

HIGHLIGHTS OF MALNUTRITION IN SINDH PROVINCE: A CHALLENGE UNDERMINING THE COUNTRY'S HUMAN DEVELOPMENT POTENTIAL

SITUATION ANALYSIS

Pakistan is currently facing a triple burden of malnutrition with unabated rates of undernutrition, micronutrient deficiencies along with overweight and obesity. Pakistan has the largest population of stunted children in South Asia, an indication of chronic malnutrition in children under 5 years of age. Around 40 percent in Pakistan are stunted, 18 percent are wasted, 29 percent underweight and more than half of them are anemic. Sindh province, has an even more critical rate of stunting (46 percent) while the prevalence underweight is 41 percent, and wasting is 23 percent. Stunting is associated with increased risk of illness and death, poor cognitive development, lower educational attainment and diminished life-long income generation potential.

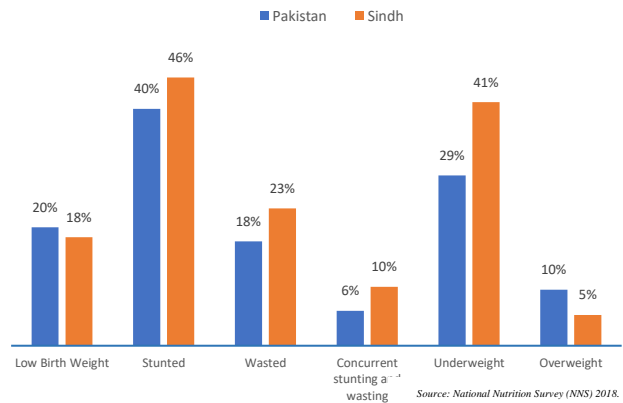
Evidence shows that investing in nutrition can contribute to sustainable and equitable growth, improve school attainment by at least one year, increase wages by 5-50 percent and boost gross domestic product by 4-11 percent in Asia and Africa¹.

Despite the Accelerated Action Plan (AAP) for Reduction of Stunting and Malnutrition and the Community-Based Management of Acute Malnutrition (CMAM) interventions that have been implemented by partners in collaboration with the Department of Health (DoH), there is still a considerable gap to be filled. The APP was implemented in 2017 and aimed at reducing stunting in Sindh, an ambitious goal that is unlikely to be met. Limited accountability, lack of multi-sectoral planning, inadequate governmental budget allocation and limited awareness of the most impactful and cost-effective interventions has constrained meaningful action. The Government of Sindh's (GOS) leaders must urgently recognize and respond to this challenge, and prioritize evidence-based policies and programs which can address this crisis. Sindh risks suffering from a 'demographic nightmare' of a growing unskilled, economically unproductive population. If prioritized, malnutrition can be ended in a generation in Pakistan.

The 2018 NNS reported that the critical high levels of malnutrition were consistent with the high rates of infant and maternal mortality. In 2019, the infant mortality in Sindh was 60 deaths per 1,000 live births², and maternal mortality was at 214 maternal deaths per 100,000 live births in 2019³. A large proportion of these deaths are attributed to a prevalence of early childbearing, low birth weight and the high prevalence of malnutrition among pregnant and lactating women. The damage caused by malnutrition is largely irreversible later in life and, conversely, once the benefits from early nutrition are captured by young children, they carry these benefits with them the rest of their lives.

Irreversible damage from chronic malnutrition occurs during the "first 1000 days," which is the period from conception to the child's second birthday. The *Lancet Maternal and Child Nutrition Series* identified the need to also focus on this crucial period of pregnancy and the first 1000 days during which adequate nutrition and healthy growth have long benefits. Most children fall behind during six to twenty-four months of age when infants nutritional needs are neither fully met by mother's milk nor supplemented with adequate, frequent and diverse complementary feeds. This significant deterioration in nutrition status can be reduced by investing in interventions focused on infant and young child feeding, adequate intake of essential vitamins and minerals through supplementation and food fortification, appropriate

Figure 1: Pakistan and Sindh Province stunting, wasting and overweight rates for Children Under-5 years, 2018.



¹ Ibid.

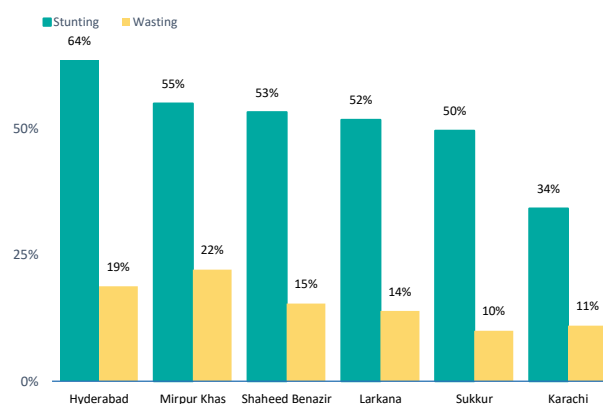
² Pakistan Demographic and Health Survey (PDHS) 2017-18. Pg. 151.

³ Maternal Mortality Survey (PDHS) 2019. Pg. 39.

sanitation and treatment of diarrhea. These are cross-sectoral, cost-effective and inexpensive interventions that can be scaled-up relatively quickly and efficiently.

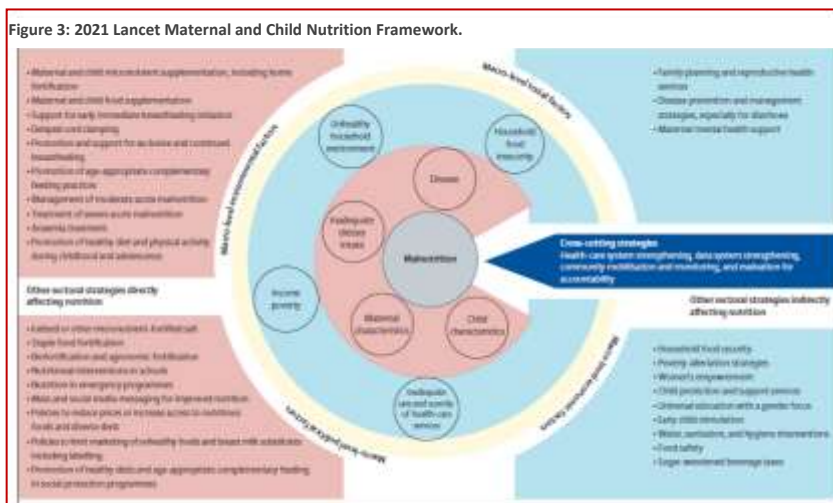
Sindh has very high rates of malnutrition that are unevenly distributed across the province. Stunting and wasting rates remain variable across Sindh’s districts, with Hyderabad and Mirpur Khas demonstrating >55 percent stunting prevalence rates as compared to Karachi with a 34 percent stunting prevalence⁴ (Figure 2). Sindh also faces moderate to severe drought conditions in a number of districts. According to a survey conducted in Sindh in 2019, of the 9 drought affected districts that were surveyed, acute malnutrition was at critical stage in 6 districts whereby one in five children was affected by acute malnutrition⁵. Based on evidence reported in the 2018 NNS, the prevalence of Global Acute Malnutrition (GAM) was highest in the districts of Umerkot (32 percent), Tando Allah Yar (29 percent) and Shikarpur (28 percent)⁶. Such high variability offers an opportunity for prioritized, focused, scaled-up multi-sectoral nutrition interventions in the highest burden districts.

Figure 2: Figure 2. Stunting and wasting rates by district and stunting rates by demographic characteristics.



FRAMEWORK FOR ASSESSING NUTRITIONAL INTERVENTIONS IN SINDH

The updated 2021 Lancet Maternal and Child Nutrition Framework (Figure 3) highlights evidence-based combination of direct interventions (e.g., micronutrient supplementation and breastfeeding counselling), and indirect interventions (family planning and reproductive health services programs, water, sanitation, and hygiene promotion) to address the underlying determinants of malnutrition. Nutritional interventions delivered within and outside the health-care sector are equally crucial for preventing and managing malnutrition.



Factors such as gender, education and income poverty underpin each of the strategies and interventions proposed in the framework. Gender is a strong influencer of child nutrition. Women’s health and nutrition status, not only during pregnancy and birthing but over their entire childhood and young lives, mother’s education, age of marriage and child-bearing, and women’s empowerment including their knowledge, support and capacity to feed, care and access health services for themselves and their young children are associated with children’s nutritional status, birth weight and birth size. *Thus, scaling up programs for girls’ education, women’s empowerment, delaying marriage and child-birth, adolescent and maternal health and nutrition, ensuring outreach to the most vulnerable, is crucial.*

⁴ Sindh Multiple Indicator Cluster Surveys, 2018-19.

⁵ Pakistan – Sindh. IPC Acute Malnutrition Analysis, April 2021-February 2022, IPC Integrated Food Security Phase Classification, October 2021.

⁶ Ibid. Pg. 3

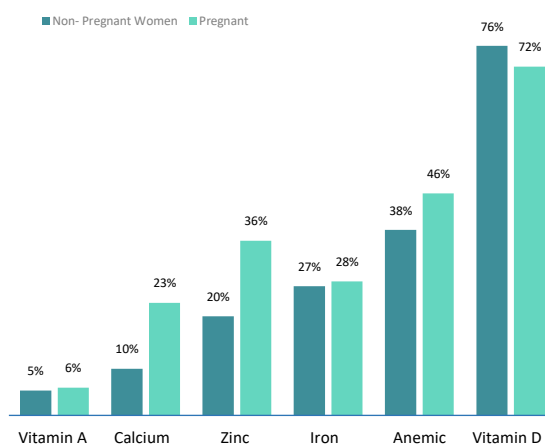
Health-Care Sector Nutritional Situation Analysis

According to the 2018 NNS, coverage of health services in Sindh was relatively low, with 31 per cent of women having received no antenatal care (ANC) during their last pregnancy. Moreover, of women receiving ANC, only 40 percent of women had ANC visits in the first trimester. Counselling on nutrition (16 percent), breastfeeding (7 percent) and family planning (5 percent) was provided to a minority of women in Sindh. All these are factors which contribute to the low rate of early initiation of breastfeeding, inappropriate infant and child-feeding practices and the lack of family planning knowledge. As for the distribution of nutrition commodities, specifically iron and folic acid supplements (IFA), according to the 2018 NNS, 65 percent was distributed by the private medical sector, 27 percent by the public medical sector and 2 percent by LHWs. However, 63 percent of women did not take their iron and folic acid supplements.

In addition to the lack of health services, there are also widespread disparities in healthcare quality and accessibility. Sindh has an extensive existing Lady Health Workers (LHW) program which prioritizes immunization, family planning, Maternal, Neonatal and Child Health (MNCH) service delivery in select rural areas. Nutrition specific services too have been added to this list of priorities to be delivered by LHWs. Due to limited capacities, overburdened work program, and sub-optimal incentive structures, the LHWs are unable to effectively conduct necessary outreach for enhanced coverage of such services, including distribution of nutrition commodities or trigger social and behavior change for appropriate maternal, infant and young child nutrition. One third of women in Sindh were never visited by an LHW, while half were visited last month and 66 percent in the last six months. In Sindh, LHW visits only for administering polio drops were most often reported (62.9 percent), with the least visit allocated for the distribution of nutrition supplies (0.7 percent).

Adolescent and maternal health are critical in improving child nutrition and must be addressed with nutrition and health interventions to break the inter-generational cycle of malnutrition. Poor adolescent and maternal nutrition prior to, and during, pregnancy can lead to increased risk of maternal anaemia, pre-term birth and low infant birth weight. High rates of micronutrient deficiencies among women of reproductive age perpetuate a vicious cycle of malnutrition contributing to a high burden of morbidity and mortality among women and children and manifesting as increased risks of noncommunicable diseases prevalence in future generations. Almost half of women of reproductive age in Sindh are anaemic, and high rates of vitamin D, zinc and iron deficiencies both among non-pregnant and pregnant women prevail (Figure 4).

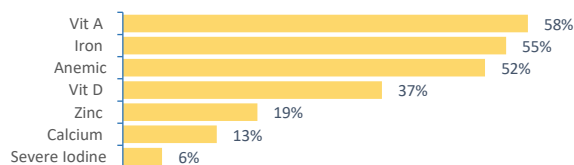
Figure 4: Sindh Micronutrient Deficiencies among Women of Reproductive Age (15-49), 2018.



Source: National Nutrition Survey (NNS) 2018.

Deficiencies of essential micronutrients, such as iron, vitamins A, C and D, zinc and iodine, among others, are endemic among Sindhi children (Figure 5). These micronutrients play a critical role in physical growth, work capacity, reproductive health, learning and cognitive functions. Despite their high cost-effectiveness, coverage rates of micronutrient supplementation and fortification remain generally low in Sindh.

Figure 5: Sindh Micronutrient Deficiencies among Children (0-59 Months), 2018.

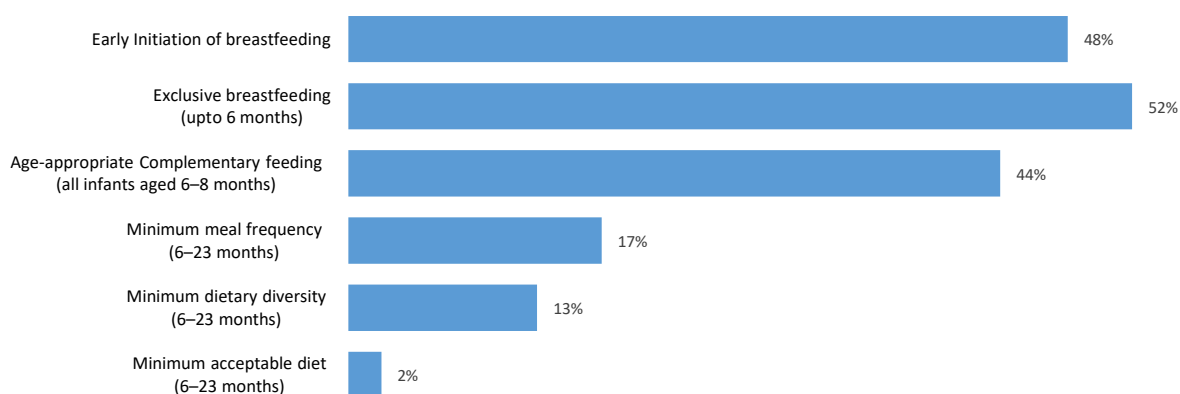


Infant and Young Child Feeding (IYCF) practices are very poor; only a very small percentage of children under two are fed as recommended. Recommendations for improved IYCF include initiation of breastfeeding within the first hour of birth, exclusive breastfeeding of infants until 6 months of age, introduction of safe and nutritious foods in addition to breastfeeding at about 6 months of age and continued breastfeeding with complementary feeding until 2 years of age or older. Early initiation of breastfeeding is critical, as colostrum-the mothers first milk, is the first natural immunization a

child gets immediately after birth, as the antibodies in colostrum effectively battle neonatal infections. In Sindh, an overall 48 percent of children were breastfed in the first hour, while 52 percent of children aged 0-6 months were exclusively breastfed (Figure 6). Around the age of 6 months, an infant’s need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods. However, the late initiation of complementary feeding is associated micronutrient deficiencies, anemia and stunting. This is the stage when most children from 6 months of age until two years of age fall behind. The children between 6-8 months who received solids, semi-solids or soft food in addition to breastmilk was 44 percent in Sindh.

Complementary child feeding practices of children ages 6-23 months in Sindh remain suboptimal and need to be substantially improved. Minimum meal frequency (MMF), an indicator for a child’s energy requirements, examines the number of times children receive adequate meals other than breast milk. According to the 2018 NNS, in Sindh, 17 percent of all children aged 6–23 months received solid, semi-solid, or soft foods the minimum number of times. While a slightly higher proportion of children (Figure 6) achieved a minimum dietary diversity (MDD). Without adequate diversity and meal frequency, infants and young children are vulnerable to malnutrition, especially stunting and micronutrient deficiencies, and increased morbidity and mortality. An overall dietary assessment (combining MMF and MDD) reveals that only 3.6 percent of children received a diet sufficient in both diversity and frequency.

Figure 4: Sindh’s Infant and Young Child and Complimentary Feeding Practices, 2018.



Agriculture Sector Nutritional Situation Analysis

Education Sector Nutritional Situation Analysis

Water and Sanitation Sector Situation Analysis

SINDH’S COMMITMENT TO IMPROVING NUTRITION

	Successes	Gaps in Ongoing Nutrition Programs
Nutrition Governance and Advocacy	<ul style="list-style-type: none"> - The Government of Sindh (GoS) approved 10 year Accelerated Action Plan (AAP) for reduction of stunting & malnutrition in Sindh, and AAP Task Force Secretariat was established and started implementation of AAP in FY 2017-18. Multisectoral approach was adopted & implemented. - The AAP has achieved much and provides rich implementation experience and lessons. Significant 	<ul style="list-style-type: none"> - Two major projects (WB & EU PINS) recently closed, creating nutrition financial gap (currently major financing source is GoS). - Ineffective nutrition governance structures at sub-district and Union council levels. - Lack of sustained advocacy.

	<p>program achievements include a comprehensive M&E dashboard to allow better tracking of the different multisectoral determinants of nutrition; a Nutrition Expenditure Tracking System across sectors; a pilot on delivery of early learning stimulation parental guidance package by the LHWP; and a pilot CCT program to promote the uptake of nutrition services.</p>	
<p>Government and Stakeholder Coordination</p>	<ul style="list-style-type: none"> - AAP 2017-2026 (Multisectoral Program) developed. - Breastfeeding Act draft prepared and under review. - Act on use of Iodine implemented. - National Nutrition Strategy 2021-26 adopted. - Maternal Nutrition Strategy & implementation action plan devised. - The Sindh Health Sector Strategy 2012-2020 developed. - Adolescent Nutrition Strategy developed. 	<ul style="list-style-type: none"> - Lack of coordination/convergence at household level of nutrition activities led by government and DPs. - No comprehensive mapping of nutrition specific and sensitive programs/projects implemented by the government and DPs (including information on scale and scope of interventions, delivery platforms, target audience, investments and results achieved).
<p>Implementation</p>	<ul style="list-style-type: none"> - Stunting reduction in 7 districts through nutrition interventions. - Establishment of Provincial SUN with linkages to Federal SUN. - Nutrition Expenditure Tracking System. - Introduction of nutrition curriculum/instruction material in Grades 6-10. - SBCC Campaign. - Notification of DCCN and its strengthening at district level. DCCN Coordinators positioned at 3 Divisional headquarters. 	<ul style="list-style-type: none"> - Competency-based system for training in nutrition is missing. - Varied capacities exist related to nutrition service delivery and data inputting/analysis both at the community and facility levels (LHWs, nutrition assistants, school health and nutrition supervisors, doctors, nurses). - Due to import barriers and rising costs, international procurement of nutrition and FP commodities have been stalled. - Huge budget commitments going to commodities. - Low knowledge and awareness of appropriate practices for maternal, infant and young child nutrition (IYCF, Breastfeeding, Colostrum, healthy diet, food fads), and overnutrition. - Limited budget and expertise for designing and deploying impactful national SBCC campaigns in the public sector and monitoring & evaluating them. - Private sector engagement is very poor across all thematic areas in HNP and in provinces. - Local private sector not engaged in production of health /nutrition commodities.

<p>Research/ Monitoring and Evaluation</p>	<ul style="list-style-type: none"> - Establishment of Monitoring and Evaluation Portal at AAP Secretariat and tracking of progress of seven nutrition specific/sensitive sectors on monthly and quarterly basis. - TMIS offers learnings to inform improvements in the LHW program’s nutrition performance. 	<ul style="list-style-type: none"> - Extensive funding has been allocated to nutrition-related interventions but gaps still exist in understanding the major causes of malnutrition especially stunting. Hypotheses exist that dietary/feeding behaviours may be driving differences, but additional research is required to verify. - No information on coverage of key interventions for nutrition at national or subnational level. - Nutrition information system and the DHIS2 is either non-existent or in the early phases of development. Limited nutrition commodity tracking systems exist. No EMR for individual-level service tracking. - Multiple dashboards developed and neither integrated nor used well for routine monitoring. - Limited human resources capacity for data analysis and utilization for policy at district or provincial levels. - Absence of a provincial health accounts system, including for nutrition. - Review of National Health Accounts were also conducted many years ago.
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RECOMMENDATIONS

Success in tackling malnutrition relies on cross-sectoral action plans encompassing at the very least health, food, agriculture, poverty, water and sanitation sectors. Provincial strategizing must be supported with federal coordination through the development of a national nutrition policy, funding commitments under Medium Term Budgetary Framework and links with key federal programmes. Nutrition advocacy, community education, defining of affordable interventions, technical capacity building at districts and interim progress monitoring are key areas for investment in Sindh.

Nutrition Governance and Advocacy

Ensure political championing at the highest provincial level for nutrition as a cross-sectoral development priority and mandate for national support.

Create a nutrition ministry with a mandate to focus multisectoral implementation on nutrition, spear-headed by the Planning and Development Department.

Ensure strong coordination between federal and provincial levels as well as across sectors within provinces for effective strategizing to reach global nutrition targets.

Strengthen nutrition governance structures at all levels. Nutrition Steering by the respective P&D with an accountability framework/ regular stocktakes of the participating sectors.

Prepare Costed Implementation Plans (CIP) for nutrition and alignment of funds allocation between federal and provincial plans and programs.

Develop, institutionalize and prioritize a nutrition financing and expenditure tracking system.

Develop capacity of the provincial policy, program implementers, managers and supervisors to design better strategies, address bottlenecks in implementing the activities at local level.

Expand the scope of nutrition-specific programs by aligning them with nutrition-sensitive interventions and identify sectoral actions as direct (nutrition outcomes as the primary benefit) or indirect (nutrition outcomes as a secondary benefit).

Government and Stakeholder Coordination

Strengthen nutrition governance bodies primed for coordination and planning at the provincial level. Similar structures should be mapped and strengthened at district and sub-district levels. **Set up a central structure within the provincial Planning and Development Departments** to house nutrition and coordinate planning and funding.

Stakeholder mapping exercise at federal, provincial, district levels, including examination of how to strengthen the role of SUN.

Engage with the private sector to improve coverage. Use of Private Public Partnership (PPP) models to improve service delivery in areas not covered by LHWs.

Implementation

Include capacity building component in the design of new programs on nutrition – both on evidence-based decision making & reporting and nutrition service delivery.

Undertake capacity assessment of nutrition related service delivery staff and develop targeted training approaches, advocacy for/mobilization of external grant financed TA support.

Build capacity and incentivise support to district and local government for well-defined, credible activities to improve on the ground monitoring.

Invest in nutrition education at a community level. This would involve outreach agents such as Lady Health Workers, teachers, village committees, local government, grassroots political structure, and mass media.

Design and implement cross-sectoral Social and Behaviour Change Communication (SBCC) strategy engaging private sector expertise and further devise and strengthen a comprehensive Monitoring and Evaluation (M&E) plan to tweak SBCC campaigning based on audience response.

Investigate the potential role for private sector in social media engagement, as well as assess, private sector collaboration in the new program design especially related to SBCC, LHWs uncovered areas, Urban PHC and involvement in the nutrition change champion network, commodity supply (as appropriate – such as in partnership with IFC).

Include nutrition-specific interventions in the design phase of the government's program for sustainability. A holistic approach to improve coverage of districts is required.

Develop Health Workforce and revise the mandate of community- and facility-based workers employed in different programs to integrate nutrition. Develop capacity of primary health care workers (LHWs and community midwives); and supervise health workers.

Build capacity for and a culture of supportive supervision to help increase LHWs' motivation and performance.

Research/ Monitoring and Evaluation

Undertake a detailed study on which nutrition interventions have worked or not worked in the context of Sindh Province.

Support strengthening routine data collection (nutrition information system / DHIS2) and support standardized nutrition expenditure tracking system and associated capacity building.

Devise and promote use of standardized nutrition indicators for tracking processes, outputs and nutrition outcomes.