ASSESSMENT OF MALNUTRITION (STUNTING) IN DISTRICT

THARPARKAR

This Report is Prepared by the Research & Training Wing (P&D)

RESEARCH & TRAINING WING
Planning & Development Department
Government of Sindh

INTERNATIONAL OMBUDSMAN INSTITUTE

PROVINCIAL OMBUDSMAN SINDH
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DISCLAIMER

The content expressed in this report may reflect the views of the Research & Training Wing, Planning & Development Department, Government of Sindh. This report contains technical notes that are related to the Assessment of Malnutrition (Stunting) in District Tharparkar.

Every effort has been made to cross-check and verify the authenticity of the data. All data and statistics used are correct as of 2022.

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We would also like to express our sincere gratitude to Mr. Hassan Naqvi, Chairman (P&D Board), Government of Sindh, whose patronage was instrumental in the initiation of this study. We are also immensely thankful to Mr. Asghar Memon, Chief Economist (P&D Board), Government of Sindh, whose oversight and guidance helped us plan and conduct this study effectively. We would also like to appreciate the support of Mr. Sarfaraz Ali Shaikh, the Director-General (Research & Training Wing, P&D Department, Government of Sindh) who supported us in letter and spirit to complete this study fluidly by anticipating and addressing potential bottlenecks. We extend our appreciation to Dr. Fawad Shaikh, Member (Natural Resources), P&D Board, Government of Sindh, whose insights helped us in delving into the intricate concepts of malnutrition in Tharparkar's context.

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Message From the Provincial Ombudsman

The Provincial Ombudsman (Mohtasib) of Sindh has endeavored to highlight the issues faced by the people of Sindh to inform the policy framework and strategic planning of the government. We have recently ventured into conducting studies on the core issues faced by the people of Sindh as per Sub-Section 3 of Section 9 of Provincial Ombudsman Act of 1991 (Amended in 2020). Previously, we took the initiative in collaboration with the Sindh Education Foundation for a research study on "Issues of Girls' Education in Sindh" which was supported by the International Ombudsman Institute's 2018/19 regional subsidy programme. The recommendations of the study were translated into the directives of the Honorable Chief Minister, Sindh to improve girls' education in Sindh.

This study, undertaken in collaboration with the Research & Training Wing of P&D Department (Government of Sindh), has been supported by IOI's 2021/22 Regional Subsidy Programme for which I am thankful to International Ombudsman Institute. This study delves into deconstructing the intricate issues pertaining to malnutrition, especially stunting, in District Tharparkar. The report documents the key nutrition-related efforts undertaken by the Government of Sindh in recent years along with an analysis of Strengths, Weaknesses, Opportunities, and Threats (SWOT) pertaining to the malnutrition (stunting) situation in District Tharparkar. The key findings of the study are translated into concrete recommendations that can amplify the impact of nutrition-related interventions of the Government of Sindh and substantially improve the nutrition outcomes, especially stunting prevalence.

I would like to thank our team at Provincial Ombudsman Sindh, especially Mr. Muhammad Zakir (Advisor) and Ms. Rehana G. Ali Memon (Consultant) for effectively coordinating with International Ombudsman Institute and the Research & Training Wing of P&D Department, Government of Sindh for successful execution and completion of the study. I would also like to extend my sincere gratitude to the senior management of the Planning & Development Department, Government of Sindh, especially Mr. Hassan Naqvi (Chairman, P&D Board) and Mr. Asghar Memon (Chief Economist, P&D Board), for providing strategic oversight and guidance for the study. Last, but not the least, I would like to thank the research team of the Research & Training Wing led by Mr. Obaid Arshad Khan, Social Sector Advisor, in successfully undertaking and completing this study on the important issue of malnutrition (stunting) that is prevalent not only in Sindh, but also throughout Pakistan.

Mr. Ajaz Ali Khan
Provincial Ombudsman (Sindh)

Acronyms & Abbreviations

AAP	Accelerated Action Plan
ANC	Antenatal Care
BCC	Behavior Change Communication
BCI	Behavior Change Intervention
BHU	Basic Health Unit
CCT	Conditional Cash Transfer
CHW	Community Health Worker
CM	Chief Minister
DC	Deputy Commissioner
DHO	District Health Office
DHQ	District Headquarter
EU	European Union
FGD	Focus Group Discussion
FHM	Family Health Mela
FY	Financial Year
GAM	Global Acute Malnutrition
GoS	Government of Sindh
HR	Human Resource
IFA	Iron Folic Acid
IOI	International Ombudsman Institute
IYCF	Infant & Young Child Feeding
LHW	Lady Health Worker
KAP	Knowledge, Attitudes & Practices
KG	Kitchen Garden
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MAM	Moderate Acute Malnutrition
MNP	Micronutrient Powder
NSC	Nutrition Stabilization Center
NSP	Nutrition Support Program
OTP	Outpatient Therapeutic Program
P&DD	Planning and Development Department
PLW	Pregnant & Lactating Women
RHC	Rural Health Center
RMNCAH	Reproductive, Maternal, Neonatal, Child & Adolescent Health
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SDK	Safe Delivery Kit
SIF	Secours Islamique France
THQ	Tehsil Headquarter
TSFP	Targeted Supplementary Feeding Program
USK	Unani Shifa Khana
WaSt	Wasting and Stunting
WASH	Water, Sanitation, and Hygiene
WFP	World Food Programme

EXECUTIVE SUMMARY

To assess the malnutrition issues, especially stunting, in district Tharparkar, the Provincial Ombudsman (Sindh) signed a research agreement with the Research & Training Wing (P&D Department, Govt. of Sindh), to carry out a research study on 'Assessment of Malnutrition (Stunting) in District Tharparkar'. The study is funded by the International Ombudsman Institute (IOI) under the Regional Subsidy Programme 2021/2022. It is worth mentioning that access to food and nutrition is a fundamental right to Pakistani citizens as enshrined in Article 38-D of the country's constitution which states that "The State shall provide basic necessities of life, such as food, clothing, housing, education, and medical relief." Similarly, Pakistan is a signatory to the UN General Assembly's 'Convention on the Rights of the Child' where the State is responsible for 'combating disease and malnutrition' for children.

The key objectives of the study were to depict the nutrition-specific programs in the last five years in Tharparkar along with nutrition indicators, the dynamics of strengths, weaknesses, opportunities, and threats (S.W.O.T) in the nutrition landscape to offer prescriptions for the improvement of nutrition outcomes in Sindh. The study hinged mainly on desk research consisting of secondary data from local and global literature, reports, and surveys. However, primary data from in-depth key informant interviews and focus-group discussions with key stakeholders in Tharparkar has also been gathered and analysed. The report discusses key findings on the status of malnutrition, especially stunting, in Tharparkar in particular. Towards the end, based on the key findings, actionable recommendations have been given to improve service delivery and nutrition outcomes in Tharparkar.

Key Findings from Desk Research

In terms of severity, following seven major risk factors associated with undernutrition were identified:

- Poor access to safe water for drinking
- Poor hygiene and sanitation practices
- Poor health services (availability, access, and utilization)
- Poor complementary feeding practices of children aged 6-23 months
- Low production/availability of food
- Poor diversity of household income sources
- Poor coping strategies.(especially for HHs that rely on others for food/money)

Other underlying factors like '*maternal education, household income, family size, breastfeeding, vaccination status, and frequent infections*' were also found to be significantly associated with the severe acute malnutrition.

Key Findings from Field Research

- The first and foremost issue in Tharparkar is the *persistent poverty* which diminishes the purchasing power of households to have minimum acceptable diet, let alone the minimum dietary diversity.
- *Lack of clean drinking water* was cited as a major reason for the poor nutrition of Thar community.

- *Seasonal migration, nomadic lifestyle, and scattered population* makes service provision a problem.

- *Early marriages and low/poor birth spacing* is another problem that perpetuates the malnutrition vicious cycle.

- Attitude towards *nutrition-promotion behaviors*, *like exclusive breastfeeding*, is gradually improving with community awareness via outreach efforts of LHWs & CHWs.

- The *widespread presence of NGOs* in Tharparkar can be better harnessed through effective coordination.

- Recent introduction of '*conditional cash transfers*' to incentivize healthy behavior during the first 1000 days can help improve mother & child nutrition outcomes, if deployed with proper maternal health education promotion communication.

- Political and administrative buy-in for the problem of malnutrition, especially stunting, can be effectively channeled if the systemic gaps at micro-, meso-, and macro-level are identified to design and implement *evidence-based solutions to tackle the multi-dimensional problem of malnutrition*.

- *Lack of connectivity/transportation cost* was often cited as a binding constraint that inhibits health service utilization, especially for females. Villages that were remote often face this problem and cannot afford to travel all the way to the health facility unless it's an emergency that requires immediate healthcare assistance.

- From the healthcare staff perspective, the major issue was termed as the *lack of human resources to cater to the local population. Shortage of doctors and allied staff often meant that the existing pool of human resources was overburdened*. This was observed to be a recurring problem across DHQ Hospital at Mithi, THQ Hospital in Nagarparkar, and Nutrition Stabilization Center in Mithi. LHWs and CHWs are also overburdened with multiple functions during their outreach efforts. Developing distinct streams of outreach workers can help rationalize the amount of work undertaken. For example, BCC outreach campaigns can be undertaken by social mobilizers from community organizations (COs) rather than LHWs/CHWs.

- Multiple stakeholders stated that the current portfolio of nutrition-related programs does not have a dedicated 'stunting-focused' program. However, the recent introduction of the Sindh Human Capital Project, especially the 'conditional cash transfers' by the Social Protection Strategy Unit (Sindh) to incentivize healthy behavior during the first 1000 days can help improve mother & child nutrition outcomes. This program can be termed as a 'stunting-focused' program and can yield intended benefits if deployed with proper health-promoting communication.

(Note:- S.W.O.T. Analysis that emerged from the research has been delineated on pages 28-29 of the report)

Recommendations Included:

- One of the major cross-cutting issues that need to be addressed in the region of Tharparkar is 'Overall Poverty'. Since, all the related indicators of social wellbeing are directly associated with financial stability, it is imperative to introduce initiatives that considerably improve the economic status of the people of Tharparkar. Initiatives like Rural Growth Center and Economic Clusters in Tharparkar can be prioritized as delineated in the Sindh Poverty Reduction Strategy to complement the Government's 'People's Poverty Reduction Program.'
- Impactful interventions implemented in one taluka should be replicated across all Talukas of District Tharparkar. For example, the community development programs by Sindh Engro Coal Mining Company and Thar Foundation in Islamkot are worth emulating across the district via Public-Private Partnership.
- Provincial Steering Committee for Nutrition, headed by Chairman P&D Board, is tasked to provide policy-level support and strategic oversight to the nutrition-related interventions across Sindh, including Tharparkar. Regular stock-taking of key performance indicators must be undertaken with timely rectification of issues through this apex committee.
- Nutrition-Focused Public-Private Forums like 'District Coordination Committee for Nutrition (DCCN)' need to be structured effectively around the scrutiny of existing nutrition-related initiatives across Tharparkar along with successes and deficiencies to foster action-oriented knowledge spillovers, improved coordination, and target-based performance evaluation.
- 'Conditional Cash Transfers' might be an effective tool for reducing stunting, but the cost-effectiveness of this intervention is still unclear and the sustainability of such programs is also not completely obvious. The practice of gathering credible evidence to ascertain the program's impact on stunting is recommended to inform evidence-based scaling of interventions.
- Performance-Based Management with Robust Monitoring & Evaluation Systems need to be carefully designed and institutionalized for Doctors, Nutrition Specialists, Pediatricians, Nurses, LHWs, and CHWs to ensure that the healthcare staff has specific key performance indicators that are tied to the incentive structure (as per their respective ToRs) to continuously improve preventive and curative-related work as it pertains to the critical 'first thousand days window'. The practice of conducting **third-party evaluations for ongoing nutrition-specific and nutrition-sensitive interventions** must be instituted.
- District Health Office needs to be capacitated to function as the central knowledge repository of all the nutrition-specific activities being undertaken in Tharparkar. Strengthening of existing 'District Health Management and Population Committee' with mandatory progress review meetings and follow-up should be prioritized, especially for nutrition with effective performance-based evaluation.
- 'Effective' Coverage of outreach must be focused upon as simply having a network of LHWs/CHWs does not automatically translate into improved quality of nutritional awareness and internalization of nutrition-promotion behaviors. Independent monitoring of a sample of covered communities would help ascertain whether nutrition awareness is retained or not.
- Outreach of Nutrition-Specific Services should be strengthened by augmenting the network of Community Health Workers and capacitating them with nutrition-related knowledge and performance-based incentives to raise community awareness and identify malnourished PLWs and children.

- 'The government may increase the number of OTP sites (with integrated MNCH & Nutrition services), especially the Mobile OTP Sites, to cater to the scattered population and nomadic communities of Tharparkar.

- The number of Nutrition Stabilization Centers can be expanded to all the Talukas of Tharparkar. As of now, there are three NSCs in the district which may be expanded to all seven Talukas to effectively deal with severe cases of malnourished children in the entire district.

- 'Migratory Patterns' of some segments of the Tharparkar community, like Kohli and Bhil, must be taken into account as families who are in a state of 'transition' or are 'nomadic' have quite poor household & sanitation conditions that result in poor nutrition outcomes. Interventions must be designed to disincentivize continuous migration, especially for PLWs in the household.

- Early Marriage, With Low/Poor Birth Spacing, is a major problem that breeds inter-generational transmission of malnutrition; therefore, Targeted Awareness Campaigning must be carried throughout the district. Enforcement of Sindh Child Marriages Restraint Act, 2013 must be ensured.

- Nutrition-related interventions must also focus on improving the 'Social and Economic Empowerment of Girls and Women.' Investment in girls' education along with awareness of reproductive health can pay long-term dividends with delayed marriage, appropriate birth spacing, and proper feeding practices.

- A special focus must be on 'Behavior Change Communication' (BCC) of the communities with long-term planning & programming that goes beyond the 'project-mode' approach. Repeated capacity-building of the outreach workers across nutrition-specific sector(health) and nutrition-sensitive sectors must be pursued in tandem with independent monitoring to ascertain effectiveness.

- Provision of clean drinking water for the community must be ensured by developing water-supply schemes with effective operations & maintenance mechanisms for sustainability. Non-Functional Reverse Osmosis (RO) Plants must be functionalized on priority basis.

- Local cost-effective solutions, like high nutritious value recipes from local ingredients, must be sought for context-specific prescriptions. For example, Sukaar Foundation is currently undertaking a 'food security' research project on more than 40 'nutritious recipes' that can be made from indigenous ingredients of Tharparkar that are affordable.

- A 'Whole-Of-Government' approach is needed to really reduce the prevalence of stunting. The good practices (e.g. promotion of exclusive breastfeeding, widespread coverage of nutrition-specific and nutrition-sensitive NGOs) implemented in Tharparkar to reduce malnutrition must be replicated across districts with high stunting prevalence.

- More in-depth research on household decisions, knowledge, attitudes, and practices (KAP) can shed more light on what package of interventions can be introduced to reduce stunting across different segments of population.

(Note:- Exhaustive list of detailed recommendations articulated in the 'Recommendations' section on pages 39-42 of the report)

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SHADES OF THARPARKAR

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1. INTRODUCTION

Stunting, a measure of chronic undernutrition is considered one of the most crucial indicators of human capital development. Stunting irreversibly impacts a child's physical development, health, emotional & brain development, and cognitive ability and is brought on by insufficient nutritional intake and repeated illnesses over an extended period of time. According to the World Health Organization "Children are defined as 'stunted' if their height-for-age is more than two standard deviations [low height-for-age] below the WHO Child Growth Standards median." Although globally, it's prevalence has decreased over the past several decades, the frequency of childhood linear growth retardation, often known as stunting, is still considerable (Vaivada et. al. 2020). Most often, persistent and pervasive poverty, chronic undernourishment, and harmful environmental exposures are the cause of such development failure. The majority of linear growth faltering in children under the age of five starts during the first 1000 days after conception. This chronic illness may initially manifest in the womb as a result of inadequate maternal nutrition and infection.[1]

Stunting occurs in the first 1000 days of life from conception till the age of 2 years old which is chronic and highly irreversible. Stunting among children is a consequence of maternal and child inadequate dietary intake which is driven by socio-economic factors including poverty, gender inequalities, food insecurity, low women literacy rate, poor quality of water and sanitation. Hence, stunting is a multi-sectoral issue and needs to be addressed in all nutrition-specific (Health) and nutrition-sensitive sectors (Education, Livestock, Fisheries, Agriculture, Population Welfare, WASH, and Social Protection). The consequences of malnutrition include lost laborers, healthcare expenses, and lower productivity which is estimated to cost Pakistan US $7.6 billion or 3% of GDP every year. (World Food Programme 2017). Sindh is termed one of the 'high-prevalence' provinces in Pakistan in terms of malnutrition and food insecurity (Asmatullah and Swathi 2019). The stunting rate is 48.9% as per NNS-2011 and 45.5% as per NNS-2018 whereas the Multiple Indicator Cluster Survey (MICS)-2014 indicated the stunting rate as 48% which as per the MICS Survey 2018 has increased to 50%.

The Government of Sindh realizing the stunting problem declared Nutrition Emergency Sindh in 2016 and formulated a five-year multi-sectoral Accelerated Action Plan (AAP) for Reduction of Stunting & Malnutrition, which was launched in 2017 in 13 districts, (Hyderabad, Badin, Tharparkar, Umerkot, Mirpurkhas, Shaheed Benazirabad, Sanghar, Naushahro Feroze, Ghotki at Mirpur Mathelo, Sukkur, Khairpur, Jacobabad and Kashmore at Kandhkot) with the assistance of World Bank. A holistic approach was strategized for complementing activities of 08 aforementioned sectors for having better outcomes i.e. ensuring nutrition-specific interventions supplemented by sensitive ones.

In addition, European Union also initiated a program for improved nutrition in 10 districts (Shikarpur, Larkana, Shahdadkot at Kamber, Dadu, Jamshoro, Thatta, Sujawal, Tando Muhammad Khan, Tando Allahyar, Matiari). While other philanthropists, donors like USAID and International Non-Government Organizations (NGOs) are also working for improving health, nutrition, family planning, women empowerment & development, and water & sanitation indicators. The goal of AAP was to reduce stunting from 48% to 43% by 2021, i.e. by 1% per year reduction since the program's implementation. Several nutrition-related

[1] How countries can reduce child stunting at scale: lessons from exemplar countries (2020)

programs have been conceived and implemented to bolster the government's Accelerated Action Plan to reduce stunting and malnutrition in Sindh.

The Research & Training Wing, in consultation with the Provincial Ombudsman (Mohtasib), identified the need for carrying out in-depth research on assessment of stunting in district Tharparkar and to offer recommendations for Government of Sindh to undertake actionable reforms to improve nutrition outcomes. For this purpose, the Provincial Ombudsman (Mohtasib) Sindh showed intent to collaborate with the Research & Training Wing of the Planning & Development Department (Sindh) to enter into a contract agreement for this joint research venture.

1.1 SITUATIONAL ANALYSIS OF STUNTING AT NATIONAL LEVEL

It is an undeniable fact that stunting in Pakistan is a major problem with public health and economic implications. As per the National Nutrition Survey of 2018, an estimated 12 million children with low height-for-age. As stunting has far-reaching socio-economic implications, it is imperative that 'reduction of stunting' is prioritized at both national and provincial level. The national average of stunting (40.2%) may not reflect the sub-national differences in prevalence. The prevalence of stunting among young children in Sindh and Balochistan is higher than the national average.

Stunting prevalence in Pakistan decreased from 48% (1965) to 36.3% (1994) but increased from 41.6% (2001) to 43.7% (2011). Stunting is still prevalent in the country, with a critical prevalence of 40.2 percent in 2018. The average yearly decrease rate is predicted to be 0.5%, which is too slow to meaningfully eliminate the high prevalence of stunting in Pakistan.

According to the NNS – 2018, in most parts of Pakistan, stunting and wasting are found to be correlated. It is observed that Sindh has the greatest frequency of (WaSt) concurrent wasting and stunting (10.0%), followed by Balochistan (6.5%), Punjab (4.3%), and KP (3.7%). The rural prevalence of WaSt is on the higher side across all four provinces compared to the urban prevalence.

The frequency of iron deficiency anaemia in children accelerates moderate acute malnutrition (MAM) and severe acute malnutrition (SAM), resulting in a higher prevalence of stunting and wasting. Stunting and wasting, both of which are connected to iron deficiency anaemia, not only have negative health effects but also cost governments a loss of billions in the national GDP due to a decrease in productive and able individuals. The problem of iron deficiency anaemia, on the other hand, may be addressed by simple yet effective early interventions.

More than half of Pakistani children (53.7%) are anaemic, with 5.7 percent seriously anaemic. The prevalence of anaemia in males is slightly higher (54.2 percent) than in girls (53.1 percent). Rural children are more likely to be anaemic (56.5 percent) than urban children (48.9 percent). Severe anaemia followed a similar pattern (rural: 5.9 percent; urban: 5.2 percent).[2]

1.1.1 Stunting Across Provinces (Pakistan)

According to NNS - 2018, at the national level, the prevalence of Stunting in young children under the age of five-years were recorded at 40.2 % which is considered on the higher side by the global standards –

[2] National Nutritional Survey of Pakistan 2018 (NNS), Government of Pakistan

WHO sets the critical threshold for stunting at 40% above which it is considered a public health problem. The highest prevalence of stunting was recorded in the province of Balochistan (46.6%), followed by Sindh (45.5%), KPK (40.0%) and Punjab (36.4%). In all provinces, the rural population was more likely to be stunted compared to the urban population.

FIGURE - 1

SUB-NATIONAL MALNUTRITION PREVALENCE (%)

Figure 1 depicts the provincial-level three key nutrition-related indicators for children under the age of five in Pakistan across four provinces. Based on data from the most recent National Nutrition Surveys (NNS), the figure shows that Sindh has high prevalence in terms of child nutrition-related indicators, particularly for wasting and underweight, followed by Balochistan, which is the second worst performing province in terms of (Stunting, Wasting, and Underweight) collectively. Stunting prevalence in the province of Balochistan is the highest (46.6 percent) followed by Sindh (45.5%).

1.2 SITUATIONAL ANALYSIS OF STUNTING IN SINDH

Stunting has long-term impacts on physical and cognitive development. In Sindh, 50.2% of children (every second child) under 5 years of age suffer from stunting/chronic malnutrition as per MICS 2018. Stunting is the irreversible outcome of chronic nutritional deficiency.

1.2.1 Stunting Comparative Analysis (District-wise)

According to the Multiple Indicator Cluster Survey (MICS – 2018), at the provincial level (Sindh), the prevalence of stunting in young children under the age of five years was recorded at 50.2 % which has

increased by almost 2 percentage points from the stunting prevalence in Sindh as per MICS-2014. It is also imperative that stunting and wasting collectively have a higher prevalence in the Sindh province, and Sindh has the highest prevalence of (WaSt) concurrent wasting and stunting (10.0%) compared to all other provinces.

FIGURE - 2
STUNTING PREVALENCE IN SINDH(%)

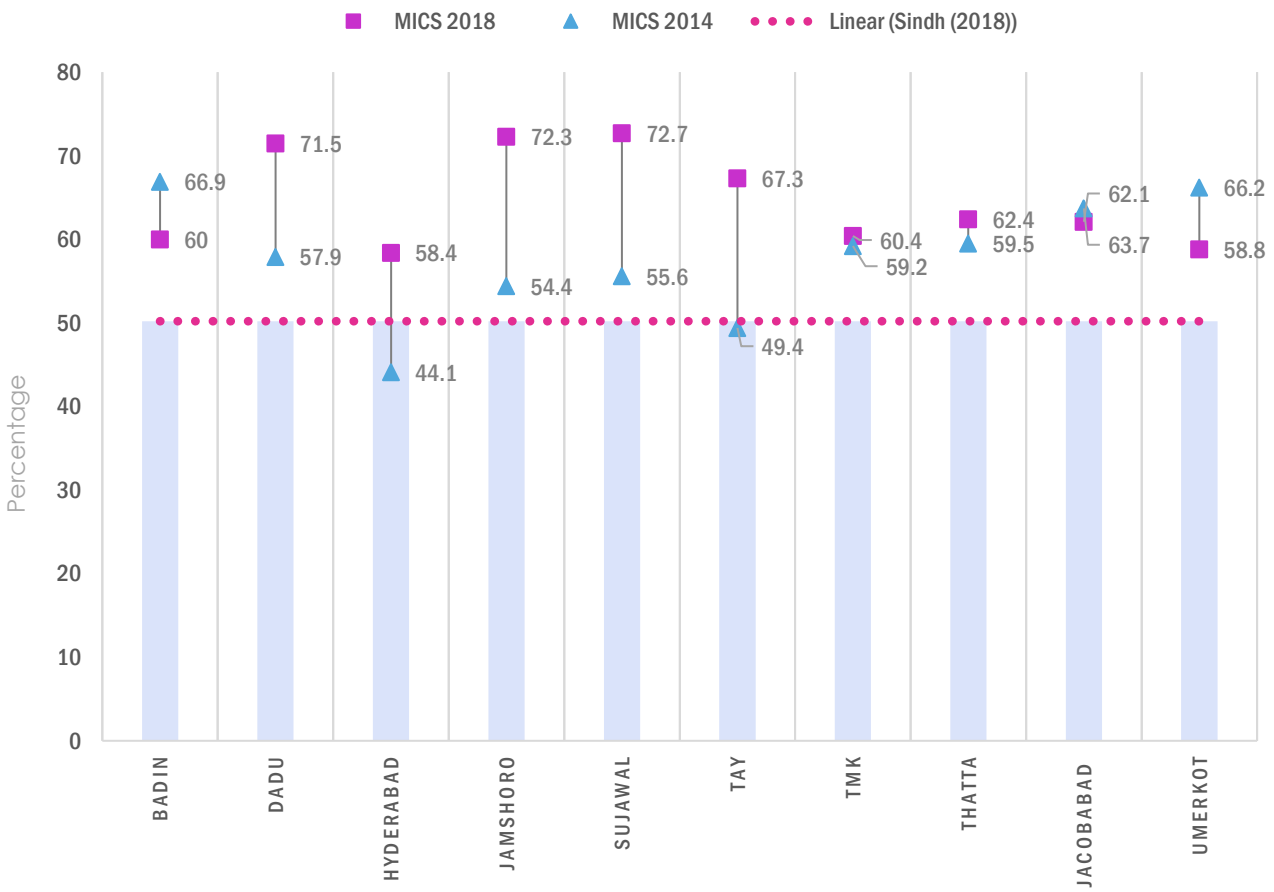

Figure 2 explains the alarming situation of the worst performing districts of Sindh in terms of stunting prevalence. Starting from Sujawal, Jamshoro, and Dadu, the data of MICS-2018 shows that the aforementioned districts have the highest prevalence of stunted children under the age of five i.e. (over 70%) when compared with the other districts of Sindh. Badin, Tando Allahyar, Thatta, and Tando Muhammad Khan also have a high prevalence of stunted children, between the range of 60% and 70%. In terms of the dispersion between the prevalence of MICS 2014 and MICS 2018, Tando Allahyar shows an increase of 17.9 percentage points in stunted children during the 2014-18 period. Hyderabad, & Umerkot were also recorded on the higher side for the stunting prevalence i.e. between 50% to 60% when compared with the provincial averages of stunting prevalence in Sindh i.e. 50.2%. As per MICS, the prevalence for stunting at Sindh level has increased over time and most of the districts of the province have shown increased prevalence of stunted children at district level, when compared with the prevalence of MICS-2014.

1.3 THARPARKAR'S BRIEF DISTRICT PROFILE

The Thar Desert is located in the Indian state of Rajasthan and extends into Haryana and Gujarat. This desert in Pakistan extends from the eastern border of Sindh Province to the southeastern regions of Punjab, where it joins the Cholistan desert. Tharparkar district is a significant section of Sindh's desert terrain. Tharparkar is located in the south eastern border of Sindh province, bordered with Umerkot in the Northwest, Mirpur Khas in the West and Badin in the Southwest.

This district was divided into two districts in 1990, "Thar" and Mirpurkhas. Umerkot was created from Thar in 1994 and given the status of a district. Tharparkar district now includes Thar Desert regions. District Tharparkar is one of Pakistan's most under-developed districts with one of the lowest Human Development Index according to UNDP's Pakistan National Human Development Report of 2017.

The majority of the people in this district speak Thari, but Sindhi and Marwari are also widely spoken. Furthermore, Urdu is spoken and understood in Mithi and Islamkot. This district has a sizable Hindu population. The major Hindu tribes in this district are the scheduled castes of Meghwar and Bhil. Muslims make up 59.4% of the population, while Hindus make up 40.6% of the total. This district's major Muslim clans include the Arbabs, Syeds, Soomras, Samejos, Halepotas, Panhwars, Samas, Memons, Dal, Khosas, and Rinds. This district's major Hindu clans include Brahman, Lohana, Malhi, Rajputs, Khatri, Bheel, Menghwar, and Kolhi.

The total population of District Tharparkar is just over 1.6 million with a sex ratio of 115.0 males for every 100 females, which is higher than the provincial average (i.e. sex ratio of 108.3 males for every 100 females). 92% of the total population of the district resides in rural part of Tharparkar. The population density of this district is recorded at the 83.9 per sq. km. which is about four times lower than the provincial average population density. The low population density and scattered population in Tharparkar makes service provision difficult for the government and non-government organizations. From the perspective of nutrition-related services, this essentially has implications in terms of expansion of health facilities and outreach efforts to ensure service provision for the scattered population.

S.No	Indicators	Tharparkar		Sindh		% Share of District
	(Population in '000')	%	Number	%	Number	
1	Total Population	100.0	1,647,036	100.0	47,854,510	3.4
2	Total Female Population	46.5	765,862	48.0	22,972,370	3.3
3	Rural Population	92.0	1,514,502	48.1	23,021,876	6.6
4	Population Under 5 Years	19.7	324,617	14.3	6,820,675	4.8
5	Population Under 18 Years	57.8	951,763	46.9	22,457,092	4.2
6	Adolescent Population (Age 10-19 Years)	23.2	381,646	21.8	10,417,865	3.7
7	Population Age 15 to 24 Years	16.2	267,593	18.8	9,019,927	3.0
8	Sex Ratio (Males per 100 Females)	-	115.0	-	108.3	-
9	Inter-censal Growth Rate (1998-2017)	-	3.1	-	2.4	-
10	Area (In Sq. Km)	-	19,637	-	140914.0	-
11	Population Density (Population Per Sq. Km)	-	83.9	-	339.6	-
12	Number of Tehsils/Talukas	-	7	-	138	-
13	Number of households	-	301,625	-	8,478,047	-
14	Average Household size	-	5.45	-	6	-

Source: Pakistan Population & Housing Census 2017

1.3.1 Malnutrition Landscape of Tharparkar

As per the MICS 2018, the stunting prevalence in Sindh is 50% as compared to 48% in MICS 2014. Many districts are over and above 50% and Tharparkar is at 50.67% as compared to 63% in MICS 2014. The decrease in stunting prevalence may be attributed to the widespread attention received since 2011 by the Government, donors, and private sector in multi-sectoral nutrition intervention. However, because stunting is still prevalent in Tharparkar i.e. over 50%, there is a need for continuous efforts to amplify the impact of multi-sector interventions. Furthermore, the NNS-2018 data for Tharparkar indicates 60% stunting and 78.8% food insecure households. As per the World Health Organization 'stunting is considered as a severe public health problem in the community when its prevalence in children is greater than 40%'.[3] Wasting (weight-for-height) and underweight (weight-for-age) prevalence in children in Tharparkar is 25.7% and 52.9% respectively. Stunting is synonymous with chronic malnutrition and wasting with acute malnutrition.

FIGURE - 3

MALNUTRITION INDICATORS OF THARPARKAR (%)

[3] World Health Organization. Physical status: The use and interpretation of anthropometry: report of a WHO expert committee Geneva: WHO; 1995

Health Facilities at Present in the District Tharparkar

TEHSIL	BHU	DHQ	FAP	GRD	RHC	THQ	USK	TOTAL
Mithi	10	1	1	30	0	0	2	44
Chachro	7	0	0	19	0	1	0	27
Nagarparkar	5	0	0	16	0	1	0	22
Diplo	10	0	0	38	0	1	0	49
Islamkot	4	0	0	33	1	0	1	39
Dahali	4	0	1	12	1	0	0	18
Kaloi	0	0	0	0	0	0	0	0
District Total	40	1	2	148	2	3	3	199

Source: Acceleration Action Plan Portal

In terms of outreach coverage across Tharparkar, the modus operandi is to provide health outreach services through Lady Health Workers (on the government's payroll) and through Community Health Workers in uncovered areas (through Shifa Foundation). Presently, there are a total of over 1200 outreach workers in Tharparkar, comprised of 596 Shifa Foundation's CHWs and 634 LHWs on the government's payroll.

Multi-Dimensional Poverty in the District Tharparkar

	M-Poverty Headcount 2018 (H)	MPI 2018	% Vulnerable to Poverty	% in Severe Poverty
Sindh	0.47	0.25	12.50	28.30
Tharparkar	0.78	0.40	15.90	51.10

It is worth mentioning that multi-dimensional poverty measures deprivations across health, education, and living standards. For Tharparkar, MPI poor population percentage along different dimensions are as follows: Education - Years of Schooling (33.9%) & School Attendance (48.6%), Health - Child Mortality (4.8%) & Nutrition (50.3%), Living Standards - Electricity (61.6%), Sanitation (66.1%), Drinking Water (53.4%), Floor (85.1%), Cooking Fuel (99.2%), and Assets (78.2%).

Antenatal Coverage

	Medical doctor %	Nurse/ Midwife %	LHV %	Community Midwife %	Traditional birth attendant %	Other %	No Natal Care %
Sindh	71.0	3.7	0.4	1.7	1.5	0.1	21.7
Tharparkar	52.4	0.0	0.0	0.0	3.3	0.0	44.3

Postnatal Coverage

	Health check following birth while in facility or at home %	Same day %	1 day following birth %	2 days following birth %	PNC visit for mothers		No post-natal care visit %
					3-6 days following birth %	After the first week following birth %	
Sindh	56.4	20.1	4.2	3.3	6.1	2.2	63.0
Tharparkar	49.2	51.3	2.2	7.4	5.2	2.4	31.5

Sanitation Coverage

	Basic service %	Limited service %	Unimproved %	Open Defecation %
Sindh	58.8	7.1	10.1	24.0
Tharparkar	25.4	0.1	25.9	48.5

Minimum Acceptable Diet

	Minimum Dietary Diversity %	Minimum Meal Frequency %	Minimum Acceptable Diet %
Sindh	15.2	67.9	11.7
Tharparkar	13.5	69.8	10.8

Age-Appropriate Breastfeeding

	Exclusive Breastfeeding (under 6 months) %	Breastfeeding and receiving solid, semi-solid or soft foods (6-23 months) %	Appropriate Breastfeeding %
Sindh	46.5	61.1	56.8
Tharparkar	76.1	68.8	70.8

The aforementioned indicators including Multidimensional Poverty, Antenatal and Postnatal care, Sanitation, Dietary Measures, and Breastfeeding practices to highlight as per MICS 2018 to highlight the prevailing situation of factors that are correlated with malnutrition, especially stunting, in Tharparkar (in relation to the provincial average).

2. AIM AND OBJECTIVES

The overall objective of the study on 'Assessment of Malnutrition (Stunting) in District Tharparkar' was to review the nutrition-specific programs in district Tharparkar for a landscape analysis to offer lessons on how to address malnutrition in the province.

The specific objectives were to:

i. Analyze the nutrition specific programs in district Tharparkar, especially undertaken by the Government of Sindh, development partners and NGOs with a focus on the last five years

   a. Holistic analysis of the major completed schemes/projects/initiatives

   b. Analysis of malnutrition-related indicators, especially focus on prevalence of stunting in children under 5-years of age (output/outcome/impact)

ii. Assess the strengths, weaknesses, opportunities, and threats (SWOT) vis-à-vis stunting reduction approach with reference to: services at health facility (staff, supply chain, skills, etc), at community level to assess the knowledge, attitude and practices of outreach workers (LHWs/Community Health Workers) and caregivers.

iii. Prescriptions for evidence-based decision making to improve provincial nutrition outcomes as part of the way forward

The secondary research was conducted and in-depth interviews for relevant Government Departments, NGOs & INGOs, Healthcare Staff (including LHWs/CHWs) and female caregivers in the community (Guiding Questions are Annexed) were designed to achieve the specific objectives of the study.

3. LITERATURE REVIEW

As described in the 'Introduction' of the report, 'Stunting impacts a child's physical development, health, emotional & brain development, and cognitive ability and is brought on by insufficient nutritional intake and repeated illnesses over an extended period of time. According to the World Health Organization "Children are defined as 'stunted' if their height-for-age is more than two standard deviations [low height-for-age] below the WHO Child Growth Standards median." Although globally, it's prevalence has decreased over the past several decades, the frequency of childhood linear growth retardation, often known as stunting, is still considerable (Vaivada et. al. 2020). UNICEF estimates global stunting prevalence (children under-5 years) as 22% which translate into approximately 149.2 million stunted children across the globe.[4]

3.1 GLOBAL EVIDENCE: CASE STUDIES

Senegal has been touted as a successful case study in West Africa which has reduced its stunting prevalence to 17% in 2017 from more than 34% in 1992 (Brar et. al. 2020). The significant determinants for reducing stunting include improvements in maternal and newborn health, economic improvement, increases in parental education, and better piped-water access. The key drivers for the reduction in stunting in Senegal include political will, continuity of policies, multi-sectoral approach, and community-based programming.

A multi-country study offers useful lessons for effectively reducing stunting from countries like Nepal, Ethiopia, Peru, Kyrgyz Republic, and Senegal (Bhutta et. al. 2020). The aforementioned countries do not have similar socio-economic conditions, but have been able to reduce stunting effectively over time. The common thread of significant contributors includes 'improvements in maternal education, maternal nutrition, maternal and newborn care, and reductions in fertility/reduced interpregnancy intervals.'

The case of Rwanda, in terms of stunting reduction, is laudable with a 14 percentage-point reduction from 2005 to 2015 (Iruhiriye et. al. 2019). Although the reduction in prevalence from 52% to 38% in a decade is appreciable, the improvement has not been at par with other health-related indicators in Rwanda. The prevalence of stunting is higher for the poor segments of the population that reside in rural areas. The driving factor for Rwanda's reduction in stunting is attributed to the improved health governance and decentralization of health services. The government has been focusing on improving food security, maternal and child healthcare services, and early childhood development with a targeted approach to accelerate stunting reduction.

3.2 ECONOMIC IMPACT OF STUNTING

It would be a fallacy to view 'stunting' solely as a public health issue as it affects and permeates different sectors, especially the economy. A cross-country meta-study quantifies the economic cost of childhood stunting to the private sector in low- and middle-income countries (Akseer et. al. 2021). The study estimates that 'childhood stunting costs the private sector at least US$135.4 billion in sales annually [that can add up to 1.2% of GDP].' Similarly, cumulative monthly incomes due to childhood stunting were estimated from US$700 million in the Middle East and North Africa (MENA) region to US$16.5 billion in the East Asia and Pacific region. In terms of cost-effectiveness of stunting reduction interventions, the study estimates that

[4] UNICEF/WHO/World Bank Joint Child Malnutrition Estimates, 2021 Edition

returns on investment range from 'US$2 to US$81 per $1 invested annually' which essentially means a RoI of '100% to 8000%.' Across low- and middle-income countries.

In a study commissioned by the World Bank, the 'income penalty' of stunting and benefits of scaling nutrition interventions are quantified for '34 developing countries that account for 90 percent of the world's stunted children.' (Galasso and Wagstaff 2018). The study estimates that, on average, stunting reduces income per capita by about 7 percent. Similarly, the benefit of introducing a package of 10 nutrition-related interventions over a period of 10 years in these 34 countries is quantified with a rate of return of 17 percent and a benefit-cost ratio of 15:1.

3.3 NATIONAL EVIDENCE

Studies have aimed to study the underlying factors that contribute to malnutrition, especially stunting, in Pakistan. A study uses the data of the Pakistan Demographic and Health Survey 2017-18 to ascertain the link between the socio-economic status of households with childhood stunting (Ali and Hussain 2021). The study found that 'the chances of child stunting significantly decrease by 29% and 54% among mother's education level at secondary and higher respectively [compared to 'no education' of mother] at 1% level of significance. Similarly, 'there are more chances of decreasing child stunting ratio with improvement in household wealth status as for poorer, middle, richer and richest class families which are 39%, 45%, 55% are 67% respectively as compared to the poorest families at 1% level of significance.'

Another study examines the relationship between household deprivation status and malnutrition, including stunting (Shahid et. al. 2022). The focus was on Rahim Yar Khan, a marginalized district of Punjab. The study found that as the households become less deprived, the prevalence of underweight and stunting decreased, but there was no significant impact on wasting. The key finding of significant association between household wealth and stunting is intuitive as wealthier households can afford nutritious foods & a diverse diet, better healthcare services, have access to improved amenities, and are likely to have better education. All of these factors lead to improved nutrition outcomes.

A study by the World Food Programme quantified the economic cost of undernutrition in Pakistan which adds up to US$7.6 billion annually (World Food Programme 2017). The study unpacks the following four causal chains through which undernutrition, including stunting, impacts the economy:

- "Maternal nutrition and breastfeeding behavior, along with child underweight, wasting and micronutrient deficiencies, are linked to approximately 177,000 deaths annually in Pakistan, which corresponds to more than one-third of all-child mortality. The lost future workforce is valued at US$ 2.24 billion per year.
- Cognitive deficits derived from childhood stunting, anemia and iodine deficiency disorders will result in 'reduced future adult productivity', which is valued at a Net Present Value (NPV) of US$ 3.7 billion per year.
- Projections indicate that anemia among adult men and women who are engaged in agriculture, industry and other manual labor will lower their economic output by US$ 657 million per year.
- The cost of utilization of health care services due to zinc deficiencies, suboptimal breastfeeding and low birth weight is estimated at approximately US$ 1 billion annually."

3.4 UNDERNUTRITION IN THARPARKAR

A study conducted on 'The Link Nutrition Causal Analysis (NCA) quantitative survey in District Tharparkar revealed the prevalence of global acute malnutrition (GAM) at 27.8 % and the prevalence of global chronic malnutrition (GCM) at 47.3%. Both rates are higher than the 2018 World Health Organization (WHO) emergency thresholds of 15% for GAM and 40% for stunting, respectively (Welt Hunger Hilfe 2020). Overall, '17 risk factors' were identified as having an impact on the incidence of undernutrition. In terms of severity, following seven major risk factors were identified:

- Poor access to water
- Poor hygiene and sanitation practices
- Poor health services
- Poor complementary feeding practices of children aged 6-23 months
- Low availability of food
- Poor diversity of household income sources
- Poor coping strategies (especially for HHs that rely on others for food/money)

Another study, funded by Nutrition Support Program (NSP) and conducted by Action Against Hunger, identified 'Knowledge, Attitudes, and Practices (KAP) to 'assess infant & young child feeding practices, water, sanitation & health, and food security & livelihoods among mothers and caregivers of children aged 0 to 23 months in Tharparkar' (Action Against Hunger 2016). A few key findings of the study were as follows:

- 'With regard to IYCF, survey results indicated that less than half (44%) of the mothers exclusively breastfed their child during the first six months and only 25% started breastfeeding within 1 hour of birth. The poor dietary diversity and feeding frequency contributed to the overall low proportion of children who received the minimum acceptable diet (10.7%). The survey also found that some health practitioners gave inappropriate information to mothers, such as promotion of infant formula'

- The survey also found that the 'WASH situation is critical among survey participants; majority of the population used open wells as their source of water, which increases the likelihood of water contamination. Similarly, most participants did not have access to any latrines and practiced open defecation; over three-quarters of participating households did not have any designated handwashing location'

- 'Food security indicators were also assessed, with more than half of the participating households reporting a medium or low household dietary diversity score. Among participating households, 89% had adopted one or more food-based coping strategies and 12% had adopted all five food-based coping strategies.'

Another Tharparkar-specific study identified 'maternal education, household income, family size, breastfeeding, vaccination status, and frequent infections to be significantly associated with the severe acute malnutrition' (Sand et. al. 2018). The recommendations of the study propose 'specific interventions on promoting exclusive breastfeeding, vaccination, and timely healthcare-seeking behaviors would definitely improve the outcomes. Nevertheless, sector-wide approaches would be needed on girls' education, poverty, and food security in the district in order to address the issue of malnutrition.'

4. METHODOLOGY

The following methodology was adopted to successfully execute the study:

- In-depth desk review to document the understanding of the study and proposed approach in an inception report.
- A sound 'Research framework' that is suitable for the proposed study.
- The research instrument(s) that are suited to the specific characteristics of the malnutrition (stunting-focused) landscape in District Tharparkar.
- A mixed-method approach for analysis with a focus on secondary research & analysis complemented by Key Informant Interviews (KIIs) of relevant stakeholders along with a few Focus-Group Discussions (FGDs).
- Forward-looking prescriptive approach to determine priorities for future planning and implementation pertaining to the nutrition landscape, specifically focused on stunting.

4.1 STUDY DESIGN

The study design was centered on secondary analysis of existing research, nutrition-specific project documents, and nutrition indicators from surveys. The secondary analysis was complemented by key informant interviews and focus-group discussions (from female caregivers in the community) for insights that might corroborate the findings from the secondary research or add novel dimensions that have otherwise not been documented in the existing literature. The essence of this study is to offer actionable recommendations for key stakeholders in the nutrition-related landscape that can translate into improved service delivery and nutrition outcomes in Tharparkar.

4.2 STUDY SITE AND DURATION

The research team interviewed multiple stakeholders at different levels to understand and deconstruct multi-dimensional perspectives pertaining to malnutrition, especially stunting, in Tharparkar. The duration of the study was four months which involved secondary research for an in-depth situational analysis of the nutrition landscape in Tharparkar. The secondary research was complemented by the Key Informant Interviews in Karachi, Mithi, Nagarparkar, and Islamkot. Focus group discussions with female caregivers were also conducted in the villages of Mithi and Nagarparkar.

4.3 SAMPLE SIZE AND RESPONDENTS

The key informant interviews and focus group discussions were conducted from a wide variety of nutrition-related stakeholders including the Government Departments, Development Partners, Non-Government Organizations, Doctors, Nutrition Assistant, Staff Nurse, Lady Health Worker, Community Health Workers, and Female Caregivers of Community. Customized guiding questions were formulated for each group to gain enriching information (Guiding Questions are annexed). In total, twenty-four key informant interviews were conducted (List of Interviewees is annexed for reference) and three focus-group discussions (6-8

participants each) were conducted with female caregivers of Villages Sanyasar and Malanhor Vera in Mithi and Village Soorah Chand in Nagarparkar.

4.4 DATA COLLECTION TOOLS

Reports of the nutrition-specific development schemes/projects, with a focus on stunting, were utilized for the assessment along with the available research/survey reports of malnutrition (especially stunting) outcomes. Key informant interviews of relevant stakeholders were conducted along with focus group discussions of female caregivers in the communities of Mithi and Nagarparkar. Guiding questions were designed well before undertaking KIIs and FGDs for review and approval by the Provincial Ombudsman. Insights from interviews and discussions were gathered through the guiding questions that were customized across stakeholder groups. Interview notes were taken by the Principal Investigator and Two Research Associate after which they were transcribed, collated, consolidated and analyzed to extract insights for the S.W.O.T. analysis, key findings, and recommendations.

4.5 DATA MANAGEMENT

The research team comprised the Principal Investigator along with two Research Associates who provided support with the translation and transcribing of interviews. The interviews conducted in Tharparkar were transcribed by the research team after returning to Karachi. The thematic analysis of interviews was done to inform the SWOT analysis, key findings, and recommendations of the study. Preference was given to the themes that were recurring and voiced by multiple interviewees. All of the analyses were consolidated in a report format that is published as an 'Assessment of Malnutrition (Stunting) in District Tharparkar' with concrete recommendations for the Government.

4.6 ETHICAL CONSIDERATION

A research brief detailing the study and its objectives was presented to the interviewees beforehand to ensure that there was no miscommunication or misrepresentation. Similarly, the guiding questions were also shared with the interviewees to sensitize them beforehand about the questions being asked. Consent was taken with the interviewees to mention them in the report for the insights and information provided by them for adding substantive value to the study.

4.7 LIMITATION OF THE STUDY

It is worth mentioning that this short-term study, which was predominantly based on secondary research, was hinged on collating nutrition-specific information for situational analysis of Tharparkar to offer actionable recommendations pertaining to the key stakeholders. With limited scope (and resources), the study was oriented towards leveraging and consolidating existing information and analysis to offer prescriptions and recommendations. Considerable insights were collected through key informant interviews and focus group discussions to complement and enrich the analysis. It is hoped that more resources are accorded towards primary research that can really delve into a longitudinal study with a representative sample to deconstruct the nutrition challenges faced by Tharparkar and other highly affected districts of Sindh over time. One of the study's recommendations is centered on potential avenues for more in-depth research on the multifaceted issue of malnutrition.

5. NUTRITION SPECIFIC PROGRAMMES AT DISTRICT THARPARKAR

5.01 ACCELERATED ACTION PLAN (AAP), PLANNING & DEVELOPMENT DEPARTMENT, GOVERNMENT OF SINDH

In order to tackle the challenge of malnutrition, the Government of Sindh has undertaken various initiatives. In 2017, it launched a multi-sectoral program titled, "Accelerated Action Plan for Reduction of Stunting and Malnutrition -AAP" across 23 districts of Sindh including Tharparkar.

Before delving into the Health Sector (nutrition-specific outputs) of AAP, it is worth exploring the overall ambit of the flagship nutrition program of the Government of Sindh that is aimed at reducing stunting and malnutrition. With its Nutrition Task Force Secretariat being overseen by the P&D Department, the AAP is spread across 8 sectors including Health (nutrition-specific), Education, Livestock, Fisheries, Agriculture, Population Welfare, WASH – Local Government, and Social Protection (Social Protection Strategy Unit focused on conditional cash transfers). The apex oversight forum is the 'Provincial Steering Committee on Nutrition' which is headed by the Chairman (P&D Board) with 8 Provincial Secretaries, and Secretary Finance as its members. AAP Task Force Secretariat for Nutrition is housed in the P&D Department and serves as the secretariat for the Provincial Steering Committee on Nutrition.

Government of Sindh is financing the AAP multi-sectoral program through recurrent annual budgets and five-year investments of GoS are as under:

- Final Grant to 8 AAP Sectors over Rs. 17 billion from FY 2017-18 to 2020-21 and Rs. 5.742 billion for FY 2021-22 making the cumulative allocation of Rs. 22.742 billion in the last five years

Besides Government of Sindh, other funding agencies (development partners) of AAP are:

- World Bank – IDA Credit of USD 61.62 Million (Loan) – Closed on 31st December 2021
- The European Union – EUR 60 Million (Grant) PINS – Closed on 31st December 2021 (EU PINS-2 is continuing interventions in Jamshoro and Dadu up to December 2022) – Tharparkar not part of PINS
- UNICEF – Annual Commitments as grants under their rolling work plan (USD 6 million for 2018-2021)
- WFP – In-Kind Support
- Nutrition Support Program (World Bank) – USD 47.95 billion (Closed in December 2019)

AAP Health Sector is one of the main sectors working in the district of Tharparkar. The details of AAP & Health in the district are given below:

Project Title	Accelerated Action Plan for the Reduction of Stunting and Malnutrition, district Tharparkar.
Implementing partner	PPHI (OTP and NSC), Shifa Foundation (Outreach)
Project period	January 2020 to June 2020, July 2020 to June 2021 July 2021 to June 2022 July-2022 to June-2023 ongoing
Project Beneficiaries	Children Less than 5-year, Pregnant and Lactating Women PLW and Adolescent girls age 10-19 years
Location of Beneficiaries	Tharparkar (LHW Uncovered Area)
Area of Project Implementation	07 Talukas of Tharparkar 1. Chachro 2. Dahli 3. Diplo 4. Islamkot 5. Kaloi 6. Mithi 7. Nagarparkar

Summary of AAP interventions in district Tharparkar is as follows:

SECTOR	INTERVENTIONS	MAIN SUCCESSES
Health	Establishment of Outpatient Therapeutic Program (OTP) Centers	62 OTPs Established
	Establishment of Nutrition Stabilization Centres	03 NSCs
	Screening of malnourished children	400769 children screened
	Treatment of children at OTP	42859 registered and treated
	Antenatal care (ANC) at community level	50259 pregnant women received services
	ANC at health facility level	29422 pregnant and lactating women received services
Population Welfare	Health Mela/Festivals	13 FHMs organized where 1200 couples availed family planning services
Agriculture	Establishment of Kitchen Gardens (KGs)	239 KGs established at household level
Livestock	Distribution of livestock for improving nutrition at the household level	953 HHs received goats and poultry birds, each HH received 50 goats and 10 poultry birds

Nutrition Awareness/Outreach Campaign

Under AAP, comprehensive Social Behavior Change Communication has been developed and subsequently approved by the high-power project steering committee. Under the approved SBCC plan, the following are overall main highlights of the achievements:

- Documentary has been made on the situation in Tharparkar and been aired on local Sindhi language channel Awaz TV.
- Twenty articles discussing various aspects of malnutrition have been published in major newspapers of Urdu and Sindhi languages ie daily Jang, Daily Dunya, Daily Express, Daily Kawish, etc.
- Forty animated videos have been made and launched on social media
- One TV drama have been produced and aired on Sindh TV
- SBCC toolkits have been produced in Urdu and Sindhi for both nutrition specific and sensitive components
- Wall painting have been done outside NSC
- Radio messages have been broadcasted

Besides that, the following are key SBCC activities undertaken in District Tharparkar.

SN	SBCC ACTIVITIES/ SERVICES	ACHIEVEMENT
1	Functional Mother Support Groups (MSGs)	1656 MSGs in the 1st phase and 1192 in the current tenure
2	# of Meetings conducted with MSGs	28,982
3	Functional Father Support Groups (FSGs)	828 FSGs in first phase and 596 FSGs in current phase
4	# of Meetings conducted with FSGs	17,160
5	# of Children 6-59 Screened (New)	321,383
6	# of SAM Children referred to OTP	21,124
7	# of Children 6-59 Rescreened	371,802
9	# of SAM Children with complications ref. to NSC	130
10	# of Children provided MNP [6-23]	120,528
11	# of MAM Children provided MNP [24-59]	29,929
12	Total # of Children provided MNP [6-59]	150,457
13	# of Children Dewormed [12-59]	229,666
14	# of PWs Screened (New)	68,730
15	# of PWs Rescreened	47,529
16	# of LWs Screened (New)	105,798
17	# of LWs Rescreened	62,208
Iron Folic Acid Tablets (IFAs) and Deworming tablets provision:		
18	# of PWs Provided IFAS	72,948
19	# of LWs Provided IFAS	89,483
20	# of Ad. Girls Provided IFAS	70,497
21	Total # of PLWs and Ad. Girls provided IFAS	232,928

22	# of PWs are dewormed	48,117
23	# of LWs are dewormed	47,501
24	# of Ad. Girls are dewormed	93,414
25	# of Safe delivery kits (SDKs) provided to PWs	2,617
26	# of CHX provided to PWs	8,470

Impact of AAP interventions will reflect in the upcoming National Nutrition Survey. The current NNS 2018 was conducted when the project has just started; therefore, it cannot capture the impact of AAP interventions.

5.02 NUTRITION SUPPORT PROGRAM

Goal: To improve the nutritional status of male and female children under five years and of pregnant and lactating women, with a priority focus on malnourished amongst the poor and other disadvantaged and socially marginalized groups.

Implementation Period: 03 years (Granted one year extension; Closed on December 2019).

Targeted Districts: 09 districts of Sindh i-e Tharparkar, Umerkot, Sanghar, Badin, Tando Mohammad Khan, Jacobabad, Larkana, Kashmore and Kambar Shahdad Kot.

- Cost: Rs. 4117.900 million (World Bank: Rs. 3696.190 million and GoS: Rs. 421.710 million)
- Implementation period: 03 years.
- Districts covered: 09 Districts (Kamber at Shahdadkot; Larkana; Kashmore; Jacobabad; Tharparkar; Umerkot; Badin; Sanghar and Tando Mohammad Khan).
- Approval of Project: Approved by ECNEC on 12-02-2014.

Major Activities/Objectives:

- Proven nutrition interventions initiated on a large scale.
- Ensuring availability of Infant and Young Child Feeding (IYCF) and Community based Management of Severe Acute Malnutrition (CMAM) services by 2018;
- Reducing the levels of micronutrient malnutrition children (including children with disabilities) less than five years, pregnant and lactating women
- Strengthening institutional capacity for effective implementation, research and evaluation
- Contracting to competitively selected NGOs for implementation of nutrition intervention in non LHW covered areas.
- Public Private Partnership (PPHI)- for using the staff and premises of primary health care facility under their management

Anticipated Results:

- 1% per year reduction in the proportion of children less than 5 years old who are stunted
- 30% reduction in the proportion of children less than 05 years with severe acute malnutrition.
- Proportion of women of reproductive age who are anemic reduced from current 60% to 50%.

Progress Achieved in Tharparkar:

- 764,451 Screening of Children < 5 years (13.5%).
- 296,689 Screening of PLWs
- 129,883 Children were provided MNP sachets
- 156,171 Zinc Syrups provided to children with diarrhea
- 53,983 Treatment of SAM with support of PPHI and NGO
- 1,964 Treatment of SAM with complications at NSCs

5.03 SAAF SUTHRO SINDH PROGRAM – SCALING UP OF RURAL SANITATION

Program Objectives: The Saaf Suthro Sindh (SSS) Program is an initiative of the Local Government Department, Government of Sindh (LGD), which has been conceived as an additional component of the Sindh Inter-sectoral Nutrition Support Program (NSP).
The common objective of the SSS program and the NSP is to improve the nutritional status of the entire Sindh, particularly the rural communities through sanitation interventions. The SSS program is also aligned with the federal government vision 2025 and aims to achieve an open defecation free (ODF) Sindh by 2025. The objective is to cover the entire Sindh to make it ODF and to improve hand washing and hygiene behavior throughout Sindh.

Program Scope: The scope of the Program is mainly social mobilization for a behavior change. However, SSS in the first phase targeted 5200 villages in 13 districts of Sindh to make these villages ODF. Moreover, in each of the thirteen districts; 200 toilets with hand-washing facility were to be constructed. These districts are: Jacobabad, Larkana, Sanghar, Shikarpur, Kashmore, Thatta, Sujawal, Dadu, Badin, Umarkot, Tharparkar, Tando Muhammad Khan and Kambar-Shahdadkot. Remaining population of these 13 districts and other districts of Sindh are going to be covered under Accelerated Action Plan, which is a multi-sectoral plan of the government.

Cost: The SSS Program cost was initially estimated as Rs. 1586.698 Million, wherein GoS share was Rs. 280.371 Million (18% of total cost) and the rest amount of Rs. 1306.327 Million (82% of the total cost) was to be provided by World Bank under IDA grant.

Duration: The Program duration was three years from the date of start

Modified Cost: The modified cost of the Program and sharing by GoS and World Bank grant is as follows:
GoS Share: Rs. 900.561 Million (41%)
World Bank Grant Rs. 1306.327 Million (59%)

Modified Scope of Program: Small scale water supply and sewerage schemes were to be constructed in the targeted villages as per requirement in addition to original scope of work.

Program Implementation: The Program was being implemented by hiring NGOs for social mobilization, but was discontinued in 2020 after sudden suspension of donor financing. It was claimed that 2400 out of the target 5200 villages across 13 districts, including Tharparkar, were made open-defection free (ODF) during the program implementation; however, no substantial evidence is available to ascertain the effectiveness of the program.

5.04 WORLD FOOD PROGRAM

Cost: US$ 48Million
Implementation period: 03 years (2016-2018)
Community management of acute malnutrition (CMAM) in Tharparkar, Umerkot, Sanghar and Jamshoro)
Cash based transfers for livelihood activities (Tharparkar, Umerkot, Sanghar, Mirpurkhas, Badin)
Status of Project: Formal MoU signed in between WFP and GoS.

Major Activities/ Objectives:

- Community based management of acute malnutrition (CMAM) in partnership with UNICEF, WHO and GoS. (Tharparkar, Umerkot, Sanghar and Jamshoro)
- Cash based transfers for livelihood activities (Tharparkar, Umerkot, Sanghar)
- Community based disaster risk management CBDRM (Tharparkar and Sanghar)
- School safety Programme (Tharparkar and Sanghar)

Private Partnerships:

WFP, in partnership with The Dawood Foundation, initiated a short-term awareness campaign to promote best nutrition practices that builds community resilience towards nutrition and food security in drought prone areas in Tharparkar. The main objective of the campaign was to consolidate best practices in drought situation related to nutrition, raise awareness about the importance of continued actions to build nutrition specific resistance in drought prone areas, map nutrition sensitive and specific intervention/stakeholders and empower community in drought preparedness, especially related to Food Security and Nutrition.

Food for Asset (Cash modality)

During the implementation of HIP 2016, 19,054 households (114,324 beneficiaries) assisted in three districts: Tharparkar, Sanghar and UmerKot. The participants received PKR 6,000 after attending a five-day session on hygiene awareness and diet diversification in three cycles. The livelihood programme was integrated with WFP's nutrition intervention by including the households registered under the Community-based Management for Acute Malnutrition (CMAM) programme, along with other vulnerable groups, for cash assistance.

Disaster Risk Management

WFP, in collaboration with Provincial and District Disaster Management Authorities (PDMA and DDMAs) and UNESCO launched two new projects at Sanghar and Tharparkar in September 2016 aimed at reducing the risks posed by natural disasters in Pakistan: a Community Based Disaster Risk Management (CBDRM) project and a School Safety project.

The WFP school safety programme is benefiting 6,500 students, teachers, school safety committees, community members, trainers, as well as local and district government officials. The CBDRM project intended to benefit more than 3000 residents in two selected districts of Sanghar and Tharparkar. The School Safety and CBDRM programme interventions in 2 districts of Sindh is generously funded by Royal Norwegian Embassy in Islamabad and implemented by FOCUS.

Tharparkar-Specific Activities by the World Food Program during 2017-2020

- Under Life Saving Nutrition Support-Targeted Supplementary Feeding Programme CMAM, 55 static sites and 645 mobile sites were established and registered 96,580 Moderate Acute Malnourished children of aged 6-59 months and 76,616 Acute Malnourished Pregnant & Lactating women from 2017-2020.
- Under social safety programme, 63,000 participants were assisted and provided awareness on optimal nutrition through dietary diversity, breast feeding, Complementary feeding, Benefits of Iodine salt, Livestock Management, Fire Management and Snakebite.
- To enhance Food Security and Improve Resilience through Cash Assistance for Asset (CFA), 6479 participants were engaged from 2019 to 2020.

Some of the Key Outputs by WFP in Tharparkar

- From 2017-2020- 96,580 Moderately acute malnourished children and 76,616 Pregnant & lactating women were treated. Overall cure rate was more than 99% throughout the implementation period. Beneficiaries were provided with messaged on three key messages i.e. breastfeeding, complimentary feeding and hand washing.
- Under social safety programme, 63,000 participants were assisted with PKR 63 million and provided awareness on optimal nutrition through dietary diversity, breast feeding, Complementary feeding, Benefits of Iodine salt, Livestock Management, Fire Management and Snakebite.
- To enhance Food Security and Improve Resilience through Cash Assistance for Asset (CFA), 6479 participants were assisted from 2019 to 2020. The project aims to support vulnerable communities to enhance food security and resilience through provision of cash assistance by creating awareness through trainings on Nutrition, Health & Hygiene, Firefighting, Livestock management, first aid, and communal structural activities

Year-wise (2017-20) summary of nutrition-specific outputs by WFP in the Tharparkar is provided below. (There were no activities during 2021)

Project	Year	MAM Children Treated	PLWs Treated	Total beneficiaries	RUSF	MAMTA	Total food MT including other food items
Life Saving Nutrition Support-Targeted Supplementary Feeding Programme CMAM	2017	29106	22291	51397	150.95	178.908	378.765
	2018	34794	23863	58657	240.999	317.94	558.939
	2019	12387	9543	21930	82.679	145.61	228.289
	2020	20293	20919	41212	183.088	309.559	492.647

WFP - TSFP Interventions in Tharparkar

In this project SF distributed 120.899MT food for children and 224.35MT to women of target areas.

Activity					
Beneficiaries		Boy	Female/girl	Food distributed (mt)	Cash/Voucher distributed (US$)
By age group	Children (under5)	7184	7043	120.899	NA
	Children (5-18)	NA	NA	NA	NA
	Adults (18+)	NA	16498	224.35	NA
	Total	7184	23541	345.249 MT	NA

In the tenure of the project, teams screened 54064 children < 59 months and 47,761 Pregnant and lactating women. Out of 54,064 children 27,653 boys and 26,411 girls screened using the MUAC Tapes. Out of 47,761 pregnant and lactating women 25,651 pregnant and 22,110 lactating women screened using MUAC tapes. During the screening 7,184 male and 7,043 female children < 59 months identified as malnourished and met the criteria for the TSFP admission. 14,227 children < 59 months identified and enrolled in the TSFP program. Meanwhile, 16,498 pregnant and lactating women identified malnourished and enrolled in the program and given food. Including the food distribution, IYCF counseling remained parallel part of the program. IYCF counselors counseled the pregnant and lactating women regarding the IYCF practices, they educated the masses with the key messages of food consumption, balanced diet, vaccination, ANC and PNC, institutional supported deliveries and routine good health and hygiene practices.

5.05 SHIFA FOUNDATION

As mentioned above, the Shifa Foundation is primarily working to support the AAP (Health Sector) in conducting its nutrition outreach support services in Tharparkar. The primary work of Shifa Foundation is screening and referring malnourished children (under 2-years), adolescent girls, and PLWs to facilities. The network of Community Health Workers of Shifa Foundation work in the areas that are not covered by the Lady Health Workers of the Government's Health Department.

Achievements

- Increased Awareness of community regarding nutrition, especially child and PLW related.
- Malnutrition Awareness increased
- Behavioral change increased as community practices indicate regarding, children nutrition, malnutrition and treatment, breastfeeding and other related matters
- Increase in bondage / link with health facility and community.
- Community realization has increased regarding stunting and whole scenario.
- Shifa Foundation have hired 596 Community Health Workers , 16 Taluka Health Supervisors and technical team for better implementation of community outreach activities and services provision. Services from January 2020 to June 2022 through AAP – H, supported project:

SN	SBCC Activities/ Services	Achievement
1	Functional Mother Support Groups (MSGs)	1656 MSGs in the 1st phase and 1192 in the current tenure
2	# of Meetings conducted with MSGs	28982
3	Functional Father Support Groups (FSGs)	828 FSGs in first phase and 596 FSGs in current phase
4	# of Meetings conducted with FSGs	17160
5	# of Children 6-59 Screened (New)	321383
6	# of SAM Children referred to OTP	21124
7	# of Children 6-59 Rescreened	371802
8	# of follow-up visits to SAM Children under treatment	121238
9	# of SAM Children with complications ref. to NSC	130
10	# of Children [0-23] Ref. for Immunization	111781
11	# of visits to Trace Defaulters and Refusal	913
12	# of Children provided MNP [6-23]	120528
13	# of MAM Children provided MNP [24-59]	29929
14	Total # of Children provided MNP [6-59]	150457
16	# of Children Dewormed [12-59]	229666
18	# of PWs Screened (New)	68730
19	# of PWs Rescreened	47529
20	# of LWs Screened (New)	105798
21	# of LWs Rescreened	62208
22	# of Malnourished PWs referred	15117
Referrals:		
23	# of PWs referred for ANC	54194
24	# of PWs referred for TT-2	53911
25	# of PWs referred for Safe Delivery	40586
26	# of LWs referred for PNC	47769
Iron Folic Acid Tablets (IFAs) and Deworming tablets provision:		
27	# of PWs Provided IFAS	72948
28	# of LWs Provided IFAS	89483
29	# of Ad. Girls Provided IFAS	70497
30	Total # of PLWs and Ad. Girls provided IFAS	232928
32	# of PWs are dewormed	48117
33	# of LWs are dewormed	47501
34	# of Ad. Girls are dewormed	93414
35	Total # of PLWs and Ad. Girls Dewormed	189032
37	# of Safe delivery kits (SDKs) provided to PWs	2617
38	# of CHX provided to PWs	8470

5.06 UNICEF EMERGENCY NUTRITION RESPONSE TO COVID-19 AND FLOOD AFFECTED POPULATION IN DISTRICT THARPARKAR, SINDH

No.	Result Statement	Achievement
1	Children 6-59 months screened using MUAC & edema assessment	63,415
2	PLW screened using MUAC	13,891
3	Under-five enrolled in Outpatient Therapeutic Programme (OTP)	5,183
4	Severely Acute Malnourished (SAM) children with complications referred to stabilization Centers (SC)	77
5	CHWs trained and engaged in community outreach component	737
6	Mother & Father Support Groups, regularly engaged in BCC	1,760
7	Mothers/caregivers reached with key messages on IYCF & Health Education	37,408
8	Children 6-59 months received micronutrients powder (MNP)	14,388
9	PLW received micronutrient tablets	26,180
10	Children 24-59 months received deworming tablets	37,114
11	Adolescent Girls received micronutrient tablets	9,322
12	Adolescent Girls received Deworming tablets	453

5.07 15 DAYS COVID-19 MALNUTRITION RESPONSE THROUGH MOBILE TEAMS IN DISTRICT THARPARKAR, SINDH

SERVICES DELIVERED

SN	Services	Achievement
1	Screening: # of children 6-59 months of age	19,478
2	Severe Acute Malnourished (SAM) children enrolled and treated	1,216
3	SAM children with Medical Complications referred to NSCs	10
4	MM Supplementation for 6-59 children	11,725
5	Deworming of children	7,643
6	IYCF sessions # of Pregnant and lactating women-PLW reach for messages	8,332
7	Iron folic acid: # of PLW provided multi-micronutrient supplements	2,223

5.08 HEALTH, EDUCATION & LITERACY PROGRAM (HELP) IN THARPARKAR

It is also worth mentioning the nutrition-related program implemented by the NGO - Health, Education and Literacy Program (HELP). The program is centered on adopting government dispensaries in four villages of Chachro (Chachi Juneja and Gul Mohammad Rind villages) and Nagarparkar (Dhabo Sama and Sindhian Jo

Wandhiyo villages) talukas of Tharparkar to provide free mother and child health services to the people. The program is supported by district health authorities and funded by Penny Appeal – UK.

After adopting the dispensaries during 2020-21, the following achievements have been made:

- 126 normal deliveries were carried out. 590 pregnant women were examined and post-delivery checkup of 181 women was conducted
- 205 women were provided with family planning facilities, 40 awareness sessions were held in different villages and newly born babies were vaccinated
- 267 lady health workers and lady health supervisors have been imparted training about the nutrition needs of girls of ten to nineteen years of age
- 300 midwives of Chachro Taluka have been trained in safe delivery methods.
- 138 lady health workers, 2231 pregnant women were provided with safe delivery kits
- In 82 villages of Chachro, food supplements were distributed among 1231 pregnant women and 1233 young girls
- Solar system had been installed at all the four dispensaries so that the health services could be provided an uninterrupted supply of the electricity
- Submersible pump installed at each dispensary to meet the water drinking requirement

5.09 SINDH HUMAN CAPITAL INVESTMENT: 1000 DAYS

'Sindh Human Capital Investment: 1000 Days' (2022-2027) project of total worth of US$400 million has recently been launched by the Government of Sindh with the World Bank support as a holistic program to target the first thousand days from child's conception till the age of two years. Human capital formation would be made through integrated health, early child education, adult literacy, skill development for women economic inclusion and a Social Registry. The program is divided across two major streams: one under 'Health Department' with support from Population Welfare Department, and other one under 'Social Protection Strategy Unit'. The program will target 290 underserved Union Councils (UCs) across 30 districts of Sindh. In the first phase, for some health components like ambulance services and government dispensary refurbishment, five districts will be prioritized including Tharparkar, Thatta, Sujawal, Jamshoro, Qambar-Shahdadkot.

The health stream of interventions would focus on:

- Ensuring and Improving RMNCAH and Nutrition (RMNCAH+N) and family planning services utilization as well as support during public health emergencies. 392 government dispensaries will be refurbished with 3 Community Midwives (CMWs) stationed at each GD for 24/7 services

- Strengthening demand for and utilization of RMNCAH+N and FP services and women empowerment (Islamic Development Bank to support in women economic empowerment/micro finance, skills training, telehealth, outreach and community uptake of services

- Project Management, Monitoring and evaluation, (ISDB to support microfinance implementation support, gender and result based monitoring and evaluation)

The social protection stream of interventions would be executed through the Social Protection Strategy Unit (soon to be Sindh Social Protection Authority) centered on creating a social registry to capture key socio-economic indicators of households, especially females, for better targeting of social protection

interventions. The social protection component would include conditional cash transfers for improved uptake of maternal, child and reproductive health services.

The two key components of the Social Protection component of the Sindh Human Capital Project include:

- Strengthen Sindh Social Protection Delivery
- Mother and Child Support Program

The social protection component would target the 15 districts with highest Multidimensional Poverty Index (MPI) in the first phase, including Tharparkar. Although this could potentially be an instrumental Initiative to reduce stunting, the eventual impact on nutrition outcomes will depend on smart implementation of interventions and by adopting a problem-driven iterative adaptation approach (PDIA) with a robust feedback loop.

6. S.W.O.T. ANALYSIS

S.W.O.T. Analysis is a key analytical tool that portrays the dimensions of Strengths, Weaknesses, Opportunities, and Threats pertaining to the studied phenomenon. For the assessment of the malnutrition landscape in Tharparkar, a holistic four-dimensional analysis offers useful insights. The core themes, pertaining to malnutrition, that emerged from the discussions with relevant stakeholders are encapsulated in the S.W.O.T analysis delineated below:

STRENGTHS

- Integrated multi-sectoral nutrition-focused approach under the umbrella of Accelerated Action Plan
- Political and Administrative Buy-In to mobilize resources
- Widespread coverage for malnutrition 'screening and referral' via outreach by LHWs and CHWs (CHWs cover areas that are otherwise not covered by LHWs)
- Adequate Community Awareness on feeding practices (IYCF) via network of LHWs and CHWs
- Considerable number of OTP Sites in the District which are expanding
- Conditional Cash Transfer (CCT) Program for the first 1000-day window (Social Protection)
- Multi-Faceted Nutrition-Sensitive Interventions
- Strong linkage between the communities and NGOs (like Shifa Foundation)
- Increased Presence of Multiple Nutrition-Focused NGOs/INGOs
- Innovative Methods, like Telemedicine via ChildLife Foundation
- Effective Public-Private Partnerships in the Health Sector (PPHI & Shifa)

WEAKNESSES

- Uncoordinated activities (sectors working in silos)
- Lack of Nutrition-Specific Cluster meetings for Knowledge Sharing
- Apart from recently introduced CCTs (Social Protection), no dedicated stunting-focused programs
- Insufficient resources earmarked for nutrition-sensitive programs
- Lack of Social Mobilization & Community Participation before implementing programs
- Inadequate Behavior Change Interventions (BCI), especially on hygiene promotion & reproductive health
- Inadequate outreach of healthcare services (low accessibility)
- Lack of integration of services (fragmented facilities)
- Lack of human resources (doctors, paramedics, outreach workers) to tackle malnutrition (especially stunting)
- Stunting is not considered a debilitating chronic disease with a lasting 'irreversible impact'
- Focus on curative/treatment side rather than preventive side
- Sub-par Staff capacity and quality (inadequate trainings); Overburdened LHWs & CHWs
- NSC and OTP Sites not accessible, especially for far-flung populations

OPPORTUNITIES

- Video Modules at Health Facilities in local language for health promotion
- Telemedicine service expansion across all health facilities (including BHUs & RHCs), based on evidence
- Social Mobilization to sensitize, empower, and educate communities
- Focus on girl's education and reproductive health awareness
- Localized District and Taluka-Level Nutritional Plans
- Food fortification and nutritious food preparation through indigenous cost-effective ingredients
- Community Behavior Change through Social Mobilizers to bolster the efforts of LHWs & CHWs
- Integrated Planning (Whole-of-Government Approach)
- Focus on Behavior Change Communication
- Pro-Active Public Private Partnerships for Nutrition-Sensitive Programming
- Better Incentives for Doctors, Healthcare & Outreach Workers (through Performance-Based Management)
- Provision of Integrated Services
- Replication of Islamkot (Model-Taluka Approach) to other Talukas
- Mobile OTP facilities to overcome connectivity issues
- Rural Growth Center and Economic Clusters to address persistent poverty
- Harnessing and expanding, across District Tharparkar, the model community development interventions in Islamkot Taluka by SECMC and Thar foundation
- Government can replicate 'Corporate Social Responsibility' arrangement with SECMC for community development across the entire district

THREATS

- Climate Change affecting Livelihood and Food Security
- Scattered Population poses threat for effective outreach of service provision
- COVID-19 Pandemic or other epidemics can severely affect daily wage laborers
- Possible Import Restrictions on Fortified Supplements (F-75, F-100, RUTF); no indigenous alternative
- Prevalence of Quackery due to inaccessibility of credible health information
- Connectivity (Poor Access to Roads and Infrastructure) is a major obstacle for seeking services at health facility
- Low Literacy & Education
- Early Marriages / Malnourished Younger Married Couple
- Persistence of Low/Poor birth spacing
- Vicious Cycle of Intergenerational transmission of poverty & malnutrition
- Inadequate access to health services
- Disruption of Food supply chain
- Inadequate dietary diversity and food security due to inflation
- Behaviors of the community and cultural norms (e.g. migration & nomadic lifestyle)
- Droughts, Floods and other natural shocks
- Financial sustainability of the CCT program
- Water Availability and Accessibility Issues

7. FINDINGS

7.1 COMMUNITY INSIGHTS: KEY INFORMANT INTERVIEWS (KIIS) & FOCUS GROUP DISCUSSIONS (FGDS)

Insights from the Lady Health Worker, Community Health Workers, and Female Caregivers of the community are provided below in detail to depict the conversations that transpired with the local community. Highlighting the 'unfiltered' insights gathered from the community in Mithi and Nagarparkar helps elucidate about their perspective pertaining to malnutrition. These are distinguishable from the 'Key Consolidated Findings' section that collates and summarizes the key primary and secondary findings.

7.1.1 Key Informant Interview (KII) With Lady Health Worker

Lady Health Worker (Mithi):

VILLAGE SANYASAR

- During the interviews conducted in the field, Lady Health Worker was interviewed about the services that she carries out in the community. She mentioned that her main task pertaining to nutrition is to screen PLWs and children under the age of 5 years for referral to Severely Acute Malnourished (SAM) and Moderately Acute Malnourished (MAM) cases to the nearby OTP site for further treatment
- When asked about the training, she stated that she underwent 3 months of training to learn how to effectively screen children and PLWs for SAM and MAM
- In terms of catchment population, the LHW explained that she is assigned 800 households, but covers about 3,000 households. When asked about the mode of travel, she mentioned that she covers the population through walk
- In terms of remuneration, the LHW mentioned that the total monthly remuneration adds up to over Rs. 50,000 (including COVID-19/Hardship allowance)
- In terms of recommendations, the LHW mentioned that the focus on nutrition-related interventions must also focus on improving the nutritional status of both adolescent girls and PLWs, in addition to SAM and MAM children

7.1.2 Focus Group Discussions (FGDS) With Community/Caregivers

Community Member / Caregiver (Mithi)

VILLAGE SANYASAR

- During the FGDs conducted in the Field with the LHW and six female caregivers in village Sanyasar, a mother of young children was asked about the birth spacing between children, she mentioned that the 2nd child was born 9 months after the 1st child
- When asked about her health following the birth, she stated that she was fine after the 1st delivery. However, before and after the birth of the second child, she was quite weak and the child was malnourished too
- When the LHW was asked about the mother, she explained that she was anemic and was admitted to the District Headquarter Hospital in Mithi before the 2nd delivery which was a pre-term birth.
- When asked about the handwashing practices, the community members explained that they use water to wash hands 'after eating food' and not before. There is no soap. Water is like 'oil' here and water scarcity is a big issue
- When asked about the literacy of children, the community members stated the females are usually not literate. At most, the female completes primary education. Mostly, females are not sent to school

7.1.3 Key Informant Interview (KII) With Community Health Worker

Community Health Worker (Mithi):

VILLAGE MALANHOR VERA

- Community Health Worker of Shifa Foundation Village Khari Wah and UC Joru, apprised that the catchment population of the village is around 1,100 households.
- In terms of local transport, she mentioned that the only mode of transportation available is Qingqi rickshaw and there is only one primary school in the village. There is no health facility in the village
- She mentioned that her main task pertaining to nutrition is to screen PLWs and children under the age of 5 years for referral to Severely Acute Malnourished (SAM) and Moderately Acute Malnourished (MAM) cases to the nearby OTP site for further treatment
- In the area of community awareness, she focuses on raising awareness about mother and child health, especially about exclusive and complementary breastfeeding. She mentioned that the mothers in the community usually doesn't practice feeding the newborn with colostrum (first form of breastmilk) which is very nutritious for the child. Her awareness sessions have encouraged the community to feed the newborn with colostrum rather than discarding it
- In terms of challenges, CHW explained the lack of birth spacing is a major issue in the community. Low prevalence of exclusive breastfeeding was also an issue, but with awareness, the practice of exclusive breastfeeding is improving.
- CHW then demonstrated how she measures mid-upper arm circumference (MUAC) to determine whether the child is malnourished (SAM/MAM) or not. She explained that if the measure is in the yellow region (MAM), then the child is provided MNP. If the measurement is in the green region (SAM), the child is referred to the OTP side for further treatment. Similarly, IFA tablets are provided to malnourished PLWs and adolescent girls (10-19 years) to curb iron deficiency
- When asked about major challenges facing the community, CHW explained that there is no health facility nearby

7.1.4 Focus Group Discussions (FGDS) With Community/Caregivers

Community Member / Caregiver (Mithi)

VILLAGE MALANHOR VERA

- Community members comprising of eight female mothers/caregivers in Village Malanhor Vera were asked about their hygiene practices to which they replied that they wash their hands with water only after they eat their food
- When asked if they benefit from any of the government programs, they replied that they are given Rs. 12000 every six months by BISP
- When asked about the source of income of their households, community members replied that their husbands are daily wage laborers working in fields or construction
- When asked whether their knowledge about exclusive breastfeeding has improved. They mentioned that they used to feed the child with honey and others during the first 6 months, but now they practice exclusive breastfeeding and do not discard the colostrum.
- In terms of challenges, the community members explained that the lack of water availability and no nearby health facilities are major challenges
- In terms of recommendations, the community mentioned that more livelihood opportunities is their most pressing need. With improved livelihood opportunities, they will be able to afford better diet with more diversity
- Community women mentioned that they have goats that they use for milk and sometimes they sell the extra milk for a small amount of money
- Community mentioned that they only seek health services when someone is extremely sick. Otherwise, they avoid going to the health facility. They also mentioned that they have no mobile phones as only men in their households have a mobile phone

7.1.5 Key Informant Interview (KIIS) With Community Health Worker

Community Health Worker (Nagarparkar)

VILLAGE SOORAH CHAND

CHW (Nagarparkar)

- Community Health Worker from Soorah Chand village of Nagarparkar that she has been working as a community health worker for considerable years, first with m-Chip, then HANDs, and now with Shifa Foundation.
- In terms of education, she mentioned that she had intermediate level of education, but others in the community (especially females) were illiterate
- She mentioned that she screens and refers of malnourished children, PLWs, and adolescent girls. If she has supplies, she provides MNP to children too
- She also mentioned that she conducts awareness sessions on exclusive breastfeeding and ensuring that colostrum is given to the newborn rather than being discarded
- She mentioned that she has 900 households in her village and she has covered 150 households till now
- In terms of the strengths of her work, she mentioned that she has raised awareness in the community about health and hygiene, especially exclusive breastfeeding
- She stated that one of the core challenges is that families are involved in agricultural activities for a 4-month period during which families are not available for screening or for awareness sessions

7.1.6 Focus Group Discussions (FGDS) With Community/Caregivers

Community Members / Caregivers (Nagarparkar)

VILLAGE SOORAH CHAND

Community – Soorah Chand Village (Nagarparkar)

- Community members, comprising six female caregivers of Soorah Chand Village, were asked about their awareness of health promotion and prevention activities. The community members (mothers) answered that the CHW has explained them well about exclusive breastfeeding and not discarding the colostrum. They did not mention about handwashing or hygiene
- The community mentioned that there is no health facility nearby. There is a government dispensary nearby, but it's non-functional
- When asked about the income, they explained that their husbands were daily wage laborers and earned about Rs.400-500/day
- When asked about other facilities, the community mentioned that there is a primary-level government school nearby. The boys usually receive primary-level education, but the families don't prefer to send their girls to school
- Due to distance (and cost), they only go to the health facility (i.e. THQ Nagarparkar) if there is a serious sickness
- When asked about awareness campaigns, the community mentioned that there was a strong campaign in 2016 which raised their awareness on family planning and birth-spacing
- When asked if they migrated, the community members stated that they do not migrate and have been living in the village for quite some time
- In terms of challenges, the community mentioned that the recent wave of inflation has pushed their husbands to work more and the food intake of the household has also decreased

7.2 KEY CONSOLIDATED FINDINGS

The research team interviewed multiple stakeholders at different levels to understand and deconstruct multi-dimensional perspectives pertaining to malnutrition, especially stunting, in Tharparkar. The interviews and focus group discussions were conducted from a wide variety of nutrition-related stakeholders including the Government Departments, Development Partners, Non-Government Organizations, Doctors, Nutrition Assistant, Staff Nurse, Lady Health Worker, Community Health Workers, and Female Caregivers of Community. In total, twenty-four key informant interviews were conducted (List of Interviewees is annexed for reference) and three focus-group discussions (6-8 participants each) were conducted with female caregivers of Villages Sanyasar and Malanhor Vera in Mithi and Village Soorah Chand in Nagarparkar.

As reflected in the Literature Review, the 'Key Findings' from the Desk Review were the Following:

In terms of severity, following seven major risk factors associated with undernutrition were identified:

- Poor access to safe water for drinking
- Poor hygiene and sanitation practices,
- Poor health services (availability, access, and utilization)
- Poor complementary feeding practices of children aged 6-23 months,
- Low production/availability of food
- Poor diversity of household income sources
- Poor coping strategies.(especially for HHs that rely on others for food/money)

Other underlying factors like '*maternal education, household income, family size, breastfeeding, vaccination status, and frequent infections*' were also found to be significantly associated with the severe acute malnutrition.

The Most Prominent Findings from the Field were the Following:

- The first and foremost issue in Tharparkar is that of 'persistent poverty' which diminishes the purchasing power of households to have a minimum acceptable diet, let alone the minimum dietary diversity. A lack of disposable income means that the household is vulnerable to even marginal economic shocks and cannot afford to incur out-of-pocket health expenditures.
- Lack of clean drinking water was cited as a major reason for the poor nutrition of Tharparkar community. It was often mentioned that even if all other factors improve, the vicious cycle of malnutrition might continue if the provision of clean drinking water is not ensured for the population.
- Seasonal migration, nomadic lifestyle, and scattered population were cited as major impediments that make service provision a problem. The nomadic lifestyle of certain communities also meant that they had poor housing, sanitation, and overall hygiene. The incidence of malnutrition among such communities was said to be higher than in other non-migrant communities.
- Early marriages and low/poor birth spacing were often termed as major problems that perpetuate the malnutrition vicious cycle. The practice of early marriages is still prevalent in the community which paves the way for low birth spacing and a higher number of children per household. Apart

from being a health issue, this is also an economic issue as the head of the household cannot afford nutritious food for the mother and children with limited disposable income.

- Lack of connectivity/transportation cost was often cited as a binding constraint that inhibits health service utilization, especially for females. Villages that were remote often face this problem and cannot afford to travel all the way to the health facility unless it's an emergency that requires immediate healthcare assistance.
- Attitude towards nutrition-promotion behaviors, like exclusive breastfeeding, is gradually changing with community awareness via outreach efforts of LHWs/CHWs. Female community members frequently cited the practice of exclusive breastfeeding during the first six months and foregoing the practice of disposing the colostrum after attending the awareness sessions by LHWs/CHWs.
- From the healthcare staff perspective, the major issue was termed as the lack of human resources to cater to the local population. Shortage of doctors and allied staff often meant that the existing pool of human resources was overburdened. This was observed to be a recurring problem across DHQ Hospital at Mithi, THQ Hospital in Nagarparkar, and Nutrition Stabilization Center in Mithi. LHWs and CHWs are also overburdened with multiple functions during their outreach efforts. Developing distinct streams of outreach workers can help rationalize the amount of work undertaken. For example, BCC outreach campaigns can be undertaken by social mobilizers from community organizations (COs) rather than LHWs/CHWs.
- The widespread presence of NGOs in Tharparkar working across nutrition-specific and nutrition-sensitive programs is an encouraging sign. The efforts can be better harnessed through effective coordination for the amplified impact of the interventions. The existing 'District' and 'Taluka' Coordination Committees for Nutrition can be effectively revitalized by co-opting a wide variety of stakeholders in Tharparkar that are working in the nutrition-related landscape, both nutrition-specific and nutrition-sensitive programs.
- Multiple stakeholders mentioned that the current portfolio of nutrition-related programs does not have a dedicated 'stunting-focused' program. However, the recent introduction of Sindh Human Capital Project, especially, 'conditional cash transfers' by the Social Protection Strategy Unit (Sindh), to incentivize healthy behavior during the first 1000 days can help improve mother & child nutrition outcomes. This program can be termed as a 'stunting-focused' program and can yield intended benefits if deployed with proper maternal health education communication.
- Political and administrative buy-in for the problem of malnutrition, especially stunting, can be effectively channeled if the systemic gaps at micro-, meso-, and macro-level are identified to design and implement evidence-based solutions to tackle the multi-dimensional problem of malnutrition. The high-powered 'Provincial Steering Committee' along with District and Taluka-level Coordination Committee for Nutrition can effectively steer the policies and strategic plans in addition to ensuring resource mobilization and course-correction measures based on evidence.

8. CONCLUSION

Malnutrition, especially stunting, is not only a measure of chronic undernutrition but is also a manifestation of the sub-par focus on human capital development. The inter-generational transmission of poverty is inextricably linked to the inter-generational transmission of malnutrition. For developing countries facing fiscal constraints, the vicious cycle of poverty and malnutrition is pervasive and perpetual. The high prevalence of stunting does not only affect a child's health, but also restricts his or her learning outcomes, labor productivity, and lifetime earnings. The losses in household income ultimately accumulate to significant losses to the national economy. Hence, it is important to frame the problem of stunting as an economic problem in addition to being termed a public health problem.

The Government of Sindh has endeavored to adopt a multi-sectoral approach to address the intricately complex problem of stunting and malnutrition in the province. The Accelerated Action Plan for reducing stunting and malnutrition is a practical way forward that aims to consolidate and synergize nutrition-specific and nutrition-sensitive interventions for improved nutrition outcomes in Sindh. On-boarding of development partners and NGOs have worked to improve the outreach of the services to the community. AAP has been mainstreamed with a high-powered Provincial Steering Committee, dedicated Secretariat across the 8 sectors, district and taluka-level nutrition coordination committees, and significant resources earmarked in the recurrent budget. It is hoped that the ambitious target envisioned by AAP to reduce the prevalence of stunting to 15% by 2026 is achieved with consistent and coordinated efforts. The impact of AAP interventions will be reflected in the upcoming National Nutrition Survey as the current NNS 2018 was conducted when the project had just started.

The research study hinged on conducting an in-depth analysis of the nutrition landscape of Sindh, especially Tharparkar. The efforts that spanned over four months were centered on not only undertaking secondary analysis of existing data, but also getting useful insights to deconstruct the intricacies of stunting in Tharparkar through a series of key informant interviews and focus-group discussions from stakeholders at all levels. The multi-faceted approach for the study helped enrich the study and add substantive value to the existing body of knowledge. A 'Strengths, Weaknesses, Opportunities, and Threats' (SWOT) analysis was also conducted to outline the entire spectrum of achievements, deficiencies, areas of improvement, and risks facing the realm of malnutrition (especially stunting) in Tharparkar. The learnings extracted from the research have culminated and concretized into recommendations to contribute to improved service delivery and nutrition outcomes in Tharparkar.

Although the study has delved into the multiple dimensions of malnutrition, especially stunting, in Tharparkar, there are other potential avenues that are worth exploring through additional research. The areas of intra-household decision-making, distributional (equity) impact of interventions, health-seeking behavior of different communities, ethnography of different segments (especially migrant communities), longitudinal study of KAP (knowledge, attitudes, and practices), and lifecycle sociological analysis are worth exploring through subsequent research on Tharparkar and other similar districts of Sindh. This research can serve as a foundational point to undertake other studies on Tharparkar and other districts of Sindh as it encapsulates a holistic analysis of all the major nutrition-related interventions in Tharparkar along with the associated outcomes in tandem with the SWOT analysis and actionable recommendations. The intricacies of malnutrition can be effectively disentangled if the nutrition-specific and nutrition-sensitive programs are effectively harmonized to amplify the impact of interventions with a coherent long-term programmatic framework.

9. RECOMMENDATIONS

- One of the major cross-cutting issues that need to be addressed in the region of Tharparkar is the 'Overall Poverty'. Since, all the related indicators of social wellbeing are directly associated with financial stability, it is imperative to introduce initiatives that considerably improve the economic status of the people of Tharparkar. Initiatives like (Experimental farming and livestock productivity enhancement initiatives can translate into reduced stunting and increased wellbeing). With the recent launch of EU-Funded 'Poverty Alleviation and Inclusive Development Across Rural Sindh (PAIDAR)', the establishment of Rural Growth Center and Economic Clusters in Tharparkar, along with other impoverished districts, can be prioritized. The agglomeration economies and integrated approach delineated in the 'Sindh Poverty Reduction Strategy' can help mainstream nutrition-sensitive interventions and programs. Useful lessons can be extracted from the Government's experience with its flagship 'People's Poverty Reduction Program' and Rural Growth Center in Chauhar Jamali of District Sujawal with customized income-generating programs for Tharparkar. Demand-Based Skills Improvement Programs on localized context (e.g. agriculture, livestock, tourism) along with must be provision of employment opportunities must be assigned utmost importance
  (*Responsible Institution(s):* Planning & Development Department (Urban Directorate), Sindh Tourism Development Corporation, Directorate of Peoples' Poverty Reduction Program (PPRP), PAIDAR Team (UNIDO), Agriculture Department, Livestock & Fisheries Department)

- Impactful interventions implemented in one taluka should be replicated across all Talukas of District Tharparkar. For example, the community development programs by Sindh Engro Coal Mining Company and Thar Foundation in Islamkot are worth emulating across the entire district. Critical investment gaps may be filled by the Government of Sindh with support from development partners (if needed) to evolve a 'Community Development' Program under the Public-Private Partnership with partners, like the Sindh Engro Coal Mining Company & Thar Foundation, so that the current benefits accruing to the catchment population of Thar Coal Block-II are reaped by the entire population of Tharparkar. Community buy-in and effective participation must be ensured from the onset of such 'community development programs'
  (*Responsible Institution(s):* Members of Provincial Steering Committee on Nutrition, Sindh Engro Coal Mining Company, Thar Foundation)

- Provincial Steering Committee for Nutrition, headed by Chairman P&D Board (Government of Sindh), is an established provincial-level committee for Nutrition for providing policy-level support and strategic oversight to the nutrition-related interventions across Sindh, including Tharparkar. A regular stock-taking of milestones, implementation gaps, resource deficiencies, and other challenges can ensure that institutional support, through this apex committee, is promptly provided to improve service delivery and nutrition outcomes
  (*Responsible Institution(s):* Planning & Development Department, Eight Departments: Health, Education, Social Protection, Local Government, Livestock, Fisheries, Agriculture, Population Welfare)

- Nutrition-Focused Public-Private Forums like 'District Coordination Committee for Nutrition (DCCN)' need to be structured effectively around the scrutiny of existing nutrition-related initiatives across Tharparkar along with successes and deficiencies to foster action-oriented knowledge spillovers, improved coordination, and target-based performance evaluation with clearly delineated Key Performance Indicators
  (*Responsible Institution(s):* Deputy Commissioner Office, District Health Office, AAP District Representatives, PPHI, Development Partners, NGOs, Other Relevant Stakeholders)

- 'Conditional Cash Transfers' might be an effective tool for reducing stunting, but the cost-effectiveness of this intervention is still unclear and the sustainability of such programs is also not completely obvious. As the program is scaled up in Tharparkar and other impoverished districts, the practice of gathering credible evidence to ascertain the program's impact on stunting must be prioritized. It would be interesting to examine how it works as a stand-alone intervention in comparison to being a part of a package of stunting-reduction interventions from 'sustainability' perspective. Independent Third-Party evaluation of the CCT program can offer useful insights regarding its impact on stunting and associated health-utilization indicators
  (*Responsible Institution(s):* Social Protection Strategy Unit, Health Department)

- Performance-Based Management with Robust Monitoring & Evaluation Systems need to be carefully designed and institutionalized for Doctors, Nutrition Specialists, Pediatricians, Nurses, LHWs, and CHWs to ensure that the healthcare staff has specific key performance indicators that are tied to the incentive structure (as per their respective ToRs) to continuously improve preventive and curative-related work as it pertains to the critical 'first thousand days window'
  (*Responsible Institution(s):* Health Department)

- District Health Office needs to be capacitated to function as the central knowledge repository of all the nutrition-specific activities being undertaken in Tharparkar. Strengthening of existing 'District Health Management and Population Committee' with mandatory progress review meetings and follow-ups should be prioritized, especially for nutrition with effective performance-based evaluation
  (*Responsible Institution(s):* Health Department)

- 'Effective Coverage' of outreach must be focused upon as simply having a network of LHWs/CHWs does not automatically translate into improved quality of nutritional awareness and internalization of nutrition-promotion behaviors. Independent monitoring of a sample of covered communities would help ascertain if proper nutritional awareness information is imparted to and retained by the communities
  (*Responsible Institution(s):* Health Department)

- Outreach of Nutrition-Specific Services should be strengthened by augmenting the network of Community Health Workers and capacitating them with nutrition-related knowledge in tandem with performance-based incentives to raise community awareness and identify malnourished PLWs and children
  (*Responsible Institution(s):* Health Department)

- The government may increase the number of OTP sites (with integrated MNCH & Nutrition services), especially the Mobile OTP Sites, to cater to the scattered population and nomadic communities of Tharparkar
  (*Responsible Institution(s):* Health Department, PPHI)

- The number of Nutrition Stabilization Centers can be expanded to all the Talukas of Tharparkar. As of now, there are three NSCs in the district which may be expanded to all seven Talukas to effectively deal with severe cases of malnourished children in the entire district. Given that transportation is a binding constraint for the community, expansion of NSCs can be immensely beneficial for malnourished children with severe complications in uncovered Talukas
  (*Responsible Institution(s):* Health Department, PPHI)

- 'Migratory Patterns' of some segments of the Tharparkar community, like Kohli and Bhil, must be taken into account as families who are in a state of 'transition' or are 'nomadic' have quite poor household & sanitation conditions that result in poor nutrition outcomes. Interventions must be designed to disincentivize continuous migration, especially for PLWs in the household
  (*Responsible Institution(s):* Planning & Development Department, Health Department, Social Protection Strategy Unit, Local Research Organizations)

- A special focus must be on 'Behavior Change Communication' (BCC) of the communities with long-term planning & programming that goes beyond the 'project-mode' approach. Repeated capacity-building of the outreach workers across nutrition-specific sector(health) and nutrition-sensitive sectors (Education, Livestock, Fisheries, Agriculture, Population Welfare, WASH - Local Government, and Social Protection) must be pursued in tandem with independent monitoring of a sample of covered communities to ensure that the nutrition awareness messages are retained and internalized
  (*Responsible Institution(s):* Eight Departments: Health, Education, Social Protection, Local Government, Livestock, Fisheries, Agriculture, Population Welfare, PPHI, Shifa Foundation)

- Early Marriage, With Low/Poor Birth Spacing, is a major problem that breeds inter-generational transmission of malnutrition; therefore, Targeted Awareness Campaigning must be carried through-out the district, including school curriculum. Enforcement of Sindh Child Marriages Restraint Act, 2013 must be ensured
  (*Responsible Institution(s):* Health Department, Population & Welfare Department, PPHI, Shifa Foundation, Law Enforcement Agencies, Electronic & Print Media)

- Nutrition-related interventions must also focus on improving the 'Social and Economic Empowerment of Girls and Women.' Investment in girls' education along with awareness of reproductive health in schools and communities can pay long-term dividends with delayed marriage, appropriate birth spacing, and proper feeding practices
  (*Responsible Institution(s):* School Education & Literacy Department)

- Provision of clean drinking water for the community must be ensured by developing water-supply schemes with effective operations & maintenance mechanisms for sustainability. Non-Functional Reverse Osmosis (RO) Plants must be functionalized on priority basis. Government can seek

assistance from Sindh Engro Coal Mining Company (Thar Foundation) to help with effective functionalization along with operations & maintenance of the RO Plants throughout the district (*Responsible Institution(s):* Deputy Commissioner Office, Local Government, Public Health Engineering & Rural Development, Sindh Engro Coal Mining Company)

- Local cost-effective solutions, like high nutritious value recipes from local ingredients, must be sought for context-specific prescriptions. For example, Sukaar Foundation is currently undertaking a 'food security' research project on more than 40 'nutritious recipes' that can be made from indigenous ingredients of Tharparkar that are affordable. The research project is undertaken with technical assistance from WHO and PCSIR. Feasibility for indigenous production of RUTF, F-75 and F-100 supplements can also be explored
(*Responsible Institution(s):* Health Department, Local Research Organizations, Academia)

- The first 1000 days are the most critical for reducing the incidence of stunting. All stunting-related interventions must be during and before that time window. A 'Whole-Of-Government' approach is needed to really reduce the prevalence of stunting. Safe drinking water, food security, and solid waste management are all important in reducing malnutrition, especially stunting. Malnutrition, especially stunting, should be treated as a 'disease' rather than a condition as it has long-last irreversible adverse impacts. The good practices (e.g. promotion of exclusive breastfeeding, widespread coverage of nutrition-specific and nutrition-sensitive NGOs) implemented in Tharparkar to reduce malnutrition must be replicated across districts with high stunting prevalence (e.g. Sujawal, Jamshoro, Dadu, Tando Allahyar, and Badin). (*Responsible Institution(s):* Members of Provincial Steering Committee on Nutrition)

- Independent/Third-Party Evaluations for nutrition-specific and nutrition-sensitive programs should be instituted on annual basis, especially during the implementation of the program, to ensure that timely rectification and course-correction measures are identified and implemented. The quality of ongoing programs can be substantially improved through mid-term evaluations to ascertain if the program is on track as per its stated KPIs. If the progress is unsatisfactory, then bottlenecks can be highlighted along with corrective measures.
(*Responsible Institution(s):* Eight Departments: Health, Education, Social Protection, Local Government, Livestock, Fisheries, Agriculture, Population Welfare, Monitoring & Evaluation Cell (Planning & Development Department))

- More in-depth research on household decisions, knowledge, attitudes, and practices (KAP) can shed more light on what package of interventions can be introduced to reduce stunting across different segments of population
(*Responsible Institution(s):* Health Department, Social Protection Strategy Unit, Local Research Organizations)

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11. ANNEXURES

11.1 QUESTIONNAIRES FOR THE KIIS/FGDS IN THARPARKAR

Government Departments

1. What are some of the key programs or interventions undertaken by the Department (or Project) to improve the nutrition outcomes of the people (stunting-focused) of Tharparkar in the past 5 years? *Probe:- Establishment of Health Facility (e.g. Integrated MCH facility, Nutrition Stabilization Center, etc.), Nutrition Supplements, Food Supplies, Kitchen Gardening, Nutrition Awareness/Outreach Campaign, Clean Drinking Water, Cash Incentives, Others: Specify if any.*

2. What have been the key milestones (quantifiable) that the Department/Project has been able to achieve with regards to reduction in stunting in Tharparkar? *Probe:- Improved quality of nutrition-related health services, Improved Access to nutrition-related services, Increased Awareness of the Community regarding nutrition, Increase in Number of Doctors & Paramedics deployed, Increase in Trained Outreach Workers, Others: Specify if any.*

3. What are the key strengths of programs/interventions undertaken in the past five years to improve nutrition outcomes (reduce stunting), especially in Tharparkar? *Probe:- Inter-Departmental Coordination, Effective Public-Private Partnerships, Outreach Efforts via Health Workers, Increased Coverage of Multiple Nutrition-Focused NGOs/INGOs, Significant Increase in Resources to tackle malnutrition (stunting), Others: Specify if any.*

4. What are the specific weaknesses in planning/implementing programs for reducing stunting in Tharparkar? *Probe:- Uncoordinated activities (working in silos), Insufficient resources earmarked for nutrition programs, Lack of Social Mobilization/Community Participation during planning, Inadequate outreach of services, Lack of integration of services (fragmented facilities), Others: Specify if any.*

5. What do you think are the keys to success/opportunities to catalyze reduction in stunting in Tharparkar? *Probe:- Integrated Planning (Whole-of-Government Approach), Focus on Behavior Change Communication, Pro-Active Public Private Partnerships, Better Incentives for Doctors, Healthcare & Outreach Workers, Others: Specify if any.*

6. What do you think are the greatest obstacles/threats to successfully reducing stunting prevalence in the Children of Tharparkar? *Probe:- Poor Infrastructure/Connectivity (reduced access to health and other services), Access to Clean Drinking Water, Access to Nutritional Food, Inadequate Number of Doctors (& Paramedics), Inadequate Quality of Health Facilities, Multidimensional Poverty, Others: Specify if any.*

Nutrition Support Organizations (Non-Government)

1. What are some of the key programs or interventions undertaken by the organization to improve the nutrition outcomes (stunting-focused) of Tharparkar in the past 5 years? *Probe:- Provision of Nutrition Supplements, Establishment of Nutrition-Focused Facility (e.g. Nutrition Stabilization Center), Food Supplies, Kitchen Gardening, Nutrition Awareness/Outreach Campaign, Clean Drinking Water, Cash Incentives, Others: Specify if any.*

2. What have been the key milestones (quantifiable) that the organization has been able to achieve with regards to reduction in stunting in Tharparkar? *Probe:- Improved quality of nutrition-related health services, Improved Access to nutrition-related services, Increased Awareness of the Community regarding nutrition, Successful Behavior Change Community Interventions, Increase in Trained Outreach Workers, Others: Specify if any.*

3. What are the key strengths of programs/interventions undertaken in the past five years to improve nutrition outcomes (reduce stunting), especially in Tharparkar? *Probe:- In-Kind or Financial Support by the Government, Effective Public-Private Partnerships, Coordinated Nutrition-Related Activities, Increased Presence of Multiple Nutrition-Focused NGOs/INGOs, Increased human resources (doctors, paramedics, outreach workers) to tackle malnutrition (especially stunting), Integrated Provision of Services/Facilities, Others: Specify if any.*

4. What are the specific weaknesses in planning/implementing programs for reducing stunting in Tharparkar? *Probe:- Uncoordinated activities (working in silos), Inadequate support by the government, Insufficient resources earmarked for nutrition programs, Lack of Social Mobilization/Community Participation during planning, Inadequate Behavior Change Interventions Inadequate outreach of services, Lack of integration of services (fragmented facilities), Others: Specify if any.*

5. What do you think are the keys to success/opportunities to catalyze reduction in stunting in Tharparkar? *Probe:- Integrated Planning (Whole-of-Government Approach), Focus on Behavior Change Communication, Pro-Active Public Private Partnerships, Better Incentives for Doctors, Healthcare & Outreach Workers, Provision of Integrated Services, Others: Specify if any.*

6. What do you think are the greatest obstacles/threats to successfully reducing stunting prevalence in the Children of Tharparkar? *Probe:- Poor Infrastructure/Connectivity (reduced access to health and other services), Access to Clean Drinking Water, Access to Nutritional Food, Inadequate Number of Doctors (& Paramedics), Inadequate Quality of Health Facilities, Multidimensional Poverty, Insufficient resources by the government, Others: Specify if any.*

Health Facilities

1. What are some of the services in your health facility that are provided to achieve reduction in malnutrition (stunting)? *Probe:- Dietary Supplements, Nutrition Awareness Dissemination, Hygiene Promotion, Information on Feeding Practices, Integrated Maternal & Child Healthcare, Others: Specify if any.*

2. Do you have adequate resources to undertake nutrition-related activities? If not, what is lacking? *Probe:- Funds, Scattered Population (Inadequate Coverage), Supplies, Doctors, Allied Staff, Management, Others: Specify if any.*

3. What are the main challenges that you face during outreach efforts? *Probe:- Medicines, Supplements, Cold-Storage Facilities, Unsteady Supplies (Frequent Stock-Outs), Others: Specify if any.*

4. What do you think are the key strengths of health facilities in Tharparkar (nutrition-focused)? *Probe:- Dedicated Healthcare Staff, Adequate Government Support, Uninterrupted Supplies, Nutrition Awareness Information Provision at Facility, Proactive Community Outreach, Others: Specify if any.*

5. What do you think are the key weaknesses for healthcare facilities in terms of nutrition specific issues (especially stunting)? *Probe:- Lack of Funds, Lack of Medical Equipment, Lack of Trained Medical Staff, Insufficient Doctors, Lack of Medicines Supplements & Other Supplies, Others: Specify if any.*

6. What do you think are the keys to success/opportunities in facilitating stunting reduction program in Tharparkar as a healthcare facility? *Probe:- Availability of Doctors, Quality Equipment, Multi-Sector Coordination, Trained Staff, Availability of Supplies, Better Outreach in the Community, Others: Specify if any.*

7. What do you think are the greatest obstacles/threats to successfully reducing stunting prevalence in the Children of Tharparkar? *Probe:- Lack of Nutritional Food, Insufficient Nutrition Supplements, Insufficient Healthcare Staff (esp. Doctors), Inadequate Access to Better Health Facilities, Insufficient Number of Outreach Workers, Inadequate Financial Resources, Attitude of Community, Lack of Awareness, Multidimensional Poverty, Others: Specify if any.*

Healthcare Outreach Workers

1. What are some of the services that are provided during outreach efforts to achieve reduction in malnutrition (stunting)? *Probe:- Nutrition Awareness Communication/Material, Dietary Supplements, Hygiene Promotion, Information on Feeding Practices, Family Planning, Others: Specify if any.*

2. Do you have adequate resources to undertake nutrition-related activities? If not, what is lacking? *Probe:- Funds, Transport Facilities, Adequate Supplies, Training, Others: Specify if any.*

3. What do you think are your key strengths in successful outreach vis-à-vis malnutrition (stunting)? *Probe:- Training on Communication, Nutrition Awareness Material, Adequate Nutrition-related Supplies, Community Willingness to Change, Others: Specify if any.*

4. What do you think are the weaknesses in outreach vis-à-vis malnutrition (stunting)? *Probe:- No Proper Training, Lack of Financial Resources, Inadequate Supplies, Community Resistance to Change, Others: Specify if any.*

5. What do you think are the keys to success/opportunities in terms of improving outreach efforts in Tharparkar with regards to stunting? *Probe:- Increase Recruitment of Outreach Workers for Improved Coverage, Improved Training on Effective Community Outreach, Performance-Based Incentives, Robust Monitoring & Periodic Follow-up Visits, Others: Specify if any.*

6. What do you think are the greatest obstacles/threats to successful outreach with regards to malnutrition (stunting)? *Probe:- Scattered Population makes Coverage Difficult, Inadequate Infrastructure (Connectivity), Community Attitude towards Nutrition, Community Norms (Early Marriages), Knowledge of Community Workers about Stunting, Others: Specify if any.*

Community Level

1. Do you face any challenge when it comes to meeting the nutritional needs of the household, especially children? If yes, what are the three priority challenges? *Probe:- Availability of Dietary Supplements, Clean Drinking Water, Availability of Nutritional Food, Purchasing Power/Poverty, Others: Specify if any.*

2. Have you received any benefits from any non-government organization? If yes, what was the benefit(s)? *Probe:- Cash Transfers, Food Supplies, Supplements, Health checkups, Awareness Program, Others: Specify if any.*

3. Have you benefitted from any programs offered by the government (e.g. BISP, PPRP)? If yes, what was the benefit(s)? *Probe:- Cash Transfers, Food Supplies, Supplements, Health checkups, Awareness Program, Others: Specify if any.*

4. What do you think have been the greatest weaknesses for the government and NSOs in successfully reducing stunting prevalence in the Children of Tharparkar? *Probe:- Government lacks resources, Lack of Coordination among Government and Partners, Nutrition not prioritized by the Government, No Strategy for Improving Overall Economic Well-Being, Inadequate Provision of Basic Facilities (e.g. Water & Sanitation), Others: Specify if any.*

5. What do you think should be prioritized by the government to improve nutrition outcomes? List three priority areas. *Probe:- Provision of Nutritious Food, Provision of Clean Drinking Water, Access to better Healthcare Facilities, Unconditional Cash Transfers, Conditional Cash Transfers, Others: Specify if any.*

6. What do you think have been the key factors in the successful endeavors of the Government and NSOs with regard to improving nutrition outcomes in the community? *Probe:- Awareness Campaigns, Improved Healthcare Facilities (esp. Mothers and Children), Access to Clean Water, Access to Nutritional Food, Others: Specify if any.*

11.2 LIST OF INTERVIEWEES

Name	Organization	Designation	Org Type
Dr. Fawad Shaikh	P&D Board (GoS)	Member (N.R.)	Government
Mustafa Jamal Kazi	Accelerated Action Plan (GoS)	Program Coordinator Task Force Secretariat	Government
Dr. Sahibjan Badar	Accelerated Action Plan (GoS)	Program Coordinator (Health)	Government
Asghar Soomro	Accelerated Action Plan (GoS)	Director (Communications)	Government
Mohsin Ahmed Sheikh	Health Department (GoS)	Additional Director (Dev.)	Government
Dr. Kapil	DHO Office	DHO Coordinator	Government
Ghulam Murtaza Noonari	Acceleration Action Plan (GoS)	M&E and Research Specialist (Health)	Government
Ayaz Hussain Mirbahar	World Food Programme (UN-WFP)	Program Assistant	UN
Ms. Salma Yaqub	World Food Programme	Program Policy Officer	UN
Ghulam Murtaza Lashari	Food & Agriculture Organization (FAO)	District Team Lead	UN
Lutf Ullah	Human Appeal	District Project Manager	INGO
Naseer Memon	Thar Foundation	General Manager	NGO
Tarachand Nankani	PPHI	District Nutrition Coordinator	NGO
Nizam Uddin	Shifa Foundation (AAP)	District Project Manager	NGO
Gulab Rai	Sukaar Foundation	Program Manager	NGO
Jai Prakash Shivani	Thardeep Rural Development Program (TRDP)	M&E Specialist	NGO
Jamal Bhatti	Shifa Foundation (AAP)	Taluka Nutrition Coordinator	NGO
Fayyaz Sheikh	Thar Foundation	Officer Health Sector	NGO
Dr. Ashok	Thar Foundation	Assistant Manager	NGO
Umair Azhar	ENMC (NSP)	Financial Specialist	Government
Saki Mehar	Sindh Bureau of Statistics (GoS)	Statistical Officer	Government
Sana Kanwal	Nutrition Stabilization Center (Mithi) AAP Health/PPHI	Nurse	NGO
Momin Nohri	Basic Health Unit M Veena PPHI	Nutrition Assistant	NGO
Amir Khan	OTP Site at THQ Nagarparkar	Nutrition Assistant	NGO

(Note: Several other Informal discussion and Interviews were conducted with LHW & CHWs and three FGDs with community members (female caregivers) in villages Sanyasar and Malanhor Vera in Mithi & Village Soorah Chand in Nagarparkar)

11.3 PICTORIALS

KII with Mr. Jamal Bhatti – Taluka Coordinator (Shifa Foundation), Nagarparkar

KII with the Nutrition Assistant – BHU+ (PPHI), Mithi

KII with Staff Nurse – Nutrition Stabilization Center (PPHI), Mithi

KII with Mr. Ayaz Hussain – M&E Specialist (World Food Program), Mithi

KII with Ms. Najo, CHW (Shifa Foundation), Village Malanhor Vera, Mithi

FGD with Stakeholders at the Shifa Foundation District Office, Mithi

KII with Mr. Ghulam Murtaza – District Team Lead (FAO), Mithi

KII with Ms. Teeja, LHW (PPHI) – Village Sanyasar, Mithi

Health Facility Visit with Mr. Tarachand – District Nutrition Coordinator (PPHI), Mithi

KII with Mr. Nizam Uddin – District Coordinator (Shifa Foundation), Mithi

KII with Mr. Lutf Ullah – District Program Manager (Human Appeal), Mithi

KII with Mr. Gulab Rai – District Program Coordinator (Sukaar Foundation), Mithi

KII with Mr. Aamir Khan – Nutrition Assistant (THQ), Nagarparkar

KII with Ms. Kamla, CHW (Shifa Foundation), Village Soorah Chand, Nagarparkar

KII with Dr. Fayyaz – Doctor Incharge (Marvi Clinic), Islamkot

FGD with Community – Village Malanhor Vera, Mithi

FGD with Community – Village Sanyasar, Mithi

FGD with Community – Village Soorah Chand, Nagarparkar

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