



PAKISTAN - SINDH

INADEQUATE FOOD INTAKE, POOR SANITATION COVERAGE AND HIGH DISEASE PREVALENCE CONTRIBUTE TO HIGH ACUTE MALNUTRITION AMONG CHILDREN IN SINDH

**IPC ACUTE MALNUTRITION ANALYSIS
APRIL 2021 – FEBRUARY 2022**

Issued October 2021

KEY FIGURES		APRIL 2021 - FEBRUARY 2022	
<p>636,250</p> <p>cases of children aged 6-59 months acutely malnourished</p> <p>IN NEED OF TREATMENT</p>	Severe Acute Malnutrition (SAM)	126,090	
	Moderate Acute Malnutrition (MAM)	510,160	
	<p>37,800</p> <p>cases of pregnant or lactating women acutely malnourished</p> <p>IN NEED OF TREATMENT</p>		

Overview

How Severe, How Many and When: According to the latest Integrated Food Security Phase Classification Acute Malnutrition (IPC AMN) analysis, of the nine districts analysed in Sindh, Pakistan, acute malnutrition is at a Critical level (IPC Phase 4) in eight districts and at a Serious level (IPC Phase 3) in one district. The situation is particularly severe in six of the eight districts classified in the Critical phase, whereby one in five children is affected by acute malnutrition. Conversely, the other two districts classified in the Critical phase register levels of acute malnutrition not too far above those classified in the Serious phase (IPC Phase 3).

Where: The eight districts classified as being in a Critical situation (IPC Phase 4) are Matiari, Tando Allah Yar, Tando Muhammad Khan, Thatta, Sujawal, Umerkot, Qambar Shahdadkot and Shikarpur. Only Larkana district is in a Serious situation (IPC Phase 3), though the Global Acute Malnutrition level is 12.3%, which is close to IPC Phase 4 (Critical).

Why: The major factors contributing to acute malnutrition include inadequate quality and quantity of food, poor hygiene practices and sanitation coverage, high rates of diarrhoea, acute respiratory infection and fever, and low prevalence of health seeking behaviour. Additionally, low exclusive breastfeeding levels, high prevalence of early childbearing, high prevalence of low birth weight, and high prevalence of malnutrition among pregnant and lactating women are also of concern in several districts. Although not the direct focus of this analysis, anaemia and vitamin A deficiency among children of 6-59 months is at an alarming level.

Key Drivers



Inadequate quality and quantity of food



Poor sanitation coverage

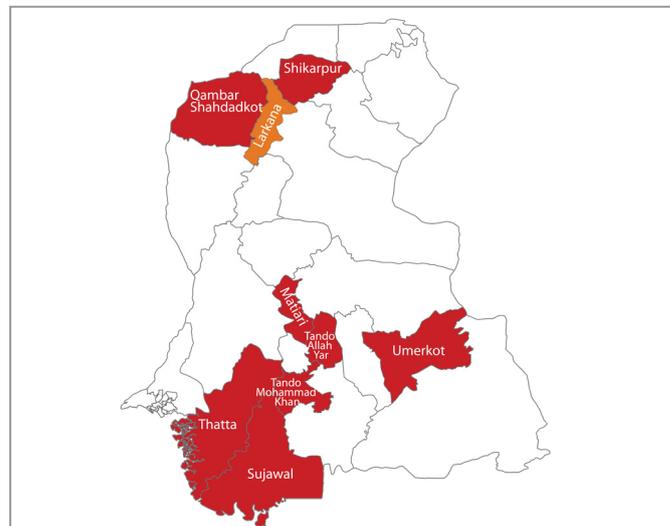


High rates of diarrhoea, acute respiratory infection and fever and low prevalence of health seeking behavior

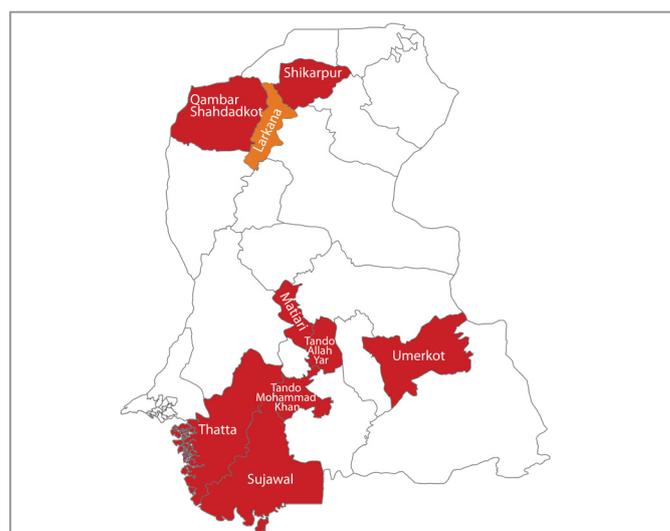


Low prevalence of exclusive breastfeeding, high prevalence of early child bearing, low birth weight, and prevalence of malnutrition among pregnant or lactating women.

Current Situation April - November 2021



Projected Situation December 2021 - February 2022



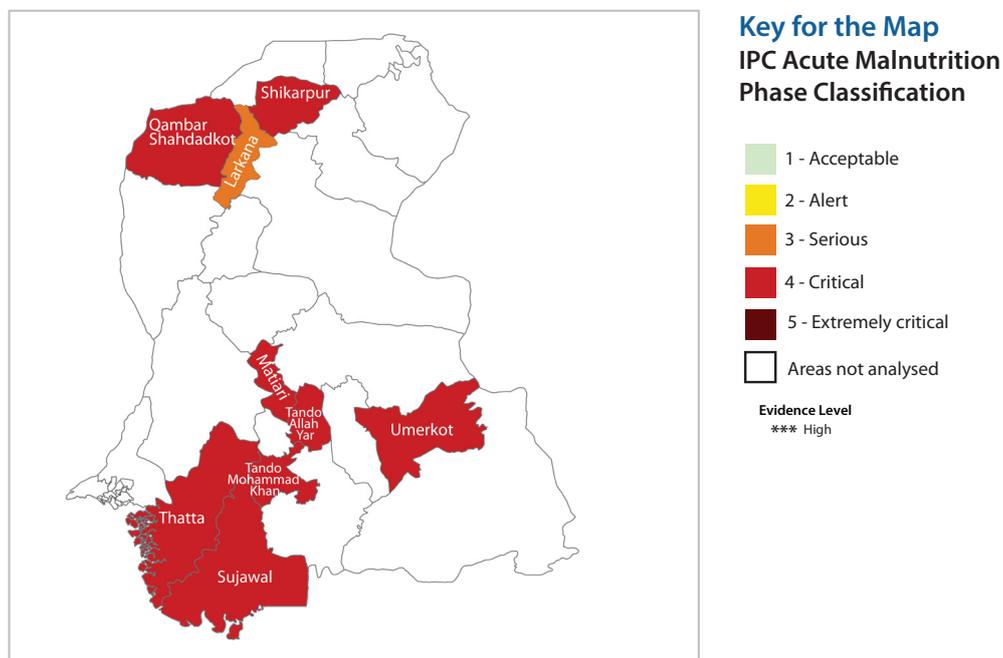
Key for the Map

IPC Acute Malnutrition Phase Classification

- 1 - Acceptable
- 2 - Alert
- 3 - Serious
- 4 - Critical
- 5 - Extremely critical
- Phase classification based on MUAC
- Areas with inadequate evidence
- Areas not analysed
- Evidence Level
*** High

CURRENT ACUTE MALNUTRITION MAP AND OVERVIEW (APRIL - NOV 2021)

Current Acute Malnutrition April - November 2021



Of the nine districts in the province of Sindh, which are the focus of this analysis, eight are in IPC Phase 4 (Critical level of acute malnutrition) and one in IPC Phase 3 (Serious level of acute malnutrition) during the current period of analysis (April-November 2021), which corresponds to the post-harvest/summer season. The high levels of acute malnutrition in the focused districts are making it a major public health problem that needs urgent attention and response. This analysis was conducted for only nine districts of Sindh for which key findings of latest SMART surveys were available; the other 20 districts in the province were not included in the current IPC AMN analysis, and are thus not classified.

Over 600,000 children in the nine districts of Sindh province included in this analysis are affected by acute malnutrition and are in need of treatment. The total number of children with moderate (MAM) and severe acute malnutrition (SAM) in the nine districts are 510,156 and 126,088 respectively. Umerkot district, classified in IPC Phase 4, has the highest number of acutely malnourished children at 105,750, followed by Qambar Shahdadkot (95,420) and Shikarpur (70,471) districts (also in IPC Phase 4)¹.

Currently, the institutional arrangement for CMAM (Community-based Management of Acute Malnutrition) activities are in place for 13 districts of Sindh² province through the Accelerated Action Plan for Reduction of Stunting and Malnutrition in Sindh (AAP-Health). Of the nine districts analysed, only Umerkot district is being covered by the CMAM approach. The Programme for Improved Nutrition in Sindh (PINS – component 2), funded by the European Union and managed by Action Against Hunger (ACF), is covering eight districts of Sindh, namely, Tando Muhammad Khan, Thatta, Sujawal, Larkana, Qambar Shahdadkot, Shikarpur, Matiari, Tando Allah Yar, however, its operational arrangements will end by the end of October, 2021.

Contributing Factors

The major factors contributing to acute malnutrition include inadequate quality and quantity of food, high food insecurity, poor hygiene practices and sanitation coverage, high rates of diarrhoea, acute respiratory infection and fever, and poor health seeking behaviour. Additionally, exclusive breastfeeding, early childbearing, low birth weight, and prevalence of malnutrition among pregnant or lactating women are also of concern in several districts. Although not the direct focus of this analysis, anaemia and Vitamin A deficiency among children of 6-59 months of age is at an alarming level in all districts. The drought conditions (severe and moderate) prevailing in June 2021 in four out of nine districts (Thatta, Umerkot, Sujawal and Larkana) are also likely to have adverse impacts on access to safe drinking water and sanitation and subsequently contribute to acute malnutrition. See Annex 2 for details on major contributing factors to acute malnutrition in each district.

¹ The number of children affected by acute malnutrition is based on the GAM prevalence among children aged 6-59 months based on WHZ <-2 and/or oedema. The number of acutely malnourished children would be higher if children with low MUAC were also included – approximately 92,000 additional children would be estimated to be acutely malnourished if children with MUAC <125 were also included.

² The 13 districts include Tharparkar, Umerkot, Badin, Sanghar, Hyderabad, Mirpur Khas, Shaheed Benazirabad, Naushehro Feroze, Sukkur, Khairpur, Ghotki, Jacobabad and Kashmir.

Trend analysis

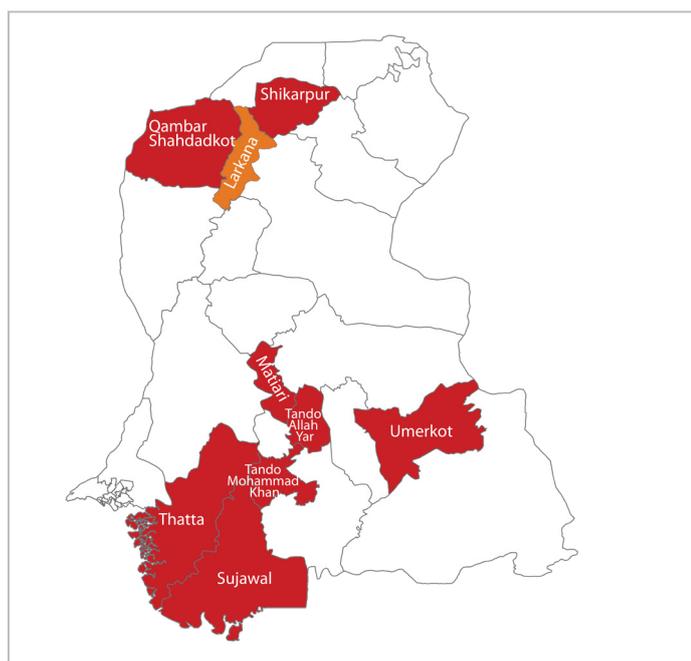
Previously, the IPC AMN analysis was conducted for eight drought-affected districts of Sindh, of which Qambar Shahdadkot, Thatta and Umerkot were also covered. Both Qambar Shahdadkot and Thatta had been classified in IPC Phase 4 (Critical) - same is the case in this analysis, whereas Umerkot was classified in IPC Phase 5 (Extremely Critical) - it is classified in IPC Phase 4 in this analysis.

The available evidence suggests that acute malnutrition has consistently been high in all districts of Sindh province, as also reported, based on findings of the Sindh Multiple Indicators Cluster Survey (MICS) conducted in 2018-19 and the National Nutrition Survey (NNS) conducted in 2018. The below table shows trend analysis of prevalence of acute malnutrition since 2018, based on different surveys conducted in the focused districts. The prevalence of acute malnutrition has registered a consistent decline in Tando Allah Yar, Qambar Shahdadkot, Larkana and Umerkot since 2018, whereas it shows a varied trend (child malnutrition first reduced and then increased) in Matiari, Sujawal, Tando Muhammad Khan, Thatta and Shikarpur districts.

Districts	GAM based on WHZ (SMART Surveys 2021)	GAM based on WHZ (MICS 2018-19)	GAM based on WHZ (NNS 2018)
Matiari	15.2%	7.4%	23.9%
Sujawal	19.5%	14.7%	26.6%
Tando Allah Yar	19.9%	27.5%	28.6%
Tando Muhammad Khan	23.9%	20.5%	25.6%
Thatta	20.0%	17.5%	24.3%
Qambar Shahdadkot	19.5%	22.2%	27.5%
Larkana	12.3%	19.8%	22.9%
Shikarpur	15.8%	9.3%	28.4%
Umerkot	26.4%	22.6%	32.2%

PROJECTED ACUTE MALNUTRITION MAP AND OVERVIEW (DECEMBER 2021 - FEBRUARY 2022)

Projected Acute Malnutrition December 2021 - February 2022



Key for the Map IPC Acute Malnutrition Phase Classification

- 1 - Acceptable
- 2 - Alert
- 3 - Serious
- 4 - Critical
- 5 - Extremely critical
- Areas not analysed

Evidence Level
*** High



During the projection period (December 2021-February 2022) which corresponds to the winter/lean season, all nine districts are likely to remain in the same IPC Phase (eight districts in IPC Phase 4 and one in IPC Phase 3), as in the current period. In five out of nine districts, namely Matiari, Sujawal, Thatta, Umerkot and Shikarpur, the prevalence of acute malnutrition is expected to further deteriorate during the projection period, whereas the acute malnutrition levels in four districts (Tando Allah Yar, Tando Muhammad Khan, Qambar Shahdadkot and Larkana) are expected to remain in similar levels. It should be noted, that this analysis is only limited to nine districts in Sindh, the other 20 districts in the province were not included in this IPC AMN analysis, and were thus not classified.

Based on the available historical data and expert opinion among the stakeholders involved in the analysis, most of the contributing factors to acute malnutrition are either expected to remain at the current levels (poor) or deteriorate further in some districts during the projection period, which would be the lean season as well. Two factors that are likely to deteriorate the situation in some districts are: the prevalence of diseases, based on seasonal changes such as Acute Respiratory Infections (ARIs) and malaria during the winter season, and food consumption (both quality and quantity), because of no improvement expected in the food security situation due to the prevalence of high food prices and limited livelihood activities during the lean season.

It is expected that the institutional arrangements for CMAM services will remain functional in Umerkot in the projection period through AAP health until June, 2022. Currently no arrangements are in place to continue the CMAM beyond October 2021 in Matiari, Sujawal, Shikarpur, Tando Allayar, Tando Muhammad Khan, Qambar Shahdadkot and Larkana districts, so the acute malnutrition situation may remain the same or deteriorate in these districts in the projection period.

Trend analysis

The available evidence suggests that acute malnutrition has consistently been high in all districts of Sindh province, as reported above, based on findings of the Sindh Multiple Indicators Cluster Survey (MICS) conducted in 2018-19 and the National Nutrition Survey (NNS) conducted in 2018

District	Total No. of Cases of Children (6-59 Months) in Need of Treatment			Total No. of Cases of Pregnant and Lactating Women in Need of Treatment
	GAM Treatment	MAM Treatment	SAM Treatment	
Matiari	43,310	36,472	6,838	2,634
Sujawal	56,210	43,815	12,395	7,162
Tando Allah Yar	62,796	46,703	16,094	3,464
Tando Muhammad Khan	59,852	41,821	18,031	3,858
Thatta	73,317	56,821	16,496	3,742
Qambar Shahdadkot	95,420	83,187	12,233	5,749
Larkana	69,118	61,812	7,305	2,273
Shikarpur	70,471	60,212	10,258	2,749
Umerkot	105,750	79,312	26,437	6,172
Total	636,244	510,156	126,088	37,802

RECOMMENDATIONS FOR ACTION

Response Priorities

Ensuring treatment for all children with acute malnutrition is a top priority. Although there is inadequate information from coverage surveys on the acute malnutrition treatment coverage, the very high magnitude of the problem warrants more attention and scaling up of the existing treatment programmes – i.e. CMAM.

Improving early detection mechanisms for children suffering from acute malnutrition is recommended in order to refer them for treatment before the situation gets worse - this could be particularly effective for children with moderate acute malnutrition in preventing them from becoming severely malnourished. While ensuring national treatment for acute malnutrition is a priority, attention should also be given to addressing the major contributing factors, such as improving the quality and quantity of food consumed by children, and sanitation coverage. A response analysis involving nutrition, health, food security, as well as water and sanitation stakeholders in Sindh is recommended, in order to identify appropriate interventions to address acute malnutrition. This response analysis should cover all the nine districts analysed.

See below the strategic priority response objectives for immediate/short term as well as for medium to long term identified during the analysis:

Immediate/Short Term Strategic Priority Response Objectives

- Expand and scale up the nutrition intervention package focusing on life cycle approach and strategies under essential newborn care to reduce the likelihood of adverse health outcomes.
- Strengthen the Outpatient Therapeutic Program (OTP) and the Targeted Supplementary Feeding Program (TSFP) in all Phase 4 districts, with a focus on increased coverage to address Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM).
- Strengthen Community Based Nutrition Services through LHWs and other community-based workers (CHWs).
- Provide training and capacity building of health care providers on nutrition related services including Infant and Young Child Feeding (IYCF) counselling, active case finding, referral and treatment of acute malnutrition.
- Implement IYCF programs/practices as outlined in the IYCF strategy.
- Roll out baby-friendly hospital initiatives in secondary and tertiary level care facilities to ensure early care measures for newborns including early initiation of breastfeeding.
- Integrate campaigns (polio, measles, vitamin A, deworming, carpet nutrition screening) to reduce the burden of vaccine-preventable diseases and ensure traceability of missed, refusal and defaulter children for immunization and nutrition assessment.
- Promote key family care messages and practices at community level by utilising the existing community outreach network.
- Conduct a bottle-neck analysis of key beliefs, myths, misconceptions and traditional care approaches to design targeted communication messages for changing behaviours and clarification of myths and misconceptions.
- Provide capacity building of health workforce in outbreak preparedness and response planning along with sentinel site surveillance.
- Devise a mechanism to regularly monitor the AMN situation at district and provincial level and take necessary measures for compliance and improved coordination among sectors.
- Consider the feasibility of integrating Multiple Micronutrient powders in CMAM and/or other health programme activities to address anaemia.
- Ensure availability and access of diversified nutritious food items in the local market at affordable prices and raise awareness among the affected population about the utilisation/consumption of a diversified balanced diet.

Medium to Long Term Strategic Priority Response Objectives

- Introduce/scale up conditional cash transfer schemes for availing ANC, PNC, routine immunization, institutional-based deliveries, WASH facilities at household level with the inclusive DRR and compliance to desired behaviour.
- Consider FSL Programs promoting kitchen gardening, provision of poultry and cash assistance.
- Develop and implement an Integrated Service Delivery (ISD) package for an integrated response plan (health, immunization, nutrition, and WASH infrastructure), all services under one roof.
- Monitor for diseases and outbreaks (early warning system) to take rapid response for any sudden outbreak.
- Strengthen the advocacy for multi-sectoral collaborations and partnerships.



- Implement community-based programs for sustainable livelihood (agriculture, fishery, provision of livestock for vulnerable population) focusing on self-sufficiency.
- Integrate nutrition services in primary health care programs.
- Expand the food fortification of flour/wheat (with iron, folic acid, zinc & Vitamin B12), oil & ghee (with Vitamin A & D) and salt iodization, to improve micronutrient status of the general population (including children, adolescence & PLWs).
- Food supplementation programs for adolescent/child-bearing age girls.
- Address early child marriage; consider prevention campaigns/movements.
- Involve opinion leaders in transforming myths against all basic vaccinations.
- Introduce climate smart agriculture to combat lean period including kitchen gardening and tunnel farming.
- Enhance food production through improved methods of agriculture cultivation with progressive farmers.
- Initiate fish farming technical assistance programs.
- Promote disaster-resilient agriculture food crops seeds for Rabi & Kharif seasons along with CSA techniques and distribution of fodder for livestock.
- Promote Disaster Risk Reduction programs in the areas vulnerable to disasters.
- Livelihood and skill based training.
- Reduce poverty - provide better livelihood opportunities.
- Scale up social safety net programs to improve socio-economic status of most impoverished people.
- Scale up education programs to increase literacy rate among women.
- Scale up awareness campaigns/programs on nutrition education, hygiene and sanitation practices.

Situation monitoring and update

While appropriate programme interventions should be put in place to address the contributing factors to acute malnutrition, there is a need to strengthen the monitoring mechanism to monitor these interventions.

Once new data is available, another round of IPC AMN analysis may be carried out for all the nine districts to take stock of the situation. The acute malnutrition levels in other districts not covered in this analysis are likely of concern. It is important to gather data and include these districts in the next IPC AMN analysis.

Risk factors to monitor

- Seasonal or sudden disease outbreaks: malaria, ARIs and diarrhoea outbreaks;
- Cold wave/extreme winter may;
- Gap in services related to acute malnutrition due to closure of CMAM and PINS programmes, which would have an eventual impact on number of SAM cases;
- Sudden rise in COVID-19 cases, COVID-19 related lock downs and their subsequent impact on income;
- Food insecurity led by rising food prices (food inflation), and reduction in income due to limited livelihood opportunities;
- Aggravated drought conditions which may lead to food shortage.



PROCESS AND METHODOLOGY

A team of nutrition, health, food security and statistics experts working at federal as well as provincial ministries/departments, UN organizations and NGOs in Pakistan carried out the analysis process using the standard IPC Technical Manual Version 3.0 Acute Malnutrition protocols. These experts represented the Ministry of National Food Security and Research, Ministry of Planning, Development and Special Initiatives, Bureau of Statistics Sindh, Provincial Disaster Management Authority (PDMA) Sindh, Department of Agriculture Sindh, Department of Health Sindh, Accelerate Action Plan for Reduction of Stunting and Malnutrition (AAP-Health) Sindh, People's Primary Healthcare Initiative (PPHI), Rural Support Programme Network (RSPN), Action Against Hunger (ACF), Concern Worldwide, Deutsche Welthungerhilfe, Secours Islamique France, ACTED, HANDS, FAO, UNICEF and WFP. The contribution of these experts in completing this analysis is highly acknowledged.

The analysis, which took place between 23 and 28 August, 2021, in Hyderabad, was technically supported by the IPC Global Support Unit. Prior to the analysis, all analysts underwent a refresher training on the IPC Acute Malnutrition scale. This training was based on the IPC Technical Manual Version 3.0. The majority of the participants who took part in the training were also involved in the analysis.

The support of PPHI for hosting the IPC workshop at their regional office in Hyderabad and extending extensive facilitation is highly appreciated.

Sources

The data used in this analysis came from the Key Findings Report of SMART Surveys conducted by ACF in eight districts and WFP in one district during March-June 2021, the Multiple Indicator Cluster Survey (MICS 2018-19), the National Nutrition Survey (NNS 2018), and the Pakistan Social & Living Standards Measurement (PSLM) Survey 2019-20. Additionally, CMAM Programme data of AAP-Health, Sindh, Emergency Operation Cell (EOC) of Polio, Expanded Programme of Immunization (EPI), and District Health Information System (DHIS) data of Health Department of Sindh were also used. The contribution of ACF, WFP, Sindh Bureau of Statistics and other partners in sharing their data is highly acknowledged.

Limitations of the analysis

Availability of recent data on contributing factors representative at the district level was a major limitation. In these cases, inference was made based on available data and expert opinion.

What is the IPC and IPC Acute Malnutrition?

The IPC is a set of tools and procedures to classify the severity and characteristics of acute food insecurity and acute malnutrition crises as well as chronic food insecurity based on international standards. The IPC consists of four mutually reinforcing functions, each with a set of specific protocols (tools and procedures).

The core IPC parameters include consensus building, convergence of evidence, accountability, transparency and comparability. The IPC analysis aims at informing emergency response as well as medium and long-term food security policy and programming.

The IPC Acute Malnutrition Classification provides information on the severity of acute malnutrition, highlights the major contributing factors to acute malnutrition, and provides actionable knowledge by consolidating wide-ranging evidence on acute malnutrition and contributing factors.

Contact for further Information

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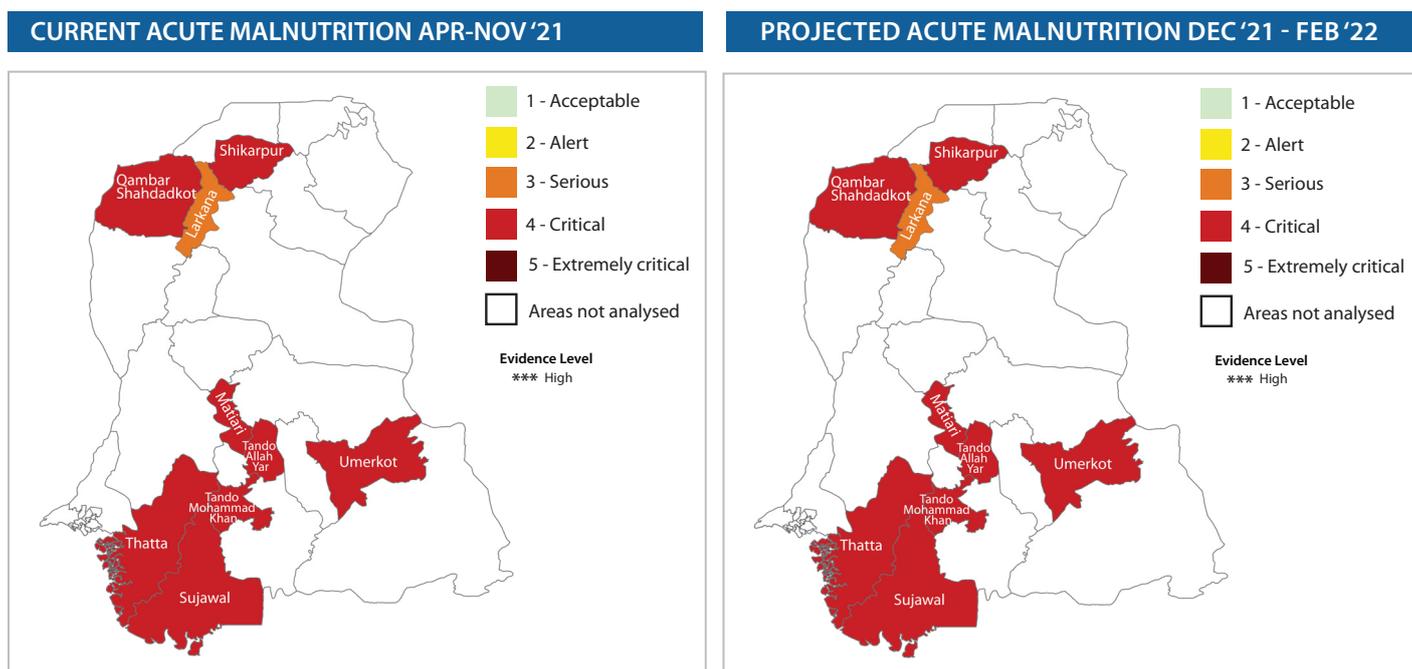
This analysis has been conducted under the patronage of the Accelerated Action Plan for Reduction of Stunting and Malnutrition (AAP – Health), Government of Sindh. It has benefited from the technical and financial support of IPC Global Support Unit.

Classification of food insecurity and malnutrition was conducted using the IPC protocols, which are developed and implemented worldwide by the IPC Global Partnership - Action Against Hunger, CARE, CILSS, EC-JRC, FAO, FEWSNET, Global Food Security Cluster, Global Nutrition Cluster, IGAD, Oxfam, PROGRESAN-SICA, SADC, Save the Children, UNICEF and WFP.

IPC Analysis Partners:



ANNEX 1: SNAPSHOT



0 districts Extremely Critical
8 districts Critical
1 district Serious
0 districts Alert
0 districts Acceptable

PREVALENCE OF ACUTE MALNUTRITION									
District	Matiani	Sujawal	Tando Allah Yar	Tando Muhammad Khan	Thatta	Qambar Shahdadkot	Larkana	Shikarpur	Umerkot
SAM	2.4%	4.3%	5.1%	7.2%	4.5%	2.5%	1.3%	2.3%	6.6%
MAM	12.8%	15.2%	14.8%	16.7%	15.5%	17.0%	11.0%	13.5%	19.8%
GAM	15.2%	19.5%	19.9%	23.9%	20.0%	19.5%	12.3%	15.8%	26.4%

KEY DRIVERS
POOR DIETARY QUANTITY AND QUALITY
POOR SANITATION COVERAGE
LOW PREVALENCE OF EXCLUSIVE BREASTFEEDING
HIGH DISEASE PREVALENCE
LOW PREVALENCE OF HEALTH SEEKING
LOW BIRTH WEIGHT
EARLY CHILD MARRIAGES AND CHILD BEARING

PROJECTION DECEMBER 2021 - FEBRUARY 2022			
9 districts	Acute malnutrition is expected to		Deteriorate in 5 districts
			Remain Stable in 4 districts
			Improve in 0 districts

*SEVERE, MODERATE AND GLOBAL ACUTE MALNUTRITION APRIL 2021 - FEBRUARY 2022		
	IN NEED OF URGENT ACTION	
636,244	126,088 SAM* Cases of children aged 6-59 months severely malnourished	37,802
Cases of children aged 6-59 months acutely malnourished	510,156 MAM* Cases of children aged 6-59 months moderately malnourished	Cases of pregnant or lactating women acutely malnourished



ANNEX 2: SUMMARY OF FACTORS CONTRIBUTING TO ACUTE MALNUTRITION

CONTRIBUTING FACTORS		Larkana		Matiari		Qambar Shahdadko †		Shikarpur		Suawal		Tando Allah Yar		Tando Muhammad Khan		Thatta		Umerkot	
		Food consumption		Health status		Food security		Caring and feeding practices		Health services & environmental health									
Minimum Dietary Diversity (MDD)	Minimum Dietary Diversity (MDD)																		
	Minimum Meal Frequency (MMF)																		
	Minimum Acceptable Diet (MAD)																		
	Minimum Dietary Diversity – Women (MDD-W)																		
Diarrhoea	Diarrhoea																		
	Dysentery																		
	Malaria/fever																		
	Acute Respiratory Infection (ARI)																		
	HIV/AIDS prevalence																		
	Cholera or Acute Watery Diarrhoea (AWD)																		
	Measles																		
	Outcome of the IPC for Acute Food Insecurity analysis																		
	Prevalence of moderate or severe food insecurity based on Food Insecurity Experience Scale (FIES)																		
	Exclusive breastfeeding under 6 months																		
Continued breastfeeding at 1 year																			
Continued breastfeeding at 2 years																			
Introduction of solid, semi-solid or soft foods																			
Measles vaccination	Measles vaccination																		
	Polio vaccination																		
	Vitamin A supplementation																		
	Skilled birth attendance																		
Legend		Major Contributing Factor		Minor Contributing Factor		No Contributing Factor		No Contributing Factor		No Contributing Factor		No Data		No Data		No Data		No Data	



ANNEX 2 continued

CONTRIBUTING FACTORS		Larkana	Matiari	Qambar Shahdadkot	Shikarpur	Sujawal	Tando Allah Yar	Tando Muhamm d Khan	Thatta	Umerkot
Health services & environmental health	Health seeking behaviour for Diarrhoea	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Health seeking behaviour for Fever	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Health seeking behaviour for ARI	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Coverage of outreach programmes – CMAM programme coverage (SAM, MAM, or both)	Major	Major	Major	Major	Major	Major	Major	Major	Major
Structural causes and shocks	Access to a sufficient quantity of water	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Access to sanitation facilities	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Access to an improved source of drinking water	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Literacy rate for women (15-24 years)	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Physical capital	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Financial capital (poverty)	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Natural capital	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Social capital	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Policies, Institutions and Processes	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Early child Marriage (before 18 years age)	Major	Major	Major	Major	Major	Major	Major	Major	Major
Other nutrition issues	Early Child Bearing (before age 18)	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Usual/Normal Shocks	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Recurrent Crises due to Unusual Shocks	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Anaemia among children 6-59 months	Major	Major	Major	Major	Major	Major	Major	Major	Major
Other nutrition issues	Anaemia among pregnant women	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Anaemia among non-pregnant women	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Vitamin A deficiency among children 6-59 months	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Vitamin A deficiency among non-pregnant women (15-49) years	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Low birth weight	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Fertility rate	Major	Major	Major	Major	Major	Major	Major	Major	Major
	Prevalence of malnutrition among all Women of Reproductive Age (15-49 years) based on MUAC z-score	Major	Major	Major	Major	Major	Major	Major	Major	Major
Prevalence of Malnutrition among PLWs based on MUAC z-score	Major	Major	Major	Major	Major	Major	Major	Major	Major	

Legend





ANNEX 3: TOTAL NUMBER OF CASES OF CHILDREN 6-59 MONTHS AND PREGNANT AND LACTATING WOMEN AFFECTED BY ACUTE MALNUTRITION AND IN NEED OF TREATMENT

The expected number of cases of acute malnutrition among children was calculated using the following formula: $n \cdot p \cdot k$, where n is the number of children under the age of five, p is the combined prevalence of SAM or MAM, and k is the incident correction factor. In line with the country practice, an incident factor of 2.5 was used.

District	Children under 5							Pregnant and Lactating women		
	Total #	Combined GAM % (95% CI)	Combined MAM % (95% CI)	Combined SAM % (95% CI)	Estimated number of GAM cases	Estimated number of MAM cases	Estimated number of SAM cases	Total #	AMN % (95% CI)	# of cases AMN
Matiari	113,975	15.2% (12.0-19.0)	12.8%	2.4% (1.4-4.2)	43,310	36,472	6,838	54,877	4.8% (2.7-8.4)	2,634
Sujawal	115,302	19.5% (12.3 – 20.4)	15.2%	4.3% (2.7 – 7.0)	56,210	43,815	12,395	55,516	12.9% (8.3 – 19.4)	7,162
Tando Allah Yar	126,224	19.9% (16.0 - 24.5)	14.8%	5.1% (3.4 - 7.7)	62,796	46,703	16,094	60,775	5.7% (3.1 – 10.2)	3,464
Tando Muhammad Khan	100,171	23.9% (19.2-29.4)	16.7%	7.2% (4.7-10.9)	59,852	41,821	18,031	48,230	8.0% (4.7-13.2)	3,858
Thatta	146,635	20% (15.3 – 25.6]	15.5%	4.5% (2.7 – 7.4)	73,317	56,821	16,496	70,602	5.3% (2.9 – 9.4)	3,742
Qambar Shahdadkot	195,734	19.5% (14.8 – 25.4)	17.0%	2.5% (1.4 – 4.4)	95,420	83,187	12,233	94,242	6.1% (3.7 – 10.0)	5,749
Larkana	224,773	12.3% (9.0 – 16.5)	11.0%	1.3% (0.5 – 3.2)	69,118	61,812	7,305	108,224	2.1% (0.7 – 6.2)	2,273
Shikarpur	178,407	15.8% (10.7 – 22.6)	13.5%	2.3% (1.2 – 4.2)	70,471	60,212	10,258	85,900	3.2% (1.6 – 6.0)	2,749
Umerkot	160,227	26.4% (22.6 - 30.7)	19.8%	6.6% (4.9 - 8.9)	105,750	79,312	26,437	77,146	8.0% (5.5 - 11.5)	6,172
Grand Total	1,361,446				636,244	510,156	126,088	655,511		37,802