TOWARDS A RESILIENT FOOD SYSTEM

OVERVIEW OF FOOD SECURITY AND NUTRITION

TOWARDS A RESILIENT FOOD SYSTEM
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This is the second year that four of the UN agencies, FAO, WFP, WHO and UNICEF, have produced the Pakistan Overview of Food Security and Nutrition (POFI) in collaboration with the Pakistan Bureau of Statistics (PBS), Ministry of Planning, Development and Special Initiatives (MPDSI), Ministry of National Food Security and Research (MNFSR) and the Ministry of National Health Services, Regulation and Coordination (MoNHSRC), together with the cooperation of provincial governments and other stakeholders.

In last year’s report, we noted that frequent natural disasters, conflict and economic slowdowns had challenged Pakistan’s ability to provide continuity in food availability and accessibility over the years, with an increase in the total number of food insecure people despite a gradual reduction in the Prevalence of Undernourishment (PoU). In 2020, Pakistan once again faced challenges, including the implications of the global COVID 19 pandemic, as well as a regional emergency of desert locusts and a localized emergency of widespread, multi-provincial floods.

Responding to climate-related disasters and transboundary and zoonotic disease outbreaks places additional pressure on food systems, particularly in countries where significant hunger, malnutrition and poverty already exist, and Pakistan is no exception. Consequently, for this year’s report, the special theme is Towards a Resilient Food System. We explore how Pakistan’s food system is responding to external pressures, what particular policy and program innovations merit a closer look, and what types of investments are recommended to create a stronger food system that will support an accelerated reduction in hunger and malnutrition in the country.

Similar to the 2019 report, in Part 1 we first present a picture of where Pakistan stands in efforts to eliminate hunger and malnutrition by considering the targets relating to SDG 2: Zero Hunger. We also provide an update in Part 1 on the situation for water, sanitation and hygiene (WASH) in Pakistan, in recognition of the crucial importance of this driver for eliminating malnutrition.

Pakistan is still facing major challenges in meeting the food security and nutrition targets of SDG 2 by 2030. The FAO estimate of PoU in Pakistan for 2017-19 is 12.3 percent, and as per the projected population estimate of 212 million, the absolute number of hungry people in the country has increased back up to 26.1 million. The country’s first official estimate of the proportion of the population experiencing moderate or severe food security as measured by the Food Insecurity Experience Scale (FIES) is 15.9 percent. The FIES tool is finding increasing use in Pakistan in surveys conducted by both government and private institutions. The use of the FIES to track changes to the food security situation during the COVID-19 pandemic, the desert locust invasion and the aftermath of the rain and flood emergency is helping in formulating targeted responses to disruptions to the food system. Considerable variation in estimates of the proportion of people experiencing moderate or severe food insecurity, as measured by FIES, suggests that people’s ability to access adequate food can rapidly change, depending on the time and circumstance. This has far reaching implications for social protection (safety nets) and optimal dietary habits.

Pakistan does not yet have any new data since 2018 that could help assess improvement or worsening of malnutrition, with the statistics from the Pakistan Demographic and Health Survey (PDHS) 2017-18 and the National Nutrition Survey (NNS) 2018 still the most up to date, and overall results from the country-wide Multiple Indicator Cluster Survey (MICS) 2018 still awaited. The most reliable estimate is from the PDHS, which indicates that, at the country level, stunting in children under five is at
37.6 percent, while wasting is at 7.1 percent, and overweight is at 2.5 percent.

Analysis of the data from the NNS 2018, which collected valuable nutrition-sensitive information, including at the district level, points to specific areas where more efforts can usefully be made, and governments in Pakistan are rightly making full use of this information in planning and programming. The most important of these are nutritional supplementation programs for pregnant and lactating women (PLW), an increased focus on adolescent nutrition, and opportunities for expansion of community management of acute malnutrition (CMAM) during emergencies like the COVID-19 pandemic. For all of these, there are promising options to link nutrition interventions to social protection programs. More attention has to be paid to the problem of rising overweight and obesity in women of childbearing age, and the fact that while breastfeeding rates are improving, the diet of complementary food given to young infants from six months is insufficiently diverse or frequent, across all wealth groups.

Inadequate access to WASH is an important underlying cause of malnutrition in Pakistan because of its role in spreading gastro-intestinal disease, leading to nutrient malabsorption. WASH infrastructure continues to improve in Pakistan, but the level of bacterial contaminants in water has worsened, such that only a third of the population has access to safely managed drinking water. Pakistan’s fairly high population growth rate of 2.4 percent (2017 Census) means that this problem still requires urgent investment prioritization. While the COVID-19 pandemic severely stretched the capacity of an already weak WASH system, it has also catalyzed great interest in accelerating improvements, because of the importance to infection prevention and control (IPC). Public health information campaigns on handwashing that were launched during the COVID-19 pandemic should have long lasting benefits, nutritionally.

In Part 2, we consider the resilience of Pakistan’s food system from three particular perspectives: progress on advancing the understanding of the complex nexus between poverty, economic growth and food insecurity; the behavior of the food system under recent shocks; and the value of social protection and other interventions to build food system resilience, particularly through targeting malnutrition.

Food system resilience concerns the capacity over time of a food system to provide adequate food to all, in the face of various and unforeseen disturbances. In 2020, Pakistan has shown how it can respond to setbacks and shocks, by adapting and improving its policies, programs and budgetary allocations. A lot more remains to be done, in particular, investments are needed to create more inclusive and safer supply chains that will help build a stronger food system that can weather setbacks and shocks more systematically, and leave no one behind.

Some of the key areas where we can use further data, information and evidence concern national identification registration completeness, social protection eligibility criteria, and the needs of particular groups during disruptions to the food system, for example, agricultural labourers, sharecroppers and smallholders, and also informal urban workers, especially women. As the country gradually recovers from the economic downturn, strong attention must be paid to investing in these needy people to ensure a more prosperous society with greater equality. Closing the gaps on income, social and gender inequalities in Pakistan will help tackle hunger and malnutrition, through access to services, information and high quality, safe food.

Good coordination between federal and provincial governments and with bordering countries was shown to be crucial in both the success of the desert locust surveillance and control measures to reduce agricultural losses and the adaptation and expansion of existing...
social protection systems to temper the effects of COVID-19 lockdowns on people’s access to food and other necessities. The climate-related disaster of rain and flooding across the country appeared to be the most difficult pressure to respond to, with no apparent reduction in rural communities’ vulnerability to this threat than during the floods of a decade earlier, although further data is being gathered.

There remains strong potential to upscale pilot school feeding programs once schools fully re-open, especially to target malnutrition among adolescent girls, who are the future mothers. The launch of the Adolescent Nutrition Strategy in 2020 was an important step forward, but only if broader policies and programs to encourage an inclusive education system can be implemented. In 2020, Pakistan went from 44 percent of children out of school (girls affected more than boys), to almost none of its children having access to education because of the prolonged closure of schools during the pandemic, with online learning available to only a small proportion.

Promoting innovation and applying digital technologies in agri-food systems is vital to step up the fight against hunger and poverty. The capacity of provincial and federal government agencies tasked with introducing climate-resilient food and agriculture production systems that can cope with more variable rainfall, more variable water supply and higher temperatures, and their impacts, including floods, droughts, pests and diseases, remains weak and requires more investment and systematic strengthening. Improvements to capacity in measuring food loss and waste (FLW) and the opportunities to significantly reduce it at various points along the supply chain would particularly benefit smallholder farmers and the food insecure population.

The contributors hope this report continues to be an important piece in the regular monitoring of the country’s food security and nutrition situation, providing a summary in one document of the progress made in addressing hunger and malnutrition and reaching towards the SDG 2 targets. We hope it usefully highlights the important drivers and determinants as well as policy and programing options, gaps and successes. The report is intended to serve decision-makers, development partners and all participants in the food system of Pakistan.

Florence Rolle
FAO Representative, Islamabad

Palitha Gunarathna Mahipala
WHO Representative, Islamabad

Chris Kaye
WFP Country Director, Islamabad

Aida Girma
UNICEF Representative, Islamabad
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Minà Dowlatchahi (former FAO Representative in Pakistan) led the overall preparation of the report; Aamer Irshad (Assistant FAO Representative in Pakistan) directed the publication; Genevieve Hussain (FIRST Policy Officer, Pakistan) was the editor; and Raja Ajmal Jahangeer (FAO Pakistan Statistician) coordinated the contributions from within and outside FAO.

Contributions were made by Minà Dowlatchahi, Aamer Irshad, Genevieve Hussain, Raja Ajmal Jahangeer, Zara Khan, Asifa Ghani, Shakeel Ahmed, Syed Irshad, Nomeena Anis, Gulzar Ahmed, Maria Khan and Neelgoon Safdar (FAO); Iftikhar Abbas, Yasir Ihtesham, Tahir Nawaz, Anna Law and Arshad Jadoon (WFP); Naureen Arshad, Ziggy Kugedera and Kamran Naeem (UNICEF) and Nourin Nishtar (WHO).

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Cindy Holleman, FAO Senior Economist, coordinated the technical clearance of the report and ensured its alignment with The State of Food Security and Nutrition in the World report and The Asia and Pacific Regional Overview of Food Security and Nutrition report. The technical guidance team comprised Carlo Cafiero, Carola Fabi and Abdul Sattar (FAO Statistics Division); Giovanni Carrasco Azzini, Andrea Cattaneo, Valentina Conti and Cindy Holleman (FAO Agrifood Economics Division); Ariane Genthon, Verdiana Biagioni Gazzoli and Huda Alsahi (FAO Inclusive Rural Transformation and Gender Equality Division); and Ahmed Raza (FAO Food and Nutrition Division).

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<td>HIES</td>
<td>Household Integrated Economic Survey</td>
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<tr>
<td>ACAC</td>
<td>Agricultural Credit Advisory Committee</td>
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<td>ADB</td>
<td>Asian Development Bank</td>
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<td>AJK</td>
<td>Azad Jammu and Kashmir</td>
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<td>AKU</td>
<td>Aga Khan University</td>
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<td>BISP</td>
<td>Benazir Income Support Programme</td>
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<td>CBN</td>
<td>Cost of Basic Need</td>
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<td>CBPP</td>
<td>Community Based Participatory Planning</td>
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<td>CFSLA</td>
<td>Comprehensive Food Security and Livelihood Assessment</td>
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<td>CMAM</td>
<td>Community-based Management of Acute Malnutrition</td>
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<tr>
<td>CNIC</td>
<td>Computerized National Identity Card</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CRMVI</td>
<td>COVID-19 Multidimensional Vulnerability Index</td>
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<td>CV</td>
<td>Coefficient of variant</td>
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<td>DEC</td>
<td>Dietary energy consumption</td>
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<td>DPP</td>
<td>Department of Plant Protection</td>
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<td>ECD</td>
<td>Early Childhood Development</td>
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<td>Food and Agriculture Organization of the United Nations</td>
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<td>FBS</td>
<td>Food Balance Sheet</td>
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<td>Frontier Corps</td>
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<td>FIES</td>
<td>Food Insecurity Experience Scale</td>
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<td>FLW</td>
<td>Food loss and waste</td>
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<td>FSC</td>
<td>Food Supply Chain</td>
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<td>Pakistan’s Food Security and Nutrition Information System</td>
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<td>GAIN</td>
<td>The Global Alliance for Improved Nutrition</td>
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<td>GAM</td>
<td>Global Acute Malnutrition</td>
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<td>GB</td>
<td>Gilgit-Baltistan</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>Global Positioning System</td>
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<td>Gallup World Poll</td>
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<td>Human Immunodeficiency Virus</td>
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<td>Integrated Context Analysis</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>International Labor Organization</td>
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<td>Infection Prevention and Control</td>
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<td>Integrated Food Security Phase Classification</td>
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<td>International Rescue Committee</td>
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<td>UNICEF-WHO-World Bank Joint Malnutrition Estimates</td>
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<td>Khyber Pakhtunkhwa</td>
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<td>MAM</td>
<td>Moderate Acute Malnutrition</td>
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<td>MDER</td>
<td>Minimum Dietary Energy Requirement</td>
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<td>MFI</td>
<td>Microfinance Institutions</td>
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<td>MNFSR</td>
<td>Ministry of National Food Security and Research</td>
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<td>MoCC</td>
<td>Ministry of Climate Change</td>
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<td>Acronym</td>
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<td>MOFA</td>
<td>Ministry of Foreign Affairs</td>
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<td>MPDSI</td>
<td>Ministry of Planning, Development and Special Initiatives</td>
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<td>NADRA</td>
<td>National Database Registration Authority</td>
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<td>NAP-DL-PAK</td>
<td>National Action Plan for Surveillance and Control of Desert Locust in Pakistan</td>
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<td>NDMA</td>
<td>National Disaster Management Authority</td>
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<td>NLCC</td>
<td>National Locust Control Centre</td>
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<td>NNS</td>
<td>National Nutrition Survey</td>
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<td>NoU</td>
<td>Number of undernourished people</td>
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<td>PBS</td>
<td>Pakistan Bureau of Statistics</td>
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<td>PCRWR</td>
<td>Pakistan Council of Research on Water Resources</td>
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<td>PDMA</td>
<td>Provincial Disaster Management Authority</td>
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<td>PHSHP</td>
<td>Post-harvest, storage, and handling</td>
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<td>PIDE</td>
<td>Pakistan Institute for Development Economics</td>
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<td>PLCC</td>
<td>Provincial Locust Control Centre</td>
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<td>PLW</td>
<td>pregnant and lactating women</td>
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<td>PMD</td>
<td>Pakistan Metrological Department</td>
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<td>PNNCC</td>
<td>Pakistan National Nutrition Coordination Council</td>
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<td>POU</td>
<td>Prevalence of Undernourishment</td>
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<td>PPE</td>
<td>Personal Protective Equipment</td>
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<td>PSLM</td>
<td>Pakistan Social and Living Standards Measurement</td>
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<td>RCCE</td>
<td>Risk Communication and Community Engagement</td>
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<td>RSPs</td>
<td>Rural Support Programmes</td>
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<td>SAM</td>
<td>Severe Acute Malnutrition</td>
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<td>SARS</td>
<td>Severe Acute Respiratory Syndrome</td>
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<td>SDG</td>
<td>Sustainable Development Goals</td>
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<td>SLP</td>
<td>Seasonal Livelihood Programming</td>
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<td>Space &amp; Upper Atmosphere Research Commission</td>
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<td>Scaling up Nutrition</td>
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<td>TOC</td>
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<td>UNDESA</td>
<td>United Nations Department for Economics and Social Affairs</td>
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<td>United Nations Development Programme</td>
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<td>UNICEF</td>
<td>United National Children’s Fund</td>
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<td>USC</td>
<td>Utility Store Corporation</td>
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<td>UV</td>
<td>Ultraviolet</td>
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<td>WASH</td>
<td>Water, sanitation and hygiene</td>
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<td>World Food Programme</td>
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<td>WHA</td>
<td>World Health Assembly</td>
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<td>World Food Organization</td>
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<tr>
<td>WRA</td>
<td>Women of reproductive age</td>
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</table>
The hunger situation in Pakistan is still of concern. Improved global methodologies and better data regarding population, food balance sheets and consumption patterns are helping to estimate progress more accurately on SDG indicator 2.1.1, and Pakistan’s PoU for 2017-19 is now at 12.3 percent, slightly higher from 12.0 percent in 2016-18. Hunger is rising again, and over 26 million people are not meeting their minimum dietary energy needs. There have been gradual but uneven reductions in undernourishment at the country level, but the latest estimates indicate an uptick in this trend. The provinces with the most hungry people are Balochistan and Sindh. In Pakistan overall, urban populations have a higher PoU than rural populations, and this is also true at provincial levels for Sindh and Punjab, the most populous provinces. While food consumption is probably underestimated in urban contexts due to problems measuring food consumed outside the home, this is also reflecting that poor urban households have fewer resources to self-produce food, compared with poor rural households in the irrigated zones.

Pakistan has produced its first official estimates for SDG indicator 2.1.2, the prevalence of moderate or severe food insecurity based on the FIES. The country’s first official estimate is 15.9 percent of the population for the year 2018-19. The most food insecure parts of the country are rural Sindh and rural Balochistan. In Pakistan overall, rural communities are experiencing more food insecurity than urban communities, reflecting that poorer rural households are often consuming less balanced diets, with seasonal gaps, and are also more prone to climate-related disasters. FIES-based data collected in flood and desert locust affected parts of Pakistan during 2020 which also compounded by COVID-19 demonstrated that the prevalence of moderate or severe food insecurity rose to 61.9 per cent in the aftermath of floods and desert locust shocks in the affected areas, which were mostly in Balochistan and Sindh.

Pakistan faces persistently high rates of all forms of malnutrition including undernutrition (underweight, wasting and stunting), micronutrient deficiencies, and overweight and obesity, across the life cycle. SDG indicator 2.2.1, stunting, is at 37.6 percent, while for SDG indicator 2.2.2, wasting is at 7.1 percent and overweight is at 2.5 percent in 2017-18. The provinces with the most undernourishment are Sindh and Balochistan. The array of reasons for this means that integrated, evidence-based nutrition interventions need to be delivered, through a multi-system package including health, food, social protection, and WASH systems for achieving a positive impact. Development programs must prioritize maternal, adolescent, and young child nutrition, in a coordinated, scalable manner. Adolescence is an important window of opportunity where the intergenerational consequences of malnutrition can be tackled. Building behaviors and practices that promote healthy diets, physical activity, and social support for adolescents will enable good nutrition, health, appropriate growth and development, as well as increased human capital.

Provision of temporary extra WASH facilities and public messaging were key factors in lessening COVID-19 transmission in Pakistan in 2020, while they also remain an important determinant for improving maternal and child health, including stunting. Contaminated water supplies and unsafe drinking water are urgent problems to resolve in both urban and rural contexts. WASH infrastructure is still a crucial area of public sector investment. The government’s steps towards scaling up of existing best practices in integrated, nutrition-sensitive WASH interventions will make a major difference in improving malnutrition and preventing future
pandemics of communicable diseases in Pakistan.

There is a complex relationship between economic growth, poverty reduction, inequality, and food security, and there are backward and forward linkages between them. This means that Pakistan requires an inclusive growth strategy that strongly addresses inequalities, in order to improve its food security and nutrition status. Economic growth is associated with reductions in PoU over time, implying that economic activities can play a role in reducing food insecurity. However, increases in income inequalities can worsen food insecurity, despite poverty reduction measures. The capacity of the agriculture sector to contribute to economic growth and enhance food security in Pakistan will be strengthened by complementary work within the agriculture sector workforce to reduce poverty and enhanced the food security and nutrition status of its workers, targeting both women and men.

Food systems, given their critical role in enhancing food access, availability, affordability and stability, as well as the consumption of healthy diets, are central to addressing food insecurity and the multiple forms of malnutrition. Pakistani children, adolescents and pregnant and lactating women are particularly vulnerable to malnutrition; increased attention should be placed on radically transforming food systems such that we ensure healthy diets and positive nutrition outcomes, including building agency among vulnerable people, particularly women, to realize their right to adequate food. The mixed food system present in Pakistan generally features flexible, short supply chains that are less vulnerable to collapse during market disruptions of the type observed globally during the COVID-19 pandemic. However, key areas still remaining to be improved are wet market food safety and animal health and welfare, as well as transparent pricing, food quality assurance and consumer awareness.

Pakistan continues to suffer climate-related shocks that have a strong impact on food security and livelihoods. The widespread monsoonal rain and flood emergency in 2020 in several provinces are the latest of these, coming after a drought emergency of nearly two years. Climate-related shocks are perhaps the most difficult for Pakistan to mitigate and respond to well in the short term, as they are part of a long-term, predictable pattern involving higher temperatures, more variable rainfall and more variable water supply, which is outside the control of a country that contributes only marginally to greenhouse gas emissions. Developing a climate-resilient agriculture and food system must be a top priority for Pakistan and an urgent task for its federal and provincial government agencies concerned with agriculture, livestock, forestry and water management. It must be an integral part of the food system transformation needed for better production, a better environment, better nutrition and a better life for Pakistan’s population, and use the opportunity to redress gender imbalances.

The transboundary desert locust outbreak in 2019-20 tested Pakistan’s food system resilience during emergencies. Desert locusts in Pakistan presented a major shock to both the irrigated crop production system, on the one hand, and the desert communities, on the other, and required a high degree of technical and operational coordination within Pakistan and with neighbouring countries to manage. Efforts to fully contain the infestation and reverse the impact on food security and livelihoods will have to continue for a number of years. The surveillance and control efforts of the government represent a success story involving innovation and technical support from the UN, strong cooperation between federal and provincial government agencies, as well as the standardization of technology for monitoring and reporting outbreaks.
Pakistan’s food system resilience was also tested by the COVID-19 pandemic in 2020. Initially a public health emergency, it became a food security and livelihood threat because of lockdown arrangements which disrupted not only the food system but the overall economy. Federal and provincial governments acted fairly quickly to lift restrictions on the food system operation in order to secure local food supplies, such as the movement of agricultural labour, operation of agricultural input supply businesses, and transport of crops, livestock and food. However, sharp changes to the employment and wage situation of consumers, including remittance-dependent households and informal workers, as well as an overall economic downturn, saw observable price fluctuations in food items, affecting access to food, particularly by vulnerable populations. Negative coping mechanisms to manage poverty and food insecurity, such as the use of child labour, particularly during school closures, indicate that solutions are needed. These should involve decent and green job creation, sustainable value chain development, stronger protection of labour conditions and certification schemes, such that farmers obtain better prices while ensuring environmental safeguards and working condition standards.

Social protection is by no means universal in Pakistan. Its coverage is slowly increasing, but there are many gaps, and these have a strong bearing on food insecurity and malnutrition, especially during times of shock. The COVID-19 pandemic, and prior to that, drought emergency, provided opportunities to accelerate the expansion of social protection mechanisms and to be innovative in their delivery. The Government of Pakistan’s new Ehsaas Emergency Cash program (a direct response to COVID-19), an improved Ehsaas Kafalat program (the former BISP cash safety net) and the new Nashonuma program (focused on malnutrition prevention) demonstrate the will and means to do this. The areas for further improvements are the identification of and access by potential recipients; development of fair and transparent eligibility criteria; budget allocation for sufficiently wide coverage; coordination between federal and provincial governments and efficient partnerships between both of these and private and non-government charities. Key challenges include the high degree of informality in the labour force, lack of coverage for agricultural workers, and insufficient documentation of women and members of minority communities.
Situated in South Asia, Pakistan covers an area of 796,095 km² with a population exceeding 212 million people, making it the sixth-most populous country in the world. Around 64 percent of the population (135 million) live in rural areas. Pakistan has a very high population growth rate, at 2.4 percent. The literacy rate is 60 percent, with large urban-rural and gender gaps. Pakistan has a labour force of 65.5 million (42.9 million in rural areas), the ninth largest labour force in the world, and labour force participation rate is 44 percent (just 20 percent among women). Around 39 percent of the country’s labour force is engaged in the agriculture sector (30 percent of men and 67 percent of women), 24 percent in industry, and 38 percent in the services sector. The overall unemployment rate is 5.8 percent, the highest (11.56 percent) among the 20 to 24 year old age group. With a medium score on the Human Development Index, Pakistan is a Lower Middle Income Country and has the 42nd largest economy in the world in terms of nominal GDP and the 23rd largest in terms of Purchasing Power Parity (PPP). The per capita income is around USD 1,355 with large inequalities and a Gini Index of 33.5.

Out of the total area of 79.6 million hectares, the cropped area is 23.4 million hectares. Almost 80 percent of the cultivated area is irrigated by one of the largest contiguous irrigation systems in the world. Out of a total of 8.3 million farms, around 90 percent are less than 5 hectares, and these small farms utilize 48 percent of the arable land. The share of the agriculture sector in the country’s GDP is 19.3 percent, made up of livestock (60.6 percent), crops (35.2 percent), fisheries (2.1 percent) and forestry (2.1 percent). Besides its significance to the economy, the agriculture sector has been pivotal for domestic food availability and self-sufficiency. The four main crops grown are wheat, sugarcane, rice and cotton, while the three staple grains consumed are wheat, rice and maize. However, full food accessibility has not been achieved in Pakistan, mostly for economic and social reasons.

Around a quarter of the population lives below the national poverty line (31 percent in rural areas and 13 percent in urban), and 3.9 percent below the international poverty line of USD1.90/day (PPP). Two-fifths (39 percent) of the population (55 percent in rural and 9 percent in urban areas) is multi-dimensionally poor. Undernourishment is at 12.3 percent of Pakistan’s population (around 26 million people), while 15.9 percent of households are moderately or severely food insecure and 2.4 percent of households are severely food insecure. Pakistan also faces a very high burden of malnutrition. Almost two-fifths (37.7 percent) of children aged 6-59 months are stunted, 7.7 percent are wasted and 3 percent are overweight.

Lack of access to safe drinking water and sanitation facilities is another challenge, which contributes to health issues and malnutrition. Pakistan is prone to natural disasters such as floods, earthquakes, landslides, droughts, and conflicts, and most recently desert locusts were another threat to food security in Pakistan. Like most countries in the world, Pakistan has been hard hit by the COVID-19 pandemic, which has affected the economy, livelihoods and food system efficacy.
PART 1
FOOD SECURITY AND NUTRITION IN PAKISTAN
FOOD SECURITY AND NUTRITION IN PAKISTAN

1.1. RECENT TRENDS IN HUNGER AND FOOD INSECURITY IN PAKISTAN

This part of the report provides information on the Prevalence of Undernourishment (PoU), which is SDG indicator 2.1.1, and the Prevalence of Moderate or Severe Food Insecurity in the population based on the Food Insecurity Experience Scale (FIES), which is SDG indicator 2.1.2. These are the two food security indicators used to monitor Target 2.1 under the global SDGs monitoring framework. They are reported as three-year moving averages for each country.

The PoU estimates are obtained by constructing a statistical model for the probability distribution of habitual dietary energy consumption levels for a hypothetical, average individual representing the entire population in terms of age, sex, body mass, and physical activity level, and measuring the cumulative probability that habitual dietary energy consumption levels fall below the Minimum Dietary Energy Requirement (MDER), which is the lower bound of the range of energy requirements that apply to such hypothetical average individual. The PoU does not give information about the quality of the diets, only about dietary energy inadequacy.

While the PoU has been FAO’s traditional indicator used to monitor hunger for many years, in 2017 the prevalence of moderate or severe food insecurity based on the FIES began to be recorded in The State of Food Security and Nutrition in the World report as another, a complementary indicator of food insecurity. Unlike the PoU, FIES is calculated based on people’s direct responses to questions regarding their experiences in attempting to access food of adequate quality and quantity. FIES estimates the prevalence in the target population of people who do not have access to food, due to a lack of resources to buy food. Both PoU and FIES are further explained in Figure 1.

The PoU series for each country is always reviewed by FAO prior to the publication of each new edition of The State of Food Security and Nutrition in the World report. This is done to take into account any new information that FAO has received since the release of the previous edition. As this process usually implies backward revisions of the entire series, readers must avoid comparing PoU series across different editions of that report. Readers should always refer to the most current report, including past values. This also applies to the Pakistan Overview of Food Security and Nutrition reports.

1.1.1. Prevalence of undernourishment in Pakistan

As per FAO’s latest estimates, which use an internationally agreed statistical model for computing the PoU, the trend over the past 15 years shows that PoU in Pakistan has fallen from 21.9 percent in 2001-03 to 12.3 percent in 2017-19 (Figure 2). The PoU initially declined to

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1 As the hypothetical average individual represents a population with varying individual characteristics that affect requirements, like body size, body composition and physical activity level, it must be associated to a range, rather than a single average value, of energy requirements for active and healthy life. The lower bound of such range is the appropriate value to use as a threshold to avoid overestimation of the PoU.

2 See Annex 1, methodological note.

4 The latest PoU estimates are also reported in the State of Food Security and Nutrition in the World 2020 report.
FIGURE 1
INDICATORS FOR SDG TARGET 2.1 TO MONITOR PROGRESS ON ENDING HUNGER AND ENSURING ACCESS TO FOOD FOR ALL

DATA FROM MULTIPLE SOURCE
- ABE/SEX/HEIGHT OF THE POPULATION
- UN population statistics
- FOOD CONSUMPTION
- Household consumption and expenditure survey
- FOOD AVAILABILITY
- Country Food Balance Sheets

PARAMETERS
- Minimum dietary energy needed for healthy and active lives
- Inequalities in access to dietary energy in the population
- Dietary energy supply for human consumption

STATISTICAL MODEL
- SDG INDICATOR 2.1.1
  - PREVALENCE OF UNDERNOURISHMENT (PoU)
  - HUNGER
    Estimate of how many people lack enough dietary energy

DATA COLLECTED DIRECTLY FROM PEOPLE
- PEOPLE, EXPERIENCE OF FOOD INSECURITY
  Responses to 8 questions in national population surveys about conditions and behaviours that reflect constraints on food access

STATISTICAL MODEL
- SDG INDICATOR 2.1.2
  - PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY BASED ON THE FIES
  - ACCESS TO FOOD FOR ALL
    Estimate of how many people do not have access to nutritious and sufficient food due to lack of money or other resources

Source: FAO, 2019

FIGURE 2
TREND IN PREVALENCE OF UNDERNOURISHMENT (POU) IN PAKISTAN

NOTE: PREVALENCE OF UNDERNOURISHMENT AND NUMBER OF UNDERNOURISHED PEOPLE IN PAKISTAN.
SOURCE: FAO Statistics Division, 2020
PART 1 FOOD SECURITY AND NUTRITION IN PAKISTAN

15.9 percent in 2006-08, then recorded a rise to 17.7 percent in 2011-13, and finally declined to 12.3 percent in 2017-19 as per the latest available estimates.6

As per the latest information, the estimated Number of Undernourished (NoU) people has also reduced from 32.7 million in 2001-03 to 26.1 million in 2017-19. In line with PoU, the NoU people first reduced from 32.7 million to 26.8 million in 2006-08, then rose to 33.2 million in 2010-12 and finally reducing to 26.1 million. The recent fluctuation in PoU and subsequently NoU may be explained by a series of events, such as high inflation during 2008-14, climate-related disasters (floods in 2010-2013 and drought in 2013-14 and 2017-18 in parts of Pakistan), and low inflation and improvement in the economy during 2015-18.

Pakistan has a higher PoU compared to the average PoU in the world (8.9 percent) and in Asia (8.3 percent) whereas it is slightly lower than the average PoU in the Southern Asia region (13.4 percent). Compared with regional neighbours, Pakistan has a lower PoU than in India (14.0 percent), Bangladesh (13.0 percent) and Afghanistan (29.9 percent), whereas it has a higher PoU than in Iran (4.7 percent), Nepal (6.1 percent) and Sri Lanka (7.6 percent).

Ideally, all the PoU parameters should be estimated from household surveys. However, due to the lack of full and timely household survey data needed to compute the PoU for many countries, the estimates rely on other sources. For example, FBS data (see Box 2) is usually used to derive the parameter referring to Dietary Energy Consumption, due to the lack of full and timely information needed to assess PoU.

This report takes advantage of the availability of household survey data collected by the Pakistan Bureau of Statistics (PBS) to also presents a series of PoU results based on data from the Household Integrated Economic Survey (HIES), a survey conducted every

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6 FAO Statistics Division, 2020. The FAO’s PoU estimates for global monitoring, Dietary Energy Consumption (DEC), one of the parameters for estimation of PoU, is based on the Food Balance Sheets (FBS) (see Box 1).
second year\(^6\) by the PBS, the country’s national statistical organization. The data of two rounds of HIES\(^7\) have been used to produce PoU estimates, and in contrast with official FAO estimates, are based entirely on HIES survey data. This alternative analysis produces a PoU figure of 16 percent, slightly higher than official FAO estimates (12.3 percent in 2017-19), as per the last available HIES survey, and it has declined from around 20 percent in 2015-16, a reduction of around 21 percent since 2015-16 (Figure 3)\(^8\).

because of data quality issues\(^9\).

In terms of the NoU, as per HIES 2018-19, 33.2 million people (17.5 million in rural areas) are undernourished in Pakistan, which is slightly higher than 33.0 million (19.9 million in rural areas) since 2015-16. Across the provinces, NoU people are highest in Punjab (20.4 million) followed by Sindh (8.6 million), Khyber Pakhtunkhwa (2.7 million), and Balochistan (1.6 million).

The analysis of PoU by provinces using HIES estimates (Figure 3) shows that PoU has declined in all provinces except in Khyber Pakhtunkhwa since 2015-16. The reduction in PoU is highest in Balochistan (58 percent) followed by Sindh (27 percent), Punjab (12 percent), whereas it increased in Khyber Pakhtunkhwa by 9 percent. The results for Balochistan, considering it has a very small share in the overall sample and the total population, need to be interpreted cautiously, particularly the reduction in PoU, because of data quality issues\(^9\).

The difference between the PoU estimates computed using the average Dietary Energy Consumption (DEC) estimated from the HIES survey data and the one computed by FAO estimating the mean from FBS data, reveals that either the HIES survey data underestimate food consumption or that FBS data overestimate the average DEC in the country or both. The difference in PoU based on Food Balance Sheet data and household survey data has been also found by FAO Statistics Division during the analysis of household survey data in other countries in the Asia region such as India, Myanmar, Mongolia, Sri Lanka, Vietnam, and the Philippines. Although the PBS has improved

\(^{a}\)HIES was last conducted in 2018-19.

\(^{b}\)HIICS 2015-16 and HIES 2018-19

\(^{c}\)The PoU trend has been estimated with the support of ESS team at FAO HQ in Rome, Italy. The analysis for this report uses refined PoU methodology considering the new data on food consumption from HIES 2018-19. Further, PBS has used the sampling frame for the survey that is based on latest population census of 2017.

\(^{d}\)The reliability of survey data from Balochistan may be linked to difficulties in accessing the area due to conflicts and law and order situation. It may have resulted in being able to collect data only in the relatively safer areas of the province, while in more recent years data collection has been more systematic.
its food consumption module in recent years, nonetheless, survey data may still underestimate total food consumption in Pakistan, particularly consumption of food received for free at work, at school, at Sufi shrines or at charitable institutions in the country, because these are unlikely to be fully captured in the survey data. An improved food consumption module in future editions of the HIES may better capture these important sources of food consumption, which are expected to be particularly relevant especially for the poorer strata of the population.

An analysis of the PoU by residential location of the household (urban or rural) based on the survey data (Figure 4) shows that PoU in rural areas is lower than in urban areas, and...
PoU has declined in urban and rural areas by 12 and 26 percent respectively since 2015-16 (Figure 4). However, this finding may be due to a larger underestimation of food consumption data of urban households, relative to that of rural households. It is possible that the rural population engaged in agriculture will have access to self-produced cereals, vegetables, and milk, thus having higher levels of dietary energy consumption than the urban poor. The food consumption module of HIES may also fail to fully capture the contribution of food consumed away from home in urban areas, in particular of consumption of food received for free. Further, given the rapid urbanization of areas near large cities, many of the households that are still classified as “rural” in the more recent surveys are likely to be actually living in urban or peri-urban contexts; this is the case in Karachi and Islamabad11.

Furthermore, the same analysis of urban-rural by provinces shows that the PoU in rural areas is lower than in urban in Punjab and Sindh and vice versa in Khyber Pakhtunkhwa and Balochistan, and the urban-rural gap is lowest in Balochistan and highest in Punjab, as per 2018-19 round of HIES (Figure 5). The urban-rural differences might be also affected by different types of bias in different provinces, due to the problems noted in capturing total food consumption, particularly in urban areas.

Further, PoU analysis by household expenditure quintiles, a proxy for household economic status, shows that around one-fourth of the households in the poorest quintile are undernourished in 2018-19. The PoU in poorest and poor (second quintile) quintiles reduced by 23 and 27 percent respectively since 2015-16 (Figure 6). The higher PoU among the poorest and poor quintiles possibly contributing to the overall PoU of 16 percent.

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11 PBS uses the local government’s notification to classify the areas as urban or rural. If a semi-urban area is still notified as rural by the local government authority, PBS considers it as rural.
Further, analysis by gender of head of household shows that PoU among women headed households (9.4 percent) is considerably lower than among men headed households (16.6 percent) in 2018-19. The reduction in PoU is more among women headed households (23 percent) than among men headed households (21 percent) since 2015-16.\(^{12}\)

\(^{12}\) For cultural reasons, households usually report women as household head only in case of older women, widows, divorced/separated women and married women whose husbands are away for work inside or outside the country and if there is no other male member residing in the house.

### 1.1.2. Prevalence of moderate or severe food insecurity in population based on the Food Insecurity Experience Scale (FIES)

The Prevalence of Moderate or Severe Food Insecurity based on FIES is a measure of the severity of the constraints that prevent people from accessing food. It allows assessment of people’s overall ability to access a quality diet, embedding a concept of food insecurity that goes beyond hunger or simply dietary energy inadequacy. This matters for those people who may be able to meet their dietary energy needs, but who are still food insecure and are forced...
to consume mainly cheap, low quality, poorly diversified, and low energy foods. In Pakistan’s rural context, for example, this usually means having a wheat-dominated diet (see Figure 7 and Box 3).

The FIES module has been included in national level surveys such as HIES and the Pakistan Social Standard Living Measurement Survey (PSLM), both conducted by PBS. The FIES module was also part of the 2018 National Nutrition Survey (NNS), conducted by Aga Khan University (AKU) under the aegis of MoNHSRC, and with the technical support of UNICEF.

Given the institutional arrangements in Pakistan mean that PBS has the ultimate responsibility to produce data to inform SDG indicators, the data collected with the FIES module included in the HIES 2018-19 is the official source of data to
The FIES developed by FAO is used to compute SDG indicator 2.1.2: the prevalence of moderate or severe food insecurity in the population. FIES is a food security measurement scale composed of eight questions to evaluate the level of food insecurity experiences in households. The responses report on the occurrence of experiences and conditions that are typically associated with food insecurity.

The experiences and conditions of the household members as documented: being worried about not having enough food to eat; did not eat healthy and nutritious food; ate only few kinds of food; skipped a meal; ate less food; ran out of food in the house; were hungry but did not eat food, or did not eat food a whole day.

Respondents were asked to report if each of the conditions has been experienced, at times, over the past 12 months, because of a lack of money or other resources to obtain food. A rigorous statistical analysis based on the Rasch measurement model allows converting the qualitative information conveyed with the responses to the FIES question, into a quantitative measure of the severity of the food insecurity condition of the respondents.

1 see http://www.fao.org/in-action/voices-of-the-hungry

The results of HIES 2018-19 survey reveal that, 15.9 percent of the households/population in Pakistan have been estimated to be moderately or severely food insecure, whereas merely 2.4 percent are severely food insecure (Figure 8). Contrary to the evidence on the PoU as obtained

13 The analysis of FIES data collected through the HIES 2018-19 has been conducted jointly by PBS and FAO.
from HIES survey, the urban-rural gap appears to be in the opposite direction: the prevalence of both moderate or severe (20.0 percent) and severe (3.05 percent) food insecurity appears to be almost twice as high in rural areas as it is in urban areas, where it is 9.2 percent and 1.2 percent, respectively.

The analysis of FIES data of HIES 2018-19 also shows disparities in the prevalence of moderate or severe food insecurity across provinces/regions (Figure 9). The prevalence of moderate or severe food insecurity is the highest in Sindh province (19.5 percent) followed by Khyber Pakhtunkhwa (16.7 percent), Balochistan (15.2 percent), and lowest in Punjab (14.4 percent) (Figure 9). In contrast, the prevalence of severe food insecurity shows a reverse picture; highest in Punjab (3.1 percent) followed by Balochistan (2.1 percent), Sindh (1.6 percent), and Khyber Pakhtunkhwa (0.9 percent).

The urban-rural disaggregated analysis within each province (see Figure 10) shows that households living in the rural areas of Sindh have the highest prevalence of moderate or severe food insecurity.
severe food insecurity (29.9 percent) followed by rural households in Balochistan, Punjab and KP. In case of severe food insecurity, prevalence is highest in rural areas of Punjab (4.2 percent), followed by Sindh, Balochistan and KP. The gap between urban and rural households in case of the prevalence of both moderate or severe food insecurity, and severe food insecurity, is largest in Sindh, and smallest in KP.

Further, FIES data analysis by household expenditure quintiles shows that the prevalence of moderate or severe food insecurity is highest in the poorest quintile (33.6 percent) which is almost 13 times higher than in the richest quintile (3.7 percent). Unlike the case of PoU by expenditure quintiles, the gap between expenditure quintiles in the prevalence of moderate or severe food insecurity is wider (Figure 11). The prevalence of severe food insecurity also follows the same trend; highest in the poorest quintiles and lowest in the richest quintile.

Further, analysis by gender of head of household shows that prevalence of moderate or severe food insecurity is slightly higher among men headed households (16.2 percent) compared to women headed households (13.3 percent), and similarly, the prevalence of severe food insecurity is higher among men headed households, at 2.4 percent, compared with women headed households, for whom it is 1.9 percent. However, given that the unit of measure is the household, these figures do not provide a full picture of food insecurity, as they mask intra-household dynamics regarding the distribution of food among household members on the basis of age, gender or other factors.

Further, FIES data was also collected in Newly Merged Areas of KP (former FATA agencies and FR Regions), which are considered vulnerable, through a Comprehensive Food Security and Livelihood Assessment (CFSLA) conducted by the KP provincial Bureau of Statistics, Planning & Development Department, in July and August 2019 with the technical support of WFP and FAO. The prevalence of moderate or severe food insecurity was 29.6 percent, overall, highest in Lakki Marwat tribal sub-division (56.2 percent),

**Figure 11**
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY BASED ON FIES BY HOUSEHOLD EXPENDITURE QUINTILES (PERCENT OF HOUSEHOLDS)

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Moderate or Severe</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorest Quintile</td>
<td>39.6</td>
<td>8.5</td>
</tr>
<tr>
<td>Second Quintile</td>
<td>21.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Third Quintile</td>
<td>18.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Fourth Quintile</td>
<td>9.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Richest Quintile</td>
<td>3.7</td>
<td>0.3</td>
</tr>
</tbody>
</table>

whereas the lowest prevalence was in the Orakzai district (10.6 percent) (Figure 12). The prevalence of severe food insecurity was 5.9 percent overall, highest in Dera Ismail Khan tribal sub-division (17.2 percent) and lowest in Kohat tribal sub-division (1.1 percent).

Earlier, FIES results from food security and livelihood assessments conducted in drought-affected areas of Sindh and Balochistan during 2018-19 revealed a very high prevalence of food insecurity. There is thus a strong disparity between the overall, averaged figures at the country, provincial, urban and rural levels in Pakistan, compared with the food insecurity prevalence in the drought affected and vulnerable areas of the country.

The above analysis on PoU and food insecurity based on FIES is based on data collected before the outbreak of COVID-19 in Pakistan. The impact of COVID-19 on hunger and food insecurity is further discussed in section 2.2 of this report where results of a PBS survey to Evaluate Socio-Economic Impact of Covid-19 on Wellbeing of People and a Food Security and Livelihood Assessment jointly conducted by FAO and WFP in the vulnerable districts are discussed. Broadly, COVID-19 is expected to affect all segments of the population adversely, but particularly the income and livelihoods of poor and middle-income groups, daily wagers in both agriculture and non-agriculture sectors, small and medium businesses and self-employed workers, agro-pastoralist communities in the rural areas, and also the food consumption of these groups, coupled with high inflation, particularly increases in food inflation.

1.2 RECENT TRENDS IN MALNUTRITION IN PAKISTAN

Progress towards meeting SDG2 nutrition-related targets is measured through three main indicators for children under five years of age: prevalence of chronic undernutrition (stunting), prevalence of acute undernutrition (wasting) and prevalence of overweight. All of these...
need to approach zero for the SDG target of ending malnutrition in all its forms to be met. In addition to the SDG indicators, a number of other nutrition indicators are used to assess nutrition trends in Pakistan, many of which focus not only on children but also on adolescent girls and women of reproductive age (WRA), given the direct link between healthy mothers and healthy children. These other indicators include the prevalence of micronutrient deficiencies among children and WRA, nutritional status of adolescent boys and girls, breastfeeding and complementary feeding practices, and nutritional status of WRA.

The main source of nutrition data used in this report is the 2018 National Nutrition Survey (NNS), conducted by AKU on behalf of MoNH5SRC with the support of UNICEF in 2018. This data set was endorsed by the Government of Pakistan in 2019 and has been used for planning purposes and nutrition programming in Pakistan since that time. This data source was utilised in the 2019 edition of this report because it was considered the most recent, and because the survey also measured contributing factors to malnutrition. We have continued to draw on the NNS 2018 for the 2020 report to discuss district level data, micronutrient data and adolescent and WRA nutrition.

However, as the anthropometric indicators of the NNS 2018 could not meet the inclusion criteria of the UNICEF-WHO-World Bank interagency group for the Joint Child Malnutrition Estimates (JME), we have also considered an alternative source of anthropometric data for this 2020 report. This is the Pakistan Demographic and Health Survey 2017-18 (PDHS), the source drawn on for The State of Food Security and Nutrition in the World 2020 report. The results of the 2018 and 2019 Multi-Indicator Cluster Survey series (MICS) are also useful, but are available for only two provinces to date (Punjab and Sindh).

1.2.1. Stunting among children under five years of age

Stunting (SDG indicator 2.2.1) is being too short for one’s age. It is the impaired growth or development that children experience from poor nutrition, repeated infection and inadequate psychosocial stimulation. It is defined as low height for age in children under five years, two or more standard deviations below the median of the WHO Child Growth Standards.

Pakistan has one of the highest levels of
stunting in the world. As per the PDHS 2017-18, nationally, 37.6 percent of children under the age of five are stunted, and provinces and regions of the country with particularly high stunting rates are KP-NMDs (52 percent), Balochistan (47 percent), GB (47 percent), and Sindh (50 percent) (Figure 13). The JME estimates show that Pakistan has a higher rate of stunting than the average for lower middle income countries (30.1 percent in 2019) and a higher rate than the average for Southern Asia (31.7 percent), and much higher than the average for Asia as a whole (21.8 percent). In comparison with other South Asian countries, Pakistan’s stunting rate is also higher than those of India (34.7 percent), Bangladesh (30.8 percent), Nepal (36.0 percent) and particularly, Sri Lanka (17.3 percent); while it is lower than that of Afghanistan (38.2 percent).

The NNS 2018, nationally, gives a similar figure, at 40.2 percent of children under five being stunted. This national average masks significant disparities between urban and rural settings. The NNS 2018 found that stunting is particularly high in rural areas (43 percent) compared with urban areas (35 percent). As per the NNS 2018, provinces with particularly high stunting rates are Balochistan (47 percent) and Sindh (46 percent) (Figure 13). Stunting levels are often higher when localised figures are considered, reaching up to 63 percent in some districts of Balochistan. Annex 2 contains information about all districts in Pakistan that recorded stunting above the average in the NNS 2018, for the provinces of Balochistan, Sindh, Punjab and Khyber Pakhtunkhwa and the newly merged districts.

The underlying drivers of stunting are varied and complex, and cannot be reduced to simply poverty and food insecurity: the NNS 2018 found that while stunting is highest amongst children belonging to the poorest quintile (51 percent), a significant portion of children in the richest quintile (29 percent) are also stunted. Stunting is linked to dietary patterns (especially amongst PLW and infants), childcare practices, access to health care, water and sanitation conditions, and parents’ education level, especially maternal education.

Nationally, the pace of decline in stunting has remained slow and uneven, and as noted in the 2019 edition of this report, stunting rates declined in Pakistan by less than 2 percentage points between the NNS conducted in 2001 (42 percent) and 2018 (40 percent). In part as a result of the alarming stunting rates revealed

### FIGURE 13

**PREVALENCE OF STUNTING AMONG CHILDREN UNDER FIVE YEARS OF AGE BY PROVINCES/REGIONS (PERCENT)**

<table>
<thead>
<tr>
<th>Province</th>
<th>PDHS-2017</th>
<th>NNS-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>31.5</td>
<td>36.4</td>
</tr>
<tr>
<td>Sindh</td>
<td>49.9</td>
<td>45.5</td>
</tr>
<tr>
<td>KP</td>
<td>40.0</td>
<td>40.0</td>
</tr>
<tr>
<td>KP-NMD</td>
<td>52.0</td>
<td>48.3</td>
</tr>
<tr>
<td>Balochistan</td>
<td>47.0</td>
<td>46.6</td>
</tr>
<tr>
<td>AJK</td>
<td>30.0</td>
<td>39.3</td>
</tr>
<tr>
<td>GB</td>
<td>47.0</td>
<td>48.6</td>
</tr>
<tr>
<td>ICT</td>
<td>24.0</td>
<td>32.6</td>
</tr>
</tbody>
</table>

**NOTE:** THE PERCENTAGE OF CHILDREN AGED 0-59 MONTHS WHO ARE BELOW -2 SD FROM THE MEDIAN HEIGHT-FOR-AGE OF THE WHO CHILD GROWTH STANDARDS.

by the NNS 2018, the Government of Pakistan has made nutrition a national priority since 2019, when the government formed the Pakistan National Nutrition Coordination Council (PNNCC), chaired at the Prime Minister level, to promote scale up nutrition interventions and improve coordination and accountability of nutrition actors.

1.2.2. Wasting among children under five years of age

Wasting (one part of SDG indicator 2.2.2) is being too thin for one’s height. It indicates recent and severe weight loss because a child has not had enough food to eat or has had an infection such as diarrhoea that has caused them to be unable to absorb nutrients. It is defined as low weight for height, more than 2 standard deviations below the WHO Child Growth Standards, in children under five years. The measurement of wasting needs to be understood as a snapshot in time, since it relates to an acute condition, and consequently, the season in which it is measured and other factors such as recent shocks and emergencies are relevant. Thus, wasting levels tend to peak between sowing and harvesting, when job opportunities are scarce and when food stocks dwindle15. Wasting, if untreated, carries an immediate risk of morbidity and mortality.

Wasting in Pakistan at a national level is recorded as 7.1 percent of children under five as per the JME (based on PDHS (2017-18)). The JME also show that in Pakistan wasting is approximately half the average for Southern Asia (14.3 percent), and it is also lower than the average for all lower middle income countries (10.9 percent) and the average for Asia as a whole (9.1 percent). In comparison with other Southern Asian countries, Pakistan’s wasting rate is lower than those of Bangladesh (8.4 percent), Nepal (9.6 percent), Sri Lanka (14.6 percent) and India (17.3 percent); while it is higher than that of Afghanistan (5.1 percent).

For the purpose of comparing wasting between provinces and regions in Pakistan, the PDHS (2017-18) national average, at 7.1 percent, and the NNS 2018 average, at 17.7 percent, are used. The variation between these results indicates some of the difficulty in measuring acute undernutrition16 in the timeframe of a short survey, as well as the challenges of collecting data in more remote parts of Pakistan (referred to in Section 1.1 as part of the discussion on food insecurity). The NNS 2018 rate of 17.7 percent suggests wasting is, on average, exceeding the WHO critical threshold for an emergency of 15 percent, translating to over 5 million children under the age of five being wasted in Pakistan and at significantly increased risk of mortality and morbidity. Alarmingly, acute malnutrition has been increasing in Pakistan, as per the NNS series, going from 14.3 percent in 2001 to 15.1 percent in 2011 and 17.7 percent in 2018,

15  https://www.who.int/nutrition/topics/globaltargets_wasting_policybrief.pdf?ua=1

16 Acute malnutrition (i.e. wasting) is measured through Global Acute Malnutrition (GAM) rates. GAM includes both Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM).
with some unevenness across provinces (Figure 14).

Figure 15 shows that, as per the PDHS (2017-18), the provinces with notably higher wasting rates are Balochistan (18.3 percent) and Sindh (11.7 percent). As per the NNS 2018, these same provinces recorded high wasting rates, 18.9 percent for Balochistan and 23.3 percent for Sindh. Additionally, the NNS 2018 recorded the NMDs-KP as having a wasting rate of 23.1 percent, and Azad Jammu Kashmir was also above the threshold, at 16.1 percent, while Punjab and Khyber Pakhtunkhwa were right on
the threshold (15.3 and 15.0 percent respectively). Similar to stunting, these provincial figures mask even higher levels in some districts, with rates reaching 43 percent in the Khyber Agency of KP-NMDs (see Appendix 2 for information on all districts in the provinces that have wasting rates above the WHO threshold of 15 percent).

The NNS 2018 also found that, as is normally the case across the world, wasting tends to decrease with age; the highest levels are found among children up to five months of age (27 percent) and lowest amongst those aged 48 to 59 months (15 percent). Like stunting, wasting prevalence is highest in children belonging to the poorest quintile (23 percent), although a substantial proportion of children in the richest quintile are also wasted (15 percent). Wasting levels are similar between rural (19 percent) and urban areas (16 percent), as well as between boys (18 percent) and girls (17 percent). As such, maternal nutrition (Section 1.2.7) and behavioural factors such as breastfeeding rates and the type and frequency of complementary foods given to very young children are relevant (see Section 1.2.6). The effect of shocks on the food system of Pakistan on food insecurity (which will affect wasting, especially in older children) is covered in Section 2.2.

1.2.3. Overweight and underweight among children under five years of age

Overweight is the other part of SDG indicator 2.2.2 and it means being too heavy for one’s height. For SDG tracking it is defined as having a weight for height in children under five years of age that is more than 2 standard deviations above the WHO Child Growth Standards. Overweight is another form of malnutrition, having serious and long term health consequences. Overweight and its more serious form, obesity, are risk factors for non-communicable diseases such as cardiovascular diseases, hypertension, type 2 diabetes, and some forms of cancers.

Overweight in children in Pakistan at a national level is recorded as 2.5 percent of children under five as per the JME (based on the PDHS (2017-18)). The JME also show that Pakistan has a very similar rate to the average for Southern Asia (2.5 percent), while it has a lower rate of overweight than the average for lower middle income countries (4.7 percent) and the average for Asia as a whole (4.9 percent). In comparison with other South Asian countries, Pakistan’s overweight rate is lower than those recorded for Afghanistan (4.1 percent), while it is higher than Bangladesh (2.2 percent), Sri Lanka (2.0 percent) India (1.6 percent) and Nepal (1.2 percent).
As per the PDHS 2017-18, the rate of overweight in children under five in Pakistan is 2.5 percent, and Figure 16 shows that the provinces and regional areas of Pakistan with the highest rates of overweight are Balochistan (5.3 percent), Gilgit Baltistan (5.8 percent), and the NMDs-KP (3.3 percent). As per the NNS 2018, the rate of overweight in children under five in Pakistan is 9.5 percent, with the provinces and regional areas of Pakistan experiencing the highest rates of overweight being the NMDs-KP (18.6 percent), Balochistan (16.7 percent), Azad Jammu Kashmir (13.4 percent) and Gilgit Baltistan (12.2 percent). Again, as mentioned in Section 1.1 regarding food insecurity, collecting representative data in the more remote and inaccessible parts of Pakistan is often challenging, and hence these alarmingly high figures need to be interpreted with caution.

Across the NNS series, overweight has rapidly increased from 4 percent in 2001 to 7 percent in 2011 before reaching 9.5 percent in 2018. This upward trend is often found in countries with growing economies and indicates what is called the ‘nutrition transition’, linked to increasingly sedentary lifestyles and changing food consumption patterns, usually featuring higher intakes of processed foods that are high in sugar and trans fats, and low in fibre and vitamins; contributing to low quality, calorie dense diets.

In the NNS 2018, there appeared no significant disparities for overweight in children under five, based on gender (9.7 percent among boys and 9.2 percent among girls), urban or rural location (9.6 percent in urban areas and 9.4 percent in rural areas), or family wealth status (10.1 percent in the richest quintile and 7.9 percent in the poorest quintile). This points to a generalised lack of awareness about the dangers of the processed foods that are becoming more widely available in Pakistan and the insufficient effort on educating consumers and regulating labelling and standards relating to these foods.

In Pakistan, the proportion of young children who are underweight exceeds those who are overweight. Unlike overweight, the score for underweight is calculated using a composite of height-for-age and weight-for-height to produce weight-for-age. The available data show that, as per the NNS 2018, 29 percent of children under
part 1   food security and nutrition in pakistan

five years of age in Pakistan are underweight. Figure 17 shows that the geographic patterns for underweight are similar to those for stunting and wasting, with the highest rates found in Sindh (41 percent), KP-NMDs (34 percent), and Balochistan (31 percent).

1.2.4. Nutritional status of adolescents

The nutritional status of adolescent girls, who are future mothers, was assessed for the first time in Pakistan through the NNS 2018. Consideration of these metrics has implications for malnutrition in young children because the median age that women have their first child in Pakistan is quite young (at 22 years), and eight percent of girls aged 15 to 19 have already given birth vii. Dietary habits formed in adolescence also have implications for the rest of a woman’s life and reproductive years. Figure 18 shows that the proportion of obese or overweight adolescent girls (16.9 percent) is...
considerably higher compared with those who are underweight (11.8 percent). However, this average masks important socio-economic and geographic disparities, with the prevalence of underweight higher than the national average amongst adolescent girls in the poorest quintiles (16 percent), and among teenagers living in Sindh (16.6 percent of girls and 30 percent of boys) (see Figures 19 and 20). The high percentage of underweight boys nationally (21.1 percent) has implications for the largely male youth workforce, compromising its health and energy (Figure 18).

The finding in the NNS 2018 that very high rates of anaemia (54.7 percent) co-exist with high rates of overweight and obesity among adolescent girls again highlights the need to increase sensitization on the importance of healthy diets that are less rich in calories, but richer in micronutrients. The Government of Pakistan’s Adolescent Nutrition Strategy, released in 2020, will help guide interventions to address the immediate, underlying and basic causes of malnutrition among girls and boys during adolescence (see Box 4).

Adolescents are tomorrow’s adult population, and their health and well-being are crucial. The adolescent period presents a window of opportunity to build behaviors and practices that will support good nutrition, health and family wellbeing well into adulthood. Undernutrition in girls 10 to 19 years of age has inter-generational effects. It contributes to low birth weight and child stunting which, in turn, lead to poor survival, growth and development, and poorer livelihoods. Investing in adolescent nutrition means investing in human capital and thus in economic growth.

To set the country’s strategic direction on adolescent malnutrition, a strategy with provincial plans was conceptualized and developed by the Nutrition Wing of the Ministry of National Health Services, Regulations and Coordination (MoNHSR&C), with the support of UNICEF, WHO and GAIN. The process was completed with the support of other UN agencies (WFP, UNFPA), development partners, provincial governments, SUN secretariat, researchers and academia, and other key stakeholders.

**Goal:** All adolescent girls and boys in Pakistan will reach their full potential, enjoying healthy lives and well-being, free from all forms of malnutrition.

**Objectives:**
1. Adolescent girls and boys have supportive surroundings and have adopted positive nutrition behaviours.
2. Evidence-based, multi-sectoral, quality nutrition programs and services are provided at scale to adolescent boys and girls.

The key strategic areas in the strategy, on which provincial operational plans will be based, are:

**Strategic Area 1:** Creation of a sustained enabling environment to address adolescent nutrition

**Sub-Strategy 1.1:** Conduct evidence-based policy advocacy for the equity-based inclusion of adolescents’ nutrition as a specific focus and resource mobilization in the current and future strategies, plans, and programs (Legislations, Rules, Regulations and their Implementation)

**Sub-Strategy 1.2:** Design and implement Social and Behaviour Change Communication strategies to address adolescent nutrition at all levels (population level, household, and community)

**Sub-Strategy 1.3:** Integration of Adolescents’ Nutrition into Regular, Public Sector, Non-Development Annual Budget Statements and Accountability at National, Provincial and Local Levels

**Strategic Area 2:** Programmatic response to adolescent nutrition across different sectors

**Sub-Strategy 2.1:** Design and implement nutrition-specific adolescent interventions in the health sector

**Sub-Strategy 2.2:** Designing nutrition-sensitive adolescent interventions in the non-health sector (Education, Agriculture, WASH, Social Protection)

**Sub-Strategy 2.3:** Design and implement nutrition strategies for an adolescent from special groups (HIV-positive, disabled, out of school, homeless and imprisoned adolescents, etc.) and under specialized circumstances (disasters and humanitarian situations).

**Strategic Area 3:** Continued evidence generation for guiding, learning, and accountability

**Sub-strategy 3.1:** Monitoring, evaluation, surveillance, learning, and accountability

**Sub-strategy 3.2:** Knowledge management and reporting.

**SOURCE:**

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**BOX 4**

**AN ADOLESCENT NUTRITION STRATEGY FOR PAKISTAN**
1.2.5. Micronutrient deficiencies among children under five

The 2018 NNS measured five types of micronutrient deficiency among children under five: anaemia, iron-deficiency anaemia, zinc deficiency, vitamin A deficiency, and vitamin D deficiency.

As per the NNS series, **iron-deficiency anaemia** in children under five has increased since 2001 when it was 51 percent, up to 62 percent in 2011 before decreasing again to 54 percent in 2018. The 2018 survey found the prevalence slightly higher in rural areas (57 percent) than urban areas (49 percent). Prevalence rates varied significantly between provinces, with Balochistan having the highest rates (71 percent overall, and as high as 92 percent in some districts) and GB having the lowest rate (27 percent).

**Vitamin A** deficiency is responsible for ocular problems such as xerophthalmia (abnormal dryness of the eye), a leading cause of preventable childhood blindness. Over half of children under five (52 percent) are vitamin A deficient in Pakistan. The prevalence of vitamin A deficiency is significantly higher (54 percent) among children whose mothers had no education compared to those whose mothers had higher education (46 percent). As is the case for anaemia, Balochistan has the highest prevalence of vitamin A deficiency (58 percent).

**Zinc** plays an important role in early childhood growth as well as pregnancy outcomes, and zinc deficiency can lead to impaired immunity and predisposition to cancer. About 19 percent of children under five are zinc-deficient in Pakistan, with the highest rates found in Balochistan and AJK (22 percent).

**Vitamin D** deficiency is present in over 63 percent of children under five in Pakistan. This deficiency is due to a lack of sunlight exposure. Consequently, there are variations in vitamin D deficiency rates across demographic groups and geographic areas, due to differences in lifestyles and climate. Vitamin D deficiency is higher in urban areas (66 percent) than in rural areas (61 percent). It is only slightly higher among girls (63 percent) than boys (62 percent), reflecting the fact that social restrictions around women’s exposure to the outdoors only start when girls are somewhat older than five years. Contrary to most other nutrition indicators (including stunting, wasting, underweight and other micronutrient deficiencies), vitamin D deficiency is considerably higher in children of mothers with higher education (72 percent) compared with children with mothers who are uneducated (58 percent). Children in families in the richest quintile have more Vitamin D deficiency (72 percent) compared with those in the poorest quintile (48 percent). The highest prevalence is found in KP-NMD and GB (both 82 percent), while the lowest is found in Sindh (37 percent). Worryingly, vitamin D deficiency has increased by more than 22 percentage points since 2011, when it stood at 40 percent.
1.2.6. Breastfeeding and complementary feeding

The NNS 2018 findings on indicators regarding infant feeding show a positive trend from 2011 of increased breastfeeding rates (Figure 21). There has been an increase in the proportion of children receiving breastmilk during the first hour after birth between 2011 and 2018. Exclusive breastfeeding during a child’s first six months of life has also increased since 2011, and stood at 48 percent in 2018, bringing Pakistan very close to the WHA target of 50 percent.

Age-appropriate complementary feeding is an essential addition to breastfeeding after a child is six months of age. However, most of the indicators related to complementary feeding are declining. The NNS 2018 found that just three percent of children aged six to twenty-three months received the minimum acceptable diet, meaning a diet sufficient in both diversity and frequency. Children in the wealthiest households (5 percent) were nearly four times as likely to have a minimal acceptable diet as those in the poorest households (2 percent). KP-NMD and Balochistan had the lowest rates of children meeting the minimal acceptable diet, while ICT and Punjab had the highest (Figure 22). The lack

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**FIGURE 21**

EXCLUSIVE BREASTFEEDING FOR FIRST SIX MONTHS BY PROVINCES/REGIONS (PERCENT)

<table>
<thead>
<tr>
<th>Province/Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>48.4%</td>
</tr>
<tr>
<td>Punjab</td>
<td>44.3%</td>
</tr>
<tr>
<td>Sindh</td>
<td>52.3%</td>
</tr>
<tr>
<td>KP</td>
<td>80.8%</td>
</tr>
<tr>
<td>KP-NMD</td>
<td>59.0%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>43.7%</td>
</tr>
<tr>
<td>AJK</td>
<td>42.1%</td>
</tr>
<tr>
<td>GB</td>
<td>54.9%</td>
</tr>
<tr>
<td>ICT</td>
<td>57.6%</td>
</tr>
</tbody>
</table>

NOTE: PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG UNDER 6 MONTHS CHILDREN IN PAKISTAN AND PROVINCES/REGIONS.

**FIGURE 22**

COMPLEMENTARY FEEDING PRACTICES BY PROVINCE/REGIONS (PERCENT)

<table>
<thead>
<tr>
<th>Province/Region</th>
<th>Minimum Acceptable Diet</th>
<th>Minimum Meal Frequency</th>
<th>Minimum Dietary Diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>4.8%</td>
<td>21.0%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Sindh</td>
<td>2.2%</td>
<td>16.8%</td>
<td>22.5%</td>
</tr>
<tr>
<td>KP</td>
<td>4.1%</td>
<td>12.4%</td>
<td>19.6%</td>
</tr>
<tr>
<td>KP-NMD</td>
<td>0.8%</td>
<td>9.4%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>4.9%</td>
<td>9.7%</td>
<td>12.0%</td>
</tr>
<tr>
<td>AJK</td>
<td>3.2%</td>
<td>14.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>GB</td>
<td>19.6%</td>
<td>12.8%</td>
<td>13.9%</td>
</tr>
<tr>
<td>ICT</td>
<td>22.2%</td>
<td>22.4%</td>
<td>22.2%</td>
</tr>
</tbody>
</table>

NOTE: PREVALENCE OF COMPLEMENTARY FEEDING PRACTICES (MINIMUM ACCEPTABLE DIET, MINIMUM MEAL FREQUENCY AND MINIMUM DIETARY DIVERSITY) AMONG CHILDREN AGE 6-23 MONTHS ACROSS PROVINCES.
of dietary diversity even among women and children belonging to middle and higher wealth quintiles emphasises the urgent need for better nutrition awareness and public education on healthy and balanced diets.

1.2.7. Nutritional status of women of reproductive age
The NNS 2018 findings on WRA (aged 15 to 49 years) are that in Pakistan there is a double burden of malnutrition in which rates both of underweight and of overweight and obesity are unacceptably high. Prevalence of underweight decreased from 18 percent in 2011 to 14.5 percent in 2018 (Figure 23). The prevalence of overweight and obesity in WRA has increased rapidly from 28 percent in 2011 to 38 percent in 2018. An urban-rural divide is apparent, with rural areas having higher rates of underweight and lower rates of overweight and obesity than women in urban areas. Socio-economic disparities are also apparent, with women who are not educated and those belonging to the lowest wealth quintile being more likely to be underweight, whereas those belonging to the...
richest wealth quintile are more likely to be overweight or obese. Sindh has the highest rates of underweight (22.8 percent), while KP-NMDS has the highest rates of overweight and obesity (48.8 percent).

1.3 UPDATE ON ACCESS TO WATER, SANITATION, AND HYGIENE (WASH)

Safely managed WASH services are vital to public health, especially the health of infants and young children. Almost one-tenth of the global disease burden could be prevented by improving water supply, sanitation, hygiene, and management of water resources, and 50 percent of malnutrition is associated with repeated diarrhoea or intestinal worm infections because of unsafe water, inadequate sanitation, or insufficient hygiene. There is a vicious cycle between diarrhoea and undernutrition because children with diarrhoea eat less and are less able to absorb the nutrients from their food, while undernourished children are more likely to get diarrhoea when exposed to poor sanitation conditions. Hence, WASH interventions play a critical role in reducing or preventing malnutrition.

WASH and Nutrition Nexus and various stages of life cycle

Poor sanitation and hygiene practices are essential determinants in the causal pathway and cycle of infectious disease burden and undernutrition. WASH includes adequate and sustainable water supply, sufficient means of sanitation (encouraging ‘total sanitation’ to eliminate the practice of open defecation), and improved hygiene practices (handwashing with soap). The World Bank estimates the economic cost of poor water and sanitation services to be around 4 percent of the GDP of Pakistan. These costs are around USD 12 billion per year and are dominated by inadequate domestic water supply and sanitation, but also include the costs of floods and droughts. Poor sanitation and a lack of wastewater treatment cause water-borne diseases that kill around 40,000 children each year.

WASH infrastructure has significantly improved in Pakistan, but there is a disturbingly high level of bacterial contaminants in water and the environment. Only 35 percent of the population has access to safely managed water, free of contamination. Poor water quality is a major determinant of malnutrition in Pakistan, as mostly contaminated water is used for drinking and food production purposes, without any treatment.

In Pakistan, almost 21 million people still defecate in the open, and 38 million people only use unimproved sanitation, and 20 million people have limited access to sanitation services. More than 30 percent of the population is thus spreading faecal content in the environment and contaminating the drinking water sources. For example, in rural Sindh, poor faecal sludge management combined with a high reliance on water from shallow hand pumps has led to contamination rates as high as 57 percent at the source. Habitual drinking of water contaminated with E. coli leads to permanent and irreversible damage to the intestinal villi of children, which hinders their ability to digest nutrients, affecting their long-term life and growth prospects.

WASH interventions contribute to improve the
2.2.5 Contribute across SDGs

WASH underpins many of the SDGs. Within the 17 SDGs, UNICEF’s priority cross-sectoral interventions to improve child health, welfare and development will include: WASH in education (SDG 4) and health care facilities (SDG 3), MHM and other interventions focusing on women and girls (SDG 5), targeted sanitation and hygiene interventions in support of programmes to reduce malnutrition (SDG 2) and to end child poverty (SDG 1), and sectoral interventions to protect children and women from violence and indignity (SDG 16).

WASH inputs also contribute towards the achievement of other SDG goals and targets including sustainable cities (SDG 11), reduced inequalities between and within countries (SDG 10), environmental protection and climate change (SDG 13) and decent working conditions (SDG 8).

Looking across a child’s life course, UNICEF will align and integrate programming efforts across sectors. UNICEF will actively seek alignment and partnership with the UN family and other stakeholders working in related SDG areas to ensure WASH inputs are addressed, and benefits are maximized for children. Specifically, UNICEF will use its long-standing and extensive multi-sectoral capacity to contribute to the key sectoral priorities through UNICEF’s programming in the areas of nutrition, health, HIV/AIDS, education, social policy and child protection. UNICEF will use its convening power to encourage cross-sectoral programming alignment with a focus on policy development, institutional strengthening and monitoring, while using multiple deprivation analysis to focus joint efforts in priority geographic areas.

Integrated action to improve nutrition

WASH interventions represent an essential nutrition-sensitive approach in preventing undernutrition. If implemented at a large scale as part of public works and education programs, they offer a significant opportunity to reduce water-borne diseases or faecal-oral route contamination, and thence malnutrition. The Lancet 2013 series highlighted that achieving 100 percent coverage of the set of ten nutrition-specific interventions to address malnutrition will only lead to a 20 percent reduction in stunting. The other 80 percent will be contributed by structural changes and nutrition-sensitive interventions, including WASH. WASH is, therefore, part of the set of actions required to achieve optimal foetal development and nutrition.

**FIGURE 24**

**WASH CONTRIBUTIONS TO UNICEF’S KEY OUTCOMES FOR CHILDREN ACROSS THE LIFE COURSE**

<table>
<thead>
<tr>
<th>Maternal and Neonatal</th>
<th>Early Childhood Development</th>
<th>Older Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>Childbirth and newborn</td>
<td>Infant to 2 years</td>
</tr>
<tr>
<td>- Reduced maternal disease and death</td>
<td>- Reduced neonatal and maternal disease and death</td>
<td>- Reduced child disease and death</td>
</tr>
<tr>
<td>- Reduced under-nutrition</td>
<td>- Increased dignity</td>
<td>- Reduced under-nutrition</td>
</tr>
<tr>
<td>- Protection from violence</td>
<td>- Increased dignity</td>
<td>- Protection from violence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: UNICEF, WASH Strategy 2016-2030

Childhood Development (ECD). This can have intergenerational consequences, because a girl child suffering from undernutrition is more likely to become an undernourished mother and give birth to a low birth weight infant."
Accessibility and availability of water

Safely managed water, as defined under the SDG 6 indicators framework, is drinking water that is accessible at premises, available when needed, and free from priority contaminations. Almost 91 percent of Pakistanis have access to water sources that are in some way ‘improved’, but only 28 percent of the population is linked to a piped water supply. High reliance on drinking water from hand or motor pumps (self-provision of water), is found primarily in Punjab and Sindh, whereas in Balochistan and KP the use of surface water and piped water systems predominates. Lack of water availability in existing piped water infrastructure is a common problem that further compounds the situation, creating unreliability in supply and leading to the use of unregulated tanker (trucked) water suppliers. Around 56 percent population of Pakistan has access to basic services, while 35 percent have access to safely managed drinking water services.

Pakistan’s SDG 6 baseline and targets for drinking water

According to the Pakistan Council of Research on Water Resources (PCRWR), almost 65 percent of drinking water samples in 2016 were found unfit for human consumption because of biological contamination. Similarly, only eight percent of the population was reported using an appropriate treatment method for drinking water at household levels (PDHS 2012-13). Only around 35 percent of the population in Pakistan has access to water that was free from any biological contamination; the access rate is 33 percent in rural areas and 41 percent in urban areas. Access to water for each province is shown in

| FIGURE 25 | ACCESS TO DRINKING WATER TYPES (PERCENT) |

<table>
<thead>
<tr>
<th></th>
<th>Safely managed</th>
<th>Basic</th>
<th>Limited</th>
<th>Unimproved</th>
<th>Surface water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>40</td>
<td>54</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>33</td>
<td>57</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>56</td>
<td>1</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Access of population to different drinking water types in Pakistan, urban and rural regions.
TABLE 1
PROVINCE WISE WATER SERVICE DATA

<table>
<thead>
<tr>
<th>Area</th>
<th>Access to Improved Water Source (percent)</th>
<th>Available at Premises and when needed (percent)</th>
<th>Free from contamination (percent)</th>
<th>SDG Targets by 2030 for Safe Water (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>91</td>
<td>77.5</td>
<td>35</td>
<td>95</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>69</td>
<td>73.4</td>
<td>53</td>
<td>100</td>
</tr>
<tr>
<td>Punjab</td>
<td>95</td>
<td>82.7</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>Sindh</td>
<td>86</td>
<td>75.7</td>
<td>19</td>
<td>82.5</td>
</tr>
<tr>
<td>Balochistan</td>
<td>58</td>
<td>37</td>
<td>19</td>
<td>95</td>
</tr>
<tr>
<td>Gilgit Baltistan</td>
<td>79.5</td>
<td>72</td>
<td>40</td>
<td>98</td>
</tr>
<tr>
<td>AJK</td>
<td>52</td>
<td>22</td>
<td>NA</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Source: Source: WASH Joint Sector Reviews, 2018-2020, Ministry of Climate Change (MoCC)

Table 1. The provinces with the most concerning contamination rates are Sindh and Balochistan.

Safely managed sanitation services in the SDG context

Regarding SDG 6, safely managed sanitation includes improved sanitation (toilets), on-site and off-site disposal/treatment, along with handwashing with water and soap. Approximately 60 percent of households in Pakistan have basic sanitation services (appropriate type of latrines), 10 percent have shared latrines categorized as limited services, 20 percent fall under unimproved, and around 10 percent live without any toilets and are practicing open defecation\(^{\text{11}}\) (Figure 26).

There are no reliable data about the on-site treatment as the septic tanks are not constructed or linked with the system as per the defined criterion. Generally, in urban areas, sewage is collected through both piped sewers, and open surface drains. The sewage is disposed to either nearby water bodies, or to open depressions and fields. In areas where there is no collection system, soakage wells are used, which often contaminate the groundwater. There is a high risk of disease outbreaks in neighbourhoods where human excreta passes through open...
drains or open places. There are few wastewater treatment plants in urban localities, and less than one percent of urban sewage is being treated in Pakistan, while such services do not exist in rural areas of Pakistan except for pilot projects. Based on a sampled survey, this has been reported as zero because of the non-availability of reliable data.

Washing hands with soap before eating and after defecation can drastically reduce the spread of diarrhoeal disease and have far reaching effects on the health and welfare of children and communities. It not only prevents contamination of faeco-oral route but also viral transmissions and has been very effective in eradicating polio, and more recently, in preventing the spread of COVID-19 in communities.

However, only 60 percent of Pakistan’s population practices handwashing with water and soap (this is described as having access to basic hygiene services), while 32 percent use water only (limited service), and 8 percent have no access to proper handwashing facilities (no service). Disparities between rural and urban hygiene coverages are highlighted in (Figure 27) below. Access to basic service is lowest in Balochistan province, where handwashing with soap is at just 36 percent.

![Figure 27](https://washdata.org)
Pakistan’s SDG 6 baseline and targets for sanitation
In summary, while improved sanitation is 73 percent as per the PSLM, and handwashing with soap is at 60 percent, on-site and off-site treatment is not available, or is less than one percent. For Pakistan, no data is available for safely managed sanitation. The provincial and regional break-up is given below in Table 2.

<table>
<thead>
<tr>
<th>Area</th>
<th>No Toilet (percent)</th>
<th>Not Improved (percent)</th>
<th>Improved (percent)</th>
<th>Hand Washing with Water and Soap (percent)</th>
<th>SDG 6.1 Targets for 2030 Safe Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>15</td>
<td>22</td>
<td>63</td>
<td>60.0</td>
<td>72</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>13</td>
<td>19</td>
<td>68</td>
<td>56.7</td>
<td>47</td>
</tr>
<tr>
<td>Punjab</td>
<td>17</td>
<td>8</td>
<td>75</td>
<td>72.6</td>
<td>100</td>
</tr>
<tr>
<td>Sindh</td>
<td>12</td>
<td>49</td>
<td>39</td>
<td>51.5</td>
<td>64</td>
</tr>
<tr>
<td>Balochistan</td>
<td>23</td>
<td>55</td>
<td>22</td>
<td>36.0</td>
<td>100</td>
</tr>
<tr>
<td>Gilgit /Baltistan</td>
<td>10</td>
<td>10</td>
<td>89</td>
<td>53</td>
<td>87</td>
</tr>
<tr>
<td>AJK</td>
<td>6</td>
<td>20</td>
<td>75</td>
<td>No data</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Source: WASH Joint Sector Reviews, 2018-2020, Ministry of Climate Change (MoCC)
Flooding damaged the vital cash crop (cotton) in 2020.
PART 2
TOWARDS A RESILIENT FOOD SYSTEM IN PAKISTAN
FAO defines agri-food systems to “encompass the entire range of actors, and their interlinked value-adding activities, engaged in the primary production of food and non-food agricultural products, as well as in storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption of all food products including those of non-agricultural origin”. Food systems are defined as “comprising all food products that originate from crop and livestock production, forestry, fisheries and aquaculture, and from other sources such as synthetic biology that are meant for human consumption.” This report focuses on food systems.

The food systems framework in Figure 28 further depicts how external drivers are linked with any particular food system and hence have an

**TOWARDS A RESILIENT FOOD SYSTEM IN PAKISTAN**

It is now well recognized that transforming the global food system holds the key to providing healthy, affordable diets to all. By taking a ‘food systems’ approach to food security and nutrition, we can consider where there are opportunities to make sustainable changes in the system to secure every person’s right to adequate food, even during challenging times.

---

**FIGURE 28**

**SUSTAINABLE FOOD SYSTEM FRAMEWORK**

- **BIOPHYSICAL AND ENVIRONMENTAL DRIVERS**
  - Ecosystems
  - Human systems
  - Energy systems
  - Economic systems
  - Health systems

- **TECHNOLOGY INNOVATION AND INFRASTRUCTURE**
  - Data-driven innovations
  - New plant breeding technologies
  - Post-harvest infrastructure

- **ECONOMIC AND MARKET DRIVERS**
  - Livelihoods and income
  - Markets, firms and trade
  - Land tenure

- **POLITICAL AND INSTITUTIONAL DRIVERS**
  - Governance frameworks
  - Institutional support
  - Civil strife and conflict

- **SOCIO-CULTURAL DRIVERS**
  - Social norms and traditions
  - Social stratification
  - Women’s empowerment

- **DEMOGRAPHIC DRIVERS**
  - Urbanization
  - Changing age profiles

- **FOOD SYSTEMS**
  - Production support systems
  - Supply chain activities
  - Food environments
  - Consumption behaviours
  - Diets
  - Outcomes

- **FOOD ENVIRONMENTS**
  - Availability and physical access
  - Affordability
  - Acceptability
  - Information, guidelines and advertising
  - Food quality and safety
  - Policy conditions

- **FOOD SUPPLY CHAINS**
  - Production systems
  - Storage and trade
  - Packaging and processing
  - Retail and marketing

- **CONSUMER BEHAVIOURS**
  - Choosing where and what food to acquire, prepare, cook, store and eat
  - Awareness of impact of choices

- **DIETS**
  - Quantity
  - Quality
  - Diversity
  - Safety
  - Adequacy

- **NUTRITION AND HEALTH OUTCOMES**
  - Economic
  - Social equity
  - Environment

**SOURCE:** Food Security and Nutrition: Building a Global Narrative towards 2030. HLPE Report # 15
influence on that system’s response to shocks such as zoonotic disease pandemics, extreme weather events and pest infestations.

As discussed in last year’s report, Pakistan has experienced repeated setbacks on its path to ending hunger and all forms of malnutrition, often in the form of natural disasters, including earthquakes, floods, and droughts, as well as economic slowdowns. In other words, changes in biophysical, environmental, economic and other drivers have created additional pressures on a food system which has inherent weaknesses in its food environments.

Most recently, in 2019 and 2020, multiple emergencies arose in Pakistan, including a desert locust invasion, the COVID-19 pandemic, and unusually heavy monsoonal rain and floods. These shocks have highlighted a lack of resilience, or fragility, in Pakistan’s food system, in which vulnerable people are more likely to become food insecure and malnourished.

The special theme of a Towards a Resilient Food System in Pakistan was chosen for this in-depth section of the report in order to re-examine the food system in the light of COVID-19 and other shocks (see Box 5: Food Systems Summit).

The three areas covered are:
1. The trend analysis of economic growth, poverty, inequality, and food security;
2. The food system under shock during the desert locusts, COVID-19 and flood emergencies; and
3. Using social protection and other interventions to build food system resilience.

2.1 TREND ANALYSIS OF ECONOMIC GROWTH, POVERTY, INEQUALITY, AND FOOD INSECURITY

As we saw in Figure 28, ‘economic and market drivers’ are one of several types of drivers having an impact on the food system, while the specific ‘food environment’, with its degrees of availability, affordability and acceptability of food as experienced by the individual consumer...
The term “food system” refers to the constellation of activities involved in producing, processing, transporting, and consuming food. Food systems touch every aspect of human existence. The health of our food systems profoundly affects the health of our bodies, as well as the health of our environment, our economies, and our cultures. When they function well, food systems have the power to bring us together as families, communities, and nations. But too many of the world’s food systems are fragile, unexamined, and vulnerable to collapse, as millions of people around the globe have experienced first-hand during the COVID-19 crisis. When our food systems fail, the resulting disorder threatens our education, health and economy, as well as human rights, peace and security. As in so many cases, those who are already poor or marginalized are the most vulnerable.

In 2021, UN Secretary-General António Guterres will convene a Food Systems Summit as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030. The Summit will launch bold new actions to deliver progress on all 17 SDGs, each of which relies to some degree on healthier, more sustainable and equitable food systems.

The Summit will awaken the world to the fact that we all must work together to transform the way the world produces, consumes, and thinks about food. It is a summit for everyone everywhere – a people’s summit. It is also a solutions summit that will require everyone to take action to transform the world’s food systems.

Guided by five Action Tracks, the Summit will bring together key players from the worlds of science, business, policy, healthcare, and academia, as well as farmers, indigenous people, youth organizations, consumer groups, environmental activists, and other key stakeholders. Before, during, and after the Summit, these actors will come together to bring about tangible, positive changes to the world’s food systems. The Summit process aims to deliver the following outcomes:

- Generate significant action and measurable progress towards the 2030 Agenda for Sustainable Development. The Summit will succeed in identifying solutions and leaders and issuing a call for action at all levels of the food system, including national and local governments, companies, and citizens.
- Raise awareness and elevate the public discussion about how reforming our food systems can help us all to achieve the SDGs by implementing reforms that are good for people and the planet.
- Develop principles to guide governments and other stakeholders looking to leverage their food systems to support the SDGs. These principles will set an optimistic and encouraging vision in which food systems play a central role in building a fairer, more sustainable world. Principles of engagement
- Create a system of follow-up and review to ensure that the Summit’s outcomes continue to drive new actions and progress. This system will allow for the sharing of experiences, lessons, and knowledge; it will also measure and analyse the Summit’s impact.

or community within that economy, is also a key determinant of a food system’s efficacy in realising people’s right to food.

Economic changes can ultimately affect food security and also nutrition status, but the extent and manner depend on the country under consideration, due to the stage of economic development and the presence of different types of inequality. In particular, economic growth, while having an impact on poverty, is insufficient on its own to reduce poverty altogether. In turn, poverty reduction does not always improve food security at the same rate. Equally, improved food security does not necessarily result in equivalent reductions in malnutrition. While extreme poverty is one of the underlying causes of food insecurity and malnutrition, food insecurity and malnourishment might also be caused by other non-poverty factors and that’s why food insecure and malnourished people are not always members of the poorest households. Most of the hungry and undernourished populations today live in middle-income countriesxxiii. This is particularly the case in middle-income countries like Pakistan, where disturbing rates of malnutrition and food insecurity have persisted despite achievements in poverty reduction and economic growth.

Part of the reason for this is the existence of complex backward and forward linkages between these problems, as well as multiple forms of inequality in society. Inequalities are one of the many reasons why extreme poverty reduction does not necessarily translate into improved food security and nutrition. Socially excluded and marginalized groups are at increased risk of food insecurity, unhealthy diets, malnutrition in all its forms and poor health outcomes. Inequalities are also seen in accessing basic services and assets, between and within households. All of this makes it more difficult for poor and marginalized groups to benefit from economic growth. Inequalities not only prevent the most food-insecure and malnourished people from being helped by economic growth; they also make these people more vulnerable in the face of economic slowdowns and downturnsexxxv.

This section used a time trend analysis to graphically describe the evolution of economic growth, poverty, inequality and food insecurity in Pakistan in the last two decades. Various economic and non-economic factors, including climate change, agro-climatic factors, agricultural structure, household level, and macro factors can affect food security. Household factors include household size, education, gender of household head, and households’ employment status, while macro factors such as food inflation, economic growth, unemployment, income inequality, poverty, quality of human capital, agricultural development, and political stability also determine food security in any one country. However, economic growth is considered one of the most critical factors affecting food securityxxxvi xxxvii xxxviii xxxix, such that economic development is conventionally associated with a degree of poverty reduction, which ultimately can increase food security, and a positive and significant relationship between economic growth and food security has been shownxxx.

However, food supply is structurally rooted in development processes, such as domestic investment, urbanization, and political democratization. The reverse phenomenon, of economic growth being influenced by food security, arises partly because food insecure populations, who may also experience either acute or chronic malnutrition, have less human capital and lower productivity, which discourages economic growthxxx. Some studies show that if the state provides food security through social protection or various subsidies, it will increase economic growth and the efficiency of the economyxxxii xxxiii xxxiv. This is known as a backward linkage.

The main reason poverty is linked to food insecurity is because of the access dimension of food security. Simply put, poverty leads to reduced access to a balanced, sufficient diet. POFI 2019 covered this element of access to food in Pakistan in some detail. In Pakistan, the government measures poverty on a consumption-based approach using data from the HIES. The official poverty line in Pakistan is then calorie-based, and consumption-based
The first goal of the 2030 Agenda for Sustainable Development is No Poverty (SDG1). The identification of the poor and the evaluation of the extent of poverty has received considerable attention in the design of cost-effective poverty reduction programs and safety nets. The degree of poverty should be estimated to assess budgetary needs, and to evaluate social safety net programs. Pakistan’s official poverty estimates are based on the recent HIES conducted by the PBS. The Government of Pakistan adopted the cost of basic need (CBN) methodology beginning in 2013-14 to estimate poverty. The estimated poverty line for 2013-14 was calculated at 3,030 PKR per adult equivalent per month. The same poverty line was adjusted for 2015-16 using the Consumer Price Index (CPI) based inflation. The updated poverty line for 2015-16 was 3,250 PKR per adult equivalent per month. Using CPI based inflation, the updated poverty line for 2018-19 is 3,776 PKR per adult equivalent per month.

Over the last decade, Pakistan’s poverty headcount has witnessed a persistent decline both at the national and regional levels. Table 3 presents poverty estimates from 2005-06. The proportion of people living below the poverty line has declined from 50.4 percent in 2005-06 to 21.5 percent in 2018-19. Poverty in both rural and urban areas shows a declining trend.

<table>
<thead>
<tr>
<th>Years</th>
<th>Poverty Incidence (percentage points)</th>
<th>Change in Poverty (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National</td>
<td>Urban</td>
</tr>
<tr>
<td>2005-06</td>
<td>50.4</td>
<td>36.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>44.1</td>
<td>32.7</td>
</tr>
<tr>
<td>2010-11</td>
<td>36.8</td>
<td>26.2</td>
</tr>
<tr>
<td>2011-12</td>
<td>36.3</td>
<td>22.8</td>
</tr>
<tr>
<td>2013-14</td>
<td>29.5</td>
<td>18.2</td>
</tr>
<tr>
<td>2015-16</td>
<td>24.3</td>
<td>12.5</td>
</tr>
<tr>
<td>2018-19</td>
<td>21.5</td>
<td>10.7</td>
</tr>
</tbody>
</table>
Pakistan has shown a considerable decline in (consumption-based) poverty, from 50.4 percent in 2005–06 to 21.5 percent in 2018–19. Multi-dimensional poverty (headcount ratio) declined from 55.2 percent in 2004-05 to 38.8 percent in 2014-15 (16.4 percentage points decline in one decade). The primary drivers for this are considered to be economic growth, provincial autonomy, social protection schemes, and targeted poverty reduction programs such as the Benazir Income Support Program (BISP). The BISP national cash transfer program has helped reduce poverty and reduced food insecurity. (See Section 2.3 for more detail on newer social protection programs in the country).

**Economic growth and food insecurity**

Figure 29 shows the trend analysis of economic growth as measured by GDP growth rate, and food insecurity, as measured by PoU. In this analysis, FAO’s official estimate of PoU for Pakistan has been utilised. As covered in Section 1.1, PoU is a proxy for hunger, and is an estimate of the proportion of the population who are unable to meet their minimum dietary energy needs; whereas FIES measures access to food, and is an estimate of the proportion of people who do not have access to nutritious and sufficient food due to lack of money or other resources).

The trend analysis of three year averages shows that during the periods when Pakistan was experiencing high economic growth, the country was facing a lower PoU trend, and vice versa. It is evident from Figure 29 that from 2000 to 2005, Pakistan experienced an increasing trend of GDP growth (from 3 percent to 7 percent). During this time, PoU declined by up to 2 percentage points from 21.2 percent to 19.2 percent. From 2008 to 2012, when economic growth was falling, Pakistan’s PoU slightly rose. From 2012 to 2018, economic growth generally increased, and PoU declined.

Economic growth in Pakistan appears connected with reductions in food insecurity, while not being sufficient in and of itself to completely address it. Economic growth generates expansion in economic activities and employment, which brings about an expansion in buying power. In this way, a country may experience an increase in food security. The relationship between economic growth and food security works through productivity, whereby an increase in per capita income and the increase in economic growth stimulates population income. This builds on the assumptions that from the production side producers have access to productive services, resources and markets;

| FIGURE 29 | TREND OF ECONOMIC (GDP) GROWTH AND POU |

**NOTE:** PREVALENCE OF UNDERNOURISHMENT (POU) AND GDP GROWTH RATE IN PAKISTAN.

**SOURCE:** FAO Statistics Division and Government of Pakistan
and from the consumption side a population has the knowledge, motivation, and practical access to increase their spending on maintaining a diet of healthy and quality food, can this keep them better nourished. The other channel is that the increase in GDP growth boosts the country’s potential capacity to allocate budgetary resources to health, education, and other sectors relevant to reducing food insecurity and malnutrition.

The impact of economic growth on food security also depends on the economy’s structural parameters, including income distribution, as measured by inequality, the nature of investment, and food availability.

Any ‘trickledown effect’ of economic growth depends on the inclusiveness of economic activities. Hence, a ‘rent-seeker’ economy may promote growth, and yet increase the inequalities in the system, minimizing positive effects on food security, while a more socially-oriented economy is usually more successful in reducing inequalities or at least preventing their increase.

**Poverty and food insecurity**

Poverty is a state of lacking sufficient income to meet a minimum standard of living in terms of both food and non-food items and services. It affects the ability of individuals and households to purchase healthy and nutritious food.

Figure 30 shows a trend analysis of poverty and food insecurity. Poverty declined from 62.2 percent in 2000-02 to 22.4 percent in 2017-19, which is a 64 percent reduction, while at the same time food insecurity, as measured by PoU, declined from 21.2 percent to 12.3 percent, which is only a 42 percent reduction. From the trend analysis it is reasonable to assume a positive association between these two outcomes suggesting a close link between poverty and food insecurity in Pakistan. However, while Pakistan has registered a significant and constant decline in poverty...
incidence in the 20 years up to 2019, the trend line of PoU is showing something more complex.

Although the trends in both poverty and undernourishment have been declining at different rates, particularly during recent years, the PoU trend is either constant or even increasing, whereas poverty does not show a similar trend, having instead a more marked, steady decrease. Intuitively, poverty is expected to be more prevalent than undernourishment, with food insecure people being a sub-set of those who are poor. Given the way in which the PoU and poverty and measured, and that food as a basic need is included in any poverty line, the PoU and poverty ought to show consistent levels and similar trends. However, any inconsistency either in trend or levels would to food insecurity, long term poverty creates many nutrition-related problems in households, through the inability to buy or self-produce a nutritious, balanced diet and maintain healthy living conditions and income producing assets\textsuperscript{18}, contributing to a backward link to continued, or multi-generational, poverty.

**Food insecurity and the food production index**

The food production index is an indicator of productivity, which is a component of agricultural growth and indicates the food availability and food sufficiency of a country. A country that is self-sufficient in food crops like wheat, rice, maize could be considered a food secure country in terms of food availability. Figure 31 shows the trend analysis of the food production index and PoU for Pakistan. Food production

---

\textsuperscript{18} Specifically, the threshold used to estimate undernourishment, the MDER, depends on the sex, age, heights and physical activity levels of the population, whereas the threshold used to estimate poverty is instead defined in monetary terms, that is, independent from population characteristics. The updates of the poverty line over time are thus based on changes in consumer price index, an attempt to ensure consistency in real terms based on economic variables, rather than demographic data.
has an increasing trend, while food insecurity has a declining tendency, suggesting a negative association between these two variables, such that Pakistan has witnessed an increase in food production while seeing a reduction in food insecurity as measured by PoU. The expansion in food production is mostly connected with an expansion in the agriculture sector (largely through increased inputs, rather than additional land), enhancing food self-sufficiency.

**Food insecurity and inflation**

Other than poverty and economic growth, inflation is also one of the important determinants of food insecurity. Inflation, especially food price inflation, causes a reduction in people’s purchasing power, and the poor are more vulnerable to this inflation because they spend a greater proportion of their income on food. This is one of the ways inequalities increase, despite economic growth. Inflationary shocks may raise the PoU in a country. However, Figure 32 indicates that in Pakistan there are unclear and mixed trends of inflation and food insecurity as measured by PoU, depending on the years analyzed (see Section 2.2 for information on food price monitoring in Pakistan). PoU seems to decrease, and inflation increase between 2002-04 and 2006-08, while a decline in both PoU and inflation occurs between 2011-13 and 2015-17 (Figure 32). On the contrary, overall inflation and food inflation show the same patterns over time.

**Income inequality and food insecurity**

A rise in income inequality raises questions on the benefits from economic growth if care is not taken to make it inclusive. Economic growth alone does not guarantee a reduction in

---

**FIGURE 32**

**TREND OF POU AND INFLATION (OVERALL INFLATION AND FOOD INFLATION)**

<table>
<thead>
<tr>
<th>Prevalence of Undernourishment (PoU %)</th>
<th>Inflation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-02</td>
<td>0.0</td>
</tr>
<tr>
<td>2001-03</td>
<td>5.0</td>
</tr>
<tr>
<td>2002-04</td>
<td>10.0</td>
</tr>
<tr>
<td>2003-05</td>
<td>15.0</td>
</tr>
<tr>
<td>2004-06</td>
<td>20.0</td>
</tr>
<tr>
<td>2005-07</td>
<td>25.0</td>
</tr>
<tr>
<td>2006-08</td>
<td>30.0</td>
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<tr>
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<td>2008-10</td>
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<td>2009-11</td>
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<td>2014-16</td>
<td>70.0</td>
</tr>
<tr>
<td>2015-17</td>
<td>75.0</td>
</tr>
<tr>
<td>2016-18</td>
<td>80.0</td>
</tr>
<tr>
<td>2017-19</td>
<td>85.0</td>
</tr>
</tbody>
</table>

**NOTE:** PREVALENCE OF UNDERNOURISHMENT (POU), FOOD AND OVERALL INFLATION RATE IN PAKISTAN.

**SOURCE:** PoU Data of FAO Statistics Division and Inflation data of World Bank.
food insecurity and poverty in situations where economies experience a higher level of inequalities. In Pakistan’s case, Figure 33 shows trends of income inequality as measured by the Gini coefficient, and food insecurity as measured by PoU. The Gini coefficient is a measure of inequality in which zero indicates perfect income equality while unity indicates perfect inequality. Countries with high Gini coefficients have a higher probability of experiencing higher food insecurity.

In Pakistan, the Gini Index (which is the Gini coefficient multiplied by 100) has hovered around thirty-three for the last 15 years rather than showing a steady increase or decrease, while food insecurity has generally been slowly declining, and yet malnutrition has been more persistent. This is because the reality is more complex, and apart from inequality in income distribution, there are other types of inequality that have a bearing. These include inequality between rural and urban areas, especially in access to basic services such as education, health and WASH; inequality in the distribution of productive assets, especially land; inequality within households, especially between women and men; and finally, marginalization and social exclusion, for example on the basis of disability, language or religion. The impacts of some of these five types of inequality on both food security and nutrition have been discussed in Part 1 of this report.

2.2 THE FOOD SYSTEM UNDER SHOCK

Notwithstanding gradual improvements to food security arising from poverty reductions and other interventions aimed at addressing inequalities and food system weaknesses, the food system may be further challenged by unexpected disturbances, and found to be less resilient than necessary. Changes to the ‘biophysical and environment’ driver referred to in Figure 28, including the presence of disease vectors and climate change-related weather events, can have particularly large impacts on the food system. Pakistan is no stranger to this problem, having experienced repeated setbacks on its path towards better food security and nutrition, in the form of multiple natural hazards, including floods, droughts, earthquakes,
landslides, snowfall, avalanches, and cyclones.\(^\text{19}\)

After severe drought hit several districts of Sindh and Balochistan provinces in the second half of 2018, a desert locust outbreak started in bordering areas of Pakistan and Iran in February 2019 and continued into 2020, bringing more devastating impacts in many districts and villages in Pakistan previously affected by drought, cold and/or flash floods.

The global public health emergency of COVID-19 that hit Pakistan in February 2020 had, by 31 December 2020, involved a total of 482,178 confirmed cases, of which 437,229 had recovered, while there were a total of 10,176 deaths up to that point, a case fatality rate of 2.1 percent.

Added to these two emergencies, the 36 monsoon rains in late August and early September 2020 caused severe flooding in parts of Sindh, Balochistan and KP provinces. The provincial government of Sindh notified 20 districts as calamity hit areas at that time, while the provincial governments of Balochistan and Khyber Pakhtunkhwa (KP) notified 2 districts in each province as calamity hit.

The main sources of data available for analysing the impact of these three shocks on the food system were:

- A Food Security and Livelihood Assessment (FSLA) conducted at household level by FAO and WFP in October and November 2020 using the FIES module, in 21 vulnerable districts that had been affected by desert locusts, floods, or both; the FSLA contained a supplementary module that asked questions in relation to the impact of COVID-19.\(^\text{20}\)
- A PBS Survey of 6,000 households across Pakistan, both urban and rural, on the impact of COVID-19 from April to July 2020, which included a FIES module to assess the particular impact on food insecurity.
- An Asian Development Bank (ADB) computer-assisted telephone survey in May 2020, about the impacts of the COVID-19 pandemic in Punjab,\(^\text{21}\) which contributes to about 57 percent of the national agricultural production value.
- A rapid needs assessment (RNA), conducted at the community level, in 4 urban and 13 rural districts affected by the rain and flood emergency in Pakistan, by the UN and partner NGOs, with the technical support of FAO and WFP, in September and October 2020.

By first considering the impact on food security in communities experiencing multiple shocks (that is, desert locusts, floods and/or COVID-19),

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\(^{19}\) With 152 extreme weather events during 1999-2018 Pakistan ranks 8th in the Global Climate Risk Index, 2018.

\(^{20}\) If a respondent reported ‘Yes’ to a FIES standard question, he/she was asked additional question if this experience or condition was due to COVID-19.

\(^{21}\) across 10 districts
results from the FSLA 2020 show that, overall, in vulnerable communities, an average of 61.9 percent of households were moderately or severely food insecure, whereas 42.8 percent were severely food insecure (Figure 34), based on a reference period of the preceding 12 months. These are significantly higher prevalence than observed in any of the FIES-based measurements discussed in Section 1.1 for Pakistan generally, in which there was no selection for vulnerability or shock. In these vulnerable communities, the highest prevalence was found in surveyed districts in Balochistan (70.7 percent) followed by surveyed districts in Sindh (58.2 percent) and then the two surveyed districts in Punjab (52.6 percent).

The FLSA also indicated that the COVID-19

Due to data quality issues, FIES results for Chagai, Gwadar, Khuzdar, Washuk and Tharparkar districts are not included in the Overall and Provincial level results. However, average FIES prevalence in 2-3 neighboring districts has been reported for Chagai, Gwadar, Khuzdar, Washuk and Tharparkar districts in the graphs. Provincial results are indicative and not representative of the entire province because assessment was conducted in selected districts. In the surveyed districts, results mainly reflect food insecurity situation of the vulnerable households.
pandemic and its consequent lockdowns and restrictions have contributed to a high prevalence of food insecurity in vulnerable populations. Of the surveyed households, 47.8 percent who were experiencing moderate or severe food insecurity, as measured by FIES, attributed it to COVID-19, even though they may have also suffered other simultaneous shocks or been recovering from previous shocks (Figure 35). The highest prevalence of moderate or severe food insecurity attributed to COVID-19 was found in surveyed districts of Balochistan (60.4 percent), followed by Sindh (44.9 percent) and Punjab (27.0 percent).

The FSLA found no significant difference in the prevalence of food insecurity between households located in areas affected by rain/flood but not locusts, in areas affected by locusts but not rain/flood, and in areas affected by...
both rain/flood and locusts. In all of these, at least three-fifths (61 percent) of the surveyed population had experienced moderate or severe food insecurity as measured by FIES over a 12 month reference period, whereas in areas affected by neither of these shocks, the prevalence of moderate or severe food insecurity was significantly lower (36 percent) (Figure 36).

However, there was a considerable difference in prevalence of general versus COVID-19 attributed food insecurity within same areas (Figure 37), and the highest prevalence of moderate or severe food insecurity attributed to COVID-19 was found in the areas affected by both rain/flood and locusts (49 percent).
2.2.1 Desert locust emergency in Pakistan

According to FAO’s global desert locust information service, the 2019-20 desert locust outbreak was the worst in over 25 years. It affected not only Pakistan and its neighbours Iran and India, but also the Horn of Africa and the Red Sea area. Pakistan was always going to be an important front-line country for managing the desert locust, because it lies on the route of migratory locust swarms, both from the west and east, moreover, it has both Summer (Sindh, Punjab) and Winter-Spring (Balochistan) breeding areas, such that an estimated 38 percent of Pakistan’s land area is a breeding ground for the desert locust, more so in Balochistan (60 percent), followed by Sindh (25 percent) and Punjab (15 percent)\(^2\).

By late 2019, the situation became far worse than initially anticipated, affecting significant areas of crops, orchards and fodder. The Government of Pakistan declared a “National Emergency on Locusts” in February 2020 upon the advice of MNFSR, bringing together various organizations to lead control operations. A comprehensive National Action Plan for Surveillance and Control of Desert Locust in Pakistan, 2020-2021 (NAP-DL-Pak) was prepared and adopted by Cabinet, outlining three phases of surveillance and control activities. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC), a regional body comprising Afghanistan, India, Iran and Pakistan, launched a Technical and Operational Coordination (SWAC-TOC) mechanism in early March 2020 to share information and monitor control operations (see Box 7).

Although the surveillance and control response to the desert locusts swung into action early in 2020, the effects on livelihoods and incomes of communities in both desert and cultivated areas were still apparent at the time of the FSLA in October and November 2020 (Figure 38). Of the surveyed households in vulnerable districts, overall, 43 percent reported their livelihood or income severely affected by the desert locust

\(\text{FIGURE 38} \quad \text{PERCENTAGE OF HOUSEHOLDS WHOSE LIVELIHOOD/INCOME WAS AFFECTED BY THE DESERT LOCUST EMERGENCY}\)

\(\text{NOTE: PERCENTAGE OF SURVEYED HOUSEHOLDS IN THE VULNERABLE DISTRICTS WHOSE LIVELIHOOD/INCOME AFFECTED BY DESERT LOCUST}\)

\(\text{SOURCE: Findings of FSLA 2020, jointly conducted by FAO and WFP in October/November 2020}\)
The desert locust is a destructive transboundary pest with serious implications for food security and the sustainability of agriculture production. In Pakistan, since 2019, desert locusts have rapidly spread at an alarming rate and became of concern for the entire country. During 2020, an increased desert locust activity was observed in all provinces due to the breeding of a residual population. In May 2020, intensified migration of the locusts occurred from Iran towards summer breeding areas across the Indo-Pak border. This situation was successfully managed with enhanced institutional coordination and effective mobilization of resources aimed at timely surveillance and control activities.

By late 2019 and early 2020, agriculture damages were reported to various crops in all four provinces. The unusual spread of the desert locust in cultivated areas of central Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan pushed the Government of Pakistan to declare a National Emergency in January 2020. Consequently, a National Action Plan was approved for effectively managing the crisis. The plan aimed to achieve effective surveillance, prevention, and control measures. It delineated a strategy for controlling the desert locust in three stages of six-month duration from January 2020 to June 2021.

Initially, the task was assigned to the NDMA and subsequently passed onto a new organization, the National Locust Control Centre (NLCC). Government efforts were supported and complemented with the technical assistance of FAO in form of forecasts and locust position in the regional countries accessed through the Technical and Operational Coordination (TOC) mechanism. This information and local situation analysis provided a basis for informed decisions making leading to effective surveillance and control operations an effective uniform coordination mechanism.

The NLCC operated in each of the provinces through Provincial Locust Control Centres (PLCCs). Through this system, the desert areas were handled by the federal government’s Department of Plant Protection (DPP), whereas cultivated areas were addressed by provincial agriculture extension departments who undertook surveillance and control operations. The district administration and Pakistan Army supported the system. As a result of this coordinated activity, Pakistan had, by late 2020, surveyed 61.4 million ha and treated 1.13 million ha, and was declared as desert locust free.

FAO was proactively engaged with the MNFSR as well as the DPP in providing technical and material support, including both logistic and technical capacity building of both DPP and provincial agriculture departments during 2019. During 2020, FAO further enhanced support to the country by jointly rolling out with DPP a new free survey and control reporting tool (eLocust 3m) for the professionals of provincial agriculture departments and PDMAs. eLocust 3m is an Android app that can also send photos.

For strengthening the regional cooperation under South West Asia Commission (SWAC) including Pakistan, India, Iran, and Afghanistan, the TOC was set up under SWAC to meet every week to assess the regional situation and provide input for enhanced regional cooperation on the matter. FAO provided regular information about the general desert locust situation and forecasting information, Advisory notes (Preparation and Implementation of Desert Locust Control Campaigns), and Standard Operating Procedures for Desert Locust Surveys and controls. With financial support from various donors, material and logistical support for 2020 surveillance and control operations were able to include the provision of ULV sprayers, GPS satellite communication devices (for running eLocust 3m), personal protective equipment, as well as additional vehicles for mounting the sprayers.
emergency, followed by 26 percent moderately affected and 9 percent slightly affected, while 23 percent were not affected. Across the provinces, surveyed households reporting their livelihood/income as severely affected by locust were highest in Punjab (69 percent), followed by Balochistan (53 percent) and Sindh (27 percent).

The desert locust has the potential to rapidly destroy crops wherever it goes. This insect is a major threat to the food system because of its capacity to travel long distances and quickly consume vegetation. Moreover, the damage is not specific to the type of crop, and can also impact tree cultivation and pastoral grounds for livestock. Although there is a lack of detailed damage assessment data on the impact of locust infestation on the agriculture sector since 2019, the Pakistan Economic Survey 2019-20 Report estimates damages occurred to over 115,000 hectares of crops, including wheat, oilseed crops, cotton, gram, fruits, and vegetables, in Balochistan, Punjab, and Sindh, aside from grazing field losses.

The desert locust’s impact on food markets rests on the ability of the public and private sectors to cooperate to efficiently treat infected areas. According to FAO predictions, if a locust invasion is able to damage 15 percent of wheat, gram, and potato production in Pakistan, losses in agriculture can be up to PKR 205 billion (PKR 138 billion for wheat, PKR 13 billion for gram, and about PKR 54 billion for potato). If, however, up to 25 percent of agricultural produce is damaged, potential losses can amount to PKR 353 billion for the Rabi season crops and about PKR 464 billion for Kharif season crops. In the short term, local food shortages will lead to price hikes and greater pressure to import staple grains and other major food items.

The agriculture sector of Pakistan contributes 19.3 percent to the GDP. Labor Force Survey data 2017-2018 shows that 37.4 percent of employment is in the agriculture sector. The desert locust infestation was a further threat to farmers and other agriculture workers that normally operate in precarious conditions and lack alternative sources of income, particularly landless sharecroppers and itinerant agricultural labourers. For small farmers, especially, crop destruction leads to the inability to further purchase inputs for the next sowing cycle. Along with negatively impacting all agriculture workers, other actors in the food supply chain face a loss in livelihoods.
Regarding livelihoods, while the impact of the desert locust infestation is mainly localised to rural areas and farming communities, the damage to crops and the subsequent stocks of food items in the local food market also has implications of food insecurity in other parts of the country. Urban areas, for instance, rely heavily on food item supplies from rural areas. KP and Balochistan, which are food deficit provinces, rely on imports from Punjab and Sindh, which are food surplus provinces. Moreover, household ability to withstand price fluctuations in food commodities will determine their food security levels. Figure 39 shows the situation for the desert locust infestation in and around Pakistan at four points in time over the 12 months from November 2019 to October 2020.
2.2.2 COVID-19 Pandemic in Pakistan

The global COVID-19 pandemic saw provincial and federal governments in Pakistan imposing lockdowns from March 2020 onwards, with a closing of international borders, public transport, restaurants, non-essential services, schools, and public gatherings to stop the spread of the virus. Essential services such as medical and health and certain functions of the food system were allowed to operate. The government gradually opened up in early May 2020 and adopted a smart lockdown policy where only COVID-19 hotspots were contained. Non-essential services such as restaurants, beauty salons, and tourist locations were opened in August. Education institutions very briefly and partially re-opened in the last week of September 2020 before being closed again in November 2020 due to the second wave of COVID-19. All of this had a marked effect on the economy, on livelihoods, on children’s education, and on the food system.

Information about the impact of COVID-19 on Pakistan’s food system has so far come from three main sources: the PBS Survey of 6 000 households across Pakistan about the impact of COVID-19 from April to July 2020; the COVID-19 questions in the FSLA of 21 desert locust and flood-affected districts in Sindh, Balochistan and KP conducted in October and November 2020; and the ADB telephone survey in
Punjab conducted in May 2020. A range of price monitoring products and policy briefs were also produced in the initial months of the pandemic, which provide insights into food system challenges and responses.

The PBS survey was designed to evaluate the socioeconomic impact of COVID-19, and its design assumed that urban households were more affected by the COVID-19 related lockdowns of businesses and services; consequently, 70 percent of the sample was allocated to urban areas and big cities and only 30 percent to rural areas. As per the PBS survey results, overall, 40.0 percent of households in Pakistan were moderately or severely food insecure as measured by FIES during the four-month reference period (April to July 2020), whereas 10.0 percent were severely food insecure (Figure 40). Urban households were more likely to be food insecure than rural households (this is the opposite trend to the usual situation outside pandemic times of rural households being more food insecure than urban households).

Although the FSLA was only conducted in vulnerable districts, and these were mainly rural, it found a similar proportion of households experiencing moderate or severe food insecurity as measured by FIES and attributed to COVID-19, at 47.8 percent (Figure 40). The COVID-19 pandemic is thus implicated in aggravating food insecurity in Pakistan, by increasing it from the background average of 15.9 percent of the population experiencing moderate or severe food insecurity as measured by FIES (Section 1.1, Figure 8).

As to some of the reasons why food insecurity increased during the pandemic, the results of the ADB computer-assisted telephone survey in May 2020 in Punjab showed that about 33 percent of the 668 responding farmers had experienced in their household losses in wages and non-farm earnings since the pandemic, and 22 percent had at least one family member returning from urban to rural areas (due to lay-offs). To tackle the difficulties that come with the reduced cash and the increased number of household members coming back to the village, farm households adopted coping strategies such as reducing non-food expenditures (11.0 percent) and lowering their food consumption (9.8 percent). This reverse migration, however, has potentially increased the rural labor supply lvii.
The ADB survey also revealed that COVID-19-related measures and disruptions (for example restrictions on the movement of agriculture labour and transport of crops, and closure of markets and agriculture supply sellers) had affected the harvesting and marketing of winter season (Rabi) crops and livestock products, as well as the availability and price of inputs for the next season. Vegetable and fruit growers were a group severely affected by the market closures and restricted movement of goods, and were often unable to sell their produce during the stricter periods of lockdown. Milk producers were also affected negatively by the apparently reduced demand for milk. Farmers saw their sales reduced due to the closure of the markets and experienced difficulties in transporting fresh produce to local and urban markets.

Despite these problems for food producers and sellers, the regular price monitoring by the PBS and FAO on major food items during the first nine months of the pandemic showed that, apart from normal seasonal fluctuations related to harvest times and religious festivals, food price inflation and supply chain and logistic issues were a problem in 2020, at a time when incomes and livelihoods were stressed by the pandemic and other shocks (see Box 3).

The FSLA 2020 on vulnerable districts affected by multiple shocks reported 31 percent of surveyed households as saying their household livelihood or income was severely affected by COVID-19, followed by 30 percent moderately affected, 19 percent slightly affected, and 19 percent not affected (Figure 41). Comparing the three provinces assessed, the highest proportion of surveyed households reporting their household livelihood or income as severely affected by COVID-19 was in Balochistan (40 percent), followed by Sindh (25 percent), and Punjab (13 percent).

There are likely to have been strong implications of the COVID-19 pandemic for nutrition, although data on this issue is so far scarce. WRA and children from the lowest income quintile are likely to have been particularly affected, being already very vulnerable to malnutrition (see Section 1.2). As the ADB survey, PBS survey and FSLA indicated, COVID-19 has significantly affected livelihoods and income-earning opportunities, often of

![Figure 41: Percentage of Households Whose Livelihood/Income Affected by COVID-19](image-url)
The COVID-19 pandemic came at a time when Pakistan was already going through high inflation, slow economic growth, and high poverty and food insecurity. FAO Pakistan monitored the evolution of prices of major food items on a weekly basis for approximately ten months, starting in the last week of February 2020 when the COVID-19 pandemic reached Pakistan. Weekly retail prices are published by the PBS, the national statistical organization, for 17 cities across Pakistan. The weekly price analysis is part of Pakistan Food Price Monitoring & Analysis (PFPMA) conducted under the umbrella of the FAO-supported FSNIS, established at MNSFR, Islamabad.

The analysis shows fluctuations in prices of major food items in different parts of the country, reasons for which include supply chain and logistics issues, seasonal variations in availability of food items, fluctuations in demand for food items due to Ramadan and religious festivals (Eid). The findings of the ten-month analysis are presented below:

### Wheat, Wheat Flour and Rice

In the first ten months of the COVID-19 pandemic in Pakistan, overall, average prices of wheat increased from PKR42.6 to PKR55.1 (29.4 percent) and wheat flour from PKR43.6 to PKR48.7 (11.6 percent) per kg. Prices registered a constant rise despite the wheat harvest during March-May 2020 across the country, which forced the Government of Pakistan to import wheat to maintain the supply of wheat and wheat flour in the country.

The prices of IRRI rice increased from PKR62.5 to PKR 70.4 per kg (12.7 percent), whereas basmati rice prices rose from PKR82.2 to PKR 89.1(8.3 percent) since the outbreak of COVID-19. Pakistan is self-sufficient in the production of rice and domestic production is adequate for domestic consumption.

**SOURCE:** FAO
Pulses
Prices of four major pulses consumed in Pakistan also increased; masoor pulse from PKR141.4 to PKR 152.8 per kg (8.1 percent), and mash pulse from PKR224 to PKR247.7 per kg (10.5 percent), whereas gram prices decreased from PKR147.7 to PKR138.9 (6.0 percent) and moong pulse prices decreased from PKR234.2 to PKR225.6 per kg (3.7 percent), over the reference period.

Vegetables
The prices of onions substantially came down in Pakistan from PKR73.0 to PKR43.7 per kg (40.2 percent) during the reference period; whereas prices of potatoes increased from PKR40.2 to PKR44.4 per kg (10.5 percent) and tomatoes substantially increased and from PKR35.2 to PKR91.2 per kg (159.2 percent) respectively.

Livestock Products
Prices of beef rose by 9.0 percent (from PKR434.4 to PKR473.3), mutton by 10.2 percent (from PKR897.5 to PKR989.1) and live chicken by 29.2 percent (from PKR153.5 to PKR198.3). The price of fresh milk increased by 11.9 percent (from PKR93.9 to PKR105.2), whereas a substantial increase was recorded in the price of eggs, from PKR94.0 to PKR206.5 per dozen (119.6 percent).
Cooking Oil/Ghee, Sugar/Gur
The prices of cooking oil slightly decreased by 0.4 percent each in Pakistan during the reference period. The prices of vegetable ghee rose by 2 percent from PKR 251.4 to PKR 256.3, sugar by 5.2 percent (from PKR 79.8 to PKR 84.0) and gur by 6.2 percent from PKR 118.0 to PKR 125.3 per kg, in Pakistan since the outbreak of COVID-19.

The poorest households, including subsistence farmers, informal workers and daily wage labourers, and has also limited access to markets to buy food, thus further restricting the possibility of obtaining a nutritious diet.

The COVID-19 related lockdowns in Pakistan have also reduced women and children’s ability to access health and nutrition services inside health facilities, while also impeding outreach and community-based interventions including the promotion of effective Infant and Young Child Feeding (IYCF) practices. Overburdening of the health care system due to the direct health-related impacts of COVID-19, is also considered to have reduced access to routine health services for women and children. For example, data from district health systems have indicated a dramatic drop in access to antenatal care services due to the pandemic.

Given these conditions, the pandemic is expected to have significant and potentially long-lasting impacts on malnutrition among children and women in Pakistan, and these effects need to be measured. Unless significant efforts are made to rapidly scale up nutrition interventions, in particular, to address the potential surge in acute malnutrition, the gains made in reducing malnutrition over the past few years could be quickly reversed. It will therefore be important to increase budgetary allocations for nutrition-specific and nutrition-sensitive interventions, including ensuring the continuity and upscale of essential health and nutrition services within the primary health care as well as scale up the government’s efforts to make national and provincial safety-nets more nutrition-sensitive.

There were several implications of the COVID-19 pandemic in Pakistan on the WASH situation. Missing WASH facilities and service delivery became critical in infection prevention and control (IPC), and this sudden surge in demand overburdened the waste management system and exposed sanitary workers already working in unsafe conditions to COVID-19 infected waste. The pandemic situation overwhelmed the WASH and waste management services in communities, public places like bus or train stations, religious meeting places, markets (especially vegetable and animal markets), as well as schools, healthcare facilities, and also COVID-19 quarantine and isolation centres such as those on the border of Pakistan and Iran.
WASH facilities that were always required, but never prioritized in government budgetary allocations, started to be seen as more important after the COVID-19 pandemic. Thus, the COVID-19 situation underscored the need and demanded due attention to be given to WASH and IPC as an essential service for ensuring public health. The progress of ongoing WASH sector programs slowed because of the COVID-19 lockdowns, which affected the urban poor and daily wage worker the most, and the cut on out of pocket expenditure spared for the purchase of sanitary needs almost halted the construction of household latrines. Also, traditional inter-personal communication for behavior change, involving community gatherings were also not possible.

Other than communities as primary stakeholders, the private sector, especially media, and public sector institutions noticeably came forward to support the traditional WASH sector partners proactively, for example through the broadcast of government- and UNICEF-endorsed public messaging on hygiene, and an increase in advertisements and supply of hygiene products, such as antibacterial soap. The COVID-19 response has helped in building awareness on hand hygiene and active coordination among different stakeholders of WASH, which is expected to also address malnutrition by reducing immediate causes. It can safely be said that COVID-19 has also helped in leveraging the political will for investing in the WASH Sector to the highest level (see Box 9), which will clearly benefit Pakistan’s concerning nutrition status (see Section 1.3). The broadcasts and public messaging on hygiene could usefully be expanded to cover nutrition and dietary behaviors, for public benefit.

Regarding the effect of COVID-19 on employment, with its knock-on effects on food security and nutrition, the COVID-19: Pakistan Socio-Economic Framework prepared under the leadership of UNDP, developed estimates of sudden unemployment, underemployment (fewer hours and wages), and income loss of non-agricultural informal workers and non-regular formal workers attributable to the COVID-19 pandemic in 2020, a total of 24.7 million people\textsuperscript{ix}. This report, which informed the government’s response (see Box 10), found that 12.6 million workers were at risk of losing their livelihood and volume of work in the affected sectors, in the moderate economic slowdown scenario. In the scenario that economic activity is severely restricted, however, an estimated 19.1 million workers would be set to face disruption.

Gender effects of COVID-19 relevant to food security and nutrition include sudden changes in the labour market as a result of lockdowns and restrictions imposed by the government. Women in the labour force, who in Pakistan are predominantly involved in the informal low wage market of domestic workers and employees of small and medium businesses, were disadvantaged, as employers became unable to pay due to slow demand\textsuperscript{xii}. The situation for women’s agricultural labour, which in Pakistan accounts for 66 percent of women’s employment, and suffers from underpayment, non-payment, and unsafe working conditions, is also likely to have worsened during the COVID-19 pandemic (UNDP, 2020), but quantitative data on this is presently scarce. The lockdown period of school closures and shut businesses saw a widely-noted increase in the domestic burden of women and girls, due to the strongly defined gender roles in Pakistani society in which women are held responsible for all household tasks such as cleaning, childcare and cooking. Other vulnerable groups include children at risk of increases in child labour to supplement lost adult incomes; internally displaced persons and refugees; and transgender persons, who already engage in precarious working conditions.

2.2.3 Rain and flood emergency in Pakistan

Climate-related shocks are perhaps the most difficult for Pakistan to mitigate and respond to well in the short term, as they are part of a long-term, predictable pattern involving higher temperatures, more variable rainfall and more variable water supply, which is outside the control of a country that contributes only marginally to greenhouse gas emissions.
Ministry of climate change (MoCC) with support from UNICEF and other WASH sector partners quickly responded to the COVID-19 pandemic through IPC and WASH initiatives. The interventions helped to prevent and control the transmission of the disease; mitigate secondary impacts of the outbreak; build resilience against future outbreaks. WASH sector partners aligned the response initiatives with WHO and UNICEF global, regional, and national strategies. The response focused on provision of enough, safe and clean water; ensuring safely managed systems in high-risk areas; hygiene promotion; environmental cleaning and waste management.

To ensure efficient and effective use of little available resources, the WASH-IPC response focused on designated health care facilities starting by conducting a needs assessment using WASHFIT. This helped the sector in prioritizing areas of interventions. At the onset of the pandemic, UNICEF implemented WASH-IPC interventions across the whole country, focusing on areas with reported cases of COVID-19. As the pandemic progressed, concerned government departments shared epidemiological data showing locations with high morbidity and mortality. UNICEF and sector partners then focused on high burden districts supporting the continuation of essential health care services such as nutrition and immunization.

With the reopening of schools, UNICEF and sector partners redirected their efforts towards supporting the safe reopening of schools by ensuring the availability and functionality of WASH facilities, including handwashing stations. During the COVID-19 pandemic response, UNICEF and sector partners adapted their strategy to address the emerging challenges or situation, e.g. during public holidays such as Ramadan and cattle markets.

Given the travel restrictions imposed by the government during the lockdown period, UNICEF and sector partners utilized existing WASH programs such as Clean and Green Pakistan, in hygiene promotion and in supporting risk communication and community engagement (RCCE) efforts reaching out to over 21.4 million people.

During the first six months of the COVID-19 response (March-August 2020), UNICEF and sector partners rehabilitated and installed WASH facilities which include Ultraviolet (UV) water filters, toilets, and handwashing stations in over 1 000 Health Care Facilities. Over 1 million people gained access to safe drinking water and sanitation facilities in these HCFs contributing towards reducing the risk of COVID-19 infection among healthcare workers and those visiting HCF for essential health services. UNICEF and sector partners installed close to 2 000 communal handwashing stations enabling over 3.5 million to wash hands properly with soap and clean running water, thereby contributing towards reducing the spread of COVID-19.

UNICEF and sector partners supported the training of 5,377 frontline sanitary workers to enhance the capacity of sanitary and frontline health workers on WASH/IPC in HCFs and high-risk communities. Through public–private partnership arrangements with Unilever, UNICEF and sector partners distributed 8,000 bottles of bleach and 140,000 bars of soap to thirty-eight HCF in Punjab and Sindh to ensure effective cleaning and disinfection of surfaces. This helped to reduce the risk of infection among healthcare workers, patients, and caregivers as they visit HCF for essential health services including nutrition support.

SOURCE: FAO
In 2020 the Government of Pakistan devised a comprehensive strategy to prevent the spread of the COVID-19 through early diagnosis, tracing and tracking of contacts, risk communication, social distancing, quarantine, and isolation. The government also took timely steps to mitigate the adverse effects of the pandemic by initiating the largest ever Fiscal Stimulus package of PKR 1,240 billion that covered three areas: Emergency Response, Support to Business, and Relief to Citizens.

Around a quarter of Pakistan’s population lives below the poverty line and a sequence of disasters in recent years have imposed harsh consequences on agriculture, food security, and livelihood of millions of farmers and other vulnerable communities. COVID-19 has further intensified the existing food and nutrition insecurity. The Government of Pakistan started the “Ehsaas Emergency Cash Program” with a total allocation of PKR 144 billion to provide immediate cash relief of PKR 12,000 to 12 million poor families. This target then extended to 16.9 million beneficiaries and the budget allocation increased to PKR 203 billion in the 2020-21 Budget. Historically, social safety programs have helped in temporarily addressing food insecurity in vulnerable parts of the population.

For the agriculture sector, the government provided a financial package of PKR 50 billion. The agriculture stimulus package included subsidies on fertilizers to farmers, subsidies on cotton seeds and whitefly pesticides, a reduction in mark-up on agriculture loans, and subsidies on the sales tax of locally manufactured light tractors. This initiative was expected to have a positive impact on input use and decrease the cost of production for Kharif season crops. Additionally, a significant effect of the agriculture stimulus package was expected to be the area and yield of successful Kharif crops. Similarly, the government ran a subsidy package for the procurement of wheat, as the COVID-19 lockdown and closure of markets started when the 2020 wheat harvest was at its peak. Although the government has faced issues during the campaign, it achieved around 80 percent of wheat procurement targets, partly as a result of this package.

The federal and provincial governments made efforts to control price hikes in common food items and to ensure a smooth supply of food commodities, including strict measures against hoarding, smuggling, and undue profiteering through monitoring of supply, demand, and prices of food commodities. Additionally, the Government of Pakistan provided PKR 10 billion to Utility Stores Corporation (USC) for targeted subsidy on essential food items. The government worked to ensure sufficient availability of stocks of food commodities in the country, however, food prices remained high in the post-lockdown period as compared to February 2020. Monthly food inflation (year on year) showed a decrease between March to June, but this was followed by an increase in food inflation in the following few months (July to October 2020). Overall, although the federal government made interventions on the import of wheat, sugar, and pulses to improve food availability in Pakistan, prices still remained high for most of 2020.

Agriculture statistics show a limited impact of COVID-19 on the production of cereal crops (2.67 percent agriculture-GDP growth in 2019-20), however, the vegetables and fruit growers have faced low prices and supply chain issues throughout the pandemic. Similarly, poultry, livestock, and fisheries sectors have been badly affected due to lockdowns and restrictions. The declining demand coupled with low prices and lack of storage facilities resulted in a reduction in income of farmers who were already facing the rising cost of production. Smallholder farmers faced a decline in purchasing power. The government stimulus package of PKR 12,000 per household for four months under the Ehsas program is believed to have helped in purchasing inputs and increasing the purchasing power of vulnerable communities.

Despite the negative effects of COVID-19, the situation provide opportunities to find ways to increase resilience across the food system by identifying new market channels (for example e-commerce), improving the storage facilities, decreasing losses from farm to fork, increasing the quality of food products and increasing on-farm biodiversity which is critical for healthy food, income of farmers and protection from the climate hazards.

SOURCE: FAO, PBS, MNFS&R
The unprecedented monsoon rains during late August and early September 2020 caused severe flooding in parts of Sindh, Balochistan and KP provinces. The provincial government of Sindh notified 20 districts as calamity hit areas at that time, whereas the provincial government of Balochistan and KP each notified two districts in their provinces as calamity hit.

As per initial estimates, around 4.24 million people (around 0.75 million households) were affected by monsoon rains and flooding in calamity-declared districts across Sindh, Balochistan and KP. In Sindh alone, around 2.48 million people (around 470,000 households) were judged to be affected, 1.1 million acres of crops damaged, 48,500 head of cattle lost, and 281,851 houses damaged.

Information about the impact of the rain and flood emergency on Pakistan’s food system is available from two main sources: the FSLA in flood-affected districts in Sindh and Balochistan, conducted at the household level in October and November 2020; and the RNA of flood-affected districts in Sindh, Balochistan and KP, conducted at a community level in September and October 2020.

The FSLA 2020 was conducted at the household level in vulnerable districts in October and November 2020, not long after the worst of the rain and flooding. As shown in Figure 36 in Section 2.2.1, 64.0 percent of surveyed households in areas affected by rain and flooding had experienced moderate or severe food insecurity as measured by FIES, while 45.5 had experienced severe food insecurity. The FLSA also indicated that monsoon rain and flooding had an impact on household livelihoods and income, with 37 percent of the surveyed households reporting they were severely affected followed by 26 percent moderately affected and 16 percent slightly affected, while 22 percent were not affected (Figure 42). Across the provinces, the proportion of surveyed households that reported their household livelihood or income to be severely affected by monsoon rains/flooding was 36 percent in Sindh, 37 percent in Punjab and 39 percent in Balochistan.

![FIGURE 42 PERCENTAGE OF HOUSEHOLDS IN VULNERABLE DISTRICTS WHOSE LIVELIHOOD OR INCOME WAS AFFECTED BY MONSOON RAIN AND FLOODING IN 2020](source: Findings of FSLA 2020, jointly conducted by FAO and WFP in October/November 2020)
The monsoon rains flooding in 2020 negatively impacted standing crops and orchards, particularly in Sindh, where they were ready to be harvested, on a vast and easily observable scale. Rice, cotton, maize, sugarcane and Kharif vegetables were the major crops damaged by the floods. Almost entire harvests were damaged for main crops and vegetables (acres) in districts Dadu, Umerkot and Sanghar; whereas orchard damages (acres) were reported mainly in Sanghar (the entire crop damaged), Mirpurkhas (75 percent damage) and Umerkot (60 percent damage) (Figure 43).

The 2020 RNA is a rich source of information into some of the characteristics of acute food insecurity after a climate-change related disaster, being a snapshot of how communities fared following the inundation. This RNA was a multi-sectoral assessment requested by NDMA in order to understand the immediate needs of affected communities in the flood areas. It was designed by the UN agencies in Pakistan with the technical assistance of FAO and WFP to rapidly assess needs at a community level in 17 prioritized districts among those notified as calamity-affected; four of these were in Karachi and were urban, while 13 were rural and spread across Sindh, Balochistan and KP.

The 2020 RNA found that in rural communities across the 13 rural districts, the categories of agriculture, daily labour and livestock-based livelihoods were all severely affected by the rain and flooding, particularly in surveyed communities in Sindh and Balochistan. The disaster affected communities also reported
damage to or loss of productive assets such as agricultural tools and machinery, grain milling machines, boats, rickshaws and draught carts. The heavy monsoon rains and flooding also caused losses to cereals and seeds stored for household consumption and next season respectively by the farming households, which has an impact on both food security and future livelihoods (Figure 44).

The surveyed rural communities also reported damages to the farm to market roads caused by monsoon rains/flooding (Figure 45), as well as damage to irrigation infrastructure (watercourses and tube wells) (Figure 46).
Livestock were the third most common source of livelihood in the rural communities assessed in the RNA. Livestock holders incurred livestock losses due to monsoon rains and flooding, particularly in Sindh and in Balochistan (Figure 47). Livestock holders also sold their livestock in distress after the monsoon rains/flooding due to shortage of fodder and feed, prevalence of diseases and to meet the household food or other essential needs, particularly...
Livestock holders in the surveyed rural communities also reported a severe shortage of fodder and feed for livestock (Figure 49). The surveyed communities across districts anticipated that the shortage of fodder and feed would last for between one and four months. Further, the disaster also caused damages to animal shelters, mainly in Balochistan and Sindh districts. The surveyed communities also reported livestock holders did not have the cash to purchase animal feed or fodder, and most communities reported signs of animal disease outbreaks after monsoon rains and flooding; particularly in Sindh and Balochistan districts.

**FIGURE 48**
**PROPORTION OF LIVESTOCK HOLDERS IN AFFECTED AREAS REPORTED LOSS OF FODDER/FEED STORED FOR LIVESTOCK AFTER 2020 RAINS AND FLOODING**

```
<table>
<thead>
<tr>
<th>District</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad</td>
<td>24%</td>
</tr>
<tr>
<td>Mirpur Khas</td>
<td>31%</td>
</tr>
<tr>
<td>Sanghar</td>
<td>46%</td>
</tr>
<tr>
<td>Tharparkar</td>
<td>38%</td>
</tr>
<tr>
<td>Umerkot</td>
<td>46%</td>
</tr>
<tr>
<td>Badin</td>
<td>22%</td>
</tr>
<tr>
<td>Dadu</td>
<td>31%</td>
</tr>
<tr>
<td>Sujawal</td>
<td>44%</td>
</tr>
<tr>
<td>T.M. Khan</td>
<td>21%</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>47%</td>
</tr>
<tr>
<td>Swat</td>
<td>39%</td>
</tr>
<tr>
<td>Balochistan</td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 49**
**PROPORTION OF LIVESTOCK HOLDERS IN AFFECTED AREAS REPORTED SEVERE SHORTAGE OF FODDER/FEED FOR LIVESTOCK FOLLOWING 2020 RAINS AND FLOODING**

```
<table>
<thead>
<tr>
<th>District</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad</td>
<td>47%</td>
</tr>
<tr>
<td>Mirpur Khas</td>
<td>83%</td>
</tr>
<tr>
<td>Sanghar</td>
<td>72%</td>
</tr>
<tr>
<td>Tharparkar</td>
<td>30%</td>
</tr>
<tr>
<td>Umerkot</td>
<td>88%</td>
</tr>
<tr>
<td>Badin</td>
<td>31%</td>
</tr>
<tr>
<td>Dadu</td>
<td>45%</td>
</tr>
<tr>
<td>Sujawal</td>
<td>62%</td>
</tr>
<tr>
<td>T.M. Khan</td>
<td>35%</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>17%</td>
</tr>
<tr>
<td>Swat</td>
<td>14%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>71%</td>
</tr>
</tbody>
</table>
```
At the time of the RNA, most communities reported having inadequate resources to buy food, and when compared among the provinces, most communities in the affected areas of Sindh had very poor access to food (Figure 51). The situation for food stocks at the time of the RNA was also dire, and overall, rural communities in affected areas of Sindh had left only 6 days of food stock for their own consumption, while in affected areas of Balochistan, households had 8 days of food stock. The situation was relatively better in KP, where food stock available with the households was

(Figure 50). Around one-third of the communities in KP, and two-third in Sindh districts and three-fifth in Balochistan districts reported no access to animal health services.

At the time of the RNA, most communities reported having inadequate resources to buy food, and when compared among the provinces, most communities in the affected areas of Sindh had very poor access to food (Figure 51). The situation for food stocks at the time of the RNA was also dire, and overall, rural communities in affected areas of Sindh had left only 6 days of food stock for their own consumption, while in affected areas of Balochistan, households had 8 days of food stock. The situation was relatively better in KP, where food stock available with the households was
enough for 18 days. Overall, at the time of the RNA, almost all communities had not received any food assistance, following the disaster (Figure 52).

After the monsoonal floods, markets were generally fully functional in affected areas of KP, while in Sindh 40 percent of assessed communities reported markets were partial functioning and another 7 percent reported they were not functional. In Balochistan, 38 percent of assessed communities reported markets were not functional and another 22 percent reported partial functioning (Figure 53).

After the monsoonal flooding, 22 percent of rural communities surveyed in Sindh reported no physical access to markets, while 36 percent reported this in Balochistan. Only 53 percent of communities in Sindh reported adequate

### FIGURE 52
**PROPORTION OF HOUSEHOLDS IN AFFECTED COMMUNITIES WHO HAVE NOT RECEIVED GENERAL FOOD ASSISTANCE AFTER 2020 RAINS AND FLOODING**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hyderabad</th>
<th>Mir Pur Khas</th>
<th>Sanghar</th>
<th>Tharparkar</th>
<th>Umerkot</th>
<th>Badin</th>
<th>Dadu</th>
<th>Sajawal</th>
<th>Tando Muhammad Khan</th>
<th>Shangla</th>
<th>Swat</th>
<th>Jhal Magsi</th>
<th>Kachi (Bolan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sindh</td>
<td>100%</td>
<td>96%</td>
<td>100%</td>
<td>100%</td>
<td>96%</td>
<td>96%</td>
<td>81%</td>
<td>99%</td>
<td>96%</td>
<td>99%</td>
<td>99%</td>
<td>84%</td>
<td>97%</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>100%</td>
<td>96%</td>
<td>70%</td>
<td>86%</td>
<td>90%</td>
<td>95%</td>
<td>95%</td>
<td>32%</td>
<td>29%</td>
<td>23%</td>
<td>42%</td>
<td>46%</td>
<td>35%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>100%</td>
<td>96%</td>
<td>20%</td>
<td>35%</td>
<td>55%</td>
<td>74%</td>
<td>38%</td>
<td>69%</td>
<td>71%</td>
<td>74%</td>
<td>99%</td>
<td>45%</td>
<td>25%</td>
</tr>
</tbody>
</table>

**SOURCE:** Findings of Floods RNA 2020

### FIGURE 53
**PROPORTION OF COMMUNITIES IN AFFECTED AREAS WHERE FOOD MARKETS GENERALLY FUNCTIONING AFTER RAINS AND FLOODING**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hyderabad</th>
<th>Mir Pur Khas</th>
<th>Sanghar</th>
<th>Tharparkar</th>
<th>Umerkot</th>
<th>Badin</th>
<th>Dadu</th>
<th>Sajawal</th>
<th>T. M Khan</th>
<th>Shangla</th>
<th>Swat</th>
<th>Jhal Magsi</th>
<th>Kachi (Bolan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sindh</td>
<td>5%</td>
<td>5%</td>
<td>18%</td>
<td>11%</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
<td>19%</td>
<td>23%</td>
<td>3%</td>
<td>3%</td>
<td>46%</td>
<td>20%</td>
</tr>
<tr>
<td>Khyber Pakhtunkhwa</td>
<td>5%</td>
<td>5%</td>
<td>20%</td>
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<td>74%</td>
<td>35%</td>
<td>49%</td>
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<td>99%</td>
<td>74%</td>
<td>23%</td>
<td>46%</td>
<td>25%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>95%</td>
<td>76%</td>
<td>68%</td>
<td>38%</td>
<td>26%</td>
<td>3%</td>
<td>2%</td>
<td>26%</td>
<td>23%</td>
<td>23%</td>
<td>45%</td>
<td>45%</td>
<td>25%</td>
</tr>
</tbody>
</table>

**SOURCE:** Findings of Floods RNA 2020
availability of food items in nearby markets, and only 38 percent in Balochistan and 27 percent in KP (Figure 54). This indicates food items were for sale, but not in sufficient quantities.

WFP in consultation with national and provincial governments and partners has developed an innovative programming approach, 3PA. The aim is to strengthen the design, planning, and implementation of programmes in resilience building, safety nets, disaster risk reduction, and preparedness. The 3PA is comprised of three processes at three levels: the Integrated Context Analysis (ICA), the Seasonal Livelihood Programming (SLP) and the Community Based Participatory Planning (CBPP) (see Box 11).

**FIGURE 54**
PROPORTION OF COMMUNITIES IN AFFECTED AREAS WHERE FOOD ITEMS WERE AVAILABLE IN MARKETS ACCESSED BY HOUSEHOLDS AFTER 2020 RAINS AND FLOODING

<table>
<thead>
<tr>
<th>Sindh</th>
<th>Sindh</th>
<th>Sindh</th>
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<th>Sindh</th>
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<tbody>
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<td>11%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>9%</td>
<td>18%</td>
<td>28%</td>
<td>2%</td>
<td>41%</td>
</tr>
<tr>
<td>Mir Pur Khas</td>
<td>45%</td>
<td>54%</td>
<td>33%</td>
<td>46%</td>
<td>4%</td>
<td>5%</td>
<td>44%</td>
<td>82%</td>
<td>74%</td>
<td>70%</td>
<td>38%</td>
</tr>
<tr>
<td>Sanghar</td>
<td>11%</td>
<td>56%</td>
<td>54%</td>
<td>46%</td>
<td>81%</td>
<td>74%</td>
<td>14%</td>
<td>48%</td>
<td>74%</td>
<td>26%</td>
<td>62%</td>
</tr>
<tr>
<td>Tharparkar</td>
<td>4%</td>
<td>52%</td>
<td>22%</td>
<td>74%</td>
<td>81%</td>
<td>82%</td>
<td>48%</td>
<td>74%</td>
<td>70%</td>
<td>28%</td>
<td>41%</td>
</tr>
<tr>
<td>Umerkot</td>
<td>5%</td>
<td>14%</td>
<td>52%</td>
<td>74%</td>
<td>14%</td>
<td>48%</td>
<td>62%</td>
<td>74%</td>
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<td>38%</td>
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<tr>
<td>Dadu</td>
<td>9%</td>
<td>48%</td>
<td>81%</td>
<td>82%</td>
<td>28%</td>
<td>62%</td>
<td>38%</td>
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</tr>
<tr>
<td>Sajawal</td>
<td>18%</td>
<td>74%</td>
<td>74%</td>
<td>74%</td>
<td>70%</td>
<td>38%</td>
<td>38%</td>
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<tr>
<td>T.M Khan</td>
<td>28%</td>
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<td>28%</td>
</tr>
<tr>
<td>Shangla</td>
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</tr>
<tr>
<td>Swat</td>
<td>41%</td>
<td>38%</td>
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<tr>
<td>Jhal Magsi</td>
<td>38%</td>
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<td>38%</td>
</tr>
<tr>
<td>Kachi (Bolan)</td>
<td>62%</td>
<td>62%</td>
<td>62%</td>
<td>62%</td>
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<td>62%</td>
<td>62%</td>
<td>62%</td>
</tr>
</tbody>
</table>

**SOURCE:** Findings of Floods RNA 2020
An innovative programming approach, 3PA was developed by WFP in consultation with governments and partners. The aim is to strengthen the design, planning, and implementation of programmes in resilience building, safety nets, disaster risk reduction, and preparedness. The 3PA is comprised of three processes at three levels: the Integrated Context Analysis (ICA), the Seasonal Livelihood Programming (SLP) and the Community Based Participatory Planning (CBPP).

1. Integrated Context Analysis (ICA) in Pakistan (national level activity): The ICA for Pakistan was completed in 2017 under the leadership of the NDMA and serves as a baseline for the second tier. It is a collaborative and consultative programming tool that helps orient geographic prioritization for intervention based on where different levels of recurrence of food insecurity and natural shocks have historically overlapped. It is used to inform strategic programmatic decision-making in specific geographical areas in resilience, disaster risk reduction, social protection, and preparedness actions.

ICA includes two core dimensions (vulnerability to food insecurity and natural hazards: flood and drought), five core lenses (landslide, Glacial Lake Outburst Flood -GLOF, earthquake, soil erosion, land degradation), and two contextual factors (dominant land cover, population density). The district is a geographical unit of analysis. ICA uses the MPI as a proxy for vulnerability to food security for four provinces (Balochistan, KP, Sindh, Punjab including Islamabad). It is derived from six rounds of the PSLM. For flood, drought, landslide, GLOF, and earthquake occurrence, national datasets available for all districts in Pakistan were used. For soil erosion, land degradation, dominant land cover, and population density, Pakistan components of global datasets were used. Technical findings and broad programmatic recommendations are based on a combined level of recurrence of two core dimensions. ICA classifies 123 districts of four provinces and seven Agencies of the NMDs-KP into nine different ICA Areas which are further condensed into five ICA Categories to help formulate broad programmatic recommendations.

2. Seasonal Livelihood Programming (SLP) (a sub-national level activity): SLP is a consultative process that brings together communities, government, and partners to develop a shared understanding of the context and to highlight which programmes should be implemented when for whom, and by which partners, during typical and crisis years. This dialogue aims to strengthen operational plans across multiple sectors and institutions, to inform resilience-building, productive safety nets, and other relevant agendas, and to enhance partnerships and coordination. WFP jointly with the NDMA and the respective provincial governments of Khyber Pakhtunkhwa and Sindh has also initiated the process of SLP in Pakistan.

SLP in Pakistan provides for better ground for planning and programming of activities undertaken by WFP and partner organizations working in the resilience-building sector, especially on livelihoods, agriculture, livestock, markets, and even informal daily-wages sector. The SLP has been piloted for a number of agencies in NMDs-KP and districts in Sindh and Balochistan.

3. Community-Based Participatory Planning (CBPP) (local/catchment level activity): A participatory exercise to empower vulnerable communities and women, build a shared understanding of livelihoods, landscapes, shocks and stresses, vulnerabilities and priority needs, and to develop a multi-sectoral action plan tailored to the local context. The CBPP is being piloted in various communities.

SOURCE: WFP Pakistan, 2020
2.3. USING SOCIAL PROTECTION AND COMPLEMENTARY LIVELIHOOD INTERVENTIONS TO BUILD FOOD SYSTEM RESILIENCE

As discussed in Sections 1.2 and 2.1 of this report, poverty, poor dietary diversity and gender divides are some of the important factors in food insecurity and malnutrition in Pakistan. Thoughtfully designed social protection and livelihood interventions can strengthen the food system by addressing inequalities that arise from socio-cultural drivers (see Figure 28, the food systems framework). Ultimately this may helpfully influence dietary choices, nutrition and health outcomes.

Social assistance programs in Pakistan

Social protection includes a wide range of instruments designed to protect people from shocks and stresses throughout their lives, in order to reduce poverty and inequality. This includes social assistance programs targeting the poorest (such as cash transfer safety nets), labour-based programs (such as unemployment or pension benefits), medical insurance, and basic social services (such as free primary education, school meals, or primary health care). The International Labour Organization (ILO) estimates that 45 percent of the global population was covered by at least one social protection program in 2017.

While social protection coverage in Pakistan has gradually risen, it is still far from universal. There are several reasons for this, most significant of which are changing demographics, lack of an updated national household database, the informality of the work sector, and fragmentation between different social protection systems at the national and provincial level.

Over the past few years, there have been increased efforts to scale-up coverage and streamline social protection schemes, in particular social assistance programs targeting the poor. In 2019, a number of existing and new national social assistance programs at the federal level in Pakistan were brought under the umbrella of the National Poverty Alleviation Program, named Ehsaas (meaning ‘compassion’ in Urdu). These include the Kafaalat (meaning ‘to maintain’ in Urdu) cash transfer program; the Nashonuma (meaning ‘growth and development’ in Urdu) nutrition program (targeting Kafaalat beneficiaries; Amdan23, Langars 24, scholarships and interest free loans programs. Several of these programs are implemented by the Benazir25 Income Support Program (BISP), which is a specialized agency of the Government of Pakistan that originated out of the former BISP program, and which is the custodian of a database, or social registry, relating to that program.

Ehsaas Kafaalat unconditional cash program

The country’s largest social assistance program is the flagship Ehsaas Kafaalat program, previously known as the BISP National Cash Transfer Program. Established in 2008, it is one

23 The Ehsaas Amdan program provides small assets to the poor in order to assist graduation out of poverty; items include goats, buffalo, small equipment or other assets that can be used to generate income.
24 A langar in South Asian culture is a place where free food is distributed to the poor in a religious setting. The Ehsaas Langars program is a non-religious version operated by a public private partnership between the Government of Pakistan and the Saylani Welfare Trust, similar to the ‘soup kitchen’ concept.
25 Benazir Bhutto (1953-2007) was a former Prime Minister of Pakistan, and the first woman Prime Minister in the country’s history.
of the largest national safety nets in South Asia, providing monthly unconditional cash transfers of PKR 2 000 (USD 12) to 4.5 million poor households. Targeting is based on proxy-means testing, with priority given to female-headed households. Several other social assistance programs exist at the national and provincial level, including Zakaat and Pakistan Bait-ul-Mal, but these are much smaller in scale and generally have more specific targeting criteria, such as differently-abled people or the elderly.

One of the significant aspects of the BISP, as a program and an agency, is that it pioneered different methods of establishing a social registry (database of welfare recipients) in Pakistan, in several phases, and tried a number of innovative methods of paying beneficiaries, thus addressing some important challenges to ensuring coverage of deserving and genuinely needy beneficiaries.

These challenges include lack of universal possession of national identity cards, illiteracy in both genders, immobility of women, a low proportion of the population that have bank accounts, and corruption. Then, beginning in 2019, the Government of Pakistan initiated a number of changes to leverage the Ehsaas Kafaalat platform to achieve greater impact, by making it more shock-responsive and nutrition-sensitive, while continuing to refine the database accuracy issues, eligibility criteria, and payment methods.

For example, in 2019-20, the government used the Kafaalat safety-net to channel relief assistance to households affected by the droughts in Sindh and Balochistan, in collaboration with WFP. Over 10 0000 existing Kafaalat beneficiary households (approximately 625 000 people) in affected areas received a top-up of PKR 4 000 per household, in addition to their normal PKR 2 000 monthly entitlement, to buffer livelihoods losses caused by the drought. This operation was Pakistan’s first experience with shock responsive national safety net. This experience set the stage for the much larger safety-net scale-up launched by the government in response to COVID-19, under the Ehsaas Emergency Cash (EEC) program (described in more detail below).

In another example, in 2020, the government also launched the Ehsaas Nashonuma Stunting Prevention Program with the technical support of WFP, which builds on the Kafaalat safety-net. The Nashonuma program delivers stunting prevention interventions to PLW and children under the age of two enrolled in the national Ehsaas Kafaalat program, via the existing primary health care system. This is an innovative example of how an existing generic social registry (beneficiary database) can be used to channel more specific nutrition interventions. Kafaalat’s emphasis on reaching ultra-poor women makes it an ideal entry point for nutrition interventions targeting mothers and children at risk of malnutrition. Linking the Nashonuma program to the existing safety net will ensure that the most at-risk mothers and children are systematically identified and supported until the child reaches two years of age.

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26 Unconditional Cash Transfers (UCT) Program, BISP official website, https://bisp.gov.pk/Detail/ZTjqZvY2N5w0YwvNCc0MvJvLWF0QDUMRDQGI9vGnT5zUw
27 Zakaat is one of the existing programs brought under the umbrella of Ehsaas. Zakaat is an Arabic term meaning ‘obligatory charitable giving’.
28 Bait-ul-Mal is an Arabic term meaning ‘treasury’ (public funds), from which wealth is redistributed to achieve social justice. The Ehsaas Bait-ul-Mal program is an autonomous body set up in 1991, providing financial, education and medical assistance to deserving individuals.
Under this new nutrition program, PLW enrolled in Kafaalat will receive a comprehensive package of four interventions: awareness sessions on infant and young child feeding and hygiene practices, specialized nutritious foods (for both mothers and children), routine child growth monitoring and immunization, and conditional cash stipends (in addition to Kafaalat’s normal unconditional cash transfers). The pilot phase will run from 2020 to 2022 in nine districts spread across all provinces and territories excluding Islamabad, with the aim of reaching 53,000 infants and 69,000 pregnant and lactating mothers—a total of 122,000 people. The launch of Nashonuma in August 2020 in the midst of the COVID-19 crisis is timely, as it will be key to mitigating the long-term nutritional impacts of COVID-19 on the country’s poorest children.

Labour-based programs
As raised in Section 2.2, out of the 61.7 million people employed in Pakistan, 23.8 million are agricultural workers and 37.9 million are non-agricultural workers. And among the non-agricultural workers, almost three quarters (72 percent) – representing 27.3 million – work in the informal sector, while only 10.6 million (28 percent) are employed in the formal sector. Many of these informal workers are self-employed or work as wage labourers in wholesale and retail trade, manufacturing, and construction. Three-quarters of informal sector workers working as paid employees (including as daily wage workers) – representing close to 10 million people – earn less than the minimum monthly wage of PKR 17,500 (USD 104). These workers, who are not included in any labour-based social security systems, are therefore particularly vulnerable to economic shocks.

Further, according to PBS, about 55.6 percent of total employment (around 34.7 million) in Pakistan is vulnerable and the agriculture sector has the largest proportion (87.8 percent, or 20.3 million) of vulnerable employment (12.4 million men and 7.9 million women). Among the other sectors, wholesale and retail trade has 69.6 percent; 6.49 million in vulnerable employment, real estate and business activities (63 percent; 0.20 million), transport and communication (49.4 percent; 1.95 million), hotels and restaurants (48.6 percent; 0.60 million), manufacturing (32.9 percent; 3.3 million) and other social, community and personal service (53.2 percent; 0.43 million).

In addition to the social assistance programs specifically targeting the poor described above, Pakistan also has labour welfare programs

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29 The analysis of informal sector workers reveals that the majority fall in the categories of “paid employees” (13 million workers, or 48 percent) and “own account” or “self employed” workers (11.2 million, or 41 percent).

30 Vulnerable employment is measured as the proportion of own-account workers and contributing family workers in total employment (PBS).
covering those employed in the formal work sector, including employee social security schemes (managed at the provincial level), and employees pensions schemes. However, coverage remains extremely low, with conservative estimates suggesting that as few as eight percent of workers in Pakistan have some form of social security coverage\(^3\). Low coverage is in part due to disparities between the capacity of different provinces to implement social security schemes, as well as the fact that they do not cover workers engaged in the informal economy, who form the vast majority of the country’s labour force.

Agricultural workers in Pakistan appear to be a sub-group that, because their situation is not formalized, either as wage labourers, sharecroppers, or self-employed small landowners, are not covered by any of the above schemes. Consequently, when shocks present themselves, often it has been humanitarian or recovery actions led by the UN, non-government organisations, and foreign donors that have been the main source of assistance, while government assistance to the sector is something that has been covered under agriculture and economic policy frameworks rather than social protection, or else covered in the category of poverty graduation (e.g. the Ehsaas Amdan program or activities funded under the Pakistan Poverty Alleviation Fund (PPAF)). Given the capacity of rural communities to self-produce healthy and diverse food is often quite good if given appropriate development assistance, this is a viable pathway towards better food security and nutrition in the long term, but it does not obviate the need for the short term social protection for agricultural workers in times of crisis; expansion of social protection to the agricultural sector is still necessary.

Social protection response to COVID-19

Unconditional cash transfers
The impact of COVID-19 has highlighted gaps in social protection systems in many countries, including Pakistan. Millions of people across the country lost their jobs or saw their incomes severely reduced by the pandemic. Overseas Pakistani workers sending remittances also returned to Pakistan in high numbers\(^3\). The vast majority of these people were not covered by social protection schemes – in particular smallholder farmers and wage labourers engaged in the informal economy.

**Ehsaas Emergency Cash (EEC) Program**
In 2020 Pakistan, like many countries across the world, sought to urgently close this protection gap by using existing safety-net platforms to reach newly vulnerable people. The aforementioned scale-up of the Kafaalat safety-net for drought response in Sindh and Balochistan implemented in partnership with WFP in 2019-2020 provided important lessons learned. This previous experience with shock-responsive safety nets helped Ehsaas to scale up the Kafaalat program quite quickly, in response to COVID-19. Under the Government of Pakistan’s EEC Program, launched in April 2020, the existing 4.5 million Kafaalat beneficiary families received a top-up of PKR 1,000 per month for four months (on top of their normal PKR 2,000 per month), while an additional 7.5 million families who were not enrolled in Kafaalat received a one-time lump sum cash transfer of PKR 12,000 (USD 75), meant to cover subsistence needs for four months (and equivalent to the assistance received by Kafaalat beneficiaries for four months). The EEC thus initially reached a total of 12 million families, at a cost of PKR 144 billion\(^3\). The program was subsequently revised to include an additional 5 million families, bringing the total number of beneficiary families to 18 million (Figure 55), and the total cost of the program to PKR 203 billion (Figure 56).

\(^3\) Labour welfare and social protection expert group recommendations to implement Mazdoor ka Ehsaas

32 The quarter ending in Sept 2020 showed only 1.43 percent lower remittances from overseas as compared to the same quarter of the previous year. However, during the fiscal year 2019/2020, overall foreign remittances into the country jumped 6 percent to an all-time high of USD 23 billion, as overseas workers were able to send money home after countries started easing COVID-19 lockdowns around the world.

33 Ehsaas online portal showing beneficiaries reached and funds disbursed
Practical issues in targeting social protection

As with all safety nets, one of the biggest challenges in implementing the EEC was targeting. In order to select the additional 13.5 million EEC recipient households who weren’t existing Kafaalat beneficiaries, the government set up a rule-based analytic system. People interested in receiving the benefit were asked to send a text message from a mobile phone giving their Computerized National Identity Card (CNIC) number to a dedicated government number. CNICs, which are linked to the National Socioeconomic Database at the National Database Registration Authority (NADRA), and which are also used for travel, taxes, billing, assets ownership, government employment status, were then used to determine wealth status. Those meeting certain eligibility criteria received a confirmatory text message and received their payment through branchless...
banking agents or automatic teller machines. In order to reach people who did not have access to mobile phones or who did not possess a CNIC, households were also able to register through district-level government offices. At the same time, various provincial governments went about setting up provincial-level responses to COVID-19 lockdown-driven social protection needs, often in partnership with philanthropic organizations and the UN (see Box 12), but these attempts highlighted several issues, namely lack coordination and data sharing between federal and provincial governments, challenges with targeting and proof of eligibility, and difficulties coordinating with the private and non-government sector to avoid duplication.

Opportunities to continue using social protection to address malnutrition and food insecurity

The Nashonuma Stunting Prevention Program mentioned earlier is implemented with the support of WFP, and is based on three years of evidence showing the effectiveness of using specialized nutritious foods combined with sensitization and behaviour change communication to reduce stunting in Pakistan. It offers an opportunity to more closely link social protection and nutrition, and thereby improve coordination between social protection platforms and the primary health care system. This has the potential to significantly increase the identification of at-risk children and PLWs, as well as ensure proper follow-up over the years.

Linking social protection to efforts to prevent

**Food and Cash assistance**

To complement the Government of Pakistan’s national COVID-19 social protection programming, WFP provided targeted cash-based food assistance to chronically food insecure households who had also been severely affected by the pandemic. In order to avoid duplication, areas, and households who had not received assistance from the government were targeted for this assistance. A total of 200,000 people received unconditional cash transfers to cover household food needs for three months.

Including School-based Safety Nets: The COVID-19 pandemic is expected to have significant negative impacts on education and child labour in Pakistan. The country has the world’s second-highest number of out-of-school children, with an estimated 44 percent of children aged between five and sixteen not attending school. This problem is particularly acute at the secondary level, with enrolment rates dropping dramatically after the age of ten. It is highly likely that the prolonged school closures and loss of livelihoods caused by COVID-19 will further increase the number of out of school children, as parents decide to keep children at home in order to earn income, or help with domestic or agricultural work, or are unable to pay the transport and stationary costs needed to send them to school.

In response to this – and to the pre-existing alarming education trends in Pakistan – WFP launched a new school-based conditional cash safety net program in September 2020, targeting all adolescent schoolgirls enrolled in secondary schools in all Newly Merged Districts and Frontier Regions of KP, which will begin when schools properly re-open. The program, implemented jointly with the KP Education Department, will provide conditional monthly cash transfers to 20,000 secondary school girls, which will act as an incentive for parents to send their girls to school while also serving as an income safety-net for the family. WFP plans to scale up this pilot in other provinces, focusing on girls but also extending it to boys if funding permits.

**BOX 12**

**UN-LED ASSISTANCE DURING COVID-19**

Source: WFP Pakistan, 2020
chronic malnutrition is more crucial than ever in the context of COVID-19, which has put already vulnerable children even more at risk of stunting. Ensuring that government safety nets address nutrition-specific needs is critical to limiting COVID-19’s long-term impacts on the growth and development of an entire generation of children. Opportunities also exist to link the Nashonuma program to community-based management of acute malnutrition (CMAM) programs – in order to better integrate the management of chronic (stunting) and acute (wasting) malnutrition. Wasting and stunting are known to coexist in the same child, family, and community. Ensuring that nutrition service delivery is implemented more cohesively is therefore essential, not only to achieve real impact but also to ensure cost-effectiveness.

Complementary types of interventions that aim to sustain producers and the food system
Despite the intention to safeguard the food and agriculture supply chain, the lockdown and movement restrictions in Pakistan in 2020 still affected the logistics and linkages between producers and local, urban, and international markets, impacting the supply/availability, demand, and prices of food items as well as the agriculture/livestock inputs and the transportation costs. For example, the domestic production of fertilizers increased during FY-2020 (July-March)34 by 5.8 percent over the same period of 2019. However, the 20.7 percent drop in the supply of imported fertilizer led to lower total availability of fertilizer, which decreased by 0.28 percent35. During the same period, the low agricultural production and sales of crops such as cotton and the consequent low farmers’ liquidity arising from the COVID-19 restriction measures led to a decline in the production of tractors36.

Among the different interventions undertaken during 2020, subsidies were provided in the form of cheap natural gas for the production of fertilizers. Moreover, through the Agricultural Credit Advisory Committee (ACAC)35, the government has disbursed PKR 1 350 billion to the agriculture sector during the fiscal year 2019-20. This is 15 percent higher than the disbursement in 2019. Within this arrangement, agriculture-lending institutions are providing agricultural loans to the farming community. Institutions include major commercial banks, specialized banks (such as ZTBL & PPCBL), domestic private banks, Islamic Banks, Microfinance Banks as well as Microfinance Institutions/Rural Support Programmes (MFIs/RSPs). Should borrowers struggle to pay the loan, banks can defer repayment to ease the burden caused by COVID-19 upon the written request of the borrowers. During FY-2020 (July-March), the production loans of the farm sector grew by 17.0 percent, and development loans for the agriculture credit sector increased by 20.7 percent36.

In terms of productive and market-oriented services36, no major initiatives were taken by the public sector. However, non-traditional service providers such as the private sector, associations, and NGOs had varying degrees of activity within their communities to support producers.

34 by 5.8 percent over the same period of 2019
35 a national consultative committee set up by Government of Pakistan
36 Market-Oriented Services are a subset of rural services that are productive and concerned with linking farmers to input and output markets. Emphasis is placed on advisory, financial and support services needed for smallholders to improve productivity and profitability, organizational and management capacities, and access to markets.
ANNEX 1

ANNEX 1 METHODOLOGICAL NOTE ON PREVALENCE OF UNDERNOURISHMENT (POU)

PoU is an estimate of the percentage of individuals in the total population that are in a condition of undernourishment. To compute it, the probability distribution of habitual dietary energy intake levels (expressed in kcal per person per day) for the average individual is modelled as a parametric probability density function (pdf), \( f(x) \). The indicator is obtained as the cumulative probability that the habitual dietary energy intake \( x \) is below the Minimum Dietary Energy Requirements (MDER) (i.e., the lowest limit of the range of energy requirements for the population’s representative average individual that is consistent with an active and healthy life) as in the formula below:

\[
\text{PoU} = \int_{x<\text{MDER}} f(x|\theta) \, dx,
\]

where \( \theta \) is a vector of parameters that characterizes the pdf. Typically, the distribution is assumed to be lognormal, so that it can be fully characterized by only two parameters: the mean dietary energy consumption (DEC), and it’s coefficient of variation (CV).

Estimating the PoU, therefore, requires estimating three different parameters: MDER, DEC and CV.

Minimum dietary energy requirement (MDER): Human energy requirements for an individual in a given sex/age class are determined on the basis of normative requirements for basic metabolic rate (BMR) per kilogram of body mass, multiplied by the ideal weights that a healthy person of that class may have, given his or her height, and then multiplied by a coefficient of physical activity level (PAL) to take into account physical activity. Given that both healthy BMIs and PALs vary among active and healthy individuals of the same sex and age, a range of energy requirements applies to each sex and age group of the population. The MDER for the population as a whole, that is the parameter used in the PoU formula, is obtained as the weighted average of the lower bounds of the energy requirement ranges for each sex and age group, using the shares of the population in each sex and age group as weights.

Dietary energy consumption (DEC): The average, per capita daily dietary energy consumption in a population can be estimated either from the total food available for human consumption, derived from national food supply and utilization accounts used in compiling the so-called national Food Balance Sheets (FBS), or from the data on food consumption as reported in a nationally representative survey of the population. While, in principle, the estimates obtained from the two alternative sources for a given population in a given year should converge, they may differ due to different data problems. Typically, estimates of DEC from FBS tend to be higher than the corresponding estimates obtained from survey data. Reasons for the discrepancy can be found in the fact that FBS-based estimates may be overestimated, failing to properly account for the amount of food wastage that occurs after the food has been made available for human consumption (e.g., during storage, retail distribution, including by restaurants, and at the household level) and/or that reported food consumption in surveys may be incomplete, due to failure to capture all sources of food consumption by all household members (e.g., food consumed away from home, at work or at school, or received by charitable institutions).

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37 Undernourishment is defined as the condition of an individual whose habitual food consumption is insufficient to provide the amount of dietary energy required to maintain a normal, active and healthy life.

38 Ideal weights for attained height are determined on the basis of reference healthy Body Mass Index (BMI) values.

**Coefficient of Variation (CV):** The variability in the distribution of habitual, daily per capita DEC, is the most difficult parameter to estimate for two reasons. First, when food consumption data is only available at the household level, the observed variability across households will largely underestimate the variability due to differences in sex, age, body mass, physiological status (e.g., sickness, pregnancy, lactation, etc.) and physical activity levels in the population. Second, the average consumption measured from survey data, be it at the household or at the individual level, is notoriously affected by non-negligible measurement errors. While these errors may not be relevant to estimate the average DEC in the population, they will almost certainly inflate estimates of the variance of DEC across individuals, as the variance of measurement errors will add to the variance of true DEC. To reduce the impact of measurement errors on estimates of the CV, the variance of DEC for the average individual in the population is decomposed into two components, and the two components (which are assumed to be independent from each other) are estimated separately.

\[ CV_{\text{usual DEC}} = \sqrt{(CV|r)^2 + (CV|y)^2} \]

The first component, CV|r, reflects variation in DEC due to differences in sex, age, body mass, physiological status and physical activity levels in the population. As these are essentially the same factors that determine the variability in dietary energy requirements, the CV|r is estimated from the same information used to estimate the MDER\(^40\). The second component, CV|y, represents the variation in DEC resulting from differences in access to food induced by socio-economic characteristics of individuals and households, geographic location, and other relevant factors that are independent from the sex-age, body mass and physical activity levels of the households’ members.

In estimating CV|y from household survey data, one needs to control for the variability induced by seasonality and by measurement error. This is achieved by referring to the mean and standard deviation of the predicted values of the seasonality adjusted DEC\(_h\), obtained from a regression like the following one:

\[
DEC_h = \beta_0 + \beta_1 \ln(inc_h) + \beta_2 \ln(inc_h)^2 \\
+ \beta_3 (\text{province}_h) + \beta_4 (\text{region}_h) \\
+ \beta_5 (\text{province}_h \times \text{region}_h)
\]

where ‘h’ refers to the household; DEC is the daily dietary energy consumption per capita in household h; Income is seasonality adjusted in household h; region and province is a set of dummy variables indicating the region or province in which the household his located.

Analysis of the PoU in Pakistan based on two latest rounds of HIES.

In this report, we compute all parameters needed to estimate the PoU using, microdata from two latest rounds of the Pakistan Household Integrated Economic Survey (HIES) conducted in 2015-16 and 2018-19, integrating them from other sources whenever needed, as detailed below.

- The information on the population level and its structure by sex and age in each period needed to estimate both the MDER and the CV|r is obtained from the 2015-16 and 2018-19 rounds of the HIES, for all of which the sampling design was based on population data from the fifth and sixth Censuses of the Population, conducted in 1998 and 2017.
- As HIES does not convey anthropometric information, the median height in each sex and age group needed to estimate the MDER and the CV|r is derived from a Demographic and Health Survey (DHS) conducted in 2017-18.
- Several improvements have been introduced in the food consumption module of HIES 2015-16 and 2018-19, to better capture the food consumed away from home (FAFH) which is likely to have an impact on the estimated DEC, but still, free food provided at work, at school or charitable institutions does not get captured.
Even after such improvements in the survey questionnaire, the national average DEC obtained from the surveys appears to still be possibly underestimated. The DEC estimated from these rounds of HIESs is lower than DEC computed using the Food Balance Sheet (FBS) data compiled by FAO and based on the official data provided by the Ministry of National Food Security and Research. Given the persisting uncertainty regarding the level of average DEC, two series of PoU are presented in the report: the first one deriving all information from the surveys, the second one reflecting the estimates produced by FAO Statistics Division to inform the annual report on The State of Food Security and Nutrition in the world in 2020.

Pending further inquiries on the discrepancy between food consumption accounted for in the surveys and apparent food consumption estimated from FBS, a safe conclusion is that the true PoU in Pakistan in 2017-19 may lie between 12-16 percent in Pakistan.

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**ANNEX 2 DISTRICT-LEVEL GRAPHICAL ANALYSIS OF NATIONAL NUTRITION SURVEY 2018**

**DISTRICTS IN PUNJAB SHOWING HIGH PREVELANCE OF STUNTING ABOVE NATIONAL PREVELANCE**

<table>
<thead>
<tr>
<th>District</th>
<th>Stunting Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dera Ghazi Khan</td>
<td>50.3</td>
</tr>
<tr>
<td>Rajanpur</td>
<td>50.2</td>
</tr>
<tr>
<td>Muzaffargarh</td>
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<tr>
<td>Bahawalpur</td>
<td>49.8</td>
</tr>
<tr>
<td>Bahawalnagar</td>
<td>49.7</td>
</tr>
<tr>
<td>Rahim Yar Khan</td>
<td>49.6</td>
</tr>
</tbody>
</table>

**DISTRICTS IN BALOCHISTAN WITH HIGH STUNTING PREVELANCE ABOVE NATIONAL AVERAGE**

<table>
<thead>
<tr>
<th>District</th>
<th>Stunting Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Killi Abdullah</td>
<td>50.5</td>
</tr>
<tr>
<td>Nasirab</td>
<td>50.4</td>
</tr>
<tr>
<td>Loralai</td>
<td>50.3</td>
</tr>
<tr>
<td>Zhob</td>
<td>49.9</td>
</tr>
<tr>
<td>Dera Bugti</td>
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<tr>
<td>Kech</td>
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</tr>
<tr>
<td>Jhariaab</td>
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<tr>
<td>Jhal Magsi</td>
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</tr>
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<td>Gwadar</td>
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<td>Pangur</td>
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</tbody>
</table>
ANNEXES

DISTRICTS IN BALOCHISTAN WITH HIGH PREVALENCE OF WASTING ABOVE CRITICAL THRESHOLD LEVEL

DISTRICTS IN KHYBER PAKHTUNKHWA WITH HIGH PREVALENCE OF WASTING ABOVE CRITICAL THRESHOLD LEVEL

DISTRICTS IN KHYBER PAKHTUNKHWA WITH HIGH PREVALENCE OF STUNTING ABOVE NATIONAL AVERAGE
NEWLY MERGED DISTRICTS IN KHYBER PAKHTUNKHWA, AJK AND GB WITH HIGH PREVALENCE OF WASTING ABOVE CRITICAL THRESHOLD LEVEL

NEWLY MERGED DISTRICTS IN KHYBER PAKHTUNKHWA, AJK AND GB WITH HIGH PREVALENCE OF STUNTING ABOVE NATIONAL AVERAGE

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The Pakistan Overview of Food Security and Nutrition report is the combined effort of four UN agencies to present the overall picture of where Pakistan stands in the efforts to eliminate hunger and malnutrition. The special theme of this second Pakistan Overview of Food Security and Nutrition report is ‘Towards a Resilient Food System’. It is the second country level report on the lines of UN’s Global and Regional Reports on State of Food Security and Nutrition in the World. FAO, WFP, WHO, UNICEF, have collaborated to produce it with the cooperation of federal and provincial governments and many other stakeholders.

Regular monitoring of Pakistan’s food security and nutrition situation can support better policy and programme design. This report would help the government to assess and monitor the progress on food security and nutrition situation. The report also points to the areas where food security has been affected by various shocks including COVID-19 and flooding in 2020 and their impact on food system.