. "Another Textbook Project? The Implementation of Escuela Nueva in Vietnam." *Educational Research for Policy and Practice* 17: 223–239. https://doi.org/10.1007/s10671-018-9230-x.

Lim, J., and J. Meer. 2017a. "The Impact of Teacher–Student Gender Matches: Random Assignment Evidence from South Korea." *Journal of Human Resources* 52 (4): 979–997. http://jhr.uwpress.org/content/52/4/979.abstract.

Lim, J., and J. Meer. 2017b. "Persistent Effects of Teacher–Student Gender Matches." Working Paper 24128, National Bureau of Economic Research, Cambridge, MA.

Macdonald, K., and B. T. Vul. 2018. "A Randomized Evaluation of a Low-Cost and Highly Scripted Teaching Method to Improve Basic Early Grade Reading Skills in Papua New Guinea." Education Global Practice, Policy Research Working Paper 8427, World Bank, Washington, DC. https://openknowledge.worldbank.org/bitstream/handle/10986/29833/WPS8427.txt?sequence=2&isAllowed=y.

Maluccio, J., A. Murphy, and F. Regalia. 2010. "Does Supply Matter? Initial Schooling Conditions and the Effectiveness of Conditional Cash Transfers for Grade Progression in Nicaragua." *Journal of Development Effectiveness* 2: 87–116. https://www.researchgate.net/publication/228877017_Does_supply_matter_Initial_schooling_conditions_and_the_effectiveness_of_conditional_cash_transfers_for_grade_progression_in_Nicaragua.

McEwan, P. 2012. "Improving Learning in Primary Schools of Developing Countries: A Meta-analysis of Randomized Experiments." *Review of Educational Research* 20 (10): 1–42.

MNHSRC (Ministry of National Health, Services, Regulations and Coordination) Nutrition Wing. 2018. *National Nutrition Survey 2018 Volume I*. http://phkh.nhsrc.pk/sites/default/files/2021-03/National%20Nutrition%20Survey%20Key%20Findings%20Volum%201%20UNICEF%202018.pdf.

Mourelo, E. L., and V. Escudero. 2017. "Effectiveness of Active Labor Market Tools in Conditional Cash Transfers Programs: Evidence for Argentina." *World Development* 94: 422–447.

Murnane, R. J., and A. J. Ganimian. 2014. "Improving Educational Outcomes in Developing Countries: Lessons

from Rigorous Evaluations." Working Paper 20284, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/papers/w20284.pdf.

Nickow, A., P. Oreopoulos, and V. Quan. 2020. "The Impressive Effects of Tutoring on PreK–12 Learning: A Systematic Review and Meta-analysis of the Experimental Evidence." Working Paper 27476, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/papers/w27476.

Oreopoulos, P. 2020. "Scale Up Tutoring to Combat COVID Learning Loss for Disadvantaged Students." *Scientific American,* 24 November. https://www.scientificamerican.com/article/scale-up-tutoring-to-combat-covid-learning-loss-for-disadvantaged-students/.

Pennings, S. 2020. "*The Utilization-Adjusted Human Capital Index*." Policy Research Working Paper 9375, World Bank, Washington, DC.

Piper, B., and K. Medina. 2010. "Early Grade Reading Assessment (EGRA) Plus: Liberia. Program Evaluation Report." RTI International. https://files.eric.ed.gov/fulltext/ED516080.pdf.

Psacharopoulos, G., C. Rojas, and E. Velez. 1993. "Achievement Evaluation of Colombia's Escuela Nueva: Is Multigrade the Answer?" *Comparative Education Review* 37 (3): 263–276.

RTI. 2020. "Structured Pedagogy Literature Review." https://scienceofteaching.s3.eu-west-3.amazonaws.com/index.html#/lessons/qRcSj0b2yqminRXJh7cSd_2tkJc-0blC.

Sperling, G. B., and R. Winthrop. 2015. *What Works in Girls' Education: Evidence for the World's Best Investment*. Washington, DC: Brookings Institution Press.

Suryadarma, D., A. Suryahadi, S. Sumarto, and H. Rogers. 2006. "Improving Student Performance in Public Primary Schools in Developing Countries: Evidence from Indonesia." *Education Economics* 14 (4): 401–429. https://www.researchgate.net/profile/Sudarno_Sumarto/publication/24079203_Improving_Student_Performance_in_Public_Primary_Schools_in_Developing_Countries_Evidence_from_Indonesia/links/0c96051a514c5e3df4000000/Improving-Student-Performance-in-Public-Primary-Schools-in-Developing-Countries-Evidence-from-Indonesia.pdf.

The Economist. 2020. "England's Catch-up Tutoring Programme Has Bold Ambitions." 5 November. https://www.economist.com/britain/2020/11/05/englands-catch-up-tutoring-programme-has-bold-ambitions.

Thomas, C., and C. Shaw. 1992. "Issues in the Development of Multigrade Schools." Technical Paper 172, World Bank, Washington, DC.

Ullah, I., A. Pillai, S. Dey, S. Raza, and N. A. Khan. 2019. "Pakistan's Journey towards Universal Coverage of Iodised Salt: A Non-Systematic Review." *Pakistan Journal of Public Health* 9 (4): 195–197.

WHO (World Health Organization). n.d. "Pakistan Integrated Nutrition Strategy Operational Framework Plan." Geneva: WHO. https://www.who.int/hac/crises/pak/pakistan_nutrition_strategy.pdf.

World Bank. n.d. World Development Indicators database. Washington, DC: World Bank. https://databank.worldbank.org/metadataglossary/world-development-indicators/series.

World Bank. Forthcoming. *Barriers to Girls' Education in Pakistan*. Washington, DC: World Bank.

Zaidi, S., S. K. Mohmand, N. Hayat, A. M. Acosta, and Z. A. Bhutta. 2013. "Nutrition Policy in the Post-Devolution Context in Pakistan: An Analysis of Provincial Opportunities and Barriers." *IDS Bulletin* 44 (3): 86–93.

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