Pakistan Human Capital Public Expenditure and Institutional Review

Building Capabilities throughout Life

June, 2023
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAP</td>
<td>Accelerated Action Plan</td>
</tr>
<tr>
<td>ASER</td>
<td>Annual Status of Education Report</td>
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<tr>
<td>BISP</td>
<td>Benazir Income Support Programme</td>
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<tr>
<td>BOOST</td>
<td>The World Bank Open Data Portal for Budget Data</td>
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<td>DCCN</td>
<td>District Coordination Committee for Nutrition</td>
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<td>DRM</td>
<td>Domestic Revenue Mobilization</td>
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<td>FCDO</td>
<td>Foreign, Commonwealth and Development Office</td>
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<td>GNI</td>
<td>Gross national income</td>
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<td>HIES</td>
<td>Household Income Expenditure Survey</td>
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<tr>
<td>IP</td>
<td>Implementing Partners</td>
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<td>KII</td>
<td>Key Informant Interviews</td>
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<tr>
<td>KP</td>
<td>Khyber Pakhtunkhwa</td>
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<td>LHW</td>
<td>Lady Health Workers</td>
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<td>MAM</td>
<td>Moderate acute malnutrition</td>
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<td>MICS</td>
<td>Multiple Indicator Cluster Survey</td>
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<td>NETS</td>
<td>Nutrition Expenditure Tracking System</td>
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<td>NNS</td>
<td>National Nutrition Survey</td>
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<td>OLS</td>
<td>Ordinary Least Squares</td>
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<td>OTP</td>
<td>Outpatient Therapeutic Program</td>
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<td>P&amp;DD</td>
<td>Planning and Development Department</td>
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<td>PANS</td>
<td>Pakistan Adolescent Nutrition Strategy</td>
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<td>PER-N</td>
<td>Public Expenditure Review - Nutrition</td>
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<td>PINS</td>
<td>Program for Improved Nutrition in Sindh</td>
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<td>PINS</td>
<td>Pakistan Intersectoral Nutrition Strategy</td>
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<tr>
<td>PLW</td>
<td>Pregnant and lactating women</td>
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<td>PMNS</td>
<td>Pakistan Multi-Sectoral Nutrition Strategy</td>
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<td>PPHI</td>
<td>People’s Primary Healthcare Initiative</td>
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<td>PSLM</td>
<td>Pakistan Social and Living Standards Measurement Survey</td>
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<td>RUTF</td>
<td>Ready to Use Therapeutic Food</td>
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<td>SAM</td>
<td>Severe acute malnutrition</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>SERRRSP</td>
<td>Sindh Enhancing Response to Reduce Stunting Project</td>
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<td>SUN</td>
<td>Scaling Up Nutrition</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>WASH</td>
<td>Water, sanitation, and hygiene</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Nutrition

Introduction and summary of findings

This second chapter looks at nutrition with a focus on Sindh, but the analysis was severely hindered by the lack of credible and consistent data. With this limitation in mind, it finds that nutrition outcomes in Pakistan have stagnated and lagged those in the country’s peers across income groups and regions in recent years. For example, one-fifth of children are born with low birthweight, and among children under 5, 30 percent are underweight, 40 percent stunted, 18 percent wasted, 54 percent anemic, and 52 percent deficient in vitamin A. Governments have a major role and interest in improving nutrition outcomes, which affect individual and national growth and productivity. Stunting, for example, an indicator of chronic malnutrition, has lifelong and even intergenerational consequences for individuals—and nations. Childhood stunting leads to increased mortality, increased morbidity (in childhood and later in adulthood), decreased cognitive ability, a delayed start and reduced attainment at school, and far lower individual earnings and slower national economic growth. Stunted children are a third less likely than other children to escape poverty as adults. Malnourished mothers are then more than twice as likely as well-nourished mothers to have stunted children.

The first section presents an overview of malnutrition outcomes overall. The following section then reviews the key drivers of these outcomes and whether institutions or expenditures are supporting improved nutrition, including a deep dive of Sindh (where there is more data) to try and understand district differentials. The third section delves into whether institutional arrangements are adequately supporting service delivery, so as to identify gaps. The final section reviews nutrition expenditures.¹

The chapter finds that ensuring coordination and finding efficiencies from existing programs—to support enhanced allocation to high-impact nutrition-specific interventions—remain key challenges for improving nutrition outcomes.

- **Improve data collection and monitoring.** There is a need for comprehensive and reliable data on nutrition financing including allocation and expenditure to inform evidence-based decision-making. This analysis is severely constrained by the lack of credible district-level spending data, tally of staff involved, and the number and location of patients treated. This data should be complemented by effective monitoring systems to track malnutrition cases so as to enhance patient tracking and program synergies and reduce duplication. For example, in Hyderabad, within the same hospital, there may be an outpatient therapeutic program (treating severe malnutrition cases) and a Benazir Income Support Programme (BISP) Noshonuma Program (supporting moderate malnutrition cases, especially for women), but they do not coordinate nor cross-refer, leading to potentially missed synergies. Community actors hired through different programs also infrequently coordinate to share information on cases, which may lead to duplication in interventions.

- **Enhance coordination and collaboration to prevent gaps and overlaps in service delivery.** Federal nutrition initiatives are led by the Nutrition Wing of the Ministry of Health Services, Regulation and Coordination. BISP works under the patronage of the prime minister and
Key sectors responsible for delivering nutrition programs like health are devolved provincial subjects. Coordination between these key actors is, however, weak, such that a needy family in Hyderabad may be receiving cash transfers from BISP, wheat purchased or subsidized by provincial governments, nutrition supplements from health workers in the community, and interventions from the agriculture department on keeping a home garden. To address these issues, political champions could help establish, strengthen, and operationalize federal–provincial ties, such as via a functioning prime ministerial steering committee, which can make policy decisions. After this, on-the-ground interdepartmental coordination mechanisms (such as reinvigorated District Coordination Committees for Nutrition) can help ensure implementation across sectors.

- **Create fiscal space and prioritize nutrition-specific interventions.** While nutrition spending has increased in recent years, high-impact nutrition-specific interventions such as those for micronutrient supplements remain low compared with peers\(^1\) and can be an important avenue for addressing weak nutrition outcomes. To do this in a fiscally constrained environment, the government will need to find efficiencies from the current delivery modalities, which may be possible given the high cost of existing program delivery relative to peers. A 2019 study finds the cost per child recovered in outpatient facility-based care and via community health worker–delivered care in Pakistan to be US$363 and US$382, respectively.\(^2\) The cost of the community health worker–delivered program was roughly double that of the Bangladesh program, where the cost per child recovered was US$186 (figures adjusted for inflation).\(^3\) Overlapping or weakly targeted interventions could be a factor in this. Other contributing factors could, for example, relate to the Sindh government’s signing a yearly agreement under the People’s Primary Healthcare Initiative to manage outpatient facilities, with a 10 percent annual increment for salaries.\(^4\)

The detailed recommendations of this second chapter are framed along (i) nutrition-sensitive factors including institutional, political, and economic issues; and (ii) nutrition-specific interventions including those to support access to food and maternal practices (table 1).\(^5\)

### Table 1 Nutrition-sensitive and -specific interventions

<table>
<thead>
<tr>
<th>Short-term Interventions</th>
<th>Medium-term Interventions</th>
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<tr>
<td>- Intervention: The federal government should consider establishing a federal–provincial</td>
<td>- Intervention: With the support of political champions, ensure that District Coordination</td>
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<td>coordination committee similar to the Education Ministers Committee where political</td>
<td>Committees for Nutrition meet regularly and perform their mandate.</td>
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<td>champions come together.</td>
<td>- Outcome: Enhance coordination of nutrition interventions across the district and sectors to reduce duplication,</td>
</tr>
<tr>
<td>- Outcome: This can be a first step to improving policy coordination, prioritization,</td>
<td>explore synergies, and enhance performance management.</td>
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<td>and resourcing.</td>
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<tr>
<td>- Intervention: (i) Reactivate the Nutrition Expenditure Tracking System (NETS) in Sindh</td>
<td>- Intervention: Pilot expanding the NETS to the rest of the country and consider expanding the NETS to track foreign</td>
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<td>via the Accelerated Action Plan (AAP) and (ii) train staff to record expenditure more</td>
<td>assistance for nutrition.</td>
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<tr>
<td>accurately in the financial management system.</td>
<td>- Outcome: Improve tracking, transparency, and accountability of nutrition expenditure.</td>
</tr>
<tr>
<td>- Outcome: Improve tracking, transparency, and accountability of nutrition expenditure.</td>
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- **Nutrition-specific interventions**
• Intervention: Federal and provincial governments together evaluate the efficiency of existing nutrition service delivery modes—across programs and modalities—to seek efficiencies and reduce costs toward peers.
• Outcome: Create fiscal space for more spending on high impact nutrition specific interventions.
• Intervention: Based on earlier findings, consider potential reforms, including more optimal ways of delivering nutrition programs and reduce overlap of programs such as between provincial wheat purchases and subsidies and BISP transfers.
• Outcome: Improve equity and efficacy of nutrition spending.

Pakistan nutrition overview

Nutrition is a complex and multidimensional issue, and so is treated as a thematic area in Pakistan rather than a sector. Although the health sector has been playing a dominant role, efforts to improve nutrition rely on cross-sectoral ownership and close linkages across relevant departments. Definitions are provided just below, followed by a summary of nutrition outcomes globally and in Pakistan, and by institutional arrangements.

• Malnutrition refers to deficiencies or excesses in nutrient intake, imbalance of essential nutrients, or impaired nutrient utilization. The double burden of malnutrition consists of undernutrition and overweight and obesity, and diet-related noncommunicable diseases. Undernutrition has various forms, including stunting, wasting, underweight, and micronutrient deficiencies.

• Stunting is defined as a low height for age deficit that primarily occurs during the first 1,000 days of a child’s life. It is an irreversible chronic condition that results in delayed growth, impaired cognitive functioning, lost productivity, and poor educational performance. Stunting impacts a child’s development, including in sensory-motor abilities and language development.

• Wasting is defined as acute malnutrition where a child’s weight is too low for their height. It often indicates recent and severe weight loss, although it can also persist for a long time. It usually occurs when a person has not had food of adequate quality and quantity and/or they have had frequent or prolonged illnesses.

Because of this complexity, this analysis is significantly hindered by severe data limitations, which compromise its ability to accurately assess the situation. The lack of pertinent information in various areas, such as the sources of funding (external or domestic resources), the connections between funds and specific program activities, the proper definition of cost centers, and the allocation of funds to areas with the greatest need, severely restricts the analysis. The incomplete data, including missing information, particularly undermines the evaluation of expenditure for WASH (water, sanitation, and hygiene). Additionally, conducting a global
comparison of nutrition spending information is infeasible due to differences in methodologies, variations in terminology, and diverse categorization of activities aimed at reducing malnutrition among different countries. Furthermore, the dearth of sufficient data on nutrition expenditure creates significant gaps in the analysis, preventing definitive conclusions from being drawn. To comprehensively assess spending trends, it is imperative to have detailed and granular information. Unfortunately, the limitations in data granularity, such as the absence of information on preventive measures and awareness campaigns, impede the analysis from fully capturing the extent of nutrition spending for specific area-wise reforms. Moreover, the reliability of public expenditure data relies on self-reporting by government agencies, which introduces the possibility of errors, omissions, or misreporting. Nevertheless, it is important to note that the analysis is based on the best available information and provides an overview of public expenditure on nutrition in Pakistan. Therefore, the development of a comprehensive nutrition-related financing database is of utmost importance as a foundational step to inform future policy design.

Nutrition outcomes—globally and in Pakistan

Globally, nutrition outcomes are broadly correlated with national income levels, but with a lot of variation (figures 1 and 2). Broadly, nutrition improves as a country’s average income (or living standard) improves, even though for countries with a similar level of income per capita, nutrition outcomes may vary substantially. For example, despite the same level of gross national income (GNI) per capita in Pakistan and Cameroon, stunting in Cameroon is 9 percentage points lower than in Pakistan. This may reflect how many resources are devoted, the efficiency of how resources are used, and the effectiveness of institutions in delivering services targeted to women and children. We explore these issues later in the chapter.

Figure 1 Stunting prevalence across the world

Figure 2 Stunting prevalence in countries of similar income to Pakistan

Pakistan’s population suffers from high levels of malnutrition, contributing to high rates of childhood stunting and wasting.

- Although stunting among Pakistani children under age 5 fell from 43.6 percent in 2011, the latest survey highlights that 40.2 percent—10 million children in Pakistan—are stunted
The prevalence is high even in the richest wealth quintiles, indicating that stunting in Pakistan is not just a poverty issue.

- The burden of wasting in children under 5 remains is 17.7 percent, above the internationally agreed emergency threshold of 15 percent in 2018. The prevalence of wasting in fact rose from 15.1 percent in 2011. These numbers put the country on the emergency threshold with countries like India (17.3 percent in 2017) and Sri Lanka (15.1 percent in 2016).

Figure 3 Malnutrition trends in Pakistan

![Malnutrition trends in Pakistan](figure3)

Source: Multiple rounds of National Nutrition Surveys.

- Across provinces, Sindh and Balochistan have the highest stunting and wasting rates, with rural populations in the country also more at risk (figure 5) (NNS 2018), raising concerns about the intergenerational consequences for child growth and development, including impacts on education outcomes and susceptibility to chronic diseases. These two provinces also report high levels of poverty, poor access to health facilities, and overall lower rates of infrastructure and development.

Figure 4 Percentage of malnutrition levels by rural–urban split in Pakistan

![Percentage of malnutrition levels by rural–urban split in Pakistan](figure4)
Institutional arrangements

The multisector nature of nutrition presents unique challenges in Pakistan, complicated by the devolution of responsibilities across three tiers of government (figures 6 and 7), leading to coordination and implementation difficulties, and so hindering achievement of nutrition outcomes. (See also annex 1.)

For delivering nutrition services, institutional complexity is a persistent issue post-devolution. In 2010, Pakistan passed the 18th Amendment devolving 17 ministries and departments from the central government to provincial governments. This move decentralized nutrition-relevant sectors such as agriculture, livestock, fisheries, education, food, and health to provincial jurisdiction, but it led to challenges including lack of capacity and ownership, and undefined working protocols. For example, reported tensions across ministries, particularly between those of Planning and Development and of Health, may have weakened overall coordination, funds flow, and service delivery for the health sector’s nutrition-specific interventions. Moreover, departments have been unable to effectively implement policy frameworks where federal and provincial priorities differ, leading to decision-making delays.

Nutrition objectives are often lofty and not always reflected in interventions. An important federal policy document is Pakistan Vision 2025, which highlights development challenges that the country experiences across sectors and which introduces interventions that affect nutrition outcomes. The Vision emphasizes that interventions should be directed at the most food-insecure populations through innovative and cost-effective initiatives. For nutrition-specific interventions, a key strategy for Pakistan is the Pakistan Multi-Sectoral Nutrition Strategy (PMNS), 2018–2025, developed by the Ministry of Planning, Development and Initiatives (the “Planning Commission”) to implement nutrition-related initiatives to lower the economic and social burden of malnutrition. While PMNS was developed to encourage provinces to adopt a multisector nutrition approach, it does not always offer the granular guidance needed in nutrition interventions for relevant actors. Also, provinces have developed their own visions and strategies in line with national priorities to address malnutrition by adopting a multisector approach. Further, there are many references to nutrition in sectoral policies and strategies, and an increased understanding of nutrition as a multisector effort. Yet, nutrition-related objectives tend to be overly ambitious in line with international agreements, or service delivery tends to be poor. For example, the objective of Sindh’s Accelerated Action Plan (AAP) was to reduce stunting from 48 percent in 2016 to 30 percent in 2021. The results from the latest round of the National Nutrition Survey (NNS) in 2018 showed, however, that stunting prevalence in Sindh was 45.5 percent.

There is a functional division of responsibilities across tiers of government to operationalize nutrition efforts and interventions, but in practice ambiguities exist.
The primary role of the federal government is to provide oversight and coordination. Post-devolution, federal institutions ensure that provinces remain committed to achieving development aspirations, including those in the Sustainable Development Goals (SDGs), and to maintaining national institution arrangements. The federal level also has some discretionary powers to fund activities as supplementary support to the provinces, such as through vertical programs. The Council of Common Interests is a constitutional body formed in 1973 to resolve power sharing–related disputes between the federal and provincial governments. It is currently housed under the Ministry of Inter-Provincial Coordination. Sectoral coordination also occurs at federal level. For example, the Ministry of National Health Services, Regulation and Coordination assures institutional oversight and frames national health policies. Further, the Prime Minister’s Inter-Ministerial Pakistan National Nutrition Task Coordination Council was
created in 2019 to develop and improve multisector coordination through the Ehsaas’ Nutrition Strategy, but the council’s activities have not been maintained through political transitions.

- Under the Ehsaas’ Nutrition Strategy, the Ehsaas’ Nashonuma program (2020–23) was introduced to address stunting in children age 6–23 months. The program is mandated under the Poverty Alleviation Social Safety Division. It uses conditional cash transfers and coordinates with provincial health departments, and has offices at Tehsil health facilities.

- The Planning Commission also houses a nutrition wing to plan development initiatives geared to economic growth, including human capital interventions. In 2021, the federal government introduced the Tackling Malnutrition Induced Stunting program, which was approved by the Planning Commission at a projected cost of PRs 312 billion, but deferred by the Executive Committee of the National Economic Council due to lack of funds. This project was aimed at 67 high-burdened districts across all provinces and territories, for improved nutrition practices through the provision of “nutrition sachets.”

- The primary role of the provincial governments is to provide policy prioritization and financing. Provincial responsibilities include devising sector policies aligned with those federal priorities and ensuring ability to deliver in line with strategies and plans. Provincial governments remain the main body for spending. They prioritize and channel funds to departments to meet provincial objectives and strategies. Additional roles include developing cross-department synergies and accountability mechanisms. They have discretion in public expenditure through targeted approaches for cost-effective outcomes, as outlined in sector plans. The primary role of district governments is to implement. Implementation and mitigation activities for key projects and programs are undertaken by district and tehsil municipal administrations. District actors work closely with line departments in implementation.

- The implementation relationship between federal and provincial actors is not, however, always clear. For example, while the federally run flagship BISP has a dedicated nutrition program, it is unclear how it—and other federal programs—interlinks with provincial nutrition programs. More narrowly, project terms of reference, for example, may not be clearly articulated and/or agreed on between federal and provincial actors, nor disseminated to other stakeholders including development partners.

What are the drivers of nutrition outcomes?

This section outlines the drivers of nutrition outcomes in Pakistan and looks at case studies on how other countries have improved their nutrition outcomes. The determinants of malnutrition are multisectoral. The immediate causes are related to food and nutrient intake and to health. The underlying causes are embedded in the household and community context in which undernutrition occurs. These underlying causes are further impacted by issues such as agricultural practices and climate change, lack of access to and availability of clean water and sanitation, health services, girls’ education and gender issues, social protection, and social safety nets. Finally, the basic causes of undernutrition are rooted in institutional, political, and economic issues such as poverty reduction and economic growth, governance and stewardship capacities, environmental
safeguards, and trade and patent issues, including the role of the private sector. In this section, we use the UNICEF framework for the multisectoral causation of malnutrition to analyze these drivers—looking first at food access; then maternal factors; socioeconomic and gender factors; and ending on institutional, political, and economic factors.

**Food access**

Inadequate dietary intake and poor feeding practices of infants and young children are likely linked to high levels of malnutrition in Pakistan.

- **Eight out of 10 children do not consume adequate and sufficient food in Pakistan.** With the poorest decile spending just under half of their total consumption basket expenditures on food items, those 8 out of 10 children who do not consume adequate and sufficient food in Pakistan are also more likely poor. Inadequate dietary intake may have worsened with headline consumer price inflation rising to a multidecade high of 25.0 percent (year on year) in the first half of fiscal 2023, up from 9.8 percent in first half of fiscal 2022. This reflects surging global commodity prices, the reversal of unsustainable domestic fuel and electricity subsidies, and flood-related disruptions.

- **Malnourishment due to poor dietary practices may amplify these challenges.** Dietary practices have declined and can increase a child’s susceptibility to infections and malnutrition, leading to impaired cognitive development and school performance and chronic conditions in adulthood. Specifically, only 48 percent of the children are exclusively breastfed, the median duration of exclusive breastfeeding is only 1.6 months, only 21 percent of children age 6–23 months receive meals with the minimum recommended diversity of at least four food groups, and only 13 percent of children meet the criteria for a minimum acceptable diet.

**Maternal factors**

Maternal education matters—it is more likely that a mother with a higher level of education will have children born at a normal weight and not stunted or wasted. Lower literacy rates of parents tend to be associated with their children being stunted. In fact, district data suggest that children of women with no education were the more susceptible to being stunted. The relationship is particularly strong in Punjab and Sindh, but data issues hinder analysis for Khyber Pakhtunkhwa (KP) and Balochistan (figure 8). Historical data also suggests that as a mother’s literacy rate increases to primary level, stunting is reduced by 6.8 percent. In addition, 24.3 percent of babies born to Pakistani girls under 20 are small at birth, which may be related to early dropout from the education system or limited education of girls in maternal health. Further, recent studies suggest that there is an intergenerational link between mothers who were born with low birthweight and the chances of their having a low birthweight newborn.
Socioeconomic and gender factors

Individuals belonging to lower socioeconomic backgrounds are more likely to suffer higher levels of malnutrition. These can be associated with poor housing, poor sanitary and unhygienic conditions, and inadequate access to drinking water. Poor sanitation and open defecation aggravate incidences of diarrhea, and extended periods of diarrhea in turn lead to malnourishment. Global trends also demonstrate that malnutrition remains inversely related to an individual’s wealth quintile: 43 percent of children in the lowest wealth quintile are stunted versus 11 percent of children in the highest wealth quintile.
Widespread gender disparity in Pakistan is a key social and community driver of malnutrition. These inequities stem from little consideration given to the needs of women and girls, making them more vulnerable to micronutrient deficiencies. While studies have found adolescent girls to have the highest and most expensive need for nutrients in a household and that their access to nutrition is a determinant of the health and development of their offspring, partial evidence in Pakistan suggests that mothers are more likely to tend to nutrition needs of sons over daughters. In addition, maternal undernutrition is a leading factor for at least one-fifth of cases that result in childhood stunting. On health care, parents who belong to low-income households are also more likely to seek better quality of care for their sick sons than daughters, and girls have poorer levels of basic immunization status than their counterparts. In Sindh, the basic vaccination coverage of children age 12–23 months was under 49 percent and, within this group, 63 percent of girls received basic vaccination compared with 68 percent of boys in the same age bracket.

**Institutional, political, and economic factors**

To better understand institutions as well as political and economic issues that may affect nutrition outcomes, we compare Pakistan with two other countries (table 2).

**Table 2 Comparison of Pakistan, Tanzania, and Senegal on institutional, political, and economic fronts**

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<th>Pakistan</th>
<th>Tanzania</th>
<th>Senegal</th>
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<tbody>
<tr>
<td>(2018 unless)</td>
<td>Atlas GNI pc: $1,610</td>
<td>Atlas GNI pc: $1,000</td>
<td>Atlas GNI pc: $1,420</td>
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<tr>
<td></td>
<td>Nutrition $ pc: $4.0</td>
<td>Nutrition $ pc: $7.5</td>
<td>Nutrition $ pc: $4.0</td>
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<tr>
<td>Nutrition priorities</td>
<td>Political support</td>
<td>Spending / financing</td>
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<td>Some focus on nutrition-specific interventions. While Pakistan's Multi-sectoral Nutrition Strategy emphasizes such interventions, its implementation appears weak based on expenditure figures over time with nutrition-specific spending estimated at around 14% of total nutrition spending in FY2021.</td>
<td>High stewardship, effectivenes unclear. In contrast, Pakistan established the Prime Minister's Inter-Ministerial Pakistan National Nutrition Task Coordination Council in 2019, but its effectiveness is unclear.</td>
<td>Spend less, low DRM constrains spending. The estimated per capita spending on nutrition in 2019 was $4.0, based solely on information reported in the government's budget books. Low levels of domestic revenue mobilization may constrain the government’s ability to increase investment in nutrition. The current public finance system does not</td>
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<td>Less focus on nutrition-specific interventions. Government financing has focused less on nutrition-specific interventions with only 1.9% of total reported expenditure on nutrition going toward them. This is consistent with the national nutrition strategy, which proposes 2% expenditure on nutrition-specific interventions.</td>
<td>High and effective stewardship. Tanzania's coordination of nutrition efforts is led by the Prime Minister's Office through the High-Level Steering Committee on Nutrition. This provides accountability for nutrition outcomes.</td>
<td>Spend more, financed by taxes. Nutrition spending per capita was estimated at $7.5 in 2015. Higher spending may result from awareness among political leaders and civil servants of malnutrition's impact. To finance nutrition spending, Tanzania is moving toward self-reliance and increased revenue mobilization. The share of the development</td>
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<tr>
<td>Focus on nutrition-specific interventions. Government financing has focused on nutrition-specific and community-based interventions with the help of local development actors. As per Senegal's Food Insecurity Response Plan 2014, 39% of the nutrition budget from 2012 to 2015 was directed toward food insecurity and prevention of micronutrient deficiencies.</td>
<td>Effective stewardship. Senegal established the Nutrition Coordination Unit and its National Executive Bureau in 2001. Since then, annual nutrition budget allocations increased from $0.3 million in 2002 to $5.7 million in 2015.</td>
<td>Spend less, rely on external financing. Nutrition spending per capita was estimated at $4.0 in 2015. Senegal has historically relied on external support for nutrition interventions, with 88% of financing from nongovernment sources. However, 42% of nutrition efforts were managed by public entities.</td>
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holistically capture financing by donors on nutrition programs.

budget from external sources declined from 50% to 24% between FY2012 and FY2017.


Note: GNI = gross national income; pc = per capita; DRM = Domestic Revenue Mobilization. $ refers to U.S. dollars.

Note: These comparators were selected based on (i) data availability on nutrition spending; (ii) similarity on income-level and nutrition spending per capita (iii) institutional setup and (iv) improved nutrition outcomes. This limited the availability of regional comparators.

Drivers of varied nutrition outcomes in Sindh

To further understand the drivers of nutrition outcomes at provincial level and the challenges faced in implementing effective interventions, field visits to three districts in Sindh were made. The idea was to bolster the above countrywide findings of drivers of nutrition outcomes—first in terms of food access, maternal factors, and basic service delivery, then institutions—at the lower tiers of government. This approach is an innovation of this study. The districts selected were Hyderabad, representing a low-performing district; Sukkur, for a medium-performing district; and Khairpur, as a high-performing district (figure 10). These districts were selected based on stunting outcomes, per capita expenditure on nutrition, population size, and flood impact.

Figure 10 Profiles of selected districts and stakeholders met during consultations
**Some districts are better at curbing stunting and wasting—Why?**

The team first tried to gain insights as to why good districts are performing better in terms of curbing stunting and wasting via nutrition-specific interventions. This analysis draws on the UNICEF framework with this section looking at the nutrition-specific vertical pillars. Data was collected from various sources including BOOST, NNS, Annual Status of Education Report (ASER), and Household Income Expenditure Survey (HIES)/Pakistan Social and Living Standards Measurement Survey (PSLM), to establish an efficiency frontier of relative efficiencies.29

**Figure 11 Sindh district efficiency frontiers**

<table>
<thead>
<tr>
<th>Nutrition $ / Stunting incidence</th>
<th>Nutrition $ / Wasting incidence</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
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<thead>
<tr>
<th>Nutrition $ / Underweight incidence</th>
<th>Total $ / Household poverty rate</th>
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<td><img src="image3.png" alt="Graph" /></td>
<td><img src="image4.png" alt="Graph" /></td>
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</table>

Note: Nutrition $ = Per capita public expenditure on nutrition. Education $ = Per capita public expenditure on education. Total $ = Total per capita public expenditure by district. These are aggregated for 2011–2018.

All three districts visited fall behind the efficiency frontier on the ability to convert nutrition spending into improved nutrition outcomes, which may be underpinned by lower nutrition-specific spending. One observed trend is that around half of the districts had spent on nutrition-sensitive activities in recent years, but frontier districts like Tando Allah Yar and Karachi have on average spent three times the amount on nutrition-specific programs per capita versus the average of all districts. Hyderabad, Sukkur, and Khaipur have not made nutrition-specific spending in recent years.30 Hyderabad is an outlier on overall expenditure per capita, particularly given the low level of poverty compared with other districts, reiterating the regressivity of spending at district level, though this may partly reflect data issues.31

Similar to earlier findings, nutrition outcomes are positively linked to food security and maternal practices, but capital spending has limited linkages to service delivery like sanitation.
• **There is a generally positive relationship between food insecurity and malnutrition.** Districts provide support through mainly wheat-purchase programs. The field visits revealed that the food department is not running interventions (and neither are they part of AAP). Nutrition-sensitive interventions—offering focused education for kitchen gardening, providing livestock such as goats, and building fishponds—are instead provided by agriculture, livestock, and fisheries departments. Among these limited programs, not all selected beneficiaries received interventions and for those who did, there was often no follow-up.

**Figure 12 Food insecurity to malnutrition indicators in Sindh**

![Graph showing food insecurity to malnutrition indicators](image)

*Source: MICS 2018; World Bank BOOST Database 2011–2021; World Bank staff analysis.*

• **Maternal education and health care practices are also integrated and generally positively correlated with nutrition outcomes (figure 13).** Districts with greater spending per capita tend to perform better on maternal education and access to skilled birth assistance. However, spending per capita had limited linkage on whether a district is more likely to be visited by a lady health worker or if children are born at normal weight, raising questions of prioritization and efficiency of nutrition spending. Across districts, those along the frontier tended to spend more on social- and welfare-related measures not visible in the three districts visited.

• **Involvement of the education department in educating mothers has been limited.** The department falls under the purview of AAP, but its scope is limited to publishing nutrition-related topics in the primary curriculum and training teachers to teach such topics to children. While there are donor-run projects focusing on girls’ education (such as Leave No Girl Behind by Foreign Commonwealth and Development Office), there has been limited effort by the provincial government on educating young and adult women. In fact, there is no specific intervention that focuses on the education expecting mothers.
Capital spending does not necessarily translate to improved service delivery and in turn nutrition outcomes. UNICEF’s conceptual framework identifies access to primary services as the underlying cause of malnutrition which affects the disease burden in a population. Data suggest that access to improved drinking water is high for most districts (figure 14 left panel). However, excluding the outlier of Hyderabad, districts that spend more on capital spending are not more likely to see lower incidence of diarrhea (figure 14 right panel). Districts that perform on the frontier, such as Karachi, tend to instead have specific nutrition and hygiene programs.

Indirect interventions

The team then looked at how differences in indirect interventions such as institutional, political, and social setups affected outcomes. In all three districts visited, AAP Health was the only sector actively performing nutrition-related activities. Other sectors were largely dormant. Therefore, the assessment is in effect based on AAP Health activities.
Political and community support are critical to improved nutrition outcomes. Hyderabad has a lower poverty rate on average and a higher literacy rate, yet despite these favorable structural factors, the prevalence of stunting is not substantially lower than in the two other districts visited. On the other hand, Khairpur benefits from the involvement of local political leadership and active community cluster committees, launched by that leadership, which led to gains in human resources performance and department coordination through providing support to and encouragement for community health workers in identifying malnourished children and in educating women in their homes. The frequency of meetings of the District Coordination Committee for Nutrition (DCCN, a single body at district level that liaises with all stakeholders for nutrition-related policy making and performance management) in Khairpur (meetings were held twice in the previous three months) was higher than that of other two districts (where no meetings were held).

Weakness in institutional coordination and district administrators’ stewardship can result in a lack of prioritization, overlapping efforts, and potentially unexplored efficiencies. For example, AAP departments were unaware of efforts led by other departments, leading to potential overlapping efforts because nutrition activities are not always mapped. Families may therefore receive more than one AAP intervention. Additionally, many AAP activities rely on leveraging existing human resources capacity in key departments, but the lack of oversight generally can lead to operational inefficiencies, such as overlapping functions of staff under different programs. There are also inefficiencies in other programs (box 1).

Box 1 Key challenges of existing nutrition-delivery mechanisms

Several programs support nutrition service delivery in Sindh, including Lady Health Workers (LHW), Implementing Partners (IPs), People’s Primary Healthcare Initiative (PPHI), and Outpatient Therapeutic Program (OTP).

- LHW was set up in 1994 as part of the National Programme for Family Planning and Primary Health Care. Under that program, LHWs undergo six months of training to provide specific, basic primary health care treatment and preventive services and to deliver these services at home. LHWs should identify and report severe acute malnutrition (SAM)/moderate acute malnutrition (MAM) cases. LHWs report only to district health officers.

- To complement the LHW program, nine outreach IPs provide services across Sindh. IPs are hired at district level to implement outreach and community activities after undergoing a defined tendering process. Outreach partners are primarily hired to provide services in uncovered and hard-to-reach areas through social mobilization officers, taluqa health supervisors, and community health workers. These staff are directly hired by the outreach partner on a contractual basis.

- The Ehsaas’ Nashonuma is often implemented by PPHIs, which run a "1,000 days program" and focus on BISP women and supplementary feeding of children with moderate malnutrition. In addition, the OTP or health centers are managed by PPHI in a public–private partnership program launched by the Government of Sindh. OTP sites are nutrition clinics where PPHI has hired contractual nutrition assistants and staff to provide Ready to Use Therapeutic Food (RUTF) supplements to SAM cases and pregnant and lactating women (PLW).
The key challenges associated with these programs include:

- **Weak accountability of LHWs with cases often going unreported and limited coordination with other community-level implementors.** Because LHWs come under the mandate of the district health officer and DCCNs are seldom held, there is limited opportunity to discuss their performance and little pressure by administrators to ensure that LHWs report cases. Our interviews further highlighted that LHWs rarely redirect SAM/MAM cases to their nearest OTP site. Weak coordination between the community IPs, PPHIs, and LHWs could also result in overlaps, gaps, or no case follow-up. A digital registration system of SAM/MAM cases in the community and the sharing of data across service delivery partners could help better identify and monitor SAM cases.

- **A review of cost versus performance of the OTP may be warranted.** The Sindh government signs a yearly agreement with PPHI to manage these sites with a 10 percent yearly increment for salaries. The location of the OTP sites could also be reevaluated given that there are many rural pockets not being served through these centers. Access to current OTP sites from rural population centers is a challenge. Without an efficient referral and transport mechanism from the communities to these sites, these population centers remain neglected and underserved. The box figure maps the location of OTP sites against population density in each district, with darker shades representing denser population areas.

These factors may be contributing to the high cost of service delivery. A 2019 evaluation put the cost per child recovered in outpatient facility-based care and via community health worker–delivered care in Pakistan at US$363 and US$382, respectively. The study found that Pakistan has higher costs per child treated and per child recovered under the former type of care than seen in previous assessments in Ethiopia, Malawi, and Zambia. The cost of the latter type of care was roughly double that of the Bangladesh program, where the cost per child recovered was US$186 (with figures adjusted for inflation, in USS).

How are institutions supporting service delivery?
In this section we look at how institutions in Pakistan are set up to support (or are perhaps hindering) the delivery of nutrition programs through consultation with governments. We identify challenges at federal, provincial, district, and project implementation levels, as well as public finance challenges.

At federal level, there is no key entity responsible for oversight functions pertaining to nutrition-related entities. This lacuna may be related to the limited ownership of nutrition as well as a lack of technical expertise and capacity for outcome-driven monitoring. There is also a lack of comprehensive federal–provincial response to nutrition due to poor coordination and lack of systems and processes that facilitate interprovincial efforts at successful nutrition outcomes. Nor is nutrition a priority in the current policy debate, and existing institutional arrangements do not properly address nutrition interventions.

Provincially, despite being a centerpiece in nutrition efforts, the food department does not appear under the umbrella of AAP. Institutional linkages and coordination across departments are also weak, and planning and budgeting processes remain separate entities. In turn, departments tend to focus on their own sector objectives within their planned expenditures, promulgating a fragmented response to nutrition, which is rarely evidence based. For example, little consideration is given to preventive approaches or the sequencing of efforts.

At district level, because districts do not have planning, budgetary, and decision-making jurisdiction, localized efforts remain limited and districts are not empowered to resolve and expedite issues directly; approvals at the provincial tier are often required, which can be time consuming. There is also a lack of coordination between different sectors running nutrition-related interventions, although nutrition efforts are still largely led by health officers on the ground. For example, AAP Health might not know what AAP Fisheries or AAP Livestock is doing, nor do they know each other’s target beneficiaries; the lack of data sharing between sectors could result in a household receiving multiple AAP interventions. The DCCNs, which rarely meet and have varied capacities, are chaired by district commissioners, a position held by federal officers who are frequently transferred and may not have the contextual knowledge of nutrition for their districts. Irregular performance cadence and meetings of key decision-making bodies can lead to delayed responses, especially for time-bound interventions.

At project implementation level, human resources, supply chains, and coordination present challenges.

- Human resources: Turnover in leadership and key staff at all tiers of government results in a paucity of interest and poor strategic guidance. Except for AAP Health, leadership positions at AAP are filled by bureaucrats who are not specialists in nutrition. This issue hinders project planning and implementation. District-level staff are generally unaware of the rationale for their actions.

- Supply chains: The demand for nutrition supplies is often underestimated, leading to occasional shortages and unmet needs at facility level. During qualitative interviews, it was reported that districts receive only about 60 percent of the nutrition supplies they requested, given procurement issues. This shortfall is partly due to delays from the federal government...
to the provinces and from the provinces to AAP Health, and so procurement of nutrition commodities sometimes experiences delays. These issues are not unique to any one district.

- **Coordination:** Coordination between programs is poor and can lead to higher than necessary costs. In Hyderabad, the Ehsaas’ Nashonuma is implemented by PPHI. Within the same hospital, there may be an OTP (treating SAM) as well as an Ehsaas’ Nashonuma center, but they do not coordinate. There are also no referrals between the two programs.

From a **financing perspective,** because nutrition is not a sector, it does not have a dedicated budget. Thus, allocations from federal to provincial governments follow the process discussed in the education chapter, and budgets are made at provincial and district levels by sector. In addition, the federal government directly runs separate vertical programs on nutrition, implemented through district-level actors. There is, however, limited evidence that nutrition is prioritized in budgets. At the federal level, there has been no clear evidence that nutrition is a priority. There was no mention of reducing stunting and wasting in Pakistan in the Medium-Term Budget Strategy Papers for the previous two years. In some provinces, such as Sindh, the Budget Strategy Paper of 2019–22 did in fact highlight prioritizing nutrition through AAP, but the latest three-year Sindh Budget Strategy Paper, of 2022–25, does not reference it.

- **Budget planning and preparation.** Budget preparations tend to largely reflect recurring interventions, which are adjusted for inflation. The budget calendar allows limited time for debate and stakeholder participation on budget proposals, including those related to nutrition. Due to a lack of technical capacities and high workload, along with tight timelines, administrative departments often resort to incremental budgeting without adequate planning and introspection. Output-based budgeting was introduced in some provinces through a medium-term budgeting framework, but it is often not utilized due to inadequate human resources capacity. Some inherent problems are reportedly affecting the budget process consistently, including limited technical capacity of staff at administrative departments, frequent transfers of trained staff, and lack of coordination and communication between the AAP secretariat, Finance Department, Planning and Development Department (P&DD), and the relevant administrative departments.

- **Budget release.** Release from the federal government to the provinces is often delayed (transfers from the divisible pool, straight transfers, and Octroi and Zila Tax to the Government of Sindh takes place fortnightly (16–17 and 30–31 of each month), but there are frequent delays of a few weeks to months. Quarterly release of funds for AAP sectors is also frequently delayed, and release is dependent upon the frequency of follow-ups by the demanding authority. Funds for some AAP departments are withheld by finance for reasons of, for example, classification of object codes. These funds may be ultimately released, but time-sensitive payments and so department performance suffer greatly. In agriculture, several services are seasonal, and their funds may be of no use if they are not released on time. Finally, fund reappropriation from one unused budget head to another is also extremely difficult: the request must be approved at several layers of bureaucracy before the funds are released, impeding responses, including to a crisis.
• **Budget execution and tracking.** Nutrition expenditure data shows that at the federal level, execution of nutrition-sensitive programs tends to be higher than nutrition-specific programs (figure 15). Provinces have similar levels of execution rates as the federal government. In FY2021, execution may have dropped due to additional spending and new programs to mitigate the impact of COVID-19. In Sindh, the allocated versus utilized budget from the current side does not show significant differences. However, for the development budget, this difference is significant. Also, expenditure entered into the financial management system suffers from coding and classification issues; for example, often, we see recurrent expenditures such as wages coded under development expenditures, which affects future allocation decisions. Finally, the Nutrition Expenditure Tracking System (NETS) for Sindh—the only financial management and information database that tracks nutrition spending—is currently defunct due to lack of human resource capacity; the system depends on specialized human resources and regular updating.

**Figure 15 Select budget execution trends**

<table>
<thead>
<tr>
<th>Federal nutrition expenditure utilization rate</th>
<th>Absorption rate by provinces from FY2017/18 to FY2020/21</th>
<th>Sindh nutrition expenditure utilization by budget type</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Graph of federal nutrition expenditure utilization rate" /></td>
<td><img src="image" alt="Absorption rate by provinces graph" /></td>
<td><img src="image" alt="Sindh nutrition expenditure utilization by budget type" /></td>
</tr>
</tbody>
</table>

*Source:* World Bank staff analysis based on BOOST dataset and using the global Scaling Up Nutrition (SUN) Movement methodology for expenditure tracking.

• **The budget processes and rigidity may limit Sindh’s ability to respond to a crisis, like the recent floods (box 2).**

**Box 2 Flood impacts on nutrition in Sindh**

Pakistan witnessed unprecedented floods and rainfall starting in August 2022, which resulted in extensive damage to infrastructure, crops, livelihoods, and service delivery mechanisms. The impact was particularly severe in Sindh and Balochistan. As Sindh’s rural economy is reliant on the agriculture sector, the province saw a severe decline in production, which led to food shortages. Poor harvests, loss of food stocks, and weakened food supply chains, alongside external factors, resulted in rising food prices, further exacerbating food...
insecurity. Weakened supply chains also led to shortages of RUTF supplementation at OTP centers, increasing the number of active SAM cases.

Children under age 5 and PLW were the most vulnerable as malnutrition levels were expected to rise due to prolonged periods of insufficient food intake, with food supply chains remaining disrupted and the agriculture sector severely damaged. A reported 8.2 million individuals in Sindh were food insecure during this period.36 A rapid survey undertaken by the United Nations Office for the Coordination of Humanitarian Affairs recently on 15 flood-affected districts suggests that the number of children suffering from wasting has increased from the pre-flood period and that one-third of children age 6–23 months suffer from MAM and 14 percent of children are affected by SAM.37

According to district actors, OTP centers saw an influx of SAM cases post-flooding. For outreach staff, follow-ups with existing SAM cases became difficult as families migrated and became displaced. Population dispersal made it difficult to locate previously identified SAM cases, increasing the defaulter ratio—families who did not return to the OTP site for weekly RUTF supplementation provision. Severe disruption to facilities and loss of health infrastructure also resulted in lowered immunization coverage, putting children at risk of vaccine-preventable diseases. These problems, with the accumulation of floodwater and poor hygiene and sanitation conditions, also increased the risks of waterborne and foodborne illnesses.

The federally run BISP is tasked with disbursing cash grants and assistance to communities in flood-affected areas. BISP’s allocation for the first quarter of FY2022/23 was estimated to be PRs 68 billion, to be disbursed immediately to flood victims.

Nutrition expenditures may be unable to respond to increased needs. Data is not yet available on expenditures for FY2023 to ascertain how expenditure has been reoriented to respond to the floods. Based on interviews, several factors were identified as potentially impacting the ability of nutrition programs to respond to the floods. First, there is a risk that the budget will be reallocated to support rehabilitation of flood victims and curb disease outbreaks, despite rising nutrition needs, particularly for the poor. Second, given uncertainties, the federal and provincial authorities may delay the release of funds and thus delay procurement of needed nutrition supplements. Third, the rigidity of nutrition spending—heavily geared toward wages for example—will limit the ability of the province to respond say via increased purchase of RUFTs. Finally, field district staff also reported that due to increased interventions by international and private organizations post-flooding, contractual employees showed high turnover due to increased opportunities in the area affecting operations of nutrition programs.

Does nutrition spending support improved outcomes?

The following analysis of how public finance supports the drivers of nutrition challenges identified in earlier sections draws largely on BOOST datasets. The data used in this analysis covers four fiscal years: 2017/18, 2018/19, 2019/20, and 2020/21. The methodology for the expenditure review followed a three-step approach as outlined by the global Scaling Up Nutrition (SUN) Movement on how to measure nutrition expenditure. First, it requires identifying relevant information (ministries, departments, cost centers, functions and the like) by using a well-defined
list of key search terms; second, classifying the nutrition-relevant expenditures as either nutrition-specific or nutrition-sensitive; and third, attributing a percentage (weight) to the budget line item based on the typology and how it is truly contributing to improving nutrition outcomes. This section analyzes federal, then provincial, then district spending patterns, though severe data limitations impeded the depth and accuracy of this analysis.

The analysis is constrained by unavailability of pertinent information in several areas: sources of funding (external or domestic), linkages between funds and program-specific activities, properly defined cost centers, and distribution of funds to areas where they are needed most. Data limitations such as missing information hampers the analysis, especially for evaluating expenditure for water, sanitation, and hygiene (WASH). Further, global comparison of information related to nutrition spending is not feasible due to the differences in methodologies used by different countries, variations in their terminology, and differences in how they categorize activities with the potential to reduce malnutrition. Development of a comprehensive nutrition-related financing database could therefore be a fundamental step to inform policy design in the future.

**Federal nutrition financing**

In FY2020/21, the federal government spent a total of PRs 54,628 million on nutrition-related interventions, equivalent to only 0.24 percent of total government expenditure (table 3 and figure 16). There was a decrease from the previous year’s (FY2019/20) total expenditure of PRs 80,442 million on nutrition-related interventions. As in the previous fiscal year, overall government spending increased due to the introduction of a fiscal stimulus package of around PRs 1.2 trillion to curb the economic loss due to COVID-19. This includes increasing cash transfers for the poor and vulnerable, reflecting the rise in nutrition-related expenditure (as well for FY2019/20). However, in the following year government spending settled back to trend in spending on nutrition, albeit with a slight increase for both nutrition-specific and -sensitive related expenditures. The increase in expenditure for nutrition-specific interventions is linked to the government’s prioritizing maternal and child health, including immunization. Further, the Ministry of Planning, Development and Special Initiatives launched a special initiative for achieving Sustainable Development Goal targets, which directly contributes to nutrition-related interventions. The data only includes on-budget information and there is lack of granular information to assess whether the spending on nutrition was in line with the national nutrition plans, distributed equitably across geographic areas, or benefited the poor and vulnerable.

### Table 3 Expenditure on nutrition interventions at federal level, FY2020/21

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Nutrition-sensitive</th>
<th>Nutrition-specific</th>
<th>Nutrition—total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In PRs, millions (current prices)</td>
<td>46,764</td>
<td>7,865</td>
<td>54,628</td>
</tr>
<tr>
<td>In US$, millions (current prices)</td>
<td>293.23</td>
<td>49.32</td>
<td>342.54</td>
</tr>
<tr>
<td>As share of government expenditure (%)</td>
<td>0.203</td>
<td>0.034</td>
<td>0.237</td>
</tr>
</tbody>
</table>

*Source: World Bank staff analysis based on BOOST dataset and using SUN’s methodology for expenditure tracking.*

*Note: Per capita expenditures are not available because federal spending on nutrition spreads across all provinces and regions.*

**Figure 16** Trends in expenditure for nutrition-specific and nutrition-sensitive interventions

**Figure 17** Federal nutrition spending by thematic sectors, FY2017/18 to FY2020/21
Based on available data, social protection has the highest share over the years while education and WASH have the lowest ones at federal level (seemingly due to unavailability of clear information on both sectors). Social protection accounts for more than three-fourths for FY2019/20 and FY2020/21. The overall macroeconomic situation has resulted in the government expanding social protection initiatives across the country, generating a consistent increase in this thematic area. Agriculture/food systems had the second-highest share, though this dipped in FY2020/21 as provinces started investing more from their own allocated resources and subsequently health’s share increased as the government started prioritizing achieving the SDGs, which are directly linked to nutrition interventions. WASH and education thematic areas under nutrition financing had 1.05 percent and 2.55 percent shares, respectively, in FY2020/21—the lowest. Both areas have had consistently low shares, with data failing to capture all the information (figure 17).

At department level, the Cabinet Secretariat has the highest share in nutrition financing as it is implementing social safety reforms in the country (figure 18). It spent, though, less than 10 percent of its total on nutrition-related expenditures in FY2020/21. The Ministry of National Health Services, Regulations and Coordination, which is responsible for implementing direct health sector nutrition interventions, spends the second-highest share of the nutrition budget while having the largest share from its total expenditure in FY2020/21. The government mainly uses the development side (via different vertical programs) of the budget to finance nutrition-related interventions. However, the trend has evolved over the past few years as more than 80 percent of the budget shifted to the current side of the budget from FY2019/20 (figure 19). Key government vertical programs like the Expanded Program on Immunization, which contributes greatly to the nutrition status of a child at an early stage, and many other vertical programs for infection control—including those for increasing food security, social protection, and development—shifted from the development side to the current side.
Provincial nutrition financing

Punjab has the highest share of expenditure on nutrition (table 4), though per capita it still spends less than Sindh and KP, further highlighting Punjab’s underinvestment in nutrition given its population size. Among all the provinces, Balochistan has the highest share (3.9 percent) on nutrition expenditure of its total government expenditure, but the provincial government has the lowest total government expenditure (PRs 80 billion) among the provinces. This per capita comparison highlights inequities, as Balochistan spends the least per capita and has the lowest expenditure among the provinces.

Table 4 Nutrition public spending in Punjab, Sindh, KP, and Balochistan, FY2020/21

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Nutrition-sensitive</th>
<th>Nutrition-specific</th>
<th>Nutrition—total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In PRs, millions (current prices)</td>
<td>44,906</td>
<td>10,567</td>
<td>55,472</td>
</tr>
<tr>
<td>Per capita PRs (current prices)</td>
<td>389</td>
<td>92</td>
<td>480</td>
</tr>
<tr>
<td>Province</td>
<td>Per capita USS, millions (current prices)</td>
<td>As share of government expenditure (%)</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Sindh</td>
<td>2.44 0.57 3.01</td>
<td>2.53 0.60 3.13</td>
<td></td>
</tr>
<tr>
<td>In PRs, millions (current prices)</td>
<td>27,148 10,584 37,732</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita PRs (current prices)</td>
<td>540 211 751</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita USS, millions (current prices)</td>
<td>3.39 1.32 4.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As share of government expenditure (%)</td>
<td>2.48 0.97 3.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KP**

| In PRs, millions (current prices) | 25,264 2,322 27,586 |
| Per capita PRs (current prices)   | 678 62 740 |
| Per capita USS, millions (current prices) | 4.25 0.39 4.64 |
| As share of government expenditure (%) | 2.32 0.21 2.54 |

**Balochistan**

| In PRs, millions (current prices) | 2,477 619 3,097 |
| Per capita PRs (current prices)   | 191 48 239 |
| Per capita USS, millions (current prices) | 1.20 0.30 1.50 |
| As share of government expenditure (%) | 3.09 0.77 3.86 |

*Source:* World Bank staff analysis based on BOOST dataset and using SUN’s methodology for expenditure tracking.

**Nutrition-sensitive interventions dominate nutrition expenditure (averaging more than 70 percent for the four years) among the provincial governments and the federal government.** All provincial governments saw rises in nominal nutrition spending, except in FY2020/2021 after some COVID-19 spending was normalized. The nutrition-specific share is persistently low, averaging around 20 percent for all four years (figure 20).

**Figure 20 Nutrition spending in provinces, FY2017/18 to FY2020/21**

![Nutrition spending in provinces, FY2017/18 to FY2020/21](image)

*Source:* World Bank staff analysis based on BOOST dataset and using SUN’s methodology for expenditure tracking.

Among the provinces, health has a greater share in total nutrition expenditure than at the federal level, followed by agriculture/food systems and education (figure 21). In FY2020/21, Punjab’s highest nutrition-related expenditure was in the agriculture/food systems thematic area (54 percent), followed by health (36 percent), and education (10 percent). Punjab has the highest share in agriculture/food systems among all provinces. Sindh, KP, and Balochistan’s nutrition...
expenditure is concentrated (more than 50 percent, with Balochistan highest at 72 percent) in the health thematic area, followed by agriculture/food systems and education. All the provinces have low levels of nutrition financing in social protection because most initiatives, such as BISP, is run by the federal government. WASH-related activities constitute less than 1 percent of public financing on nutrition.³⁹

**Figure 21 Provincial expenditure by thematic area, FY2020/21**

[Bar chart showing provincial expenditure by thematic area, FY2020/21]

*Source:* World Bank staff analysis based on BOOST dataset and using SUN’s methodology for expenditure tracking.

**Overall, per the budgetary functions available in the current public financial management system, health remains the highest contributor to nutrition financing, followed by economic affairs and social protection (figure 22).** All four provinces and the federal government have high shares of nutrition expenditure in the health function. Social protection is predominantly covered by the federal level while some provinces have minor shares in it. The economic affairs function covers interventions such as agriculture and WASH, and general public service includes interventions from all the nutrition-related thematic areas. The analysis was, however, restricted by the poor availability of reliable data on funding sources and on allocation of funds at the program/activity level, which created gaps in the identification process, especially for information related to WASH. Further, some glaring issues in all province-related nutrition-financing information, for KP particularly, and a paucity of verified district information, hurt the analysis. Developing a comprehensive system that collects data consistently on the budget and on expenditures would enhance accountability and aid decision-makers in justifying nutrition investments.
Figure 22 Nutrition expenditure by major functions, FY2020/2021

Source: World Bank staff analysis based on BOOST dataset and using SUN’s methodology for expenditure tracking.

District nutrition financing in Sindh (based on patchy data)

Nutrition spending among districts in Sindh is becoming increasingly centered on current expenditures, but very little is spent on nutrition-specific initiatives. Current expenditures rose from around three-fourths of the total in FY2010/2011 to just under 98 percent of the total in FY2020/2021, in part a reflection of the decline in capital expenditure as many projects (some foreign funded) wound down. Wages and pensions dominated nutrition spending in FY2017/2018 (figure 23), particularly in poorer districts. Despite the dominance of current spending, less than half of the districts in Sindh have nutrition-specific spending, and Karachi alone accounts for two-thirds of nutrition-specific spending.

Figure 23 Share of wages across districts with varying rate of poverty

Source: World Bank staff analysis based on BOOST dataset and 2018 HIES.

Spending on high-impact nutrition interventions is also low. In 2019, a World Bank study on nutrition interventions in Sindh highlighted that food fortification, family planning, and vitamin A supplements are among the most impactful and cost-efficient measures to reduce malnutrition in
Sindh. Yet, spending on these programs is small and AAP Health does not provide vitamin A supplementation for children under 5 in Sindh, which may be related to the absence of the food department in AAP’s mandate.

**Districts that have improved nutrition outcomes tend to spend less on civil works and on grants and subsidies.** Based on Multiple Indicator Cluster Survey (MICS) data for 2014 and 2018, districts were grouped into “high-performing,” where stunting outcomes improved from 2014 to 2018, and “low-performing,” where stunting outcomes deteriorated (figure 24). The analysis indicates that high-performing districts spent more on human resources and operations, including commodity purchases (wheat). While commodity purchases tend to have a more direct impact on nutrition, the efficiency (versus say bulk purchases and implementation through cross-country programs like BISP) and distribution of beneficiaries is unclear. In low-performing districts, more was spent on civil works and on grants/subsidies and write-offs. Under grants and subsidies, in Karachi for example, wheat subsidies grew from PRs 1.7 billion to PRs 11.0 billion from FY2010/2011 to FY2020/2021. Again, the efficiency of these programs is unclear compared with BISP, for example. Civil works spending declined after FY2013/2014, which may have affected the analysis outcome. Anecdotal evidence also suggests that high-performing districts more frequently acquired services, such as operations and maintenance, from the market.

**Figure 24 Spending decomposition of high- vs low-performing districts**

![Figure 24 Spending decomposition of high- vs low-performing districts](image)


**Nutrition spending tends to be concentrated in urban areas and displays patterns of regressivity.** Karachi and Hyderabad together accounted for around half of total expenditure in Sindh although they account for only about one-third of Sindh’s population. Further, despite the establishment of AAP in 2015, per capita expenditure has not been targeted at districts with the highest prevalence of stunting (figure 25). Spending remained concentrated in wealthier districts (figure 26), and in districts with a smaller share of underweight children under 5 (figure 27). Utilizing nutrition outcome data from MICS and NNS for planning activities and projects in districts most in need would therefore help support more equitable nutrition outcomes.
There is limited evidence of attempts to close horizontal imbalances via resourcing. To promote equalization among districts, the Budget Call Circular dictates that administrative departments should consider the Multidimensional Poverty Index and inequality of districts while preparing the Annual Development Programme. However, a review of development expenditures from Sindh’s NETS reveals that such equalization is not happening. For instance, despite the highest levels of stunting recorded in Badin in 2014 (of nearly 70 percent—see figure 25) between FY2014/2015 and FY2020/2021, an aggregate amount of only PRs 858 per person was spent.
Annex 1 Institutional arrangements and nutrition efforts in Sindh

On the policy front, the Government of Sindh has defined its priorities in an overarching strategy plan—Sindh Vision 2025. Working closely with development partners, the Government of Sindh has adopted several policies and practices to create an enabling environment for implementing nutrition-related approaches and activities and for aligning itself with federal-level priorities. While nutrition is mentioned in the province’s overall development vision, it is unclear how it is being implemented in Sindh.

Historically, nutrition efforts in Sindh have been implemented by the health department. However, this led to cross-sectoral interventions and resulted in fragmented efforts at nutrition. Such efforts relied on initiatives implemented by the United Nations and other bilateral funding mechanisms and international nongovernment organizations through support from the provincial Department of Health.

In 2016, the Government of Sindh introduced a multisector approach to address malnutrition in the province—the Accelerated Action Plan (AAP). This put the onus on various departments that have an indirect or direct impact on nutrition to mandate nutrition-related efforts. Since then, institutional arrangements in Sindh have also started reflecting nutrition interventions within their strategies and visions.

The AAP is a 10-year plan developed in 2015, also referred to as Sehatm and Sindh, with a 10-year objective “to reduce stunting from 48 percent to 30 percent in the first five years (by 2021) and 15 percent by 2026 in Sindh by increasing and expanding coverage of multisector interventions, that are known to reduce stunting in first five years of children’s lives.” These targets are also stipulated in the Sindh Vision 2025 and the PMNS, 2018–2025. AAP prioritizes 23 districts in Sindh where stunting rates were higher than 40 percent when the plan was developed in 2015. The total cost of AAP-led projects in priority districts was projected to be US$437 million.

This is an initiative of the Planning and Development Department, which consists of multisector cooperation and dialogue with seven key line departments: Health; Education; Population and Welfare; Local Government (WASH); Social Welfare; Agriculture; and Livestock & Fisheries. Within each of these departments, AAP houses a departmental task force to ensure effective coordination and timely implementation of nutrition-related projects.

Further, the AAP secretariat and its seven departments have district-level presence whereby they work with District Coordination Committees for Nutrition (DCCNs) —chaired by the District Commissioner—to coordinate and facilitate on-the-ground implementation of nutrition-related projects. There is a district liaison officer present in Hyderabad, Larkana, and Sukkur divisions. District actors work with implementing partners to ensure service delivery. A key implementing partner for the Health Department is the People’s Primary Healthcare Initiative.

- The Planning and Development Department (P&DD) has an overall oversight role in which the Provincial Steering Committee (PSC) is chaired by the P&DD chair. During the PSC, a management information system dashboard is displayed to monitor progress against disbursement-linked indicators. Access to this dashboard is through the AAP secretariat.
• The AAP secretariat has a coordination role where program coordinators in each department share their monthly progress review against the stipulated proposed outcomes with the project director. Except for AAP Health, which acts as a project management unit and has a full-time project coordinator committed to nutrition activities, other departments are leveraging their existing human capacity in which their program coordinator position is an additional charge.

• Since the conclusion of key AAP projects, education, social welfare, and population welfare departments are no longer under the mandate of AAP because they have met their objectives stipulated in the AAP Plan. However, no changes will be made to their performance management and information-sharing requirements with other departments.

In addition to adopting a multisector approach to nutrition-related efforts, the introduction of AAP also allows for detailed review of nutrition expenditure mapping in Sindh. Processes have been identified for reporting nutrition expenditure to prioritize output-based budgeting. (This will be discussed in the subsequent section of this report.)

Key line departments under AAP as of 2022

Source: This figure as well as the following figures in this annex are based on key informant interviews with AAP Secretariat and AAP Health.
### HEALTH SECTOR

**Objective**
To improve health and nutrition status of mothers and children by rapidly expanding and enhancing coverage of health and nutrition interventions in all districts of Sindh

**Proposed outcomes**
- Reduced proportion of children with SAM in less than 5 years of age
- Increased percentage of infants 0 to 6 months who are exclusively breastfed
- Increase percentage of children 6 to 24 months receiving an acceptable minimum diet
- Increased percentage of PLW receiving iron and folic acid supplementation

### POPULATION WELFARE SECTOR

**Objective**
To strengthen existing family planning systems and services through innovation with focus on rural Sindh

**Proposed outcomes**
- Increase contraceptive prevalence rate
- Proportion of currently married women age 15-49 years using modern contraceptive in rural Sindh
- Reduce unmet need for family planning services in rural Sindh

### LOCAL GOVERNMENT SECTOR

**Objective**
To improve sanitation and hygiene practices with a focus on rural areas and urban squatter settlements

**Proposed outcomes**
- Eradication of open defecation
- Increased proportion of population washing hands with soap at critical times

### AGRICULTURE, LIVESTOCK & FISHERIES SECTOR

**Objective**
To increase the number of households that are consuming a more diverse and healthy diet

**Proposed outcomes**
- Increased proportion of PLWS, mothers of under 2 years children, and children under 5 years consuming minimum required calories
- Increased proportion of PLWs, mothers of under 2 years children and children under 5 years having adequate dietary diversity

### EDUCATION SECTOR

**Objective**
To increase access to nutrition interventions and developing children as agents of community change education is being offered

**Proposed outcomes**
- Improved access to nutrition specific interventions such as de-worming etc.
- Improved knowledge of nutrition and healthy living among girls and boys enrolled in primary and secondary school in the disadvantaged areas
Nutrition-related interventions run by Accelerated Action Plan

**Nutrition Support Program**
- **Objective**: Ensure that target populations have access to essential foods and supplements that would help them grow in the period from conception to the first two years of age
- **Project budget**: 47.95 million (USD)
- **Timeline**: 2015 – 31st December 2019
- **Project areas**: Larkana, Qamber Shahdadkot, Kashmore, Jacobabad, Tando Muhammad Khan, Badin, Sanghar, Umerkot, Tharparkar
- **Project overview**: This project was geared towards PLW and children under the age of two (most at-risk populations)
- **Funding**: Government of Sindh, World Bank
- **Project type**: Monitoring and evaluation, behaviour change, provision of nutritional items
- **Project output**: Establishment of 270 Outpatient Therapeutic Program (OTP) clinics in 256 Union Councils in project areas

**Sindh Enhancing Response to Reduce Stunting Project (SERRSP)**
- **Objective**: To reduce stunting rate from 48% to 43% by 2021
- **Project budget**: 61.62 million (USD)
- **Timeline**: 26th July 2017 – 31st December 2021
- **Project areas**: 23 districts with stunting rates above 40%
- **Project overview**: To support multi-sectoral interventions through key departments, adopt a multi-sectoral social behavior and community strategy and create capacity-building
- **Funding**: World Bank
- **Project type**: Strategy, implementation, behavior change, institutional capacity-building

**Program for Improved Nutrition in Sindh (PINS)**
- **Objective**: To improve the nutritional status of PLW and children under five in rural Sindh through collaboration with relevant provincial departments
- **Project budget**: 60 million (Euros)
- **Timeline**: 2016-2022
- **Project areas**: Dadu, Shikarpur, Larkana, Qamber Shahdadkot, Matiari, Tando Allah Yar, Thatta, Sujawal, Jamshoro, Tando Muhammad Khan
- **Project overview**: Response to long-term chronic and acute malnutrition by providing rural communities with access to various forms of nutrients
- **Funding**: Planning and Development Department (P&DD), European Union (EU)
- **Project type**: Strategy, implementation
Annex 2 Regression analysis in Sindh

To establish a causal relationship between nutrition outcomes and demographic factors in the population of Sindh, a regression model was established. The model used aggregated district-level population characteristics such as maternal education, poverty, health care access, food fortification, and prevalence of infectious diseases as the dependent variable. The model was specified using a "log-log" approach. Estimates from the model show a strong causal relation between higher maternal education and nutrition outcomes. This implies that more investment in educating women can lead to a lower prevalence of stunting, wasting, and undernutrition in Sindh.

**Regression model specification**

\[ \text{Nutrition outcomes}_i = Maternal \text{ Education} + \text{Household Wealth Quintiles} + \text{Antenatal Care Provider} + \text{Incidences of Diarrhea} + \text{Low Birth Weight} + \text{Fortified Food Consumption} + \text{ERROR} \]

*Here Nutrition outcomes = (1) Stunted, (2) Wasted, and (3) Underweight*

**Technical note for regression results**

**Data used:** National Nutrition Survey 2018  
**Methodology:** Ordinary Least Squares (OLS) Regression  
**Model performance:**

1. R-squared ranged from 0.18 to 0.68. The model’s explanatory power for “wasted” nutrition outcomes lagged behind “stunted” or “underweight.”

2. The F-value, which measures overall significance of the model, varies from 2.6 to 30.9. Though all of the F-values were significant at alpha = 5%, the model for “wasted” nutrition outcomes showed a lower F statistic.

**Model interpretation:** In general, it was observed that maternal education has a negative and statistically significant impact on nutrition outcomes. This suggests that children born to mothers with education beyond primary level are less likely to be malnourished. We included provincial fixed effects separately in all regression models, but the results did not change significantly with the inclusion of this variable.
## Annex 3 Nutrition-Sensitive and Nutrition Specific Expenditures

<table>
<thead>
<tr>
<th>Nutrition-Sensitive Expenditures</th>
<th>Nutrition-Specific Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural development and research programs/initiatives</td>
<td>Micronutrient supplementation programs</td>
</tr>
<tr>
<td>Social protection programs (e.g., cash transfers) with a focus on vulnerable populations</td>
<td>Breastfeeding promotion and support programs</td>
</tr>
<tr>
<td>Education and awareness campaigns on healthy eating habits</td>
<td>Therapeutic feeding programs for severe malnutrition</td>
</tr>
<tr>
<td>Women's empowerment and gender equality programs</td>
<td>Nutritional counseling and education programs</td>
</tr>
<tr>
<td>Public health interventions targeting hygiene and sanitation improvement</td>
<td>Fortification programs (e.g., iodized salt, fortified foods)</td>
</tr>
<tr>
<td>Maternal and child health services, and family planning services</td>
<td>School feeding programs</td>
</tr>
<tr>
<td>Non-communicable diseases program</td>
<td>Growth monitoring and nutritional assessment initiatives</td>
</tr>
<tr>
<td>Income generation programs for households living in poverty</td>
<td>Nutrition research and surveillance systems</td>
</tr>
<tr>
<td>Child Protection</td>
<td>Community-based nutrition programs</td>
</tr>
<tr>
<td>Investment in clean water and sanitation facilities</td>
<td>Immunization Program to reduce the infectious diseases</td>
</tr>
<tr>
<td>Urban and rural development to create environments that support healthy eating and physical activity</td>
<td></td>
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</tbody>
</table>

*Note: These expenditure types are based on SUN recommendations.*
Annex 4 Federal-level institutional arrangements relevant to nutrition

Source: World Bank analysis based key informant interviews with AAP Secretariat and AAP Health.
References


1 The analysis draws on various sources of data but was severely limited by the lack of a single and consistent source of data.
2 Rogers et al. 2019.
3 Puett et al. 2013.
4 A more detailed analysis of potential avenues of saving was not possible due to the lack of expenditure, staffing, and contract data.
5 This report uses the term "nutrition or nutrition-related interventions" to refer to both nutrition-specific and nutrition-sensitive interventions, unless stated otherwise. The Lancet Framework explains that nutrition-specific interventions address the immediate causes of undernutrition, such as poor dietary intake and ill health, while nutrition-sensitive interventions target the underlying causes of undernutrition.
6 WHO n.d.
7 WHO 2015.
8 UNICEF n.d.
9 National Nutrition Survey (NNS) 2018.
10 UNICEF et al. 2018.
12 Ministry of Planning, Development, and Reform n.d.
13 Sindh AAP Booklet 2016.
14 Ministry of National Health Services, Regulation and Coordination 2020.
17 Rana 2021.
19 World Food Programme 2017.
22 World Food Programme 2017.
26 World Food Programme 2017.
Specifically, this analysis applied a nonparametric approach known as Data Envelopment Analysis to estimate the efficiency frontier. This implies that we do not assume any functional form between inputs and outputs and we allow the data to prepare inferences. For our analysis, we also assume a variable returns to scale (VRS) efficiency frontier, which in turn assumes a convex efficiency frontier where every extra unit of input results in diminishing units of output, with a steep slope at the start gradually decreasing, depicting diminishing returns to scale. The Data Envelopment Analysis model was run in STATA, which estimated the relative efficiencies of districts and ranked them based on a combined VRS index, which ranges from 0 to 1. A VRS of 1 implies that the districts are on the efficiency frontier while values other than 1 represent distance from the frontier.

Data was drawn from the BOOST database and focused on the latest available years, including both nutrition-sensitive and -specific expenditures. Nutrition-specific expenditures were estimated using the NETS methodology. The bulk of Lady Health Worker salaries are coded under Hyderabad.

AAP Health signed Memorandums of Agreement (MoUs) with its field implementing partners for procuring services to provide nutrition-related interventions. The MoUs are revisited each year and adjusted accordingly. All supplies and commodities for the implementing partners are procured directly by AAP Health and delivered to the IP’s district stock warehouses. The AAP Health logistics coordinator is the key district coordination focal person responsible for this.

As per the BOOST dataset for federal-level information, the ministry/department column shows only the secretariats, while the exact department/ministry names are mentioned in the attached departments’ list. Further, most of the social protection initiatives, such as BISP, are implemented under the cabinet secretariat. Therefore, a major amount related to nutrition expenditure is concentrated in the respective department/ministry.

Due to lack of information on the cost centers related to WASH, the share from the thematic area has been greatly reduced. Further, the identified budget items for WASH thematic area have low weight compared with others.

While capital expenditure displayed a high difference, the absolute amount is small given the declining amounts spent on capital.

In Sindh, the AAP secretariat through NETS provides supports to line departments for improving budget execution of nutritional activities. The expenditure tracking system relies on Sindh information and financial management system datasets and the Annual Development Plan to map nutritional-related expenditure. The development of an expenditure tracking system has enabled the AAP secretariat to provide an approximate figure for nutrition expenditure in Sindh.