Final Report

Midline Survey
Under RSPN project titled Implementation of the Nutrition-Sensitive Component (ER3) of the Programme for Improved Nutrition in Sindh (PINS)

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Submitted By:

AASA CONSULTING

RSPN

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Introduction and Study Background

The Programme for Improved Nutrition in Sindh (PINS) is a four-year-long health and nutrition intervention of the European Union and is led by the Rural Support Programme Network (RSPN). The purpose of the project is to capacitate the Government of Sindh in implementing its nutrition multi-sectoral policy while providing direct assistance to significantly and rapidly reduce malnutrition in rural Sindh.

The Programme is designed with an overall objective "to sustainably improve the nutritional status of children under five years of age and pregnant and lactating women in Sindh, in line with the second target indicator of Sustainable Development Goal (SDG) No. 2." The project envisions to accomplish its objective by creating an impact on the following health indicators of the target population:

Impact Indicators of PINS-ER3

Results Chain	Indicators	Baselines	Current Value
Overall Objective – Impact: To sustainably improve the nutritional status of children under five (U5) and of Pregnant and Lactating Women (PLW) in Sindh in line with the second target indicator of ~~the~~ SDG Goal No2;	1. Prevalence of stunting of children aged below five years in Sindh	49.8% in Sindh (NNS 2011)	45.5% in Sindh (NNS 2018)
	2. Proportion of children under 5-years of age with severe acute malnutrition (wasting)	17% in rural Sindh (MICS 2014)	16.7% in rural Sindh (MICS 2019)
	3. Proportion of pregnant women who are anaemic (Hb<12g/dL);	59.7% in Sindh (NNS 2011)	38.2% in Sindh (NNS 2018)
	4. Incidence of diarrhoea in U-5 children in programme target areas	28% in Sindh (MICS-Sindh 2014)	10.6% in Sindh (MICS-Sindh 2019)

Reference: Logframe Matrix of the Nutrition-Sensitive Component of PINS (PINS-ER3) – attached as Annexure 1 of the document.

PINS is implemented in ten districts of the province, namely: Dadu, Tando Allah Yar, Tando Muhammad Khan, Jamshoro, Matiari, Thatta, Sujawal, Kamber Shahdadkot, and Shikarpur. RSPN covers 50% of rural Union Councils (194 out of 388) of Programme target districts under PINS, and GoS covers the remaining 50% under AAP.

The project is executed in consortium with the National Rural Support Programme (NRSP), the Sindh Rural Support Programme (SRSO) and the Thardeep Rural Development Programme (TRDP) as local implementing partners (IPs). Action against Hunger (ACF) and the Food and Agriculture Organization (FAO) is also associated with the Programme as technical partners, along with the Centre for Evaluation and Development Germany (C4ED) for technical assistance in Monitoring and Evaluation.

The PINS comprises three Expected Results (ERs). AASA Consulting (Pvt.) Limited was commissioned to conduct a midline study in terms of ER3, the nutrition-sensitive component of the Programme. The component aims to improve community-level WASH (infrastructure and behaviour) and nutrition-

sensitive food production systems adapted to climate change in Programme districts. This document provides findings of the midline study undertaken between December 2020 and June 2021.

Study Objectives, Approach and Methodology

The midline survey's approach and methodology were informed by the PINS-ER3 Impact Evaluation Design developed by the C4ED, Germany, and RSPN, as part of the overall PINS impact evaluation in the targeted districts. UCs severed by RSPN and its IP comprise the treatment group, and UCs facilitated by the Government of Sindh's AAP include the control/non-treatment group in the Programme evaluation strategy.

The objective of the midline study was to track and measure the change in key Programmatic outcome level performing indicators of PINS-ER3 Log-frame at the household level. The incidence of some outcome level indicators was also cross-examined at the village level. Any change in the prevalence of key indicators will help gauge whether the difference between the midline and baseline nutrition situation can be attributed to the PINS-ER3 activities. The baseline situation was estimated in a baseline study conducted before the project implementation in 2018-2019. All three of the Programme's impact indicators, i.e., stunting and wasting in children below five and anaemia among pregnant women, were measured through national and provincial surveys.

The midline household survey targeted the same household respondents interviewed during the baseline survey to track and evaluate Programmatic impact. Against the target of 5,047 households, 4,617 interviews were conducted, observing an attrition rate of close to 9%. The majority of families (316 or 73%) experienced migration. Furthermore, 50 focus group discussions with 300+ small farmers and 310 village observations were also conducted in the targeted UCs. The same questionnaires used during the Baseline assignment were used with some modifications and revisions (attached as Annexure 2, 3 and 4 of the document).

Salient Findings of the PINS-ER3 Midline Survey

The key findings of this midline study are summarily presented below in comparison with the baseline values recorded in the 2018-2019 Baseline Study.

Socio-economic Profile of the Surveyed Households

Given the sample of 4,617 households, household survey respondents are recorded to be married, with an average age of 41 years old. The majority of them are housewives (around 89%). They are often involved in undertaking productive work such as livestock rearing and input in agricultural activities, but respondents may not have correctly reported it since they do not earn any income from these activities. Nonetheless, a few of them also reported being either employed or self-employed. Furthermore, they had completed only eight years of formal schooling. Similar respondent profiles were recorded among the treatment and control groups. The household family size remains at an average of 7 individuals with an average gender ratio of 1.3 males to every female.

Differences are observed among treatment and control areas on per capita monthly income and expenditure. However, the t-test is statistically significant only for a household's per capita expenditure. The reported per capita expenditure comprises Rs. 6,159 and Rs. 5,663 in treatment and control areas, respectively.

Furthermore, on average, Rs. 3,419 per capita is spent on food items and Rs. 2,669 is spent on non-food items. The t-test results show that mean differences among the treatment and control groups for non-food expenditure are insignificant, whereas significant for food expenditure.

Impact of COVID-19 on Surveyed Households' Food Insecurity and Access to Facilities

The Midline survey revealed that before the outbreak of the COVID-19 Pandemic, approximately 59% of surveyed households could not consume at least three meals a day. However, the incidence of such households increased to ~64% during COVID-19 (~66% in treatment and ~62% in non-treatment villages).

Around 14% of surveyed households were experiencing starvation, i.e., severe food insecurity (~17% and ~11% in the treatment and non-treatment villages, respectively) during COVID-19, while before COVID-19, the comparative percentage was ~11% and ~9%, respectively. Overall, the COVID-19 led to a rise of close to 4% of households facing a hunger situation in the survey areas. It is evident that the prevalence of food insecurity is higher in the treatment areas compared with the control areas and is further exacerbated by the COVID-19 crisis.

Close to 38%-43% of surveyed households also stated deterioration in the availability of medicine, medical aid, medical institutions and health staff after COVID-19. Comparatively, more households in the treatment areas reported a drop in medical facilities and infrastructure availability than in the control areas.

Results for PINS-ER3 Log-frame Indicators

Drinking-Water Sources and Water Treatment

The Midline findings show overall, 77% of surveyed households have access to safely managed drinking water sources, compared with the baseline estimate of 70.7%. The percentage of households gaining water from improved sources is relatively higher in the control areas (~80%) than reported in the treatment areas (~75%) in the Midline. However, the percentage of households obtaining water from safely managed drinking sources has increased in both treatment and control groups from the baseline value of 71% to 75% and ~70% to 80%, respectively. The difference between the sampled groups was statistically significant for the Midline survey, whereas it was insignificant for the Baseline survey. Protected/closed hand pumps remain the most common source of clean water (reported by ~59% of the households in the Midline survey).

Concerning water treatment, ~16% of surveyed households reported purifying water before drinking, and 7% reported following appropriate water treatment methods. The incidence of families practising appropriate water treatment has increased from the baseline value of 1.8% to 7.1%. Among the sampled groups, a higher percentage of households practise appropriate water treatment at the midline level (8.8% in the treatment group and 5.5% in the control group) compared to the baseline level (1.7% in the treatment group 1.9% in the control group). However, it is noteworthy that using appropriate water treatment methods is higher in the treatment areas (8.8%) than in the control areas (5.5%). The t-test results are statistically significant for differences among the sampled groups for both Midline and Baseline surveys.

In contrast to the practice level, the awareness regarding appropriate water treatment methods among survey respondents is relatively higher in the control group (~62%) than in the treatment group (57%). The comparable baseline estimates are not available on this indicator as it was not covered in the Baseline survey questionnaire. However, it is significant to note that despite the high knowledge levels, water treatment practice is significantly low in both groups but relatively higher in the treatment UCs (8.8%) than in control (5.5%).

Improved Sanitation

Only ~19% of surveyed households use improved sanitation facilities (i.e., toilets connected with sewer pipes or septic tanks) – 15.1% in the treatment group and 22% in the control group. The percentage of households using improved sanitation facilities has dropped overall in the survey areas compared with the baseline value of 17.7%. The decline is notably reported among the treatment group households from 16.2% in the Baseline to 15.1% in the Midline. However, among the control group, households using improved sanitation has increased from 19.1% to 22% in the inter-survey period. The differences among the sampled groups are statistically significant for both Midline and Baseline surveys, according to the t-test values.

Concerning the practice of open defecation, due to the change in the format of the relevant question in the Midline survey, strict comparison with baseline estimates is not appropriate. However, the data indicate that households practising open defecation increased in the inter-survey period from 12.1% to 13.6% in the treatment areas and 11.4% to 12.1% in the control areas. The mean difference between the treatment and control groups is insignificant in both Baseline and Midline surveys.

Specific Place for Handwashing with Water and Soap

Households who reported the availability of latrines inside the household premises were questioned about the handwashing facilities available to them after using the toilet. At the Midline stage, 44.5% of surveyed households stated having only water. Soap and water were present in 28.5% of households. Handwashing space inside the latrine area was available in ~14%, and outside in ~42% of the households.

Handwashing space, soap, and water combined were present in only 18.8% of the households. The prevalence of having a specific place for handwashing space with soap and water among households is higher in the control areas (19.9%) than in the treatment areas (17.6%) in the Midline survey. However, compared with the baseline estimates, it is essential to highlight that proportion of households having all three facilities combined has considerably increased in both sampled groups from the overall level of 7.2%. The comparable baseline values for the treatment and control groups are 6.9% and 7.6%, respectively. The difference between the sampled groups was statistically significant for the Midline survey, whereas it was insignificant for the Baseline survey.

Handwashing Before Feeding Children

Almost all survey respondents (91.2%) reported awareness of the importance of handwashing and keeping hands cleaned. No evident difference was noted in the awareness levels of respondents among the sampled groups. The comparable baseline estimates are not available on this indicator as it was not covered in the Baseline survey questionnaire.

Regarding the practice of handwashing, interestingly, no change is observed in the comparative percentage of washing hands with soap before feeding children from the baseline survey (1.8% in the Midline compared with 1.9% in the Baseline). No significant differences are observed in the prevalence of handwashing across the treatment and control groups. The most recorded instance was washing hands after the usage of the latrine (26%), followed by before preparing cooking (~19%) and after cooking (~13%). A similar trend was recorded over both treatment and control groups across Baseline and Midline surveys.

However, the overall incidence of handwashing with soap has improved among surveyed households from 74.7% to 77.3% in the inter-survey period. Among the treatment and control areas, the prevalence of household members washing hands with soap was 72.8% and 76.7%, and it increased to 75.1% 79.5%, respectively. Although handwashing with soap is higher in the control areas, the improvement in the treatment areas from the baseline stage is noteworthy.

Incidence of Diarrhoea Among Children Aged Below Five Years Old

Overall, 17% of respondents reported diarrhoea in children under five years during the past two weeks at the Midline level, compared with the baseline estimate of 32.6%. The proportion of diarrhoea affected children has reduced by almost half in the survey areas during the inter-survey period. At the baseline level, 31.9% and 33.3% of children under five were afflicted with diarrhoea in the treatment and non-treatment villages, respectively, while the Midline comparative figures are 18% and 16%, respectively. The mean difference among the sample groups in the Midline survey is statistically significant. In contrast, the difference for the baseline is not significant according to the t-test.

It is established in various research studies that diarrhoea can be prevented through better WASH infrastructure and practices. Therefore, it is a Programmatic success to achieve improvement among the treatment areas in the proportion of households using safely managed drinking water sources (from 71% to 75.3%), following appropriate water treatment methods (from 1.7% to 8.8%%), practising handwashing with soap and water (from 72.8% to 75.1%), and having handwashing spaces with soap and water (6.9% to 17.6%) during the inter-survey period. The progress is linked to the reduction in the incidence of diarrhoea among children in the targeted UCs. However, efforts are required to strengthen the indicator's performance on improved sanitation to impact the level of diarrhoea further.

Expenditure Dedicated to a Minimum of Four Food Groups (Outside Staples)

Household food expenditures were estimated from a detailed food consumption module incorporated into the survey questionnaire comprising 44 items—an augmented monthly average of Rs. 18,374 is dedicated to the consumption of a minimum of four food groups (outside staples). The spending has increased from the baseline value of Rs. 10,510. Expenditures are higher reported in the households in the treatment group (Rs. 18,582) than in the control group (Rs. 18,154). An increase in food expenditure is evident in both treatment and control groups – the comparable baseline estimates for spending dedicated to a minimum of four food groups (outside staples) are Rs. 11,316 and Rs. 9,657 for the treatment and control group households, respectively. The t-test results show that the mean difference between the sampled groups is statistically insignificant for both Midline and Baseline surveys.

Disaggregating household food expenditure by food groups as determined by FAO (2016), consumption of beverages (mainly tea patti) received a maximum share of household spending in the Midline survey. It reportedly reached an estimate of Rs. 7,783. It was followed by spending on grains with an equivalent of Rs. 5,922 on average. Dairy products, oils and fats, and eggs also receive a substantial share in food spending. Expenditures are relatively higher reported in the households in the treatment group as compared with the control group. The application of the t-test indicates that the mean differences in expenditures are significant for a majority of food groups.

Minimum Dietary Diversity for Women (MDD-W)

Concerning dietary diversity, 36.6% of women (female respondents) reported consuming minimum dietary diversity – MDD (i.e. food from a minimum of five food groups). The percentage of women achieving MDD doubled in the inter-survey period from the estimated baseline value of 19.2%. Women receiving MDD are reportedly higher in the control areas (39.1%) than in the treatment areas (34.2%). However, the percentage of women receiving MDD has improved in both treatment and non-treatment villages from the baseline value of 19.6% and 19.3%, respectively. The mean difference between the sampled group is statistically significant for the Midline but insignificant for the Baseline.

Minimum Acceptable Diet for Children (Aged 6-23 Months)

Furthermore, among the age bracket of 6-23 months, 17% of children in the surveyed households received a minimum acceptable diet (MAD). The comparative estimate for the baseline is 15.8%, and thus a slight improvement is evident in the MAD. The progress on this indicator is driven by growth in the prevalence of children receiving MAD in the treatment group—the proportion of children receiving MAD increased from the baseline value of 15.3% to 17.4%. No evident improvement is recorded among children in the control group (16.7% Vs 16.6%).

Statistical difference in the mean of the control and treatment groups is insignificant. Still, it may be noteworthy that the proportion of children receiving MAD in the treatment group is relatively higher (17.4%) than the proportion estimated in the control group (16.6%) at the Midline stage.

Kitchen Gardening

Overall, 7.5% of households in the Midline survey stated having cultivable land inside or adjoined to their house for setting up a kitchen garden. A higher percentage of households in the treatment areas (9.2%) reported availability of land than in the control group (5.9%).

Of households stating the presence of cultivable land, only 7% mentioned practising kitchen gardening. The prevalence of households establishing kitchen gardens has considerably increased from the baseline value of 1.1%. It is noteworthy that the incidence has significantly improved in the treatment group (from 1.5% to 8.2%) compared to the control group (0.8% to 5.7%). The results are statistically significant for Baseline and Midline surveys according to the t-test values.

The kitchen gardening in treatment areas is aided by a growth in the reported presence of institutions providing teaching in kitchen gardening and training received by households in establishing kitchen gardens in the treatment group. At the Midline, 11.1% of surveyed households reported kitchen gardening training related institutions in the treatment villages, compared to the

baseline value of 2.2%. Within the non-treatment villages, the incidence increased from 1.5% to 7.1% only. Correspondently, more households in the treatment areas have received training in kitchen gardening (11.1%) than in the control group (7.1%). The comparable baseline estimates are not available on this indicator as it was not covered in the baseline survey questionnaire.

Besides, institutions teaching integrated-farming skills have reported 9.9% of households (11% in the treatment and 8.8% in the non-treatment villages). Due to the change in the format of the relevant question in the Midline survey, comparison with baseline estimates is not available.

Community-Managed Demonstration Sites for Poultry or Livestock

The incidence of demonstration sites/institutions teaching skills in livestock or poultry farming as reported by surveyed households has improved from 2.5% in the Baseline to 10.2% in the Midline. The presence of such institutions increased at a greater level in the treatment group (from ~3% to ~12%) compared with the control group (~2 to ~9%) during the inter-survey period.

Climate-Sensitive Agriculture Practices and Measures Adopted for Mitigated Floods and Droughts Impact

From the responses recorded during the FGDs with small farmers, water shortage is a significant challenge that farmers experience across the districts. The change in climatic conditions of the province is one of the primary reasons causing water scarcity in Sindh. Lack of water for irrigation is reportedly a significant reason farmers grow a limited variety of crops. Many growers source their water for irrigation from non-perennial canals, of which the receiving frequency is uncertain.

Farmers have started extensively using hybrid seeds instead of traditional heirloom seeds, which require less water to mature due to the water crisis. Rice is solely produced through hybrid seeds, whereas a mix of hybrid and heirloom seeds are used for wheat cultivation. Furthermore, farmers have adopted tube wells and bore wells to prevent hindrances in crop cultivation. In far-flung UCs of districts such as Dadu and Jamshoro, where water scarcity is extreme, farmers use lift irrigation mechanisms. The adoption of various means, including lift systems, tube wells, and bore wells, has improved water access to farmers. Only a few farmers in Thatta mentioned altering their cropping timings according to the availability of water.

Concerning climate change effects, many farmers are reportedly not aware of the ways for protecting crops from extreme temperatures. Only a minority of farmers started using techniques such as covering crops from straw mulch and plastic materials and radiating heat to prevent excess heat loss during winters or heat conduction during summer.

Droughts and floods are reportedly not a prevalent condition across the UCs. The event of flooding last occurred during 2010 and 2015. Since after, farmers have not experienced floods in their area. However, water scarcity is prevalent, to mitigate which the use of tube wells, bore wells, lift irrigation is widely adopted.

Key Factors Underlying Households Situation Reported in the Survey

Consultation sessions with the RSPN team were held to identify factors underlying survey outcomes/findings for the households in treatment and control areas on the prevalence of outcome indicators covered in the PINS-ER3 log-frame during the inter-survey period.

The most critical aspect discussed during the meetings with the RSPN concerned the treatment status of the control group. It was ascertained that UCs designated as "control" for the comparison with PINS-ER3-facilitated UCs were not "controlled" in the strict sense. Interventions in the water, sanitation, hygiene and agriculture sectors that occurred in control areas impacted the prevalence of log-frame indicators among control group households similar to the treatment group.

AAP was discussed as a significant stakeholder working in control UCs in agriculture, focusing on kitchen gardening, farmer field schools, and likewise. Referenced from the 2020 WASH Joint Sector Review, multiple government departments, development partners, and civil society organizations are working towards providing access to safe drinking water and improved sanitation and hygiene practices across the province. However, due to limited coordination at the provincial and district level, there is a lack of reporting and data available on WASH initiatives, especially within the public sector and even in civil society at large. Hence specific information concerning contamination in the control group regarding WASH activities cannot be assessed. However, significant stakeholders include UNICEF, Water Aid, Concern Worldwide, community development foundations and others.

Another essential factor for determining the progress among households in treatment and control areas concerns the geographical location of the households in each group. Households comprising the treatment UCs are remote and scattered. Whereas households containing control UCs are peri-urban and situated near district quarters. Poverty incidence is comparatively higher in the treatment than in control areas. It is believed that the distant geographical location of households and poverty levels in the treatment group limited the impact of PINS-ER3 on the targeted population that it can potentially create in these two and a half years of programmatic interventions.

It is also necessary to consider that during the Programme, two programmatic assumptions got disrupted. First concerns the specific objective intended to improve the availability and diversity of nutritious crops/foods. The particular indicators' targets were conceptualized based on the assumption that food prices will remain stable during the Programme's administration. However, with the onset of the Pandemic, food inflation has risen, leading to the increased food prices and impacting the augmented levels of food expenditure and incidence of severe food insecurity, more among the treatment group households than the control group, as also evidenced in the Midline survey.

Another fundamental Programmatic assumption that got disrupted is GoS remaining committed to implementing 50% of areas of target districts and extending support to PINS to provide drainage systems in targeted villages under the Saf-Suthro Sindh Programme. Due to COVID-19, the Saf-Suthro Sindh Programme was suspended because of a lack of funding. Hence, the improved sanitation situation has not become better in the treatment UCs; it has deteriorated.

However, it is critical to note that improvement is recorded in almost all log-frame indicators compared with the baseline values in the treatment group despite the challenges of geography, poverty incidence, disruption in programmatic assumptions due to the COVID-19 pandemic. However, efforts must be undertaken to mitigate the challenges, be at par with the households in the comparison/non-treatment villages, and achieve the Programmatic targets to create the intended impact.

The Way Forward: Conclusions and Recommendations

To conclude the findings of the Midline Survey, the following summarizes the current status of survey areas in response to PINS-ER3 indicators:

1. Approximately 77% of households have access to safe drinking water – around 75% in the treatment areas and ~80% in the control areas;
2. Around 60% of survey respondents are knowledgeable about appropriate water treatment methods – the corresponding figures for treatment and control areas are 57% and ~62%, respectively;
3. However, only ~7% of households follow appropriate water treatment methods. In the treatment areas, such households comprise ~9%, and in the control areas comprise ~6%;
4. Around 19% of households have access to an improved sanitation facility. In the treatment areas, such households comprise 15%, and in the control areas comprise 22%;
5. Approximately 13% of households practise open defecation – ~14% in the treatment areas and ~12% in the control areas;
6. ~19% of households have a specific place for handwashing with water and soap – ~18% in the treatment areas and ~20% in the control areas;
7. ~91 of survey respondents across treatment and control areas reported awareness regarding the importance of handwashing/keeping hands clean;
8. Only ~2% of mothers and caregivers wash their hands before feeding children across treatment and control areas;
9. 17% of children under five years old suffered from pediatric diarrhoea. The treatment and control areas' comparative estimates are ~18% and ~16%, respectively;
10. Expenditure of Rs. 18,374 is dedicated to consuming a minimum of four food groups (outside staples) among surveyed households – Rs 18,154 in control areas and 18,582 in treatment areas.;
11. On average, around 37% of women age 15-49 years from the households surveyed receive the minimum dietary diversity – ~34% in the treatment and ~39% in the control areas;
12. On average, around 17% of children in the age bracket of 6-23 months receive the minimum acceptable diet (17.4% in the treatment areas and 16.6% in the control areas);
13. 7% of surveyed households practice kitchen gardening. The treatment and control areas' comparative estimates are ~8% and ~6%, respectively;
14. Around 9% of households have received training on setting up a kitchen garden. In the treatment areas, such households comprise 11%, and in the control areas comprise 7%;
15. Around 10% of households reported having demonstration sites for poultry farming or livestock in their localities. The treatment and control areas' comparative estimates are ~12% and ~9%, respectively;
16. Around 10% of households reported having demonstration sites for learning integrated-farming skills. The treatment and control areas' comparative estimates are ~11% and ~9%, respectively;

17. Water scarcity is a significant challenge facing small farmers. Many have shifted to using hybrid seeds, particularly rice production, which require less water for cultivation than heirloom seeds. Also, tube well bore wells and lift irrigation are widely adopted to fulfil the water needs;

18. The condition of floods and droughts are not prevalent in the districts. However, installation of tube wells and boring is adopted to avoid water shortage;

Based on the study's findings, key priority actions are recommended for the Programme as a way forward towards the Endline. Please refer to chapter 4 of the report for detailed recommendations.

Acknowledgments

AASA Consulting is pleased to present this Midline Study Report on the Programme for Improved Nutrition in Sindh - Nutrition Sensitive Component (PINS-ER3).

Malnutrition is one of the major cross-cutting issues that plague Pakistan. The Pakistan National Nutritional Survey (PNNS) 2018, which is the primary resource used by many sector stakeholders, details the plight of the nutrition sector in Pakistan. According to its findings, ~37% of the households in Pakistan are food insecure, and ~14% of women aged 15-49 years and ~29% of children are underweight. The situation in the Sindh province is even more challenging as the percentage of children under five years old suffering from acute malnourishment is at the highest level in the country.

Therefore, this midline study for PINS (ER3) is essential and provides much-needed data and intelligence that would help mitigate the nutrition and health status in Sindh, particularly in the context of the PINS.

Over the years, AASA Consulting has remained at the forefront of research in the development sector to improve the lives of people in Pakistan by assisting the government, donor agencies, NGOs, and other organizations working in critical areas of health, social protection, education, and social protection. To this end, this report provides an in-depth look at the nutrition status in ten districts of Sindh and the institutional structures developed to mobilize much-needed nutrition initiatives in the province.

This study is a crucial milestone in understanding the current nutrition condition in the province to determine a guideline to the implementation for improved nutrition in Sindh. This assignment sets the threshold for conducting subsequent end-line evaluation and measuring programme achievements at the PINS closure.

I want to extend my appreciation and thanks to the Rural Support Programmes Network's project team, and in particular, to Mr. Khurram Shahzad (M&E Specialist), Bashir Anjum (Specialist Social Sector) and Mr. Alee Kapri (M&E Coordinator) for their assistance and facilitation during this assignment's execution and field support, and Dr. Ghida Karbala of the Center for Evaluation and Development (C4ED) for her productive feedback on the study.

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Thanks are due to the respondents and focus group participants who gave us their valuable time and shared their views on an issue of national significance. Without their insight and feedback, it would not have been possible to paint a complete and accurate picture of the nutrition and health situation in Sindh.

Zohair Ashir
Chief Executive

List of Exhibits

Acronyms

AAP	Accelerated Action Plan
ACF	Action Against Hunger
AEU	Adult Equivalent Units
BCC	Behavior Change Communication
BISP	Benazir Income Support Program
C4ED	Centre For Evaluation and Development
COVID-19	Coronavirus Infectious Disease 2019
CRP	Community Resource Person
CSV	Comma-Separated Values
DoH	Department of Health
ER	Expected Result
EU	European Union
FAO	Food and Agriculture Organization
FGDs	Focus Group Discussions
GoPak/GoP	Government of Pakistan
GoS	Government of Sindh
HHs	Households
HIES	Household Integrated Economic Survey
IP	Implementing Partner
IYCF	Infant and Young Child Feeding Practices
Kcal	Kilocalorie
KSK	Kamber Shahdadkot
LSO	Local Support Organization
MAD	Minimum Acceptable Diet
MDD	Minimum Dietary Diversity
MDD-W	Minimum Dietary Diversity for Women
MICS	Multiple Indicator Cluster Survey
MMF	Minimum Meal Frequency
MS Excel	Microsoft Excel
NARC	National Agriculture Research Centre
NGOs	Non-Government Organizations
NNS	National Nutrition Survey
NRSP	National Rural Support Program
NWFP	North West Frontier Province/ Khyber Pakhtunkhwa

ODF	Open Defecation Free
ORS	Oral Rehydration Solution
PHED	Public Health Engineering Department
PINS	Program For Improved Nutrition In Sindh
PLW	Pregnant And Lactating Women
PSC	Poverty Score Card
RSPN	Rural Support Program Network
RSPs	Rural Support Programs
RVs	Revenue Villages
SDG	Sustainable Development Goals
SPSS	Statistical Package for The Social Sciences
SRSO	Sindh Rural Support Organization
SUN	Scaling Up Nutrition
TAY	Tando Allah Yar
TMK	Tando Muhammad Khan
TRDP	Thardeep Rural Development Program
U-5	Under Five Year of Age
UC	Union Councils
UNICEF	United Nations Children' Fund
USAID	United States for Agency for International Development
VO	Village Organization
WASH	Water, Sanitation and Hygiene
WFP	World Food Program
WHO	World Health Organization
WRA	Women of Reproductive Age

1.0 Introduction to the PINS-ER3 Midline Survey

In November 2020, the Rural Support Programme Network (RSPN) awarded a third-party consulting contract for undertaking the midline survey on the implementation of the nutrition-sensitive component (ER3) of the Programme for Improved Nutrition in Sindh (PINS) to AASA Consulting (Pvt.) Ltd. This project is the follow-up round of the study to the baseline survey undertaken during 2018-2019 before implementing the Programme. As PINS-ER3 completes its 2.5 years of execution, this report presents the midline status of households surveyed during the baseline stage. This midline study was executed between November 2020 and June 2021.

1.1. Background

With a population of over 208 million, Pakistan has been ranked 88th out of 107 countries on the 2020 Global Hunger Index (Concern Worldwide, 2020). The index is based on three indicators: children's undernutrition (stunting and wasting), under-five child mortality, and inadequate food supply (undernourishment). With a score of 24.6 points, Pakistan is one of 31 countries with serious levels of hunger and undernutrition.

Children's Nutrition Status: The 2018 National Nutrition Survey (NNS) revealed that nearly 40.2% of children under five years old are chronically malnourished or stunted in Pakistan, while 17.7% are acutely malnourished or wasted. Sindh province is in a state of nutrition emergency for acute malnutrition with the highest prevalence of low-weight-for-height among children in the country. Almost 23.3% of young children suffer from wasting in the province, exceeding the emergency threshold of 15%. The incidence of stunted children in Sindh (45.5%) also surpasses the national average (40.2%) and is critical (MoNHSR&C Pakistan, 2020).

Compared with the NNS 2011 findings, the prevalence of wasting has nationally and provincially risen. Stunting rate has descended over the years, but its "annual reduction rate is estimated to be too slow to significantly reduce the stunting prevalence in the country (MoNHSR&C Pakistan, 2020)." Exhibit 1.1 and 1.2 illustrate the trends in children's malnutrition from the recent two NNS reports.

Exhibit 1.1: Acute Malnutrition (Wasting) Trend in Children <5 Years

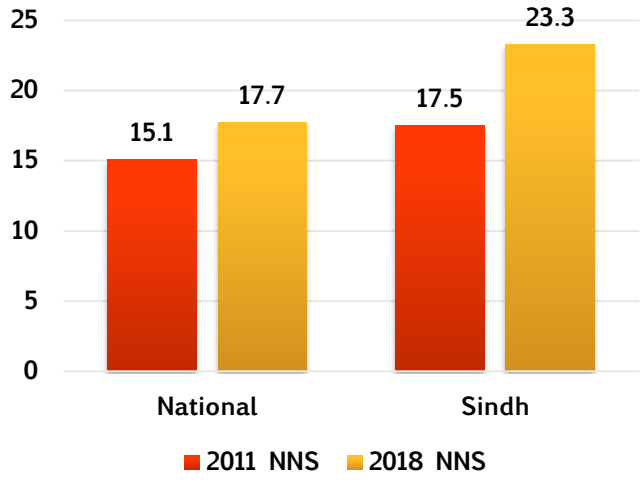
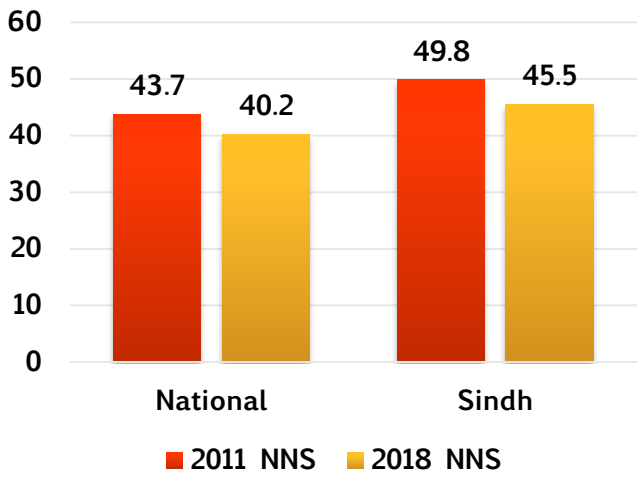


Exhibit 1.2: Chronic Malnutrition (Stunting) Trend in Children <5 Years

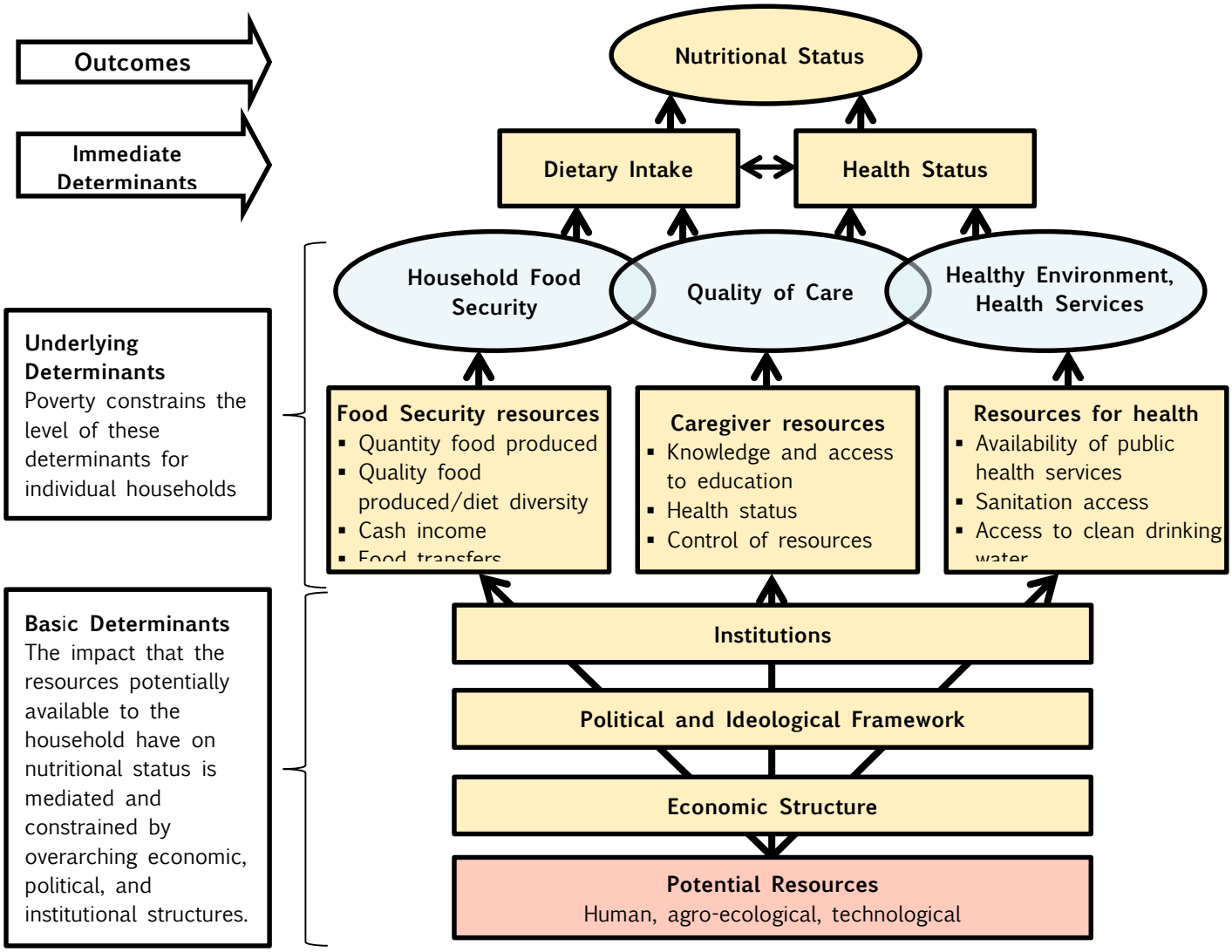


Reference: 2018 and 2011 NNS Reports

Women's Nutrition Status: The NNS 2018 found that 14.4% of women of reproductive age (WRA) 15-49 years are underweight. The overall incidence of underweight WRAs has declined nationally from 18% in 2011. However, Sindh has the highest percentage of underweight (22.6%) and iron-deficient anaemic WRAs (23.8%) compared with other provinces. The prevalence of undernourished women is higher in the rural areas than urban. More than a quarter of women (26%) in rural Sindh suffer from being underweight (MoNHSR&C Pakistan, 2020).

Determinants of Malnutrition: Illustrated in Exhibit 1.3, the United Nations Children's Fund (UNICEF) multi-causality nutrition conceptual framework shows inadequate dietary intake and poor health status are immediate determinants of undernutrition. These conditions are an outcome of underlying factors and behaviors spanning unsafe maternal and child care practices, food insecurity and inadequate provision of health services, and poor environment (water, sanitation, and hygiene practices) (GoS, 2015).

Exhibit 1.3: Causal Pathway of Undernutrition



Reference: UNICEF, 1990; Benson & Shekar, 2006

The 2018 NNS states that around half of the population in Sindh, i.e., ~47% of families, is food insecure, with 26% facing acute food insecurity (MoNHSR&C Pakistan, 2020). The situation of food insecurity is exacerbated by underlying poverty, climate change effects and natural disasters in the province. In recent years, the province had witnessed massive torrential rains and riverine flooding reducing agricultural productivity (IDS, 2021). During 2020, locust infestation, heavy monsoon

rains/floods, high food prices, and reduced income due to COVID-19-related restrictions worsened the food insecurity incidence and pushed around 26% of the rural population in various districts into severe food insecurity (IPC, 2021). In 2021, the province also experienced the worst water shortage in 60 years, undermining crop production (Dawn, 2021). Sindh still faces a 67% shortage of water driven by various factors, including changing climatic conditions, rising population, flawed irrigation system, poor political will, and rapid urbanization (Zhang.D, 2021).

The 2018-2019 MICS-S shows that 43% of children population under five years old lack adequate nutrition. Only ~12% of children aged 6 – 23 months receive a minimum acceptable diet in the province, indicating that ~88% do not achieve the minimum feeding frequency and diversity appropriate for their age. Children in rural areas (~91%) are more likely not to consume an adequate diet than children in urban areas (~85%) (GoS, 2020).

Access to safe drinking water and adequate sanitation and hygiene (WASH) is strongly associated with ensuring good health and disease prevention. According to 2018-2019 MICS-S, although 96% of households use improved drinking water sources, almost 25% of households cannot access drinking water in sufficient quantities when needed. Only 1.4% of rural households use an appropriate water treatment method. Approximately 34% of households in the province do not have an improved toilet/sanitation facility. Around a quarter of households (24%) have no latrine facility and practice open defecation (44% in rural areas and 4.7% in urban areas). Many rural families (~37%) also do not have a place to wash hands with water and soap (GoS, 2020).

Nutrition-Focused Interventions in Province for Battling Malnutrition: Substantial and combined efforts are required from various development partners, government agencies, donors, and civil society organizations to overcome multifaceted challenges of the malnutrition (stunting and wasting) situation in Sindh. The Planning and Development Board of the Government of Sindh has launched the Acceleration Action Plan (AAP) to Reduce Stunting and Malnutrition (also known as *Sehatmand Sindh*). The AAP is a multi-sectoral plan of action focusing on international best practices to combat Malnutrition by adopting nutrition-specific and nutrition-sensitive interventions. The AAP's strategic focus is to enhance inter-sectoral collaboration and coordination among key sectors and strengthen monitoring and evaluation mechanisms to reduce stunting from 48% to 30% by 2021 and to 15% by 2026. Interventions envisaged include health, sanitation, hygiene, social protection, BCC, agriculture, livestock and education.

Other key stakeholders assisting GoS in improving nutrition outcomes in the province include the United StatesAgency for International Development (USAID), United Nations Children's Fund (UNICEF), World Food Programme (WFP), European Union (EU)/Programme for Improved Nutrition in Sindh (PINS), among others.

1.2. Overview of the PINS-ER3 Project

RSPN is leading the implementation of a four-year-long Programme for Improved Nutrition in Sindh Nutrition Sensitive Component (PINS-ER3) commissioned by the European Union (EU). The Programme aims to support the Government of Sindh (GoS) in addressing malnutrition in the province.

PINS-ER3 is designed with an overall objective "to sustainably improve the nutritional status of children under five (U-5) and of Pregnant and Lactating Women (PLW) in Sindh in line with the second target indicator of the SDG Goal No. 2". The Programme envisions to accomplish its objective by creating an impact on the following health indicators of the target population:

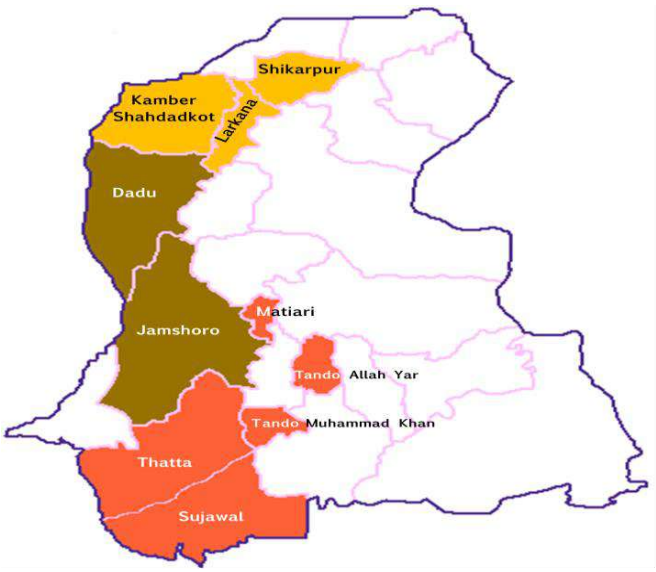
Exhibit 1.4: Impact Indicators of PINS-ER3

Results Chain	Indicators	Baselines	Current Value
Overall Objective – Impact: To sustainably improve the nutritional status of children under five (U5) and of Pregnant and Lactating Women (PLW) in Sindh in line with the second target indicator of ~~the~~ SDG Goal No2;	1. Prevalence of stunting of children aged below five years in Sindh	49.8% in Sindh (NNS 2011)	45.5% in Sindh (NNS 2018)
	2. Proportion of children under 5-years of age with severe acute malnutrition (wasting)	17% in rural Sindh (MICS 2014)	16.7% in rural Sindh (MICS 2019)
	3. Proportion of pregnant women who are anaemic (Hb<12g/dL);	59.7% in Sindh (NNS 2011)	38.2% in Sindh (NNS 2018)
	4. Incidence of diarrhoea in U-5 children in programme target areas	28% in Sindh (MICS-Sindh 2014)	10.6% in Sindh (MICS-Sindh 2019)
Reference: Logframe Matrix of the Nutrition-Sensitive Component of PINS (PINS-ER3) – attached as Annexure 1 of the document.			

The Programme is implemented in a consortium with three implementing Rural Support Programmes (RSPs) in ten targeted districts of Sindh, namely: Dadu, Jamshoro, Tando Mohammad Khan (TMK), Tando Allah Yar (TAY), Matiari, Shikarpur, Larkana, Kamber Shahdadkot (KSK), Sujawal, and Thatta, illustrated in Exhibit 1.5.

RSPN is working closely with Action Against Hunger (ACF), National Agriculture Research Centre (NARC), and Food and Agriculture Organization (FAO) as the technical partners on the project. Services of the Centre for Evaluation and Development (C4ED), Germany, are also engaged in providing technical support in designing and conducting overall impact assessment of the Programme.

Exhibit 1.5: PINS Programme Intervention Districts



RSPs Engaged as Implementing Partner (IPs) in the Programme Districts

Thardeep Rural Development Programme (TRDP) in Dadu and Jamshoro

National Rural Support Programme (NRSP) in Tando Allah Yar, Tando Muhammad Khan, Thatta, Matiari, Sujawal

Sindh Rural Support Programme (SRSO) in Larkana, Shikarpur, and Kamber Shahdadkot

Programme's Expected Results/Outcomes: In pursuit of improving the health and nutrition status of mothers and children, PINS uses a multi-sectoral approach through focusing on three (03) main areas of interventions (expected results/components):

Expected Result 1 (ER1): Improved capacity of the Government of Sindh and other stakeholders regarding nutrition-related policy/strategy development, coordination, implementation, adaptive research, data collection, analysis, and communication;

Expected Result 2 (ER2): Treatment of malnutrition in health facilities supported by an outreach programme to screen children, a referral system for their follow-up, and a Behaviour Change Communication (BCC) programme for improved childcare, sanitation, and feeding practices; and

Expected Result 3 (ER3): Improved community-level WASH (infrastructure and BCC) and nutrition-sensitive food production systems adapted to climate change in rural areas.

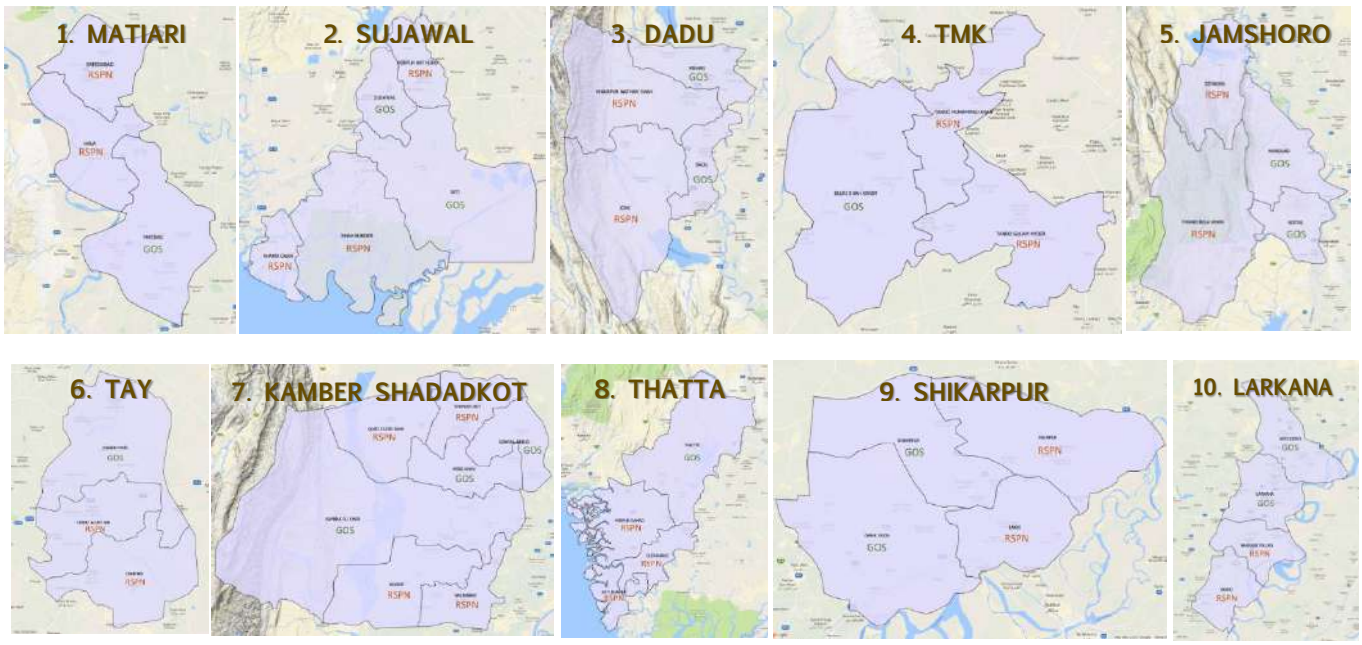
PINS-ER3 component focuses on **nutrition-sensitive interventions,** i.e., water, sanitation and hygiene (WASH) infrastructure and behaviour change and improvements in food production systems in the targeted districts. The activities of PINS-ER3 concentrate on:

a) Improvement in community-level access to safe drinking water and improved sanitation;
b) Capacity building of communities for climate resilient small-scale kitchen gardening, integrated community farming through training, provision of inputs and technical oversight;
c) Enabling communities for food diversification through livestock, poultry and fisheries focused interventions;
d) Improvement in crop production through introduction of climate-smart crop production technologies, training and provision of inputs;
e) Empowerment of community institutions to develop and implement disaster risk reduction plans and reduce the impacts of floods and droughts at the local level;

RSPN and its IPs are working in one-half (50%) of the rural areas in the targeted districts through 194 Union Councils (UC) out of 388. Sindh Accelerated Action Plan for Reduction of Stunting and Malnutrition (AAP) interventions, administered by the GoS, covers the other half of rural areas in the districts. Tehsils and UCs closed to the district headquarter were taken for the implementation of GoS's AAP and the remainder of the tehsils and UCs with long distance were allocated to RSPN for the implementation of PINS ER-3.

The AAP is a broad program delivered by eight governmental departments, but only some of its activities qualify as nutrition-sensitive and are therefore comparable to PINS ER-3. Assignment of UCs between AAP and RSPN was done quasi-randomly. Households in the RSPN/RSPs-facilitated UCs serve as the treatment group, whereas families in the AAP-facilitated UCs serve as the control/comparison group for the purpose of impact evaluation of the interventions.

Exhibit 1.6: Classification of Tehsils and UCs for PINS-ER3 and GoS's AAP



1.3. Survey Objectives and Scope of Work

This Project (i.e., Midline Survey of the Implementation of the Nutrition-Sensitive Component ER3) is part of the overall impact evaluation strategy designed by the RSPN and C4ED, Germany, to ascertain the impact of the PINS ER-3 component in the targeted districts.

Compared to the 2018-2019 Baseline Study findings, the survey's primary purpose was to track and measure the change in the key Programmatic outcome level indicators at the household level. The incidence of some outcome level indicators was also cross-examined at the village level. Any change in the prevalence of key indicators will help gauge whether the difference between the midline and baseline nutrition situation can be attributed to the PINS-ER3 activities.

The scope of the midline study included reporting against the selected results indicators of the PINS-ER3 Log-frame[1], listed in Exhibit 1.7. A panel survey was run with the households interviewed at the baseline stage to investigate changes in household behaviour due to the project's interventions. Surveys (focus group discussions and observations) were also undertaken to document climate-resilient agricultural practices adopted by small farmers in Programme UCs. All three Programme's impact indicators, i.e., stunting and wasting in children below five and anaemia among pregnant women, are measured through national and provincial surveys.

The information gathered is used to provide valuable recommendations to the Programme team for course correction for the remaining phase of the Programme implementation.

[1] The Programme log-frame is attached as **Annexure 1** of the document.

Exhibit 1.7: Key Programmatic Indicators Covered in the Midline Survey	
Selected Log-frame Indicators	Source of Midline Data Collection
1. Incidence of diarrhoea in U-5 children in programme target areas	Sampled household interviewing using quantitative methods
2. Percentage (%) of target population using safely managed drinking water sources	
3. Percentage (%) of programme-targeted population who use an appropriate water treatment method	
4. Percentage (%) of mothers/care-givers in targeted villages who practice hand washing before feeding children	
5. Percentage (%) of program-target households in target villages with a specific place for hand washing with water and soap	
6. Percentage (%) of programme target population using an improved sanitation facility	
7. Percentage of expenditure dedicated to a minimum of four food groups (outside staples) by target households	
8. Percentage (%) of women, 15-49 years, from targeted population, who consume at least 5 out of 10 defined food groups (minimum dietary diversity –w)	
9. Percentage (%) of children (age 6-23 months) that consume a minimum acceptable diet	
10. Number/ Percentage (%) of target households (0-23 PSC) who have established kitchen garden in programme villages	
11. Percentage (%) of households practicing open defecation in the target districts ***(used as a proxy for % of target villages certified as Open Defecation Free (ODF))***	Sampled household interviewing using quantitative methods cross-referenced through village surveys using qualitative methods
12. Percentage (%) of households reported presence of at least one community-managed demonstration site for poultry or livestock ***(as a proxy to measure number of villages with at least one community-managed demonstration site for poultry or livestock)***	
13. Climate resilient measures for mitigating floods and drought impacts at local level ***(Number of VOs implemented at least three type of climate resilient measures for mitigating floods and drought impacts at local level)***	Sampled UC/Village surveys using qualitative methods
14. Techniques of sustainable agriculture adapted to climate change implemented by small farmers ***(as a proxy to measure % of small farmers implementing new techniques of sustainable agriculture adapted to climate change)***	

Some data points were also included in the survey to test the appropriate implementation of selected output level indicators of PINS-ER3 log-frame. The list of indicators to be incorporated was shortlisted by the RSPN Project Team, and is laid out in Exhibit 1.8.

Exhibit 1.8: Key Programmatic Output-level Indicators Covered in the Midline Survey

Selected Log-frame Indicators	Source of Midline Data Collection
1. Percentage (%) of target households (0-23 on PSC) who have received training/orientation on kitchen gardening and homestead gardening ***(as a proxy to measure number of targeted households (0-23 on PSC) who have received training/orientation on kitchen gardening and homestead gardening)***	Sampled household interviewing using quantitative methods
2. Percentage (%) of mothers/care-givers in targeted villages with an understanding of importance of hygiene practices (handwashing) ***(as a proxy number of mothers/care-givers in targeted villages with an increased understanding of importance in hygiene practices)***	
3. Percentage (%) of mothers/respondents reported awareness about appropriate water treatment methods ***(as a proxy to number of mothers/care-givers in targeted villages participated in awareness sessions on positive practices on water treatment)***	
4. Percentage (%) of households reported presence of at least one integrated farmer field school in their villages ***(as a proxy to measure number of villages with at least one integrated farmer field school)***	Sampled household interviewing using quantitative methods cross-referenced through village surveys

To meet the objectives of the assignment, AASA Consulting had undertaken the following key activities:

1. Review of survey instruments used during the baseline survey and development of the midline survey questionnaires (household and village questionnaires and guidelines);
2. Development of the Android-based data collection programme software to use survey instrument on tablet devices/smart mobile phones;
3. Hiring and training of field personnel (enumerators, supervisors and monitors) – including the development of Training and Instructions Manual;
4. Field data collection using the panel survey approach (surveying the same sampled households targeted during the baseline survey);
5. Field monitoring during data collection and overall quality assurance including progress and results monitoring;
6. Data cleaning and analysis; and
7. Drafting and finalization of Midline Survey Report.

1.4. Report Structure

This Midline Survey Report contains 04 chapters:

Chapter 1 comprises the introduction and scope of work of the Project. It is followed by **Chapter 2**, which details the methodology of the study, its data management mechanisms and quality assurance protocols.

Chapter 3 details the salient results of the midline study specified by treatment and control groups UCs, along with a comparative analysis of the midline and baseline situations. It also discusses factors contributing to the households' situation in each sampled group.

Chapter 4 summarizes provides recommendations for the Programme based on the results of the survey and indicate measures that can be taken during the remaining the course of the Programme implementation.

2.0 Survey Approach and Methodology

PINS-ER3 Impact Evaluation Strategy designed by the RSPN and C4ED informs the midline survey's approach and methodology. AASA Consulting conducted **4,617 household surveys with mothers of children under five years old, held 50 focus group discussions with 300+ small farmers and completed 310 village observations across all ten Programme districts**. The data was collected between April 2021 and May 2021.

2.1 Data Collection Methods

Different methods used to collect information under the survey are detailed as the following:

2.1.1. Interviews at the Household Level

The household level interviews/survey were used as a means to determine the Programme impact by estimating change in targeted households' levels of knowledge and behaviour towards food security and water, sanitation and hygiene (WASH) practices, and the prevalence of water-borne diseases via accessing improved WASH infrastructure.

The same respondents from the same households surveyed at the baseline stage were tracked using the household/respondent information recorded in the baseline database and interviewed. Survey respondents were mainly mothers of children under 5 years old selected during the baseline using the eligibility criteria explained in Exhibit 2.1.

Exhibit 2.1: Respondent Profile/Eligibility Criteria

- Priority was given to mothers with children in the bracket of 6-23 months of age in the household.
- In case such a respondent was not available, a mother with children in the age bracket of 24-59 months was required to be selected.
- In case more than one eligible mother were present in household, the youngest child mother was given the priority.
- If both options were not available, any pregnant woman was preferred.
- If there was no pregnant woman in the household, surveyors gave precedence to the youngest married women aged between 15-49 years.
- In the scenario where the latter criterion did not apply, any woman, regardless of marital status and age, was surveyed.

The survey questionnaire executed in the field is attached as **Annexure 2** of the document. The questionnaire constituted 14 main modules illustrated in Exhibit 2.2. Compared with the baseline assignment, the tool was slightly modified. Two new modules were introduced. The first module pertains to "Social Safety Nets" to record financial and material aid received by households during the past two years of the Programme implementation from RSPN and its RSPs. It was also aimed to document the support received by families from other government and non-government institutions. The second module concerns demonstrating knowledge about mothers on malnutrition symptoms and reasons among young children. Further, the Food Security module was considerably revised to observe the impact of the COVID-19 pandemic on the households' food security situation. The section regarding menstrual hygiene was removed for the midline survey.

Exhibit 2.2: PINS-ER3 Midline Study Household Survey Modules

Module 0: Household and Respondent Tracking and Identification

Module 1: Information on family composition and socio-economic demographic characteristics

Module 2: Information on family housing unit characteristics

Module 3.1: Household drinking water sources, availability and quality

Module 3.2: KAP on household water treatment methods among female respondents/mothers

Module 4: Latrine availability, utilization & waste disposal mechanisms (along with handwashing facilities)

Module 5: KAP of hygiene and cleanliness (particularly handwashing)

Module 6: Prevalence of diarrhea among children aged under 5 years in the sampled households

Module 6 (continued): Prevalence of diarrhea among children aged under 5 years in the sampled households

Module 7 (continued): Receipt of social protection inputs among sampled households (New)

Module 8: Household food and nutrition security (before and during COVID-19)

Module 8 (continued) : Dietary diversity of female respondents/ mothers (aged 15 - 49 years old)

Module 9 : Dietary diversity and complementary feeding practices among children aged 6-23 months in the sampled households

Module 10 : Knowledge about malnourishment among female respondents/mothers (New)

Module 11 : Sampled household agricultural practices and availability and diversity of nutritious crops

Module 12: Availability of livestock and livestock management practices among sampled household

Module 13: Sampled household income and expenditure

Module 13 (continued): Information on the household dietary diversity and food consumed)

Module 14: Surveyors' observation on household WASH practices

2.1.2. Focus Group Discussions (FGDs) at the UC Level

FGDs were conducted with small farmers (i.e., those who own an average land of 5 acres or less) among each of the 50 UCs in the study sample. The primary purpose of the FGDs was to gauge the impact of PINS-ER3 activities on the small farmers' agricultural practices and climate-resilient measures adopted to mitigate the effects of floods and droughts.

The discussions were conducted using the semi-structured questionnaire previously developed after some modifications. The updated questionnaire is attached as **Annexure 3** of the document. The tool comprises six (06) major modules illustrated in Exhibit 2.3.

Exhibit 2.3: PINS-ER3 Midline Study Focus Group Discussion (FGD) Modules

Module 0:Basic Participants Information (including, age, gender, phone number)

Module 1: Information on agricultural practices (including data on cropping yeild)

Module 2: Information on cropping patterns during drougts & measures undertaken to prevent/face tough conditions during droughts)

Module 3:Information on cropping practices after floods & preparatory measures undertaken to face floods

Module 4: Plantation drives within UCs - number of trees planted during the past year and plans for plantation

Module 4 (continued): Institutional presence for teaching various agriculture and farming-related skills

Module 5 : Receipt of agricultural-based social protection inputs of PINS-ER3 within UCs

2.1.3. Village Profiling/Observation

A checklist was administered in the field, attached as **Annexure 4** of the document, noting down the observations of the field team regarding the sanitation and cleanliness situation of the villages in all sampled UCs. The checklist was also used to collect food prices at the village level of all essential food items included in the food consumption module of the household survey questionnaire to extrapolate the food expenditure of households at the UC/district level. Exhibit 2.4 illustrates the main components covered in the tool.

Exhibit 2.4: PINS-ER3 Midline Study Village Observation Checklist Components

Module 1: Surveyors' observations on villages' sanitation, cleanliness and hygiene situation

Module 2: Village food prices (for all the items asked under the module 13 of the household questionnaire on food consumption and expenditure)

2.2 Survey Sample Size

Out of **5,047 households** surveyed during the baseline study, the midline survey's findings are based on the data of 4,617 households (2,331 and 2,286 respectively in the project participating/treatment and non-participating/control areas), illustrated in Exhibit 2.5.

Exhibit 2.5: Households (HHs) Targeted during the Midline Survey

	Treatment HHs	Control HHs	Total HHs
Midline Target – Households interviewed during the Baseline Survey	**2,525**	**2,522**	**5,047**
Household Status During the Midline Survey			
Households/respondents interviewed	**2,331**	**2,286**	**4,617**
Households dropped out	**194**	**236**	**430**
Households/respondents refused to participate	3	16	19
Households not located	13	14	27
Households found locked	30	38	68
Households migrated/shifted/moved	148	168	316
Note: Household interview status by districts is provided in Annexure 5 of the document.			

The survey exercise revealed a loss of 430 households, leading to an attrition rate of close to 9%. The majority of families (316 or 73%) had been shifted/migrated or moved from the area. The primary reason that caused migration was the implementation of the Sindh High Court orders to remove encroachments from the Irrigation Department's land from all over the province. The survey field teams informed that many families who had lived on the land by water canals and water channels had to either migrate or leave their housing units.

Other reasons of attritions include: refusal of household/respondent to participate in the survey (19 families or 4%) and households found locked (68 or 16%) despite various efforts. The survey teams also could not locate 27 or 6% of households. Barring the refusal rate, no significant

differences in the treatment and control group households are evident. District-wise realized sample for the survey is furnished in Exhibit 2.6.

Exhibit 2.6: Households Surveyed/Interviewed During the Midline Survey - by District

Districts	Households Surveyed/Interviewed			Households Targeted		
	Treatment HHs	Control HHs	Total HHs	Treatment HHs	Control HHs	Total HHs
Dadu	393	370	763	400	400	800
Jamshoro	186	187	373	201	200	401
Kamber Shahdadkot	375	392	767	404	406	810
Larkana	295	276	571	302	302	604
Matiari	188	169	357	200	200	400
Shikarpur	165	176	341	201	202	403
Sujawal	194	193	387	209	208	417
Tando Allah Yar	171	170	341	205	203	408
Tando Muhammad Khan	189	188	377	202	200	402
Thatta	175	165	340	200	202	402
Total	2,331	2,286	4,617	**2,525**	**2,522**	**5,047**

Illustrated in Exhibit 2.7, a total of **50 FGDs were conducted**, one in each UC of the study sample. Each FGD comprised 6 – 10 participants/small farmers leading to an engagement with 300+ farmers. Efforts were made to ensure participants belonged from different villages of the UC. The observation checklist was administered to over **300 village clusters** across the targeted UCs. Each cluster constituted three to four revenue villages (RVs) of the targeted sample formulated based on the geographical proximity of the RVs and the concentration of the households interviewed.

Exhibit 2.7: Number of FGDs and Village Observations Completed

Districts	Total Targeted UCs	Number of Villages Observations	Number of FGDs
Dadu	08	50	08
Jamshoro	04	25	04
Kamber Shahdadkot	08	50	08
Larkana	06	35	06
Matiari	04	25	04
Shikarpur	04	25	04
Sujawal	04	25	04
Tando Allah Yar	04	25	04
Tando Muhammad Khan	04	25	04
Thatta	04	25	04
Total	**50**	**310**	**50**

2.3 Data Quality and Management

Field data collection was undertaken by an extended team of data collectors constituting 12 Field Supervisors and 54 Enumerators led by one field manager. Depending on the distribution of sampled households in each of the survey districts, 12 teams were formed comprising four to five enumerators headed by one field supervisor. All regional female enumerators were onboarded to engage with female survey respondents. Males were restricted for the position of supervisors.

Mandatory measures were followed for implementing face-to-face data collection during COVID-19 for protecting the field staff and survey participants/respondents. All members traveling to the field were provided with their hand sanitizers and were screened for temperature daily. A protocol was in place to follow and inform about any observations of symptoms and sickness among field staff. Enough vehicles were arranged to ensure teams can safely travel and maintain distance during the commute.

During the interviews and focus group discussions, field teams avoided physical contact with survey respondents and communities. They explained the reason to inhibit handshaking or hugging as it may be deemed inappropriate in the cultural context of Sindh. In addition, interviews/discussions were undertaken outside (in an open space). Participants during FGDs were placed with the recommended distance (of at least one meter). Similarly, during household surveys, enumerators ensured to stay a distance from the survey respondent and household members. Any interaction with a survey respondent exhibiting any health symptoms was immediately reported to the field supervisor and manager. Fortunately, no COVID-19 case was witnessed during the entire field exercise, neither among the field team nor among the survey respondents and participants.

The field manager and supervisors regularly monitored data quality during field data collection. In addition, they performed regular spot checks and observed interview processes to ensure the enumerators followed data collection protocols and COVID-19 SOPs. Supervisors were also undertaking daily back checks on at least one survey form per enumerator in the team to be further validated by the field manager.

At the head office, completed survey forms were reviewed daily by the database manager and project lead. In addition, the project team had set up a dashboard with results based on data checks, particularly ensuring that the correct households and respondents were identified. The feedback and findings were shared with field supervisors via the field manager for accountability and improving data quality.

Moreover, each household surveyed was marked manually by the enumerator for tracking and monitoring purposes. The marking comprised: Enumerator ID, HH Listing Number, and Date of Survey. Supervisors and Field Managers also marked the selected households after monitoring (with the Supervisor ID, HH Listing Number, and Survey Date)

The household survey forms were filled using KoBoCollect Android Application and were uploaded daily on the Programme Server. Once the field team completed the household data collection, the data sets were downloaded as MS Excel/CSV files from the server and analysed using SPSS after going through data cleansing.

Data analysis focused on conducting descriptive and advanced multivariate regression analysis of the responses disaggregated at the district level along with comparative analysis for the intervention/treatment and comparison/control groups. In addition, the midline findings/reporting of the critical PINS-ER3 log-frame indicators are further compared with the baseline values.

Concerning FGDs, the discussions were conducted in local languages. The data recorded was translated into Urdu and entered into the Excel sheets by data entry operators and editors under the supervision of research analysts and the Team Lead.

The translation was carefully undertaken to enable the analysts to appreciate the verbatim and idioms of respondents on particular issues and comments so that firmly held opinions, variations in language, concerns, and any compelling topics of the different groups were adequately identified. Finally, the findings from the discussions are analyzed to compare the agriculture practices and related characteristics across treatment and control groups of the districts.

3.0 Major Findings of the Survey

This section presents survey results by comparing the districts' households in the treatment and control group UCs. The similarities among treatment and control groups are statistically evaluated by applying a t-test on variables that fit a normal or approximately normal distribution assuming unknowns but equal variance. The t-test is one type of inferential statistics used to determine whether there is a significant difference between the means of two groups. A p-value less than 0.05 associated with the test indicates that the mean difference between groups is statistically significant. However, the variable that provides information in categories (nominal or ordinal) t-test cannot be computed. Nonetheless, a Chi-Squared ($\chi 2$) test for association (or independence) is applied for variables like gender, marital status, occupation etc.

The results of the midline survey are also compared with the baseline in case of notable diversion. Only policy-relevant (priority) indicators are compared with the baseline data in the text of the report. For other variables, reference baseline information is furnished in the relevant exhibit.

3.1 Socio-Economic Profile of the Surveyed Households

This sub-section documents findings on the socio-economic characteristics of survey respondents, household family composition, income and expenditure, ownership of agricultural land and livestock, divided by the treatment status of households.

3.1.1 Basic Characteristics of Survey Respondents

Recorded in Exhibit 3.1-1, the female respondents, across control and treatment areas, are of an average age of 41 years old, while their education attainment level reportedly ensures the completion of only 1 year of formal schooling. The Exhibit also furnishes the t-test for respondent age and education, which indicates the differences in treatment and control groups are statistically significant. However, no noticeable dissimilarities in the baseline and midline results are observed.

Exhibit 3.1-1: Age and Educational Attainment of Survey Respondents

	Overall	Treatment	Control	t-Test [Treatment v/s Control	
Surveyed Households	4617	2331	2286	**t-Value**	**p-Value**
Respondent Average Age (Years)	41	41	40	2.63	0.009
Respondent Average Years of Schooling	1	1	1	-2.53	0.011

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.4 of the Baseline Report provides comparable Baseline Estimates]

Details of the marital status and occupation of the respondent are furnished in Exhibit – 3.1-2. Close to 89% of respondents were recorded to be housewives —a small proportion (close to 8%) also reported participation in the labour force. One of the main reasons for female respondents' low reporting of productive work is that they consider livestock rearing or input in agricultural activities part of their household chores. The trend is generally the same across treatment and control groups.

Exhibit 3.1-2: Marital Status and Occupation of Survey Respondents (in Percentage)				
		Overall	Treatment	Control
	Surveyed Households	4,611	2,331	2,286
Marital Status	Married	92.1	92.4	91.8
	Single	1.8	1.7	1.9
	Divorcee	0.0	0.0	0.1
	Widow/Widower	5.9	5.7	6.1
Occupation	Employee	0.5	0.6	0.4
	Self Employed	1.7	1.7	1.8
	Agriculture	1.3	1.8	0.7
	Unskilled Labourer	5.7	5.3	6.2
	Unemployed	0.1	0.0	0.2
	Student	0.5	0.6	0.4
	Housewife	89.2	89.3	89.1
Source: Household Survey, PINS (ER3) Midline Study, 2021 [Exhibits 3.5 and 3.6 of the Baseline Report provide comparable Baseline Estimates]				

Chi-Squared tests for the association are applied to compare respondents' marital status and occupation across the survey group (treatment v/s control). In marital status, the $\chi 2$ value of 3.65 with a p-value of 0.455 indicates no statistically significant association between marital status and survey group, while in the case of occupation of the respondent, the value of $\chi 2$ is 15.48 with a p-value 0.017, which reflects dissimilarity across the group is statistically significant. Exhibit 3.1-2 affirms this finding as magnitudes associated with treatment and control households are quite different in 'Agriculture' (1.8% v/s 0.7%) and 'Unskilled Laborer' (5.3% v/s 6.2%) categories.

3.1.2 Household Family Composition

In terms of average family size and composition by age group, the size of the surveyed households remains at an average of 7 individuals per household (as seen in Exhibit 3.1-3). The average gender ratio within the families stands at an average of 1.3 males to every female.

The characteristics of households regarding family composition in both treatment and control groups are not dissimilar, as noted in Exhibit 3.1.3. The p-values associated with most of these dimensions are not statistically significant. However, the mean difference in gender ratio and age proportion of 65 and above across treatment and control groups is statistically significant.

Exhibit 3.1-3: Family Composition of Sample Households in the Midline Survey					
	Overall	Treatment	Control	t-Test [Treatment v/s Control	
Surveyed Households	4,617	2,331	2,286	t-Value	p-Value
Family Size	7	7	7	-1.5	0.129
Sex-Ratio	1.3	1.3	1.4	-2.1	0.040
Dependency Ratio	108.6	109.5	107.6	0.7	0.485
Family Composition (in Percentage)					
Age 0-5 Years (%)	13.5	13.4	13.5	-0.2	0.869
Age 6-24 Years (%)	45	45	45	-0.5	0.638
Age 25-50 Years (%)	33	33	33	-0.9	0.360
Age 51-65 Years (%)	6	6	6	0.3	0.762
Age 65 Years and above (%)	3	3	2	3.1	0.002
Source: Household Survey, PINS (ER3) Midline Study, 2021					

[Exhibit 3.2 of the Baseline Report provides comparable Baseline Estimates]

Compared with the baseline results, the only notable change is observed in the dependency ratio. The ratio decreased from 117 to 109 mainly due to the decline in the proportion of children under five years old (18% to 14%) and the growth in the proportion of 6-24 years from (42% to 45%).

3.1.3 Household Income and Expenditure

Exhibit 3.1.4 demonstrates reported household income and expenditure. Differences in household expenditure in the treatment and control groups are observed. The t-test is statistically significant in a household's overall and per capita expenditure. The Exhibit also reveals that reported expenditure is higher in treatment than in the control group.

Exhibit 3.1-4: Surveyed Households Income and Expenditure (Average Rupees Per Month)

	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
Surveyed Households	4,617	2,331	2,286	**t-Value**	**p-Value**
Income	40,731	40,931	40,526	0.4	0.685
Expenditure	36,025	36,970	35,062	2.2	0.027
Income per Capita	6,626	6,750	6,500	1.5	0.147
Expenditure per capita	5,913	6,159	5,663	3.2	0.001

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.10 and 3.11 of the Baseline Report provides comparable Baseline Estimates]

A declining trend with a considerable magnitude in household reported income and expenditure during the baseline and midline surveys is observed. The households of the treatment group recorded Rs. 8,928 and Rs. 6,400 respectively for per capita income and expenditure in the baseline survey, while for the midline, the pertinent magnitudes are Rs. 6,750 and Rs. 6,159. No significant changes in the control group are evident.

It is worth reiterating that detailed income and expenditure modules were not used in these surveys. Instead, a simple one-liner question was probed 'What is your household total income/expenditure?' Thus, estimates are crude and should be interpreted accordingly. Nonetheless, an investigation in this respect is worthy of observing changes in national and local economic conditions during the inter-survey period.

Exhibit 3.1-5 compares food and non-food expenditure across treatment and control groups —the survey module probes selected food and non-food expenditure items. Food expenditure includes money spent on food (breakfast, lunch, dinner, tea, tobacco, and betelnut products). In contrast, non-food items include utilities, rent, fuel, children's education, medical expenses, transport and other miscellaneous, non-food expenses).

Exhibit 3.1-5: Surveyed Household Food v/s Non-Food Expenditure (Average Rupees Per Month)

	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
Surveyed Households	4,617	2,331	2,286	t-Value	p-Value
Food	21,057	20,276	21,853	-4.8	0.000
Non-Food	15,762	15,782	15,740	0.1	0.937
Food Expenditure per Capita	3,419	3,322	3,517	-3.4	0.001
Non-Food Expenditure per Capita	2,669	2,733	2,603	1.2	0.212

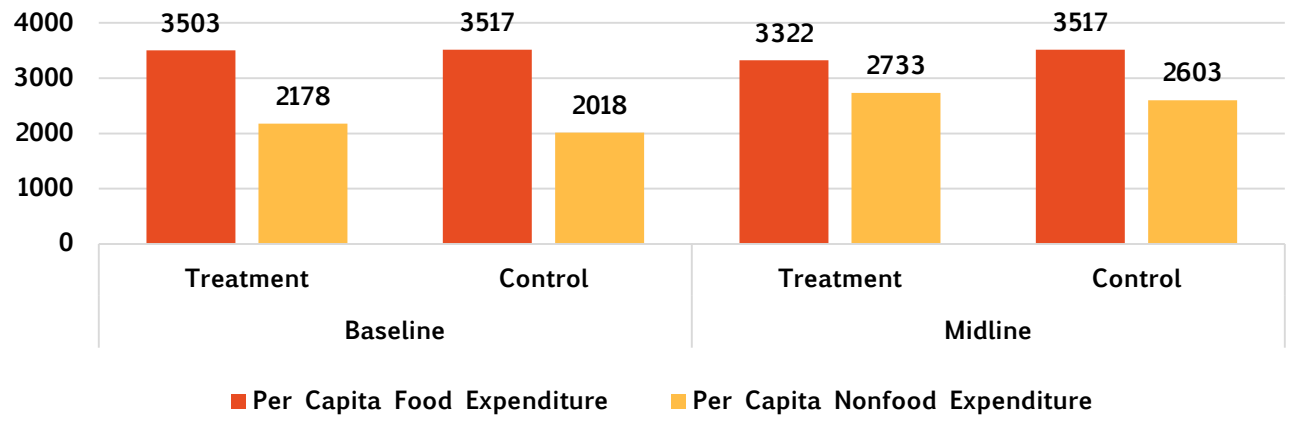
Source: Household Survey, PINS (ER3) Midline Study, 2021

[Exhibit 3.12 of the Baseline Report provides comparable Baseline Estimates]

The t-test show that differences among the groups in terms of non-food expenditure are not statistically significant. In contrast, significant differences are evident in the food expenditure. It can also be observed that the control group households' magnitude of food expenditure is higher than households in the treatment area.

Comparing food and non-food expenditure across baseline and midline surveys reveals a decline in food expenditure and growth in the consumption of non-food items (Exhibit 3.1-5a). A similar trend is observed in both the treatment and control groups.

Exhibit 3.1-5a: Inter-Survey Comparison of Surveyed Households' Food and Non-food Expenditure (Average Rupees per Month)



Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019

3.1.4 Household Ownership of Agricultural Land and Livestock

An important observation emerges from Exhibit 3.1-6. The ownership of agricultural land reported by households has declined drastically in both treatment and non-treatment villages during the inter-survey period. In the Baseline survey, close to 18% of households stated the ownership, while for the Midline survey, the comparative percentage is 10.4%. As a consequence, the average agricultural land owned by households has declined from 6 to 4 acres. The phenomenon, however, requires an investigation to understand the loss of possession of agricultural land in the districts.

Exhibit 3.1-6: Surveyed Households Reported Ownership of Agricultural Land (In Percentage)

	Overall	Treatment	Control
Affirmed Cultivable Land Ownership:			
Midline Survey – Percentage of Households	10.4	10.6	10.2
Baseline Survey – Percentage of Households	17.6	18.8	16.5
Average Area Owned:			
Midline Survey – Acres	4.0	3.9	4.2
Baseline Survey – Acres	6.0	6.0	6.0

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.56 of the Baseline Report provides comparable Baseline Estimates]

Midline household survey recorded that majority of households do not have any livestock animals. Illustrated in Exhibit 3.1-7, Only 36% of surveyed households held ownership of livestock. Buffaloes and goats were reported to be the most commonly owned animals. Nearly 20% of households owned buffaloes, followed by 16% owning goats. Only 10% of households owned cows and 13% owned chickens. The presence of ducks, sheep, and camels was seldom recorded.

Exhibit 3.1-7: Surveyed Household Reported Ownership of Livestock (In Percentage)

	Overall	Treatment	Control
Surveyed Households	4617	2331	2286
Households Reported Ownership – Numbers	1661	923	738
Households Reported Ownership – Percentage	36.0	39.6	32.3
Ownership Reported (% of Households)			
Chickens	13.2	15.9	10.4
Ducks	1.0	1.0	1.0
Sheep	1.6	1.7	1.4
Goats	15.6	18.2	12.9
Cows	9.8	10.6	9.0
Buffaloes	20.3	20.8	19.7
Camels	0.6	0.8	0.5

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.61 of the Baseline Report provides comparable Baseline Estimates]

In the context of the Baseline survey, an important finding worth highlighting is that livestock ownership has declined during the inter-survey period. In the Baseline, 48% of households recorded livestock ownership, while the comparative percentage is 36% in the Midline survey. The declining trend in livestock ownership should be investigated, as livestock affects household income and household diet and calorie intake.

(Please refer to Annexure 6 (sub-section 6.1) of the report for more information on the findings obtained from the livestock and agriculture modules of the household survey questionnaire)

3.2 Impact of COVID-19 on Surveyed Households

This sub-section explores the surveyed households' experience of food insecurity and access to various necessary facilities as affected by COVID-19. The Midline household survey questionnaire was notably revised to report a comparative situation of household's food security and access to critical infrastructure and facilities before the occurrence of the COVID-19 pandemic in Pakistan, i.e., before February 2020 and during the pandemic (at the time of the survey). The findings gathered are recorded below.

3.2.1 Household Food Insecurity Experience

Exhibit 3.2-1 reveals that overall, only ~41% of households could consume at least three meals a day before COVID-19, while during COVID-19, a decline of 5% is recorded. No significant differences are noted among the sampled groups

Regarding hunger or starvation, which is severe food insecurity, COVID-19 resulted in a rise of close to 4% of households facing a hunger situation. During COVID-19, ~14% affirmed the starvation (~17% and ~11% in the treatment and non-treatment villages, respectively), while before COVID-19, the comparative percentage was ~11% and ~9%, respectively.

Comparatively, low household incidence (close to 3%) of consuming unwanted food (i.e., *eating something they would not usually)* is recorded. Nonetheless, a rise in the incidences, especially in the treatment villages, is evident.

During COVID-19, close to 13% of households had to reduce the quantity of food than usual, whereas the comparative percentage before COVID-19 was 9.4%. Higher deterioration is observed in the treatment village (from 10.2% 10.1% to 16.6% 16.7%).

Exhibit 3.2-1: Household Food Insecurity Experience
[Experience of Past One Month – Percentage of Surveyed Households]

	Overall	Treatment	Control
Meals a Day: How many meals a day do members of your households used to have? (Percentage of Households who Reported at *least three meals a day)*			
RSPN Baseline Survey	35.3	47.5	41.4
RSPN Midline Survey Before COVID-19	41.3	39.0	43.7
RSPN Midline Survey During COVID-19	36.2	34.1	38.4
Starving: *Have you or any member of your household had to stay hungry, and went to sleep?*			
RSPN Baseline Survey	10.5	10.7	10.3
RSPN Midline Survey Before COVID-19	10.0	10.9	9.2
RSPN Midline Survey During COVID-19	13.5	16.6	10.5
Unwanted Food: Had you or any member of your household been forced to eat something that you/they would not eat normally, due to poverty or lack of funds?			
RSPN Baseline Survey	4.6	5.0	4.2
RSPN Midline Survey Before COVID-19	3.3	3.7	2.8
RSPN Midline Survey During COVID-19	3.5	4.3	2.7
Less Food: Had you or any member of your household been forced to consume less food due to scarcity/lack of food?			
RSPN Baseline Survey	9.2	10	8.4
RSPN Midline Survey Before COVID-19	9.4	10.2	8.6
RSPN Midline Survey During COVID-19	13.4	16.6	10.2

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 (Table 3, Annexure 7 of the Baseline Report provides Comparable Baseline Estimates)

3.2.2 Access to Infrastructure and Facilities

During the Midline survey, households were probed regarding the changes (variations) in specific items related to household earning, infrastructure, facilities, services, and availability of various food and agricultural products in the area. Sample households were asked to record their perception or experience whether during COVID-19 these services of facilities has decreased, increased, or

remained constant or stable. Exhibit 3.2-2 compiles the household responses that confirmed the decline in the scale of services or the level of availability.

Not surprisingly, close to 60%-70% of surveyed households believed that household earnings and diet had declined due to the COVID-19 pandemic. Around 38%-43% of households also reported drop in the availability of medicine, medical aid, medical institutions and medical personnel. Access to child education and availability of transport are other significant areas that affected the life of the majority of households due to COVID-19.

Exhibit 3.2-2: Household Affirmed Deterioration in the Following During COVID-19 [Percentage of Households]

	Overall	Treatment	Control
Household Earning	69.8	68.6	71.0
Household Diet	60.8	59.5	62.1
Availability of Fertilizer	37.1	40.6	33.5
Availability of Seed	26.0	28.5	23.4
Availability of Spray	24.8	26.6	23.0
Availability of Clean Drinking Water	19.9	20.9	18.9
Availability of Soap	33.2	38.1	28.1
Availability of Medicine	38.4	41.1	35.7
Availability of Medical Aid	41.3	43.5	39.0
Access to Medical Institutions	42.6	44.6	40.6
Availability of Medical Personnel	42.6	44.5	40.7
Availability of Transport	62.2	60.0	64.4
Availability of Food Items	47.9	49.4	46.3
Child Education	71.0	67.4	74.6
Availability of Electricity	25.4	26.0	24.8
Availability of Cooking Gas	15.5	15.4	15.5

3.3 Results for PINS-ER3 Log-frame Indicators

This sub-section presents topline midline survey findings for PINS-ER3 selected log-frame impact and outcome indicators for the surveyed households in the treatment UCs and the control UCs while comparing with the baseline values of the indicators in the next page

TREATMENT GROUP

INDICATORS*	BASELINE VALUE	MIDLINE VALUE	% CHANGE
Incidence of diarrhoea in U-5 children in programme target areas	31.9%	18.3%	-42.6%
Percentage (%) of target population using safely managed drinking water sources/Access to safe drinking water	71%	75.3%	6.1%
Percentage (%) of programme-targeted population who use an appropriate water treatment method	1.7%	8.8%	417.6%
Percentage (%) of mothers/care-givers in targeted villages who practice hand washing before feeding children	2.1%	2%	-4.8%
Percentage (%) of program-target households in target villages with a specific place for hand washing with water and soap	6.9%	17.9%	159.4%
Percentage (%) of programme target population using an improved sanitation facility	16.2%	15.1%	-6.8%

TREATMENT GROUP

Percentage (%) of households practicing open defecation in the target districts (used as a proxy for % of target villages certified as Open Defecation Free (ODF)

12.1%	13.6%	12.4%

Expenditure dedicated to a minimum of four good groups (outside staples) by target households

PKR 11,316	PKR 18,582	64.2%

Percentage (%) of women, 15-49 years, from targeted population, who consume at least 5 out of 10 defined food groups (minimum dietary diversity –w)

19.6%	34.2%	74.2%

Percentage (%) of children (age 6-23 months) that consume a minimum acceptable diet

15.3%	17.4%	13.7%

Number/ Percentage (%) of target households who have established kitchen garden in programme villages

1.5%	8.2%	446.7%

Percentage (%) of households reported presence of at least one community-managed demonstration site for poultry or livestock
(as a proxy to measure number of villages with at least one community-managed demonstration site for poultry or livestock)

3%	11.8%	293.3%

*status of indicators gauged through FGDs at the village level are presented in Sub-Section 3..3.13 of the report (indicators include: techniques of sustainable agriculture adapted to climate change implemented by small farmers and climate resilient measures for mitigating floods and drought impacts at local level)

Selected Output level Indicators Assessed at the Midline Stage

MIDLINE VALUE

Percentage (%) of targeted households who have received training/orientation on kitchen gardening and homestead gardening (as a proxy to measure number of targeted households who have received training/orientation on kitchen gardening and homestead gardening)

11.1%

Number/Percentage (%) of mothers/care-givers in targeted villages with an understanding of importance of hygiene practices (handwashing) (as a proxy number of mothers/care-givers in targeted villages with an increased understanding of importance in hygiene practices)

91.2%

Percentage (%) of mothers/respondents reported awareness about appropriate water treatment methods (as a proxy to number of mothers/care-givers in targeted villages participated in awareness sessions on positive practices on water treatment)

57%

Percentage (%) of households reported presence of at least one integrated farmer field school in their villages (as a proxy to measure number of villages with at least one integrated farmer field school)

11%

CONTROL GROUP

INDICATORS*	BASELINE VALUE	MIDLINE VALUE	% CHANGE
Incidence of diarrhoea in U-5 children in programme target areas	33.3%	15.8%	-52.6%
Percentage (%) of target population using safely managed drinking water sources/Access to safe drinking water	70.3%	79.6%	13.2%
Percentage (%) of programme-targeted population who use an appropriate water treatment method	1.9%	5.5%	189.5%
Percentage (%) of mothers/care-givers in targeted villages who practice hand washing before feeding children	1.7%	1.6%	-5.9%
Percentage (%) of program-target households in target villages with a specific place for hand washing with water and soap	7.6%	20.2%	165.8%
Percentage (%) of programme target population using an improved sanitation facility	19.1%	22%	15.2%

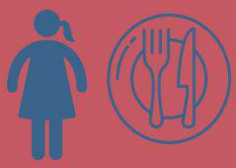
CONTROL GROUP

Percentage (%) of households practicing open defecation in the target districts (used as a proxy for % of target villages certified as Open Defecation Free (ODF)

11.4%	12.1%	6.1%

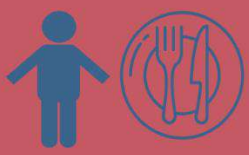
Expenditure dedicated to a minimum of four good groups (outside staples) by target households

PKR 9,657	PKR 18,154	88%



Percentage (%) of women, 15-49 years, from targeted population, who consume at least 5 out of 10 defined food groups (minimum dietary diversity –w)

19.3%	39.1%	102.6%



Percentage (%) of children (age 6-23 months) that consume a minimum acceptable diet

16.7%	16.6%	-0.6%

Number/ Percentage (%) of target households who have established kitchen garden in programme villages

0.8%	5.7%	612.5%

Percentage (%) of households reported presence of at least one community-managed demonstration site for poultry or livestock
(as a proxy to measure number of villages with at least one community-managed demonstration site for poultry or livestock)

2%	8.6%	330%

*status of indicators gauged through FGDs at the village level are presented in Sub-Section 3..3.13 of the report (indicators include: techniques of sustainable agriculture adapted to climate change implemented by small farmers and climate resilient measures for mitigating floods and drought impacts at local level)

Selected Output level Indicators Assessed at the Midline Stage

MIDLINE VALUE

Percentage (%) of targeted households who have received training/orientation on kitchen gardening and homestead gardening (as a proxy to measure number of targeted households who have received training/orientation on kitchen gardening and homestead gardening)

7.3%

Number/Percentage (%) of mothers/care-givers in targeted villages with an understanding of importance of hygiene practices (handwashing) (as a proxy number of mothers/care-givers in targeted villages with an increased understanding of importance in hygiene practices)

91.2%

Percentage (%) of mothers/respondents reported awareness about appropriate water treatment methods (as a proxy to number of mothers/care-givers in targeted villages participated in awareness sessions on positive practices on water treatment)

62.2%

Percentage (%) of households reported presence of at least one integrated farmer field school in their villages (as a proxy to measure number of villages with at least one integrated farmer field school)

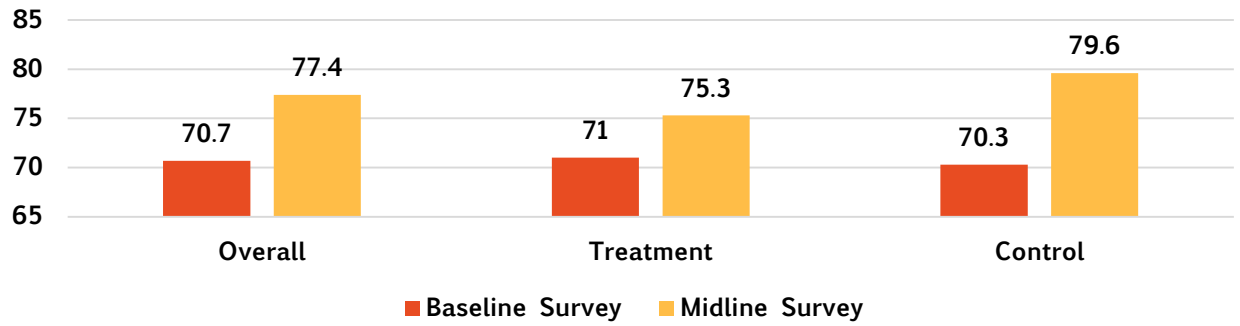
8.8%

3.3.1 Improved/Safely Managed Drinking Water Sources

The World Health Organization (WHO) and UNICEF define safely managed drinking water as the use of an improved drinking water source which includes: protected/covered/closed hand pumps, tube well, protected wells, protected spring, water supply pipes (installed by the government, NGOs, and other institutions), collected rainwater, water tankers, packaged bottles, and filtration plants (WHO, 2017).

The Midline study findings reveal that around ~77% of all sampled households have access to improved drinking water. However, the condition of access is relatively better in the non-treatment villages. Further, the Midline survey results indicate that the difference between treatment and control groups is statistically significant according to the t-test. In contrast, the difference was not significant in the Baseline survey. The Exhibit also reports the growth during the inter-survey period. Overall, close to 10% growth in the magnitude of access to safe drinking water is evident (~6% and ~13% in treatment and control areas, respectively).

Exhibit 3.3-1: Surveyed Households with Access to Safe Drinking Water - by Group (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-value
Midline Survey	77.4	75.3	79.6	-3.5	0.001
Baseline Survey	70.7	71.0	70.3	0.8	0.565
Growth	9.5	6.1	13.2	-	

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibits 3.26 and 3.27 of the Baseline Report provides comparable Baseline Estimates]

Protected/closed hand pumps remain the most prevalent source of clean water (59% of all water sources), as given in Exhibit 3.3-2. Among the unprotected sources, the 'unprotected/open hand pump' is evident, reported by close to 12% and 10% households of the treatment and control villages, respectively.

Exhibit 3.3-2: Sources of Water Among Surveyed Households (in Percentage)

	Overall	Treatment	Control
Surveyed Households	4,617	2,331	2,286
Improved Sources:			
Water supplied through pipes	8.2	9.8	6.6
From protected/closed hand pump	59.1	54.2	64.2
From protected/closed well	0.7	1.3	.2
From collecting rainwater	0.0	0.0	0.1

Exhibit 3.3-2: Sources of Water Among Surveyed Households (in Percentage)			
	Overall	Treatment	Control
From a water tanker	2.4	3.1	1.7
From a filtration plant	0.5	0.3	0.6
From bottled water	0.1	0.0	0.2
Unimproved Sources:			
From unprotected/ open hand pump	10.9	12.1	9.6
From unprotected/open well	0.7	0.7	0.7
From canister sold over carts	1.4	2.3	0.5
From small containers sold on donkey carts	2.3	4.1	0.5
From river, stream, dam, lake, canal	3.2	1.5	4.9
From pond	1.2	0.6	1.8
From boring	3.0	4.3	1.7
Others	5.6	5.3	6.0
Source: Household Survey, PINS (ER3) Midline Study, 2021 **[Exhibit 3.28 of the Baseline Report provides comparable Baseline Estimates]**			

(Please refer to Annexure 6 (sub-section 6.2) of the report for more information regarding the quality of drinking water obtained by surveyed households)

3.3.2 Appropriate Water Treatment Methods

According to the 2019 MICS survey, appropriate water treatment methods include boiling, adding bleach or chlorine, using a water filter, and solar disinfection (GoS, 2020). As recorded in Exhibit 3.3-4, only ~16% of surveyed households practise water treatment, and only ~7% follow appropriate treatment methods—however, the incidence of practising appropriate treatment methods has increased from the baseline estimate of 1.8%, providing a growth rate of almost 294%.

Exhibit 3.3-3: Surveyed Households Practicing Water Treatment (in Percentage)

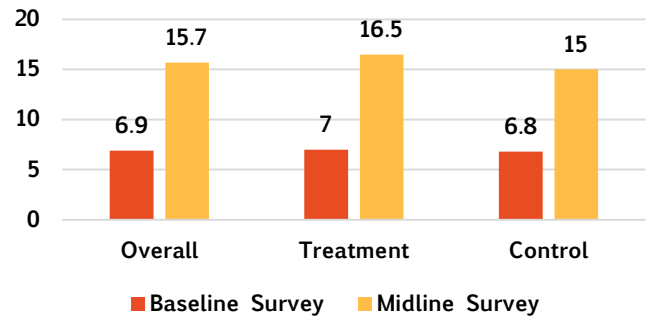
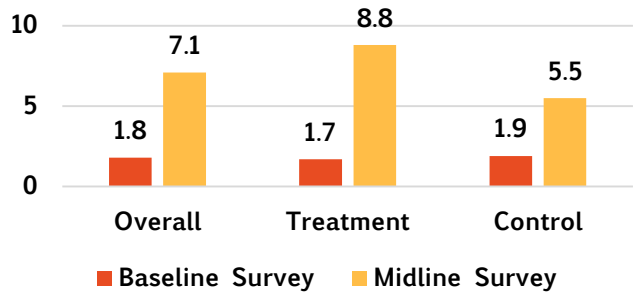


Exhibit 3.3-4: Surveyed Households Practicing Appropriate Water Treatment Methods (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-value
Surveyed Households Practicing Appropriate Water Treatment Methods					
Baseline Survey	1.8	1.7	1.9	-2.3	0.023
Midline Survey	7.1	8.8	5.5	4.3	0.000
Growth	294.4	417.6	189.5	-	
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 **[Exhibits 3.26 and 3.27 of the Baseline Report provides comparable Baseline Estimates]**					

The t-test results show that mean differences among the treatment and control groups for practising appropriate water treatment are significant during baseline and midline surveys. More households in the treatment UCs are recorded to be practising appropriate water treatment methods than the control UCs. Also, the prevalence of appropriate water treatment practice has witnessed higher growth in the treatment areas (~418%) than in the control areas (190%) during the inter-survey period.

The baseline survey results revealed that nearly 93% of surveyed households do not treat drinking water before consumption; however, the pertinent percentage for the Midline is close to 84% (as illustrated in Exhibit 3.3-5). Similarly, the incidence of boiling water for purification was only 1.4% in the Baseline, while 6.7% of households reported boiling water for purification in the Midline survey.

Exhibit 3.3-5: Methods of Water Treatment Reported Among Surveyed Households (in Percentage)

	Overall	Treatment	Control
Surveyed Households	4,617	2,331	2,286
No Treatment	84.3	83.5	85.0
Boil water	6.7	8.2	5.3
Filter through a cloth	6.2	5.2	7.2
Add chlorine or chlorine tablets to water*	0.2	0.4	0.1
Purify through sunlight	0.1	0.1	0.1
Through company installed filtration system	0.1	0.1	0.0
Other Methods	1.1	0.7	1.5
Refuse to answer	1.1	1.7	0.5

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.31 and 3.32 of the Baseline Report provides comparable Baseline Estimates]

Please refer to Annexure 6 (sub-section 6.3) of the report for information on chlorine awareness and practice levels for water treatment among surveyed households.

Exhibit 3.3-6 presents reasons reported by this 84% of households not purifying water before drinking. Of them, 85% of survey respondents mentioned 'water is already safe for use/drinking' and therefore requires no treatment. Other reasons behind not using water treatments include; not having enough time (9.2%), treating water being too expensive (1.9%), and having no knowledge about treatment (1.4%).

Exhibit 3.3-6: Reasons for Non-Treatment of Water Reported by Surveyed Households (in Percentage)

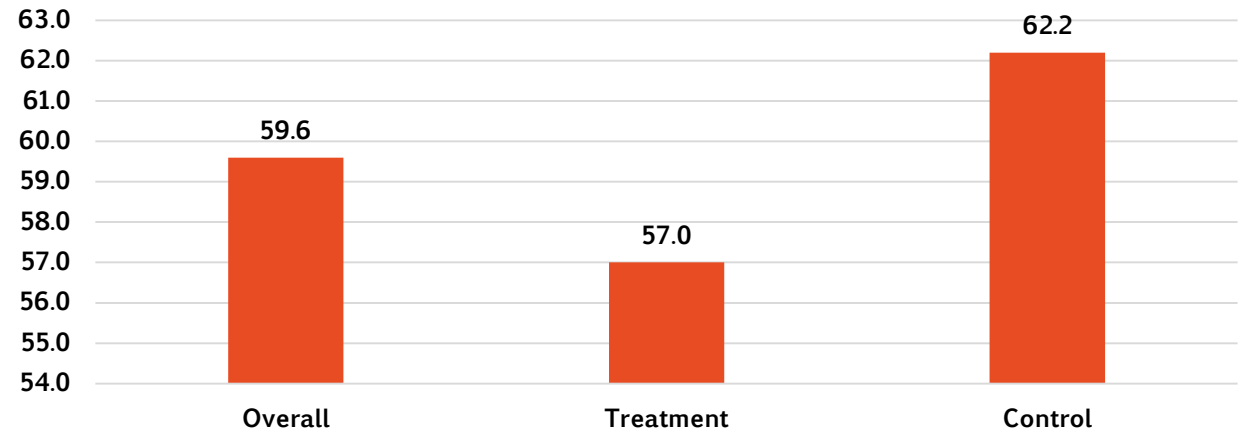
	Overall	Treatment	Control
Surveyed Households	3,890	1,946	1,944
Drinking water is already safe for use/drinking	84.3	85.2	83.4
Treating water is too expensive	1.9	1.2	2.6
Do not know about treatment/filtering options	1.6	1.4	1.8
Treatment/filtering technologies or equipment is not available	0.3	0.3	0.3
Not enough time to purify water	10.4	10.2	10.6
No children in the house	0.8	0.5	1.0
Others	0.1	0.2	0.0
Refuse to answer	0.8	0.5	1.0

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.33 and 3.34 of the Baseline Report provides comparable Baseline Estimates]

The water treatment practice is likely to be constrained by the perception that drinking water is already safe for consumption and water treatment is a time-consuming activity. A well-designed strategy is needed to counter these perceptions by demonstrating ways to make water treatment practices a part of daily routine. This strategy should also educate on the necessity of water treatment despite obtaining water from protected sources such as closed hand pumps and installed pipes.

Furthermore, it is worth emphasizing that during the inter-survey period, the knowledge level of survey respondents regarding treatment/filtering options has increased at an overall level. During the Baseline, around 8% of survey respondents reported that they do not know about treatment options; the comparable Midline estimate is ~2%. Also, as illustrated in Exhibit 3.3-7, around ~60% of survey respondents reported awareness about appropriate water treatment methods. However, in correspondence to the high level of knowledge of survey respondents, only a few proportion of households (~7%) reported practising them (refer to Exhibit 3.3-4).

Exhibit 3.3-7: Survey Respondents Reported Awareness about Appropriate Water Treatment Methods (in Percentage)



Source: Household Survey, PINS (ER3) Midline Study, 2021

3.3.3 Improved Sanitation

The Midline survey shows that close to 73% of households have access to toilet facilities inside or outside the house, as compared with 64% of households reported in the Baseline survey. An improvement in terms of the availability of latrine facilities is seen in the inter-survey period. In terms of differences in the treatment and non-treatment villages, Exhibit 3.3-8a specifies that mean differences between these groups are statistically significant in both baseline and midline surveys.

Exhibit 3.3-8: Surveyed Households Reported Availability of Toilet/Latrine Facility (in Percentage)

	Overall	Treatment	Control
Surveyed Households	4,617	2,331	2,286
Households reported having toilet/latrine facility	73.2	72	74.5
Inside the household	61.7	59.2	64.3
Attached to a bedroom	1.0	1.0	1.0
Outside the household	10.5	11.8	9.2
Households reported having no toilet/latrine facility	26.8	28.0	25.5

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.35 of the Baseline Report provides comparable Baseline Estimates]

It is essential to note that the percentage of households with no latrine facilities has decreased from the baseline level of ~36% to ~27% at the midline. Exhibit 3.3-8a illustrates the inter-survey comparison results.

Exhibit 3.3-8a: Surveyed Households with No Inside Latrine/Toilet Facility (in percentage)

	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-Value
Midline Survey	26.8	28.0	25.5	1.9	.054
Baseline Survey	36.3	39.4	34.1	3.9	0.000

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.35 of the Baseline Report provides comparable Baseline Estimates]

WHO and UNICEF define an improved sanitation facility as the one that "is not shared with other households, and where excreta are disposed of in situ or transported and treated off-site, so it is prevented from human contact". The sources mainly include sewerage system connection, septic tank system connection, and likewise. (WHO, 2017). Exhibit 3.3-9 provides detailed responses to the question 'What type of latrine/toilet does your household mostly use?'. The Exhibit shows a comparative picture of households using improved sanitation facilities (that is calculated by combining the instances of households using latrines with a sewerage system or septic tank) and unimproved sanitation facilities (with open or no drainage).

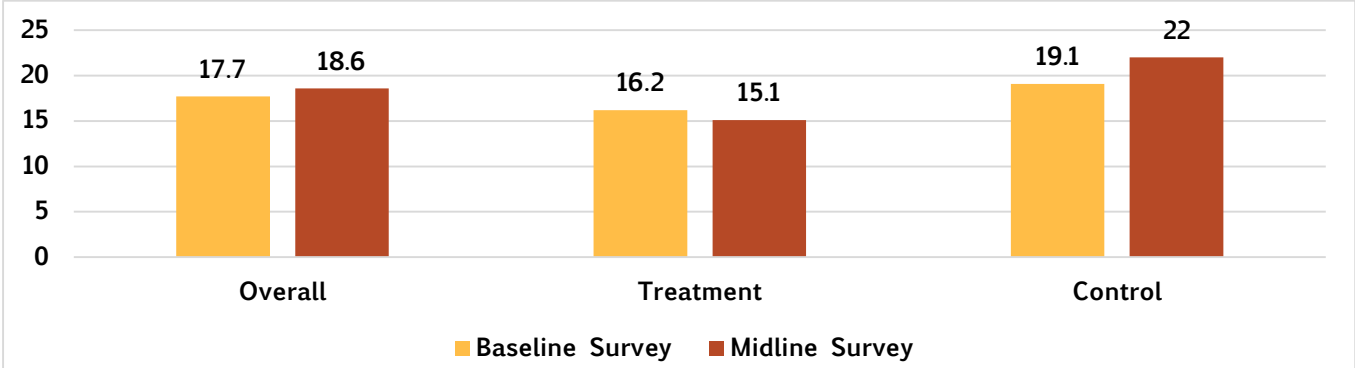
Exhibit 3.3-9: Drainage of Toilets Across Sampled Group

		Overall	Treatment	Control
What type of latrine/toilet your household mostly use?	**Latrine/toilet with flush connected to sewerage systems**	15.4	12.5	18.3
	Latrine/toilet with flush connected to septic tank	3.1	2.6	3.6
	Latrine/toilet with flush connected to open drainage	35.3	32.5	38.1
	Eastern latrine/toilet with open drainage	15.5	17.0	14.0
	Eastern latrine/toilet without drainage	11.9	13.3	10.6
	Dry pit	12.0	14.0	10.0

Source: Household Survey, PINS (ER3) Midline Study, 2021
(Exhibit 3.36 of the Baseline Report provides comparable Baseline Estimates)

In the Midline survey, 18.6% of surveyed households use improved sanitation facilities, while the comparative estimate in the baseline survey was 17.7% (Exhibit 3.3-9a). The incidence of improved sanitation facilities is high in the non-treatment villages as compared with the treatment village. Moreover, the mean differences in both groups are statistically significant, according to the estimated t-values in both Baseline and Midline surveys.

Exhibit 3.3-9a: Surveyed Households Using Improved Sanitation Facilities (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-value
Midline Survey	18.6	15.1	22.0	6.8	0.000
Baseline Survey	17.7	16.2	19.1	3.9	0.000
Growth/Decline	5.1	-6.8	15.2	-	-

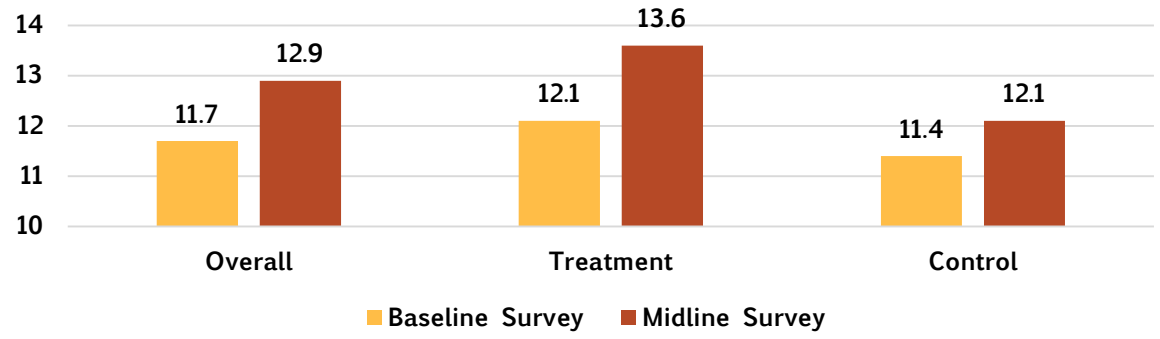
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINs (ER3) Baseline Study, 2019
(Exhibit 3.40 of the Baseline Report provides comparable Baseline Estimates)

(Please refer to Annexure 6 (sub-section 6.4) of the report for information on toilet facilities available and their structure).

3.3.3.1 Open Defecation

Households with no inside latrine/toilet facility were probed to inquire where their family members go for defecation. Exhibit 3.3.10 shows that family members of an overall 13% of households practise open defecation. However, as revealed from the Exhibit, the mean difference between the sampled group is not statistically significant. Due to the change in the format of the relevant question in the Midline survey, strict comparison with Baseline estimates is not appropriate. However, the data reveals close to 12% incidence of open defecation in the Baseline survey.

Exhibit 3.3-10: Surveyed Households Practising Open Defecation (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-Value
Midline Survey	12.9	13.6	12.1	1.5	0.133
Baseline Survey	11.7	12.1	11.4	0.7	0.467
Growth	10.3	12.4	6.1	-	

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019

3.3.4 Specific Place for Handwashing with Soap and Water

Households who reported the availability of latrines inside the household premises were questioned about the handwashing facilities available inside the toilet. Exhibit 3.3-11 shows that only 28.5% of surveyed households have soap and water for use. A significant majority of households (44.5%) have only water and no soap. Furthermore, more than half (55.2%) of households stated having a handwashing space inside or outside their latrines in the houses.

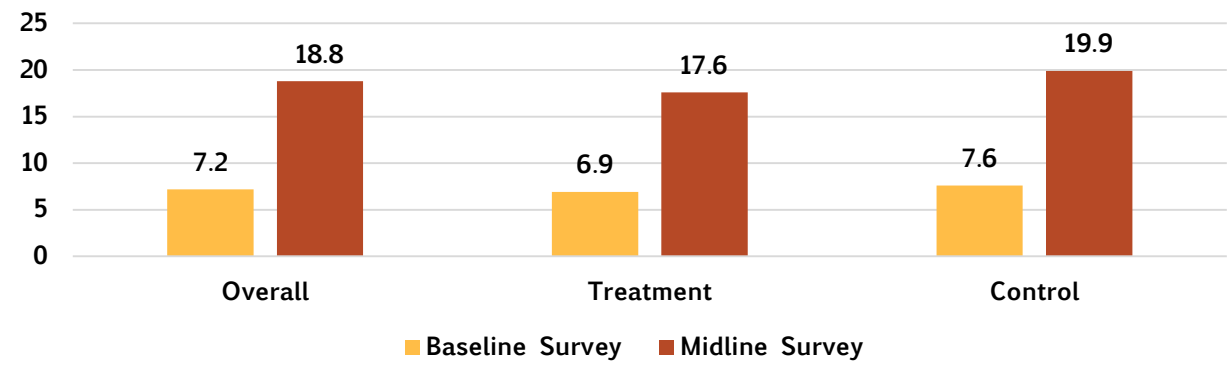
Exhibit 3.3-11: Reported Hand-Washing Facilities Available in Household (in Percentage)

	Overall	Treatment	Control
Surveyed Households	1955	947	1008
Latrine/toilet with only water	44.5	43.0	45.9
Latrine/toilet with water and soap	28.5	26.8	30.2
Wash basin/hand washing place (inside the latrine)	13.9	13.9	13.8
Wash basin/hand washing place (outside the latrine)	41.3	40.5	42.1
Handwashing space with water and soap	18.8	17.6	19.9

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.39 and 3.40 of the Baseline Report provides comparable Baseline Estimates]

Only ~19% of households were augmented having a handwashing space with soap and water. The percentage of households having a handwashing space with soap and water has significantly increased from the baseline stage (~7% to ~19%). The incidence of such households is higher in the control areas (~20%) than in the treatment areas (~18%). The mean difference between the sampled groups is statistically significant for the Midline survey, whereas it was insignificant for the Baseline survey.

Exhibit 3.3-11a: Surveyed Households Reported Availability of Handwashing Space with Water and Soap (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-Value
Midline Survey	18.8	17.6	19.9	4.3	0.000
Baseline Survey	7.2	6.9	7.6	1.09	0.42
Growth	163.9	159.4	165.8	-	

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.39 and 3.40 of the Baseline Report provides comparable Baseline Estimates]

Exhibit 3.3-12 provides a picture of the structure of toilets in terms of having roof, door, and floor in the area. It is evident from the Exhibit that close to 65% and 55% of toilets do not have roof

and door respectively, while the presence of cemented floor in the toilet is reported only to be 39%.

Exhibit 3.3-12: Surveyed Households Reported Structure of Inside-House Latrine (in Percentage)

	Overall	Treatment	Control
Surveyed Households	1,206	612	594
Latrine/toilet with roof	35.0	33.1	37.0
Latrine/toilet with door	45.4	43.1	47.7
Latrine/toilet with cemented Floor	39.0	37.1	40.9

Source: Household Survey, PINS (ER3) Midline Study, 2021

3.3.5 Handwashing Before Feeding Children

In the Midline survey, the section on hygiene was expanded to gauge the awareness level regarding the importance of handwashing practice among survey respondents/mothers. According to Exhibit 3.3-13, almost all survey respondents (~ 91%) categorically reported that keeping hands clean is essential. The stated reasons for handwashing included staying healthy, preventing diseases, preventing infection from viruses and preventing the spread of germs.

Exhibit 3.3-13: Survey Respondents Reported Reasons for Handwashing/Keeping Hands Clean* (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4211	2126	2085
It is important to keep the hands clean?		91.2	91.2	91.2
Why?	**To stay healthy**	21.1	21.2	21.1
	To prevent diseases	22.6	22.5	22.8
	To prevent infection from virus	12.6	11.7	13.5
	To prevent the spread of germs	10.0	9.3	10.7

Source: Household Survey, PINS (ER3) Midline Study, 2021
***These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.**

Given the knowledge level regarding the handwashing practice, Exhibit 3.3-14 records the use of fundamentally four substances/materials for handwashing at the overall level in the household: Water with soap (~77%), only water (19%), water with ash (2%) and water with mud/*matti* (2%). Survey respondents seldom reported other materials like only dry ash/mud/matti. There are slight differences across treatment and control groups concerning the categories 'water with soap' and 'only water'.

Exhibit 3.3-14: Surveyed Households Reported Material Used for Hand Washing (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4,608	2,325	2,283
Household members usually use the following to wash their hands?	**Water with soap/liquid wash/surf**	77.3	75.1	79.5
	Only with water	18.9	21.2	16.6
	Water with ash	1.6	1.3	1.9
	Water with mud/matti	1.8	1.9	1.7
	Only with dry ash, without water	0.2	0.2	0.2

Source: Household Survey, PINS (ER3) Midline Study, 2021
(Exhibit 3.42 of the Baseline Report provides comparable Baseline Estimate)

Related to the Programme's emphasis on the usage of soap, Exhibit 3.3-15 records instances when female respondents reported washing their hands with soap. As indicated in the Exhibit, the highest incidence (26%) of handwashing by females was stated for after the latrine usage. However, the lowest (1.8%) was stated for the time before feeding children. The latter is essential to note, given the emphasis on ensuring children's health. Not washing hands with soap before feeding children can lead to the transmission of infection/diseases.

Interestingly, no change was observed in the comparative percentage of washing hands with soap before feeding children from the baseline survey (1.8% in the Midline compared with 1.9% in the Baseline). No significant differences were observed in the prevalence of handwashing across the treatment and control groups, as illustrated in Exhibit 3.3-15. It is essential to note that only 0.5% female respondents categorically stated that they do not wash their hands with soap. However, the comparative percentage in the Baseline survey was 1.8%.

Exhibit 3.3-15: Survey Respondents Reported Practising Hand Washing with Soap (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4,605	2,324	2,281
When Wash Hand with Soap?	**After using the latrine (defecation, urination)**	26.0	26.9	25.2
	After cleaning baby bottoms	12.2	12.8	11.8
	Before preparing food	19.1	18.8	19.4
	After preparing food	13.4	13.0	13.7
	Before eating food	11.9	11.3	12.5
	After eating food	6.7	6.1	7.4
	Before feeding children	1.8	2.0	1.6
	After cleaning the house	7.1	7.5	6.7
	After coming home from outside	1.1	1.1	1.2
	Do not wash hands with soap	0.5	0.6	0.5

Source: Household Survey, PINS (ER3) Midline Study, 2021
(Exhibits 3.43 and 3.44 of the Baseline Report provides comparable Baseline Estimates)

(Please refer to Annexure 6 (sub-section 6.5) of the report for information on hand washing practices among family members and children of surveyed households)

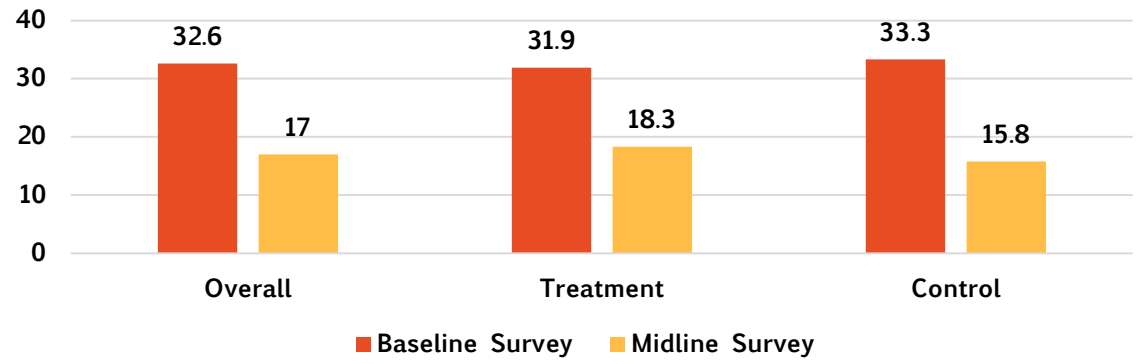
3.3.6 Incidence of Diarrhoea in U-5 Children

The Midline survey data estimates a 17% incidence of diarrhoea, which is a significant decline (almost half) from the Baseline survey (~33%). Exhibit 3.3-16 reveals that 18% and 16% of children under five were afflicted with diarrhoea in the past 15 days of the household survey in the treatment and non-treatment villages, respectively, while the Baseline comparative figures are 32% and 33%. The Exhibit also reveals that the mean difference among the sample groups in the Midline survey is statistically significant. In contrast, the difference for the Baseline is not significant according to the t-test.

Various researches globally have proven that better WASH situation in households reduces diarrhoea risks among children. The improved incidence of WASH-related infrastructure can explain the declining trend in diarrhoea-affected children in the Programme districts. The percentage of surveyed households with access to improved sanitation, safe drinking water, handwashing spaces with water

and soap has significantly increased during the inter-survey period, as shown in the preceding sub-sections.

Exhibit 3.3-16: Children (Aged U-5 Years) in Surveyed Households Reported Diarrhoea in Past 15 Days (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
Midline Survey	17.0	18.3	15.8	1.9	0.1
Baseline Survey	32.6	31.9	33.3	1.1	0.272
Growth/Decline	-47.9	-42.6	-52.6	-	

Exhibit 3.3.17 reveals that 69% of afflicted children were taken to a health facility; however, the comparative percentage in the Baseline was 86%. The drop in the incidence of children brought to health facilities is likely to result from the COVID-19 pandemic, where accessibility to medical institutions deteriorated considerably (as reported in section 3.2).

In terms of treatment, close to 37% of households reported administration of only ORS in case of pediatric diarrhoea. Other medications administered include; only zinc syrup (4%) ORS plus zinc syrup (9%), homemade remedies (7%) and other not defined medication 26%.

Exhibit 3.3-17: Children (Aged U-5) in Surveyed Households Administered to the Treatment of Diarrhoea (in Percentage)

	Overall	Treatment	Control
Number of Children	584	313	271
Children Taken to Health Facility (%)	69.0	71.6	66.1
Treatment:			
Number of Children	561	303	258
Only ORS	36.7	30.4	44.2
Some other medicine	25.7	28.7	22.1
ORS and zinc syrup	9.1	10.9	7.0
Home-made remedies	7.0	5.9	8.1
Home-made nimcol	5.9	6.6	5.0
Did not give any medicine	5.3	5.3	5.4
Homeopathic medicines	4.3	5.6	2.7
Only zinc syrup	3.6	3.6	3.5
Herbal medicines (from Hakeem)	2.5	3.0	1.9

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.55 of the Baseline Report provides comparable Baseline Estimates]

(Please refer to Annexure 6 (sub-section 6.6) of the report for information on awareness of symptoms and treatment of diarrhoea among surveyed respondents/mothers of children aged below five years)

3.3.7 Food Expenditure Disaggregated by Food Groups

Households in the survey were probed about their weekly food consumption using a detailed household consumption module constituting a list of 44 food items. Food expenditures were calculated by obtaining average food prices at the village and UC levels.

Exhibit 3.3-18 reports the estimated average monthly household expenditure dedicated to obtaining food items from various food groups. These food groups are developed according to the standard classification of the Food and Agriculture Organization of the United Nations (2010) dietary intake.

As recorded in Exhibit 3.3-18, households spend the maximum percentage of their money on obtaining tea and other beverages. The spending is equivalent to an average of Rs. 7,783. A significant portion of their expenditure is also dedicated to consuming cereals (grain), which equals to an average of Rs. 5,922. Dairy products, oils and fats, and eggs also receive a substantial share in food spending. It is important to note that the averages may be higher than reported since these also include imputed values of food items consumed from their production.

At an overall level, barring spending on fruits, expenditures are relatively higher reported in the treatment group's households compared with the control group. The t-test indicates that the mean differences in spending are statistically significant for majority of food groups.

Exhibit 3.3-18: Average Monthly Food Expenditure of Surveyed Households - by Food Groups (Estimated from Household Weekly Consumption of Food Items) (in Rupees per Month)

	Overall	Treatment	Control	t-value	p-value
Grains	5,922	6,035	5,807	1.8	0.073
Pulses (beans, peas, lentils)	1937	2,117	1,753	4.9	0.000
Nuts and seeds	400	434	366	1.5	0.130
Dairy products	3,064	3,154	2,973	2.5	0.014
Fish	788	815	761	1.5	0.142
Eggs	74	66	83	-3.4	0.001
Vegetables*	908	977	838	6.9	0.000
Fruits**	370	334	407	-2.8	0.005
Oils and fats	4,963	5,317	4,602	3.1	0.002
Sweets	1,769	1,897	1,638	4.7	0.000
Tea and other Beverages	7,783	8,008	7,553	3.6	0.000
Roots and tubers	724	748	700	3.1	0.002
Flesh meat	1,480	1,574	1,384	2.7	0.007
Overall Food Expenditure***	29,555	30,516	28,593	3.7	0.000

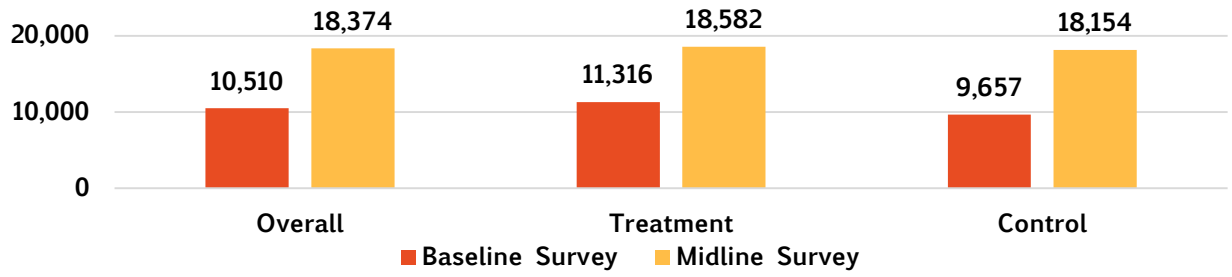
Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.15 of the Baseline Report provides comparable Baseline Estimates]
***the food group is a combination of vitamin A rich vegetable, dark leafy vegetables and other vegetables**
****the food group is a combination of vitamin a rich fruits and other fruits**
*****this is an augmented value of food expenditure calculated based on the reported consumption of food and food prices recorded at the UC level.**

Exhibit 3.3-18a presents an inter-survey comparison in terms of overall food expenditure. These figures are nominal and not inflation-adjusted. An increase in overall food expenditure both in treatment as well as control areas are evident in the exhibit. The exhibit also reveals highly statistically significant mean difference in households of treatment and control areas in both Midline and Baseline surveys.

Exhibit 3.3-18a: Overall Food Expenditure Reported by Surveyed Households (in Rupees per Month)					
	Overall	Treatment	Control	t-Value	p-Value
Midline Survey	29555	30516	28593	3.7	0.000
Baseline Survey	20,876	22,176	19,575	3.5	0.000
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibit 3.15 of the Baseline Report provides comparable Baseline Estimates]					

In correspondence to the increase in overall food expenditure, households spending on consuming a minimum of four food groups has also increased. Illustrated in Exhibit 3.3-19, surveyed households in the Midline reported spending an augmented monthly average of Rs. 18,374 on the consumption of a minimum of four food groups (outside staples) compared to Rs. 10,510 in the Baseline. An increase in food expenditure is evident both in treatment as well as control areas.

Exhibit 3.3-19: Food Expenditure Dedicated to a Minimum of Four Food Groups (Outside Staples) Reported by Surveyed Households (in Rupees per Month)



	Overall	Treatment	Control	t-Value	p-Value
Midline Survey	18,374	18,582	18,154	0.94	0.349
Baseline Survey	10,510	11,316	9,657	0.903	0.367
Growth	74.8	64.2	88	-	
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibit 3.16 of the Baseline Report provides comparable Baseline Estimates]					

(Please refer to Annexure 6 (sub-section 6.7) of the report for information on household calorie intake)

3.3.8 Minimum Dietary Diversity for Women (MDD-W)

Minimum dietary diversity of women (MDD-W) is a food group diversity indicator that reflects minimum micronutrient adequacy needed to improve micronutrient nutrition among women. It defines "whether or not women 15-49 years of age have consumed at least 5 of 10 defined groups during the previous day or night" (FAO, 2016). The ten food groups are provided in Exhibit 3.3.20.

For recording MDD-W, the household survey questionnaire included a comprehensive dietary module adapted from the FAO MDD-W food module (2016) answered by female respondents of the interview. They were instructed to recall their food

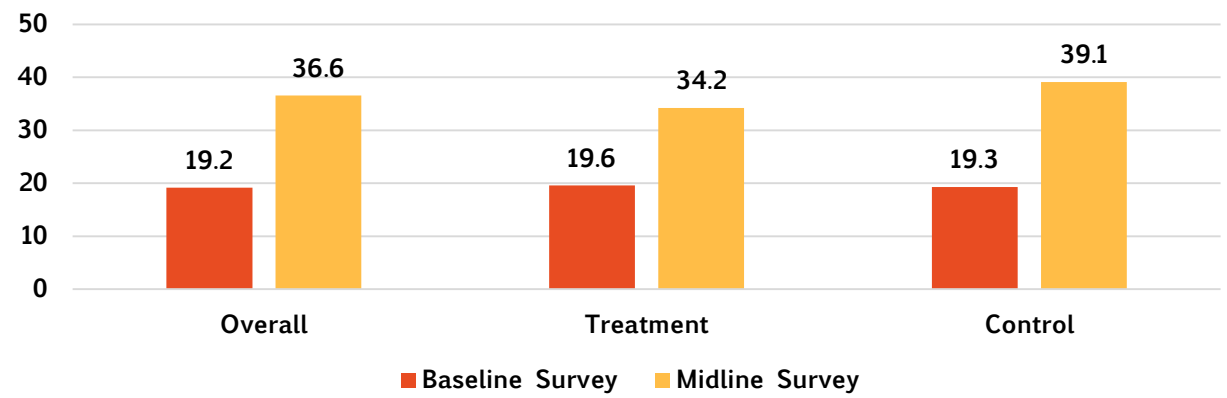
Exhibit 3.3-20: MDD-W Ten Food Groups

1. Grains, white roots and tubers, and plantains
2. Pulses (beans, peas and lentils)
3. Nuts and seeds
4. Dairy
5. Meat, poultry and fish
6. Eggs
7. Dark green leafy vegetables
8. Other Vitamin A-rich fruits and vegetables
9. Other vegetables
10. Other fruits

SOURCE: FAO

intake in the last 24 hours and confirm the consumption of the given food items. The findings are provided in Exhibit 3.3-20a.

Exhibit 3.3-20a: Survey Respondents Receiving MDD (in Percentage)



	Overall	Treatment	Control	t-Value	p-Value
Midline Survey	36.6	34.2	39.1	-3.5	.000
Baseline Survey	19.2	19.6	19.3	0.2	0.792
Growth	90.6	74.2	102.6	-	

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.18 of the Baseline Report provides comparable Baseline Estimates]

The Baseline values show that only 19.2% of women received food from 5 or more food groups. However, the results from the Midline survey reveal a completely different picture. The estimated MDD is almost double, and the difference between treatment and control is also statistically significant. The MDD estimated for households in the control group (39%) is significantly higher than households in the treatment group (34%). The phenomenon requires further investigation.

3.3.9 Minimum Acceptable Diet (MAD) for Children (aged 6-23 Months)

MAD constitutes one of the eight core indicators of infant and young child feeding practices (IYCF) essential to track if multiple dimensions of children's feeding between 6-23 months are fulfilled. It is a composite indicator combining minimum dietary diversity and feeding frequency (WHO, 2010).

The survey questionnaire included a dietary module constituting a list of semi-solid/solid food items and liquids based on food groups essential for children diet. It is adapted from the UNICEF/WHO IYCF MAD module (2010). The mothers/caregivers of children in the age bracket of 6-23 months were the respondents of this section. They were instructed to report on consumption of the given food items based on a child's food intake in the previous 24 hours, along with the frequency of meal intake.

A. Minimum Dietary Diversity (MDD)

Dietary diversity is a measure to estimate the consumption of adequate micro-nutrient density of foods among children between 6-23 months. It takes into account the proportion of children in the mentioned age group who received food from at least four food groups. The list of food groups is provided in Exhibit 3.2-7.

Exhibit 3.3-21: 7 Food Groups Used for the Calculation of MDD for Children 6-23 months

1. Grains, roots, and tubers
2. Legumes and nuts
3. Dairy products (milk, yogurt, cheese)
4. Flesh foods (meat, fish, poultry, organ meats)
5. Eggs
6. Vitamin A rich fruit
7. Other fruits and vegetables

Source: UNICEF/WHO

The Midline survey results show that overall, close to 17% of children aged 6-23 months receive food from 4 or more food groups, as illustrated in Exhibit 3.3-21a. A slight improvement (from 16% to 17%) in the MDD baseline is evident. However, the differences among sampled groups are not statistically significant both in the treatment and control groups. It is worth highlighting that the proportion of such children is relatively higher in the households of control areas in the baseline. In comparison, the phenomenon is reversed in the Midline survey, where the proportion of children is higher in the households of treatment areas.

Exhibit 3.3-21a: Children (aged 6-23 Months) Receiving MDD in Surveyed Households (in Percentage)

	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-Value
Midline Survey	17.0	17.4	16.6	0.3	.764
Baseline Survey	15.8	15.3	16.7	-0.7	0.464

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.20 of the Baseline Report provides comparable Baseline Estimates]

The gender disaggregated estimates of MDD are furnished in the Exhibit 3.3-22 for both Baseline and Midline Surveys. Significant improvement in the MDD for girls in the treatment group is evident (from 15.4% at the baseline stage to 17.6% at the midline stage).

Exhibit 3.3-22: Children (6-23 Months) Receiving MDD in Surveyed Households - by Gender (in Percentage)

	Overall	Treatment	Control
Midline Survey:			
MDD Boys	17.5	17.1	17.8
MDD Girls	16.4	17.6	15.1
Baseline Survey:			
MDD Boys	16.0	15.2	16.8
MDD Girls	15.6	15.4	16.5

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.21 of the Baseline Report provides comparable Baseline Estimates]

B. Minimum Meal Frequency (MMF)

MMF is a measure to determine the minimum number of times children between 6-23 months of age receive solid, semi-solid, or soft foods (including milk feeds for non-breastfed children). The number of meals is estimated to ensure the amount of energy the child needs (WHO, 2010).

Illustrated in Exhibit 3.3-23, 63% and 52% of children in the given age bracket receive MMF respectively in Baseline and Midline surveys. The difference in terms of MMF between households in treatment and control areas is not statistically significant in both surveys.

Exhibit 3.3-23: Children (6-23 Months) Taking MMF in Surveyed Households (in Percentage)

	Overall	Treatment	Control	t-Test [Treatment v/s Control	
				t-Value	p-Value
Midline Survey	52.3	51.2	53.6	-.701	.484
Baseline Survey	63.0	63.0	63.2	-0.1	0.923

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.22 of the Baseline Report provides comparable Baseline Estimates

The detailed gender and age disaggregated MMFs are furnished in Exhibits 3.3-23a for the midline and baseline surveys.

Exhibit 3.3-23a: Children (6-23 Months) Receiving MMF in Surveyed Households - by Age Groups and Gender (in Percentage)

	Overall			Treatment			Control		
	Overall	Boys	Girls	Overall	Boys	Girls	Overall	Boys	Girls
Midline Survey									
6-23 Months	52.3	54.0	50.5	51.2	54.2	48.1	53.6	53.8	53.2
6-8 Months	41.3	35.8	47.5	41.5	44.6	38.0	41.2	26.4	57.1
9-23 Months	55.9	59.8	51.5	54.3	57.5	51.2	57.5	61.7	51.8
Baseline Survey									
6-23 Months	63.0	60.4	65.8	63.0	59.9	65.9	63.2	61.0	66.0
6-8 Months	50.4	46.4	54.7	50.8	50.5	51.1	50.0	46.4	54.7
9-23 Months	65.9	64.4	67.5	66.6	63.3	69.5	65.6	65.8	65.3

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.23 of the Baseline Report provides comparable Baseline Estimates

C. Minimum Acceptable Diet (MAD)

Combining[2] the standards of minimum meal frequency and minimum dietary diversity, Exhibit 3.3-24 provides the percentage of children in the target sample areas who receive a minimum acceptable diet. The exhibit furnishes the estimates of MADs for both Baseline and Midline surveys. Only 17% of children receive acceptable dietary requirements estimated from the Midline survey data at an overall level. The comparative estimate for the Baseline is 15.8%, and thus a slight improvement is evident in the MAD.

It is encouraging that the inter-survey growth of children receiving MAD in the treatment group is higher than in the control group. In the treatment group, the percentage of children increased from ~15% to ~17%, providing a growth rate of 14%. However, in the control group, the percentage of children changed from 16.7% to 16.6% showing a slight decline.

[2] To calculate MAD, information on breastfed and non-breastfed children is combined by adding the following two fractions: Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day divided by breastfed children 6-23 months of age. Non-breastfed children 6–23 months of age who received at least two milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day divided by non-breastfed children 6-23 months of age. (WHO, 2010)

Exhibit 3.3-24: Children (6-23 Months) Receiving MAD in Surveyed Households (in Percentage)									
	Overall			Treatment			Control		
	Overall	Boys	Girls	Overall	Boys	Girls	Overall	Boys	Girls
Midline Survey	17.0	17.5	16.4	17.4	17.1	17.6	16.6	17.8	15.1
Baseline Survey	15.8	16.0	15.9	15.3	15.2	15.4	16.7	16.8	15.9
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibit 3.24 of the Baseline Report provides comparable Baseline Estimates]									

Exhibit 3.3-25 provides further disaggregated analysis for both Midline and Baseline surveys by breastfeeding status among children in the given age group (6-23 months). Although the difference between treatment and control groups concerning child breastfeeding status is not statistically significant, the relatively low MAD level in non-breastfed children, especially in the Midline survey, requires thoughtful policy planning and intervention. The magnitudes of MAD estimated for non-breastfed children in the Midline survey are significantly low compared with the corresponding estimates of the Baseline survey.

Exhibit 3.3-25: Children (6-23 Months) Receiving MAD in Surveyed Households - by Breastfeeding Status (in Percentage)					
	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
				t-Value	p-Value
Midline Survey					
Non-Breastfed	1.7	0.9	2.4	-0.956	0.34
Breastfed	23.0	23.5	22.4	0.319	0.75
Baseline Survey					
Not-Breastfed	4.8	5.4	4.5	0.2	0.803
Breastfed	17.1	16.3	18.4	-1.0	0.312
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibit 3.25 of the Baseline Report provides comparable Baseline Estimates]					

3.3.10 Kitchen Gardening

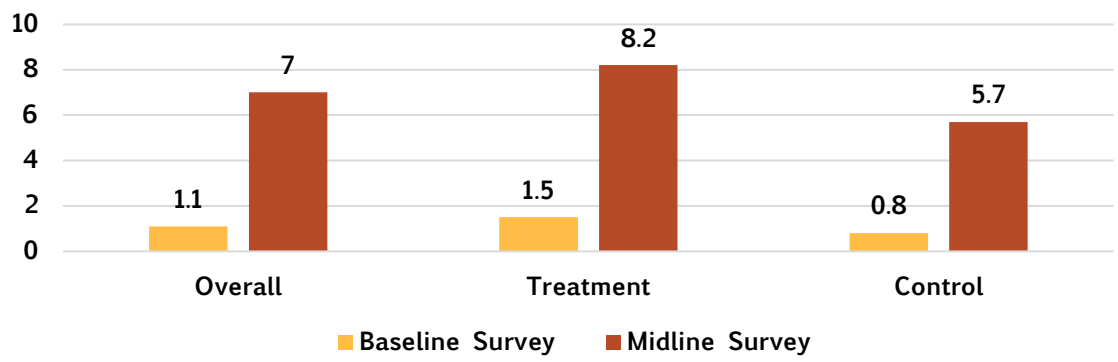
The midline findings indicate that around 7.5% of the surveyed households have cultivable land inside or adjoined to their house, where families can set up a kitchen garden for vegetables. The percentage of households with cultivable land available for establishing a kitchen garden increased from 7.1% in the baseline, as shown in Exhibit 3.3-26.

Exhibit 3.3-26: Surveyed Households Affirmed Having Land for Kitchen Gardening (in Percentage)			
	Overall	Treatment	Control
Households Reported Land for Kitchen Garden:			
Midline Survey – Percentage of Households	7.5	9.2	5.9
Baseline Survey – Percentage of Households	7.1	9.5	4.8
Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019 [Exhibit 3.65 of the Baseline Report provides comparable Baseline Estimates]			

As provided in Exhibit 3.3-27, around 7% of surveyed households owning cultivable land practise kitchen gardening. The incidence of kitchen gardening considerably increased from the Baseline's estimate of ~1%. A higher percentage of households are recorded to be practising kitchen gardening

in the treatment areas (8.2%) than the control (5.2%). The difference between the sampled groups are statistically significant according to the t-test results, illustrated in the Exhibit.

Exhibit 3.3-27: Surveyed Households Reported Kitchen Gardening (in Percentage)



	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
				t-Value	p-Value
Midline Survey	7.0	8.2	5.7	4.3	0.000
Baseline Survey	1.1	1.5	0.8	6.5	0.000
Growth	536.4	446.7	612.5	-	

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.65 of the Baseline Report provides comparable Baseline Estimates]

In addition, two questions regarding the institutions that provide training for the integrated farming-related skills and setting up a kitchen garden were asked in the Midline survey questionnaire. The exact phrases were 'Is there any school/institution in your area/village that teaches integrated farming-related skills?' and 'Is there any school/institution in your area/village that teaches skills for setting up a kitchen garden (for growing vegetables/fruits for the household use)?". Exhibit 3.3-28 summarizes the responses to these questions. Close to 10% and 9% of households confirmed the presence of institutions that provide integrated farming and kitchen gardening-related skills training, respectively. Around ~9% of households also stated receipt of kitchen gardening training by their household members.

Exhibit 3.3-28: Surveyed Households Reported Institutions and Training in Agriculture in Project Areas (in Percentage)

	Overall	Treatment	Control
Institutions that teach integrated farming-related skills*	9.9	11.0	8.8
Institutions that teach skills for setting up a kitchen garden**	9.2	11.1	7.3
Households who Confirmed Obtaining Training by any Member*	9.1	11.1	7.1

Source: Household Survey, PINS (ER3) Midline Study, 2021
****[Exhibit 3.68 of the Baseline Report provides comparable Baseline Estimates]**
***These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.**

3.3.11 Community-Managed Demonstration Site for Poultry or Livestock

The Midline findings show that close to only 9.6% and 9.5% of surveyed households reported having institutions teaching skills for animal husbandry and poultry farming, respectively, in their villages. The results are recorded in Exhibit 3.64.

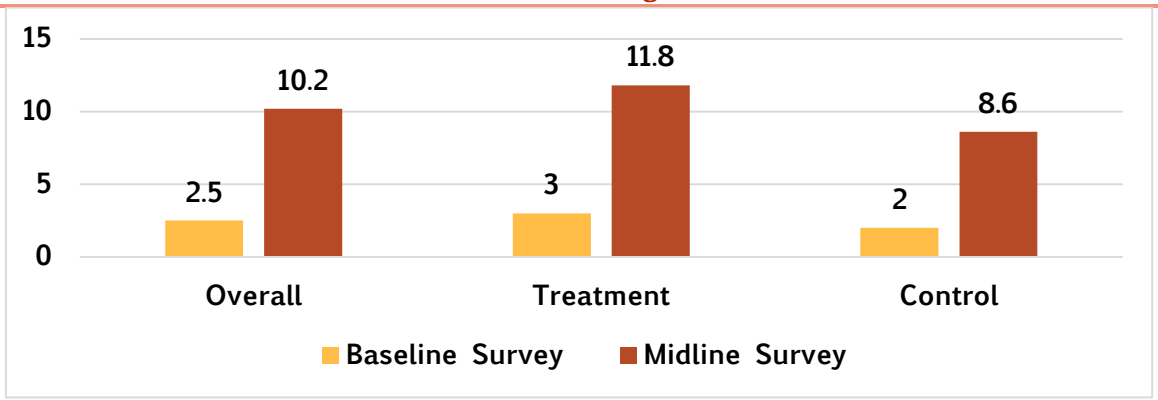
Exhibit 3.3-29: Surveyed Households Reported Presence of Institutions of Institutions for Livestock and Poultry Farming

	Overall	Treatment	Control
Midline Survey			
Institution in area teaches skills for rearing livestock/animal husbandry	9.6	11.0	8.1
Institution in area teaches skills for poultry farming	9.5	11.1	7.9
Baseline Survey			
Institution in area teaches skills for rearing livestock/animal husbandry	1.9	2.2	1.5
Institution in area teaches skills for poultry farming	1.9	2.3	1.5

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019
[Exhibit 3.64 of the Baseline Report provides comparable Baseline Estimates]

Provided in Exhibit 3.3-29a, the incidence of institutions teaching skills in livestock or poultry farming as reported by surveyed households has improved from 2.5% in the Baseline to 10.2% in the Midline. The presence of such institutions has relatively increased at a greater level in the treatment group (from ~3% to ~12%) compared with the control group (~2 to ~9%) during the inter-survey period.

Exhibit 3.3-29a: Surveyed Households Reported Presence of Institutions for Livestock or Poultry Farming (in Percentage)



	Overall	Treatment	Control
Midline Survey	10.2	11.8	8.6
Baseline Survey	2.5	3.0	2.0
Growth	308.0	293.3	330.0

Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019

3.4 Agricultural Practices Carried out by Small Farmers – Findings from FGDs

This section provides key findings of the focus group discussions conducted with small farmers in Programme UCs, highlighting adaptation methods including crop diversification, cropping yield, irrigation, and water management practices. The findings also aim to identify the adoption of climate-sensitive agricultural practices that help farmers protect their livelihood and mitigate the impact of drought and flood conditions in Sindh.

3.4.1 Crop Production and Management

FGDs informed that small farmers focus on single crop farming and widely cultivate wheat and rice (as illustrated in Exhibit 3.4-1 and 3.4-2). They predominantly use hybrid seeds for growing crops. Rice is solely produced through hybrid seeds, whereas a mix of hybrid and non-hybrid or heirloom/*desi* seeds are used for growing wheat. In several districts, hybrid seeds are used for cultivating vegetables as well. Hybrid seeds require less water than heirloom plants to mature, and are therefore regarded as favorable for cultivation given water scarcity in Sindh.

"Sindh mein pani ke kamee hay; daysee beej ko time par pani chaheye hay aur teyar bhi dayr say hota hay; Is liye daysee bej istemal nahi karte."

(UC Channa, Jamshoro)

(Sindh is facing shortage of water. Heirloom seeds require more water and takes time to grow. That is why, heirloom seeds are not used.)

Exhibit 3.4-1: Major Rabi Crops Harvested by Small Farmers in Programme Districts (with Average Agriculture Yield)

Wheat is cultivated in control and treatment areas of all districts with an average yield ranging between 25 md/ac and 80 md/ac.

Onion is cultivated only in the treatment areas of Jamshoro with an average yield of 300 md/ac.

Tomatoes are cultivated only in the treatment areas of Thatta with an average yield of 200 mdg/ac.

Millet is cultivated only in the treatment areas of Dadu, in addition to wheat, with an average yield of 50 md/ac.

Exhibit 3.4-2: Major Kharif Crops Harvested by Small Farmers in Programme Districts (with Average Agriculture Yield)

Rice is cultivated in majority districts, except for Jamshoro, TAY and Matiari, with an average yield ranging between 50 md/ac ad 80 md/ac

Cotton is widely cultivated in TAY, Matiari and Jamshoro across treatment and control areas with an average yield ranging between 30 md/ac and 80 md/ac

Sugarcane is cultivated only in the control areas of Jamshoro.

Barley is cultivated only in the control areas of Thatta, in addition to rice, with an average yield of 80 md/ac

Source: FGDs, PINS-ER3 Midline Survey, 2021

3.4.2 Means of Irrigation

Farmers mainly irrigate agricultural lands through canal water (via small distributaries). Tube wells and solar-powered bore wells are also significant water sources for irrigation when the canal water supply depletes in the winter season. Lift irrigation is also practiced in some areas of Dadu, Sujawal, and Jamshoro that are remote, and canal system is absent, or water availability is lower.

"nehri pani hain or tube well bhi hain; Kashtkari ke liye ziyada tar nehri pani hi istemal karte hain. Sardi ke mosam mai tube well se pani daite hain jab pani ki kammi ho."

(UC Wanhi Pandi, Dadu)

(Both canals and tube wells are present. Canal water is mainly used for cultivating lands. Water from tube wells is used during the winter season when the canal water becomes scarce.)

"Yahan par kache ka illaqa hai. Yahan par pani lift se dariya mai se nikal kar daite hain aur baqi nehri nizam nahi hai. Tube well bhi lagye hue hain. Jis ke pass apne tube well nahi lagi hui toh woh zameendaro se pani laita hain."

(UC Unerpur, Jamshoro)

(Many areas are situated far-flung. Canal system is not present, so lands are irrigated through lifting water from the river and tube wells. If someone does not own a tube well, they take water from landlords.)

3.4.3 Off-Season Cultivation

Growers do not cultivate off-season crops. They are not aware of the crops that they may produce outside the regular cropping calendar. Also, water scarcity is reported to be a significant challenge that limits them from off-season farming.

"hamein maloom nahi hai ke kaunsi gair mausmi fasal laga sakhte hain. Yehan paani ki bhi kami hai isiliye koi aur fasal nahi lagate."

(UC Abdul Waheen Burio, Matiari)

(We do not know what crops can we cultivate off-season. Also, there is shortage of water due to which we do not produce any additional crops.)

"yehan gair mausmi kashtkari ke baare mein hamein malom nahi hai."

(UC Thalo, Dadu)

(We do not know about off-season cultivation.)

3.4.4 Utilization of Agricultural Produce and Kitchen Gardening

Most farmers utilize their agricultural produce for household consumption and sell the remaining product into the market. Only a few participants from Larkana, Shikarpur, Tando Allah Yar, and Matiari are growing vegetables such as okra, eggplant, and tomatoes, around or near the house for domestic use. Some farmers from the Matiari district also stated selling the home-grown produce into the market.

Furthermore, reasons inhibiting farmers in other districts from practicing home gardening include lack of cultivable land near their residence and water shortage.

"Zameen hamare gharo se dur hain. Pani bhi gharo mai nahi hota aur bhar kar lana parta hain. Is liye hum gharilo istamal ke liye gharo mai kashtkari nahi karte."

(UC Toung, Jamshoro)

(Agricultural) lands are far away from our homes. Also, water is not available in households and is needed to be fetched from outside. That is why we do not cultivate for household use in our houses.)

"Humare yahan par sabzi wali zameen hi nahi hai is liye gharo mai koi bhi apne istamaal ke liye kasht nahi karta."

(UC Dhamraho, Kambar Shahdadkot)

(Land type is not favorable for vegetable production here, which is why no one cultivates for their personal use in their households.)

3.4.5 New/Modern Agriculture Techniques Implemented

FGDs revealed that the majority of farmers have transitioned into mechanical harvesting for reaping wheat in both treatment and control areas of districts such as Kambar Shahdadkot, Larkana, and Shikarpur. In the treatment areas of Jamshoro, Tando Muhammad Khan, Matiari and Tando Allah Yar, growers have opened to mechanized harvesting, but is not as widely practiced. Crops including rice, vegetables and fruits remain hand-harvested in all districts and UCs.

"Ziyada tar log chawal, sabziyo, phalo ki hath se katayi karte hain aur gundum ki katayi aj kal machines ke zariye hoti hain."

(UC Seelra, Kambar Shahdadkot)

(Majority of people (farmers) harvest rice, vegetables and fruits by hands and wheat is harvested through machines now days.)

"Fasalo ki katayi ke liye labara kiya jata hai aur dozer machine bhi istamal ki jati hain or kenchi machine se bhi fasalo ki katayi ki jati hain."

(UC Pir Bux Shujrah, Shikarpur)

(Crops are harvested by hands (the practice of manually harvesting crops is locally known as labara). Dozer or kenchi machines are used for harvesting)

Growers not practicing mechanical harvesting discuss that the use of machines leads to crop losses and damages. Machine harvesters were introduced in Sujawal, but it caused crop losses. Resultantly, farmers renounced machines and shifted to harvesting crops manually. Also, it is not suitable for small-sized lands, as reported by participants in the Thatta district.

"Kataee hath par hotee hay. Kuch saal pehlay machine aee thee par wo anaj zaya kar rahe thee to abb machine par kataee nahi hotee."

(UC Jar, Sujawal)

(Crops are harvested by hands. A few years back, machines were introduced, but its use was causing crop losses. Now, machines are not used for harvesting.)

"Har koi hath se katayi karta hai. Zameen ke chote chote tukre bane hue hote hain is waja se yahan par machine nahi chal sakti."

(UC Sukhpur, Thatta)

(Everyone harvests crops by hand. Agricultural land is distributed in small pieces, which is why machines cannot be used.)

3.4.6 Measures Adopted to Protect Crops from Adverse Weather Conditions

Only a minority of farmers mentioned implementing strategies to protect crops from an adverse effect of extreme temperatures. Techniques included methods mainly for covering crops, often through the straw mulch and plastic materials, to prevent either heat loss from the surface during winter or heat conduction during summer. Straw mulch is also used to cover crop roots to prevent erosion from wind. Fires/smoke radiating heat in the air surrounding agricultural fields are also carried out to maintain temperature for cold. The majority of farmers believe that crops (such as rice and wheat) are not vulnerable to weather/temperature changes. Neither are they aware of

measures that they may implement to shield crops from adverse weather effects. Further, there are no plans in place that enable farmers to adopt crop protection methods.

"Fasalo ko mausum ke munfi asarat se bachane ka koi plan moujud nahi hai."

(UC Sawro, Dadu)

(There is no plan available to protect crops from the adverse effects of weather.)

"Jo chawal aur gundum ki fasal yahan par hoti hai inko zarorat nahi parti hai kissi bhi mausam se bachane ki is liye yahan par koi tarika istamaal nahi hota."

(UC Dara, Larkana)

(Wheat and rice crops that are produced here do not require any protection from weather that is why no measures are implemented (for the purpose of crop protection.)

"Mausam tabdeli ki waja se fasalo ko nuqsan hota hai lakin humein faslo mehfooz banane ka koi tarika malom nahi hai. Bus allah ke asare par hote hain.)

(UC Sukhpur, Thatta)

(Crops suffer through damages from weather changes but we do not know of any way to safe our crops. We are unto Allah (God) completely.)

3.4.7 Measures Adopted to Mitigate Floods and Drought Impact

The majority of farmers stated that their areas are not affected by floods. The last flooding incident was recorded in UCs of the Larkana and Dadu districts during 2010 and 2015.

"2010 aur 2015 ke baad yehan koi flood nahi aya"

(UC Kothi, Larkana)

(Floods did not occur here after 2010 and 2015.)

"2010 mein sailaab aya tha baaki aam tor per sailab nahi ata yahan"

(UC Thalho, Dadu)

(Floods occurred in 2010, and after that, floods did not happen.)

Concerning drought, farmers reported that the construction and availability of tube wells had helped them battle against the drought-like conditions. However, water scarcity is reportedly a constant challenge witnessed by farmers in all the districts.

"Kushk Sali nahi hoti yehan, per pani ki kami hoti rehti hai toh woh tube well se poora karlete hain"

(UC Oderolal, Matiari)

(Droughts do not happen here but water scarcity is prevalent during which water needs are fulfilled through using tube wells.)

"Yeahan par khusk Sali nahi hoti, albata kabhi kabar pani ki kammi hoti hai is waqt phir thora agge piche kar ke fasal lagate hain

(UC Jhimpir, Thatta)

(Drought do not happen here. Sometimes water gets scarce based on which we cultivate crops in at a different time (when water is available.)

3.5 Key Factors Underlying Households Situation Reported in the Survey

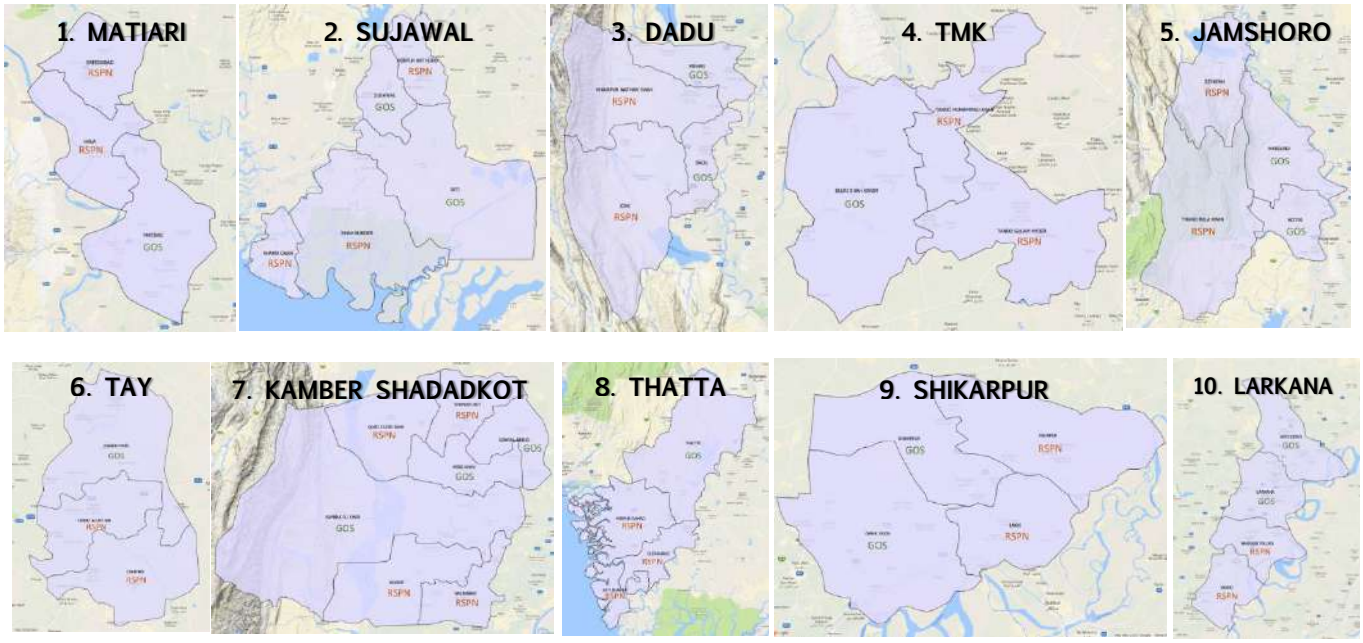
This sub-section discusses various factors contributing to the survey outcomes/findings for the households in the treatment areas and to control areas of the survey sample. Consultation sessions were conducted with the RSPN team to identify aspects linked with the progress made among households in treatment areas compared to control regions on the prevalence of outcome indicators of the PINS-ER3 log-frame.

Results obtained from the new module, titled social safety net, added in the Midline survey questionnaires, are also presented in this sub-section to record support (financial or non-financial) received by households in the targeted UCs during the inter-survey period. The information gathered through this module is used to report on the possible contamination in control UCs. Secondary data shared by the RSPN team on the implementation updates of AAP, GoS, is also used to substantiate the findings on contamination levels in the control areas. Data on PINS-ER3 output variables are also provided.

3.5.1 Geographical Location, Poverty and COVID-19 Pandemic

The RSPN team outlined that most of the households in the control areas are peri-urban and close to district headquarters with better access to facilities, resources and various interventions and aid programmes already occurring in the districts, particularly in the COVID-19 scenario. The geographical proximity of the control group households with the district centres has provided a competitive growth advantage on the treatment group households that are remote and scattered.

Exhibit 3.5-1: Classification of Tehsils and UCs for PINS-ER3 and GoS's AAP



Another challenge facing the RSPN team concerns the poverty incidence among the treatment households. According to the poverty scorecards findings available with the RSPN, households in the treatment areas are afflicted with greater poverty levels than the control. The poverty situation has become further challenging and concerning for the RSPN with COVID-19 (RSPN, 2020) and affected the growth treatment group could have achieved compared with the control group.

Further, with the onset of COVID-19, it is essential to underline that the Programme faced disruption in its core assumptions that were significant for achieving its set targets. The specific objective of

improving the availability and diversity of nutritious crops/food was developed assumed that the food prices remain stable during the Programme life. This assumption was interrupted by the increase in flood inflation due to the COVID-19 in 2020 (RSPN, 2020). Consequently, growth was witnessed in the related outcome indicators, particularly concerning MDD-W and MAD among children. However, it was below the control group, and in other, it was not significant.

3.5.2 Reduced Support in Implementing Sanitation Interventions among Treatment Group

An added obstacle facing PINS-ER3/RSPN is reduced support in implementing sanitation activities in the targeted villages. PINS-ER3's log-frame had one of the outputs committed to improved community-level climate-resilient WASH infrastructure in target areas. The output was designed assuming that GoS will remain committed to implementing 50% of areas of target districts and extend support to PINS for the provision of drainage systems in targeted villages under the Saf-Suthro Sindh Programme. However, the sudden suspension of funding from the United Kingdom's Department for International Development, citing COVID-19's impact on the country, has left the initiative with no option but to shut down (RSPN, 2020).

The improvement in WASH infrastructure is directly associated with the improved sanitation outcome indicator of PINS-ER3. However, loss of support negatively impacted the prevalence of indicators concerning households using improved sanitation facilities in the treatment UCs.

3.5.3 Institutions Working in Survey Areas and Support Provided

The Midline household survey questionnaire introduced a new module with few questions regarding financial and material aid. The results obtained from these data gives a rough picture of the extent of social safety nets in the area and support received by households in sampled groups. Following is the summary of major findings.

Exhibit 3.5-2 indicates the incidence of distributing cash or material aid by any institution in the area—close to 31% of households confirmed receiving financial assistance during the last two years. Almost half (16% out of 31.4%) of these households reported one-time receipts. In contrast, obtaining material aid was recorded only by close to 2% of households.

Exhibit 3.5-2: Social Safety Net – Cash or Goods Received in Last Two Years

		Overall	Treatment	Control
Surveyed Households		4,617	2,331	2,286
Percentage of Households who Confirmed Receiving Cash from any institution in the last 02 years?		31.4	31.1	31.7
How many times the aid was received?	**One Time**	15.9	16.3	15.4
	Two Times	6.4	5.9	7.0
	Three Times	4.3	4.5	4.2
	Four Times	2.7	2.2	3.2
	Five Times	2.1	2.1	2.0
Percentage of Households who Confirmed Material Aid from any institution in the last 02 years?		1.9	2.2	1.6
How many times the aid was received?	**One Time**	1.3	1.7	1.0
	Two Times	0.6	0.5	0.6

Source: Household Survey, PINS (ER3) Midline Survey, 2021

The list of institutions engaged in the cash disbursement in the project area is compiled in Exhibit 3.5-3. Close to 56% and 41% of households reported receiving financial aid from BISP and Ehsaas programme. The role of local NGOs in the disbursement of financial assistance is insignificant as only 2% of households described this source. However, households who received material aid described receiving livestock and poultry animals, seeds, business tools and raw materials from local NGOs and Akhuwat during the last two years.

Exhibit 3.5-3: Institutions Engaged in Financial Aid Disbursement in the Project Area

		Overall	Treatment	Control
Household Reported Receiving Financial Aid		1483	754	729
Institutions:	**Ehsaas Program**	41.4	44.0	38.7
	BISP	55.5	51.5	59.6
	Local organizations/NGOs	1.6	2.2	1.0
	Rural Support Program Network	0.1	0.3	0.0
	Bait-ul-Maal	0.0	0.0	0.1
	Akhuwat	0.0	0.0	0.1
Average Amount of Aid [Rupees]		10994	11233	10757

Source: Household Survey, PINS (ER3) Midline Survey, 2021

FGDs conducted at the UC level reported similar findings regarding the type of aid received by households in the survey area. Most participants in the FGDs stated that households in their areas had obtained cash support from Ehsaas Program and BISP. However, participants from the treatment and control UCs of Larkana, Shikarpur, and Kambar Shahdadkot districts stated receiving material aid in the form of seeds for household farming by local NGOs.

Based on the insights gathered from FGDs and midline household surveys, it is evident that interventions in agriculture were commonly implemented in both treatment and control areas. Hence, `the situation of households on the agriculture-related outcome variable, particularly concerning the practice of kitchen gardening, improved in each group compared with the baseline situation.

AAP is noted to be actively working in the agriculture sector in control UCs alongside PINS-ER3 in treatment UCs. The implementation updates of each Programme's output variables are provided in **Annexure 7, Exhibit 7.1 and 7.2.**

Further, there is a possibility that households in control UCs had received the same kind of support/interventions for improving WASH infrastructure as provided in the treatment UCs. The 2020 WASH Joint Sector Review Report states that a wide range of stakeholders, including multiple government departments, development partners and civil society organizations, are working towards providing access to safe drinking water, improved sanitation and hygiene practices across the province. However, due to limited coordination at the provincial and district level, there is a lack of reporting and data available on WASH initiatives, especially within the public sector and even in civil society at large (GoS, 2020). However, major stakeholders notably working in the WASH sector in Sindh include UNICEF, WaterAid, HANDS, Concern Worldwide, among others.

Hence it is difficult to report on the extent of contamination in the control areas of the survey, especially in regards to WASH activities. However, it is confident that sites are not "controlled" strictly during the inter-survey period. This explains why households in the control areas also performed similarly to the treatment areas. In some cases, the incidence of outcome indicators is even better due to various constraints in the treatment group identified in the preceding sections.

Additionally, the outputs of PINS-ER3 may not be robustly tested due to the limited scope of the midline survey. RSPN must roll out a separate study to track the outreach of PINS-ER3 output indicators.

4.0 The Way Forward: Conclusions and Recommendations

Bringing about a change or impact on the nutrition outcomes requires multi-sectoral support for an extended period. The RSPN nutrition-sensitive intervention is designed to improve the population's nutritional status through the FSL and Wash pathways. The chronic deprivation of the target communities limits the anticipated impact's achievement. Hence, it is required that the reminder of the RSPN Programme period capitalizes on the best practices of the Programme achieved while maintaining the trajectory of improved delivery of support to the communities. The following summarizes the midline/current status of survey areas response to PINS-ER3 indicators:

1. Approximately 77% of households have access to safe drinking water – around 75% in the treatment areas and ~80% in the control areas;
2. Around 60% of survey respondents are knowledgeable about appropriate water treatment methods – the corresponding figures for treatment and control areas are 57% and ~62%, respectively;
3. However, only ~7% of households follow appropriate water treatment methods. In the treatment areas, such households comprise ~9%, and in the control areas comprise ~6%;
4. Around 19% of households have access to an improved sanitation facility. In the treatment areas, such households comprise 15%, and in the control areas comprise 22%;
5. Approximately 13% of households practise open defecation - ~14% in the treatment areas and ~12% in the control areas;
6. ~19% of households have a specific place for handwashing with water and soap - ~18% in the treatment areas and ~20% in the control areas;
7. ~91 of survey respondents across treatment and control areas reported awareness regarding the importance of handwashing/keeping hands clean;
8. Only ~2% of mothers and caregivers wash their hands before feeding children across treatment and control areas;
9. 17% of children under five years old suffered from pediatric diarrhoea. The treatment and control areas' comparative estimates are ~18% and ~16%, respectively;
10. Expenditure of Rs. 18,374 is dedicated to consuming a minimum of four food groups (outside staples) among surveyed households – Rs 18,154 in control areas and 18,582 in treatment areas.;
11. On average, around 37% of women age 15-49 years from the households surveyed receive the minimum dietary diversity - ~34% in the treatment and ~39% in the control areas;
12. On average, around 17% of children in the age bracket of 6-23 months receive the minimum acceptable diet (17.4% in the treatment areas and 16.6% in the control areas);
13. 7% of surveyed households practice kitchen gardening. The treatment and control areas' comparative estimates are ~8% and ~6%, respectively;
14. Around 9% of households have received training on setting up a kitchen garden. In the treatment areas, such households comprise 11%, and in the control areas comprise 7%;
15. Around 10% of households reported having demonstration sites for poultry farming or livestock in their localities. The treatment and control areas' comparative estimates are ~12% and ~9%, respectively;

16. Around 10% of households reported having demonstration sites for learning integrated-farming skills. The treatment and control areas' comparative estimates are ~11% and ~9%, respectively.
17. Water scarcity is a significant challenge facing small farmers. Many have shifted to using hybrid seeds, particularly rice production, which require less water for cultivation than heirloom seeds. Also, tube well bore wells and lift irrigation are widely adopted to fulfil the water needs.
18. The condition of floods and droughts are not prevalent in the districts. However, installation of tube wells and boring is adopted to avoid water shortage

Considering the status depicted by the midline survey findings, a few recommendations can help improve the delivery of the interventions and aim for a better impact on wasting and stunting in the rest of the project period.

Evidence analysis:

- A consultation shall be held amongst the stakeholder's PINS and other programs in these districts to discuss the findings of this midline survey. Brainstorming shall be done on the factors that have contributed to and/or limited the achievements of the indicators. All Programmatic and natural events and the interventions of the control UCs shall be documented and discussed its links and how they may have impacted the midline indicators. This exercise shall generate learning and information about the best practices that have led to the indicators' current status and the differences between the RSPN and AAP areas.
- When the planned SMART surveys are completed in all PINS districts, a cross-comparison of the prevalence rates shall be conducted. This will help depict the impact of the nutrition-sensitive interventions on the status of wasting and stunting in the intervention districts. This will help show the impact of ER 3 interventions on the caseloads of ER-2 and the actual prevalence.
- All of the knowledge indicators show a higher level of understanding and recognition while only a minute proportion of the population follows what is being promoted in the BCC component (example given below). It is recommended to conduct a qualitative study to assess the barriers between knowledge and practice. This type of study will help design a context-specific BCC component that addresses the obstacles to practice and help improve the behaviour in a sustained manner.
    - There is high awareness about the ideal practices but low adoption of the actual practice. This transition from knowledge to practice has to be reduced. I.e. 94% of the HH acknowledge the importance of handwashing, but only 2% of mothers wash hands before feeding children. 57% HH are aware of the importance of water treatment, but only 9% treat drinking water appropriately.

Programmatic focus:

- The most concerning indicators (but not limited to) of dietary diversity and Wash practices need special attention in the prospective period, which essentially limits the improvement in wasting and stunting rates.
- Communal and HH level vegetable/fruit production must be increased to locally improve access to diverse diets. An increase in the HH vegetable production through kitchen gardening shall be recorded in the upcoming years and cross-tabulated with the individual dietary scores at the endline. All efforts to increase the production of nutrient-rich food groups or their availability/affordability shall ensure a demand at the HH level. It can be measured through a visible increase in the utilization of dietary diversity indicators (MDDW, MAD etc.)

- A specially focused BCC campaign shall be conducted to create more demand for the use of nutrient-rich foods and the importance of growing more fresh fruits and vegetables. This BCC shall be with the key objectives of dietary diversity for children (especially at the age of 6-12 months) and PLWs.
  - Dietary diversity for children, particularly >6 months through complementary feeding, must be improved. (MAD-children is 17.4% only)
  - Dietary diversity for women has increased significantly (19.6% to 34.7%). More focus is required to increase consumption of Iron-rich foods and maintain the trajectory.
- The misperception of 'water is already safe and does not require to be treated' has to be countered by focusing on the prospective Hygiene promotion activities. (only 9% of the HHS treat water appropriately).
- The BCC activities shall be interactive and not one-way communication as the one-way knowledge sharing does not address the misperceptions and taboos. For example, suppose the community feels water is already safe. In that case, they will not be receptive to any water treatment methods until this is addressed and proven that the water may be clean but not safe from microbes, chemicals, and flocculants—the reasons why further treatment is a requisite in most cases.
- Diarrhoea depletes the stores of nutrients, and children <5 are affected the most due to poor environmental sanitation through the prevalent practice of open defecation. Prevention of open defecation shall be a repetitive focus through all delivery channels, i.e. BCC, hygiene promotion, PATS, CLTS etc.

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Annexures

Annexure 1: Updated PINS (ER-3) Logframe

Results chain		Indicators[3]	Baselines (2018)	Current Value (Dec-2019)	Targets (2021)	Sources and means of Verification	Assumptions
Overall objective: Impact[4]	OO: To sustainably improve the nutritional status of children under five (U5) and of Pregnant and Lactating Women (PLW) in Sindh in line with the second target indicator of the SDG Goal No2;	1) Prevalence of stunting of children aged below five years in Sindh ** & ***;	1) 50% Sindh (2014) 63% in rural Sindh (DHS 2013);	1) To be assessed at the PINS evaluation phase (2021);	1) 45% ***;	1) SUN Secretariat & DoH reports;	Not applicable;
		2) Proportion of children under 5-years of age with severe acute malnutrition (wasting)***;	2) 18% in rural Sindh (2014);	2) To be assessed at the PINS evaluation phase (2021);	2) 13%;	2) DoH reports;	
		3) Proportion of pregnant women who are anaemic (Hb<12g/dL);	3) 60% in rural Sindh (2014);	3) To be assessed at the PINS evaluation phase (2021);	3) 50%;	3) NNS;	
		4) Incidence of diarrhoea in U-5 children in programme target areas[5]	4) 28% diarrhoea prevalence in Sindh (MICS-SIndh 2014);	4) To be assessed at the PINS evaluation phase (2021);	4) 18% diarrhoea prevalence;	4) MICS Sindh reports;	
Specific Objectives	SO1: To contribute to efforts of Government of Sindh (GoS) in reducing water borne diseases;	1.1) % of target population using safely managed drinking water sources ******;	1.1) 90.5% [MICS-Sindh 2014] and 69.2% in target areas;	1.1) To be assessed at the PINS evaluation phase (2021);	1.1) 50% over baseline;	1.1a) MICS Sindh reports; 1.1b) Baseline, midline, end line project surveys;	Supportive GoPak and GoS policy framework for implementing climate resilient nutrition sensitive interventions; Other nutrition related projects remain committed to focus on key messages for
		1.2) % of programme-targeted population who use an appropriate water treatment method ****;	1.2) 1.7% in target areas;	1.2) To be assessed at the PINS evaluation phase (2021);	1.2) 50% over baseline;	1.2a) Baseline, midline, end line project surveys;	
		1.3) % of mothers/care-givers in targeted villages who practice hand washing before feeding children;	1.3) 2.1%;	1.3)To be assessed at the PINS evaluation phase (2021);	1.3) 50% over baseline;	1.3) Baseline, midline, end line project surveys;	
		1.4) % of program-target households in target villages with a specific place for hand washing with water and soap****;	1.4) 6.9%;	1.4) To be assessed at the PINS evaluation phase (2021);	1.4) 50% over baseline;	1.4) Baseline, midline, end line project surveys;	

[3] Indicators aligned with the relevant programming document mark with '*', indicators aligned to the EU Results Framework with '**' and indicators aligned with the GoS DoH Nutrition Support Programme for Sindh with '***'. indicators aligned with GoS AAP '****' indicator aligned PINS overall logframe '*****', Indicators al igned with SDG '******' indicators without * are additional indicators.

[4] Section 4, 5 and 10 of the EU's PCM guidelines 2004 describes about overall objective that will not be achieved by the project alone rather it will only provide a contribution, but will require the contributions of other programmes and projects as well.

[5] For the time being this indicator is fine later on indicator related to other diseases caused due to drinking of arsenic and other chemical contaminated water can be included.

Results chain		Indicators[3]	Baselines (2018)	Current Value (Dec-2019)	Targets (2021)	Sources and means of Verification	Assumptions
Specific Objectives		1.5) % of programme target population using an improved sanitation facility**;	1.5) 16.2%;	1.5) To be assessed at the PINS evaluation phase (2021);	1.5) 50% over baseline;	1.5) Baseline, midline, end line project surveys;	improved social and behaviour change; No major natural disaster occurs in targeted districts during the programme life;
		1.6) % of target villages certified as Open Defecation Free (ODF);	1.6) 0;	1.6) To be assessed at the PINS evaluation phase (2021;)	1.6) 1,938;	1.6) Village ODF certificates;	
		1.7) Number of VOs implemented at least three type of climate resilient measures for mitigating floods and drought impacts at local level;	1.7) 285 VOs taken at least 3 type of measures in Thatta/Sujawal under USAID's Funded Tahafuz project;	1.7) In progress;	1.7) At least 3 type of measures taken by 1,938 VOs in programs areas	1.7) PINS monitoring data;	
	SO2: To contribute to efforts of Government of Sindh (GoS) to improve availability and diversity of nutritious crops/food;	2.1) Percentage of expenditure dedicated to a minimum of four food[6] groups (outside staples) by target households *****;	2.1) 44.68%;	2.1) To be assessed at the PINS evaluation phase (2021);	2.1) 20% increase over baseline;	2.1) Baseline, midline, end line project surveys;	Supportive GoPak and GoS policy framework for implementing climate resilient nutrition sensitive interventions; Other nutrition related projects remain committed to focus on key messages for improved social and behaviour change; Food prices remains stable during programme life;
		2.2) Percentage of women, 15-49 years, from targeted population, who consume at least 5 out of 10 defined food groups (Minimum Dietary Diversity – W[7]); *****;	2.2) 19.6%;	2.2) To be assessed at the PINS evaluation phase (2021);	2.2) 40%;	2.2) Baseline, midline, end line project surveys;	
		2.3) Percentage of children (age 6-23 months) that consume a minimum acceptable diet[8] ****;	2.3) 15.3%;	2.3) To be assessed at the PINS evaluation phase (2021);	2.3) 30%;	2.3) Baseline, midline, end line project surveys;	
		2.6) No of Villages with at least one community-managed demonstration site for poultry, livestock or aquaculture ****&*****;	2.6) 0;	2.6) 669;	2.6) 1,938;	2.6) PINS monitoring data;	
		2.5) Number of target households (0-23 on PSC) who have established kitchen garden in programme villages ****;	2.5) 0;	2.5) In progress;	2.5) 55,856;	2.5) PINS monitoring data;	
		2.8) % of small farmers (disaggregated data by gender) implementing new techniques of sustainable agriculture adapted to climate change *****;	2.8) 0%;	2.8) In progress;	2.8) 33% (5,445 small farmers);	2.8) PINS monitoring data;	

[6] The ranking of the top four food groups where dairy being at top of the list followed by wheat, meat and vegetables (source: HIES 2013-14 and Food Consumption Patterns and Nutrition Disparity in Pakistan, 2017);

[7] MDD-W is defined as: Women 15-49 years of age that have consumed at least five out often defined food groups the previous day or night

[8] Minimum acceptable diet: Proportion of children 6-23 months of age who receive a minimum acceptable diet (apart from breast milk).

Results chain		Indicators[3]	Baselines (2018)	Current Value (Dec-2019)	Targets (2021)	Sources and means of Verification	Assumptions
Expected result (ERs): Outputs	ER1 (SO1): Improved community-level climate resilient WASH infrastructure in target areas;	1.1.1) Number of drinking water supply schemes (hand-pumps, rain- water harvesting pond, etc.) installed/ rehabilitated;	1.1.1) 0;	1.1.1) 14;	1.1.1) 886;	1.1.1) PINS monitoring data;	No major natural disaster occurs; GoS remains committed in implementing 50% areas of target districts and extend support to PINS for provision of drainage systems in targeted villages under the Saf-Suthro Sindh Programme;
		1.1.2) Number of households benefitting from the drinking water supply schemes;	1.1.2) 0;	1.1.2) In progress;	1.1.2) 13,290;	1.1.2) PINS monitoring data;	
		1.1.3) No. of communal water sources tested for water quality;	1.1.3) 0;	1.1.3) 1,938;	1.1.3) 1,938;	1.1.3) Water testing reports;	
		1.1.4) No. of biological-contaminated communal water sources treated with chlorine;	1.1.4) 0;	1.1.4) 417;	1.1.4) 1,162;	1.1.4) PINS monitoring data;	
		1.1.5) No. of households benefitted from the water sources treated with chlorine;	1.1.5) 0;	1.1.5) 6,225;	1.1.5) 17,430;	1.1.5) PINS monitoring data;	
		1.1.6) Number of innovative approaches on water designed;	1.1.6) 0;	1.1.6) 1;	1.1.6) 2;	1.1.6) Pilot assessment reports;	
		1.1.7) Number of innovative approaches on water- tested in programme districts;	1.1.7) 0;	1.1.7) 1;	1.1.7) 2;	1.1.7) Pilot assessment reports;	
		1.1.8) Number of low cost disaster resilient latrines constructed;	1.1.8) 0;	1.1.8) 0;	1.1.8); 15,000;	1.1.8) PINS monitoring data;	
	ER 2 (SO1): Enhanced knowledge and awareness of positive practices in the community around WASH;	1.2.1) Number of mothers/care-givers in targeted villages with an increased understanding of importance of hygiene practices including washing hands at critical time & the use of soap;	1.2.1) 0;	1.2.1) 276,380;	1.2.1) 391,232;	1.2.1) CRPs progress reports;	Communities remain willing to adopt positive BCC messages; Continuous support from the GoS at provincial and local levels;
		1.2.2) Number of mothers/care-givers in targeted villages participated in awareness sessions on positive practices on water treatment, latrine use and hand washing;	1.2.2) 0;	1.2.2) 276,380;	1.2.2) 391,232;	1.2.2) CRPs progress reports;	
		1.2.3) Number of staff from concerned local authorities with acquired skills involved in implementation of WASH intervention in programme target districts;	1.2.3) 0;	1.2.3) 223 [17 PHED Staff on WQ testing 206 ODF committee members]	1.2.3) 320 [120 staff from PHED local authorities 200 ODF committee members]	1.2.3) Training records;	

Results chain		Indicators[3]	Baselines (2018)	Current Value (Dec-2019)	Targets (2021)	Sources and means of Verification	Assumptions
Specific Objectives		1.2.4) Number of CRPs with acquired skills involved in implementation of WASH intervention in programme target areas;	1.2.4) 0;	1.2.4) 4,008 (50% women);	1.2.4) 3,876 (50% women);	1.2.4) Training records;	
		1.2.5) Number of masons trained on construction of low-cost latrines;	1.2.5) 0;	1.2.5) 967;	1.2.5) 965;	1.2.5) Training records;	
		1.2.6) Number of plumbers trained on installation of hand-pumps;	1.2.6) 0;	1.2.6) 962;	1.2.6) 965;	1.2.6) Training records;	
		1.2.7) Number of community WASH entrepreneurs trained;	1.2.7) 0;	1.2.7) 965;	1.2.7) 965;	1.2.7) Training records;	
	ER3 (SO2): Improved access to agricultural / farming inputs in target programme areas;	2.3.1) Number of small landholder farmers (up to 5 acres) receiving cash grants for production inputs;	2.3.1) 0;	2.3.1) 10,037;	2.3.1); 16,500	2.3.1) LSOs sub-granting documents;	GoS implements its Agriculture, Livestock and Fisheries projects (A4N) under AAP as per agreed framework to cover 50% areas in target districts and also complement PINS Programme implementation efforts; No major natural disaster occurs;
		2.3.2) Number of poor households provided with vegetable seeds for demonstration of kitchen gardening;	2.3.2) 0;	2.3.2) In progress;	2.3.2) 55,856;	2.3.2) PINS monitoring data;	
		2.3.3) Number of community fish- ponds constructed for availability of fish to poor households (2 in each target districts)	2.3.3) 0;	2.3.3) 1;	2.3.3) 20;	2.3.3) LSOs sub-granting documents;	
		2.3.4) Number of poorest households with PLW women and children under 5 receiving a grant for purchase of livestock for food diversification;	2.3.4) 0;	2.3.4) 2,275;	2.3.4) 6,250;	2.3.4) LSO sub-granting documents;	
	ER 4 (SO2): Enhanced knowledge and awareness of resilient crop production technologies and nutritious crops;	2.4.1) Number of villages with at least one integrated farmer field school;	2.4.1) 0;	2.4.1) 1,909;	2.4.1) 1,938;	2.4.1) Agri. Entrepreneur progress reports;	Communities remain willing to adapt new agriculture technologies to cope with climatic changes;
		2.4.2) Number of target households (0-23 on PSC) who have received training / orientation on kitchen gardening and homestead gardening;	2.4.2) 0;	2.4.2) 98,370;	2.4.2) 55,856;	2.4.2) Agri. Entrepreneur progress reports;	
		2.4.3) Number of pilot initiatives introducing improved techniques designed (i- bio-fortified seeds, ii- moringa tree plantation, processing and consumption, iii) promotion of paddy fish farming culture in rice cultivated area);	2.4.3) 0;	2.4.3) 2 [1 paddy-fish farming and 1 bio-fortified pilot initiatives designed);	2.4.3) 3;	2.4.3) Pilot assessment report;	

Results chain		Indicators[3]	Baselines (2018)	Current Value (Dec-2019)	Targets (2021)	Sources and means of Verification	Assumptions
Specific Objectives		2.4.4) Number of innovative approaches on agriculture and food security tested in targeted districts;	2.4.4) 0;	2.4.4) 1;	2.4.4) 3;	2.4.4) Pilot assessment report;	
		2.4.5) Number of small landholder farmers (up to 5 acres) who attended awareness sessions on climate resilient crop production technologies;	2.4.5) 0;	2.4.5) 24,575;	2.4.5) 40,000;	2.4.5) Training records;	
		2.4.6) Number of staff from concerned local authorities[9] with acquired skills involved in implementation of nutrition sensitive agriculture initiatives in programme target districts;	2.4.6) 0;	2.4.6) 58;	2.4.6) 40 staff from concerned local authorities;	2.4.6) Training records;	
		2.4.7) Number of community agriculture entrepreneurs with acquired skills involved in implementation of nutrition sensitive agriculture initiatives in programme target districts;	2.4.7) 0;	2.4.7) 4,034;	2.4.7) 3,876 VO level agriculture entrepreneurs (50% women);	2.4.7) Training records;	

[9] Staff from GoS-PHED and Local Government, Agriculture Department and Livestock department

Annexure 2: Household Questionnaire

A: Introduction and Consent:
My name is _____ and I belong to (Name of research organization). People from our organization also visited you in March 2019.

Household Confirmation			
A-1	Is _____ (take the name of the household head) present in your house?	1. Yes (Please show CNIC; enumerator to record the CNIC #) ☐☐☐☐☐☐☐☐☐☐☐☐☐	
		1. No (Proceed to Q.A-2)	
A-2	Is the respondent _____ (take the name of the respondent) present in your house?	1. Yes (Please show CNIC; enumerator to record the CNIC #) ☐☐☐☐☐☐☐☐☐☐☐☐☐	
		1. Not present at home (Please ask and note down at what time/day you can meet with the respondent).	
Note: If the respondent is not present, the surveyor would have to visit the household again for three times. If, after three visits, the targeted respondent is not available at all, the surveyor should terminate the interview and move to the next household.			
A-3	The surveyor should confirm if this is the correct household that was interviewed in March 2019.	1. Yes (Proceed to Q A-4)	2. No (Proceed to the next household)

As was the case in interviews conducted in March 2019, we will ask similar questions through which we can gather information regarding malnutrition and hygiene of the mother and children, food arrangements and general cleanliness in order to gauge changes over the last two (02) years.

This questionnaire will take approximately 60 minutes of your time. Some questions in this survey are of a personal nature, but we will ensure that all information you provide us is kept strictly confidential.
Now i will begin the interview

Household Confirmation			
A-4	Do you have a boy/girl less than 5 years old?	1. Yes	2. No (Proceed to Q. A-7)
A-5	What is the age of your youngest child?	Age in months	
A-6	Are you breastfeeding to any of your children?	1. Yes	2. No
A-7	Are you pregnant?	1. Yes	2. No

B: Geographical Location							
HH–ID No							
Phone Number: (Note: Provide phone number of household head or any member of the household through which the respondent may be contacted.)							
Mother Tongue of Most of the Members of Household	**1**	Urdu	**2**	Seraiki	**3**	Pushto
	4	Sindhi	**5**	Punjabi	6	~~Others~~ Balochi
	7	Others (please specify_____)				
The language in which the interview is conducted at present	**1**	Urdu	**2**	Seraiki	**3**	Pushto
	4	Sindhi	**5**	Punjabi	**6**	Balochi
	7	Others (please specify_____)				

C: Survey Information			
Date of Interview	[Automatic]		
Interview Start Time	[Automatic]	**Interview End Time**	[Automatic]
Name of Enumerator (and Code)	[Automatic]	**Name of Supervisor (and Code)**	

Section 1: Family Roster				
No.	**Question**	**Men/Male Children**	**Women/Female Children**	**TOTAL**
FR1	Total number of individuals in the household who have joint income and eating expenses			
FR2	Number of individuals aged five (05) years and more in the household			
FR3	Number of individuals aged less than five (05) years in the household			

Table No. 1 In the following table, please insert details of all household members

	FR4	FR5	FR6				FR7	FR8	FR9	FR10	FR11	FR12		FR13
PID No.	Name (Initiate the listing with respondent's information)	Relationship with the Respondent (code)	Age (Either use calendar or write age in total years. For members of age less than 5 years old, mention age in total months).				Gender (code)	Marital Status (code)	Educational Status (code)	Educational qualification (completed) (code)	Occupation (code)	Income		God-forbid, any permanent disability (code)
			Total Age (In years/ Months)	**year**	**Month**	**Day**						Income (PKR)	Duration (code)	

Code Key	
Question No.	**Codes**
FR5	1—Self; 2—Husband; 3—Wife; 4—Son/Daughter/Ward; 5—Father/Mother; 6-- Brother/Sister; 7—Grandson/Grand-daughter; 8—Son-in-law/Daughter-in-law; 9—Brother-in-law/Sister-in-law; 10—Father-in-in-law/Mother-in-law; 11—Uncle/Aunt; 12—Grandfather/Grandmother; 13—Nephew/Niece; 14—other relation
FR7	1—Male; 2—Female
FR8	1—Married; 2—Single; 3—Divorcee; 4—Widow/Widower; 5—Nikkah, but no rukhsati; 6—Separated; 7-Underage
FR9	1—Has never gone to school; (please proceed to Q. FR11) 2— Has left school/college; 3— Has completed the education; 4— Currently going to school/college 5-Underage (proceed to Q.FR11)
FR10	1—Grade 1; 2—Grade 2; 3—Grade 3; 4—Grade 4; 5—Grade 5; 6—Grade 6; 7—Grade 7; 8—Grade 8; 9—Grade 9; 10—Grade 10; 11—Grade 11; 12—Grade 12; 13—Undergraduate; 14—Masters; 15—PhD; 16—MPhil; 17—Diploma; 18—*Kacchi*/Nursery;
FR11	1—Government/Armed forces; 2—Semi-government; 3—Private; 4—Pensioner; 5—Self-employed; 6—Agriculture; 7—Labourer; 8—Looking for work; 9—Do not want to work; 10—Retired; 11—Student; 12—Housewife; 13—Child
FR12	1—Daily; 2—Weekly; 3—Monthly; 4—Quarterly; 5—Annual;
FR13	1—No disability; 2—Disability in arms; 3—Disability in legs; 4—Mental disability; 5—Mute; 6—Deaf; 7—Visual impairment; 8—Complete blindness;
Others Code	1—Yes; 2—No; 66—Refuse to answer; 77—Do not know; 99—No Response; 88—Not applicable

Section 2: Characteristics of Housing Unit Structure				
HA1	How many rooms are there in your house? (Note: Do not include store room, courtyard, and kitchen, in total number of rooms)	Total rooms		
		66. Refuse to answer		
HA2	Is there electricity in your house?	1. Yes	2. No	66. Refuse to answer
HA3	Is there gas in your house?	1. Yes	2. No	66. Refuse to answer

Section 3.1: Availability and Quality of Drinking Water		
AW1	. What is the mostly used source in your household for obtaining water for drinking and cooking use (potable water)? Note: Tick only one response	1. Water supplied through pipes installed from government/NGOs or other institutions
		2. From protected/closed hand pump
		3. From unprotected/ open hand pump
		4. From protected/closed well
		5. From unprotected/open well
		6. From canister sold over carts
		7. From small containers sold on donkey carts
		8. From river, stream, dam, lake, canal.
		9. From pond
		10. From collecting rainwater.
		11. From a water tanker
		12. From a filtration plant
		13. From bottled water
		14. From boring
		15. Others (please specify_____)
		66. Refuse to answer
AW1.2	What is the second most used source in your household for obtaining water for drinking and cooking use (potable water)? Note: Tick only one response.	1. Water supplied through pipes installed from government/NGOs or other institutions.
		2. From protected/closed hand pump
		3. From unprotected/ open hand pump
		4. From protected/closed well
		5. From unprotected/open well
		6. From canister sold over carts
		7. From small containers sold on donkey carts
		8. From river, stream, dam, lake, canal.
		9. From pond
		10. From collecting rainwater.
		11. From a water tanker

		12. From a filtration plant	
		13. From bottled water	
		14. From boring	
		15. There is no other source	
		16. Others (please specify_____)	
		66. Refuse to answer	
AW1.3	What is the third most used source in your household for obtaining water for drinking and cooking use (potable water)? Note: Tick only one response.	1. Water supplied through pipes installed from government/NGOs or other institutions.	
		2. From protected/closed hand pump	
		3. From unprotected/ open hand pump	
		4. From protected/closed well	
		5. From unprotected/open well	
		6. From canister sold over carts	
		7. From small containers sold on donkey carts	
		8. From river, stream, dam, lake, canal.	
		9. From pond	
		10. From collecting rainwater.	
		11. From a water tanker	
		12. From a filtration plant	
		13. From bottled water	
		14. From boring	
		15. There is no other source	
		16. Others (please specify_____)	
		17. 66. Refuse to answer	
AW1A	Is the drinking water obtained for household drinking purposes cleaned?	1. Yes (Please proceed to section 3.2)	
		2. No (Please proceed to AW-2)	
AW2	If the water obtained for drinking purposes is not cleaned, then	1. On how many days in a month does the water have an odour?	Days
		2. On how many days in a month is the water coloured?	Days
		3. On how many days in a month does the water have a bad taste?	Days
		66. Refuse to answer	
Section 3.2 Water Treatment			
WT1		1. It is not important	2. To improve taste

	In your opinion, why is it important to purify the drinking water? (Tick all that apply)	3. To remove odour	4. To clear any coloration in the water
		5. To stay strong and healthy	6. To prevent diseases
		7. To cure stomach cramps	8. To cure diarrhoea
		9. Others (please specify_____)	77. Don't know
		66. Refuse to answer	
WT2	What is the most effective method to purify the drinking water? (Note: do not read the given options to respondents and take only one response).	1. Boil water (before using/drinking it)	2. Add chlorine or chlorine tablets to water
		3. Add sulphur to water	4. Use water filter (ceramic, sand, composite, etc.)
		5. Use company-made water filtration systems	6. Strain through cloth/fabric
		7. Use alum (*phitkari*)	8. Solar disinfection
		9. Let water impurities settle (before using it)	10. Others (please specify_____)
		77. Don't know	66. Refuse to answer
WT3	Do you purify the drinking water?	1. Yes (Proceed to WT5)	2. No (Proceed to Q.WT4)
		66. Refuse to answer (Proceed to next section)	
WT4	Why does your household not purify drinking water? (Tick all that apply)	1. Drinking water is already safe for use/drinking	2. Treating water is too expensive
		3. Do not know about treatment/filtering options	4. Treatment/filtering technologies or equipment is not available
		5. Not enough time to purify water	6. No children in the house
		7. Others (please specify_____)	66. Refuse to answer
			(Proceed to Section 4)
WT5	Which method do you mostly use to purify the drinking water? (Note: Tick the one most frequently used).	1. Boil water (before using/drinking it)	(Proceed to WT6)
		2. Add chlorine or chlorine tablets to water	(Proceed to WT8)
		3. Add sulphur to water	
		4. Filter water through sand, coal or clay	
		5. Through company installed filtration system	

		6. Filter through a cloth	
		7. Mix alum in water	
		8. Purify through sunlight	
		9. Let water impurities settle and then use the water	
		10. Others (please specify_____)	
		66. Refuse to answer	
WT6	How long do you boil the water?	Duration: _____ (in minute)	66. Refuse to answer
WT7	What do you do after the water is boiled? (Note: Tick all that apply)	1. Cool it down	2. Sieve it through
		3. Cover the utensil containing boiled water	4. Store it in cleaned bottles
		5. Do not do anything use it as it is	6. Others (please specify_____)
		77. Don't know	66. Refuse to answer
WT8	How often does your household use the aforementioned method to purify drinking water?	1. Always	2. Sometimes
		3. Only for children use	4. Only when the water is dirty
		Proceed to the next section for households using chlorine/chlorine tablets	
WT9	Do you know about chlorine or chlorine tablets?	1. Yes	2. No (Proceed to next section)
		66. Refuse to answer (Proceed to next section)	
WT10	If 'Yes', what purpose does chlorine or chlorine tablets serve? (Note: Tick all that apply. Enumerator to probe: "Anything else? Anything else?")	1. Improves the taste of water	2. Improves the colouration of water
		3. Cleans/purifies water for drinking	4. Other (please specify_____)
		77. Don't know	66. Refuse to answer
WT11	Why doesn't your household treat water with chlorine or chlorine tablets? (Note: Tick all that apply. Enumerator to probe: "Anything else? Anything else?")	1. Chlorine or chlorine tablets are not available in the area	2. The water gets a peculiar odour
		3. It gives water an unpleasant taste	4. Treating water with chlorine or chlorine tablets is expensive
		5. Other (please specify_____)	66. Refuse to answer
Section 4: Latrine/Toilet			
LT1	Is there a latrine/toilet in your house?	1. Yes, Inside the household	(Proceed to LT2)
		2. Yes, Attached to a bedroom or other room	
		3. Yes, Outside the household	
		4. No	(Proceed to LT4)
LT2	How many toilets are there in your house?	Number	
		66. Refuse to answer	

LT3	Of them, how many toilets are functional?	Number	
		66. Refuse to answer	
LT4	Are you planning to build more toilets in your house?	1. Yes	(Proceed to LT5)
		2. No	(Proceed to LT18)
		66. Refuse to answer	(Proceed to LT6)
		77. Don't know	
LT5	If yes, then how many toilets are you planning to build?	Number	
		66. Refuse to answer	
LT6	What type of latrine/toilet your household mostly use?	1. Latrine/toilet with flush, connected to open drainage	2. Latrine/toilet with flush, connected to sewerage system (via closed pipes)
		3. Latrine/toilet with flush, connected to septic tank	4. Eastern latrine/toilet without drainage
		5. Dry pit	6. Eastern latrine/toilet with open drainage
		7. Open field/farm/open land (Proceed to LT18)	66. Refuse to answer
LT7	How do you remove excreta/waste from the latrine/toilet (s) in your house?	1. Flush into the pit	2. Flush into open drains
		3. Collect and dispose of outside the house	4. Flush into closed drains
		5. The sweeper picks it up	6. Others (please specify_____)
		66. Refuse to answer	
LT8	What is the construction type of the latrine/toilet mostly used in your house?	1. Kaccha	Pakka
		2. Kaccha-Pakka	66. Refuse to answer
LT9	At what distance (feet) the latrine/toilet mostly used in your house is constructed from the household drinking water source?	Feet	
		66. Refuse to answer	
LT10	Who constructed/made the latrines/toilet(s) in your house? (Note: Tick all that apply)	1. Self	2. Government
		3. Latrine was already present in the house	4. NGO
		5. Others (please specify_____)	77. Don't know
		66. Refuse to answer	

Does the latrine/toilet have the following (LT11 to LT17):				
LT11	Water tap	1. Yes	2. No	66. Refuse to answer
LT12	Water	1. Yes	2. No	66. Refuse to answer
LT13	Roof	1. Yes	2. No	66. Refuse to answer
LT14	Door	1. Yes	2. No	66. Refuse to answer
LT15	Cemented floor	1. Yes	2. No	66. Refuse to answer
LT16	Soap	1. Yes	2. No	66. Refuse to answer
LT17	Wash basin/hand washing place	1. Yes	2. No	66. Refuse to answer

(Proceed to LT19)

LT18	If there is no latrine/toilet, where do your family members go for defecation? (Tick all that apply)	Men	Women	Male children	Female children	66. Refuse to answer
1	Outside the house, in communal/joint latrine					
2	Latrine/toilet in a mosque					
3	Latrine/toilet in a school					
4	Latrine/toilet at a work place					
5	Open fields/farmland					
6	Anywhere outside the house					

LT19	Is there any hand washing place in the house other than the one in latrine?	1. Yes	2. No	66. Refuse to answer

Section 5: Hygiene and Cleanliness

HC1	In your opinion, is it important to keep the hands clean?	1. Yes	(Proceed to HC2)
		2. No	(Proceed to HC3)
		66. Refuse to answer	
		77. Don't know	
HC2	If yes, why is it important to keep the hands clean? Note: Tick all that apply	1. To stay healthy	
		2. To prevent diseases	
		3. To prevent infection from coronavirus	
		4. To prevent the spread of germs	
		5. Others (please specify_____)	
		66. Refuse to answer	
		77. Don't know	
HC3	Does your household members usually wash their hands?	1. Yes	
		2. No	
		3. Sometimes	
		66. Refuse to answer	
HC4	Does children in your household also wash their hands usually?	1. Yes	
		2. No	
		3. Sometimes	
		66. Refuse to answer	
HC5	Which of the following do members of your household usually use to wash their hands?	1. Water with soap/liquid wash/surf	
		2. Only with water	
		3. Water with ash	
		4. Water with mud/*matti*	
		5. Only with dry ash, without water	

	Note: Ask the one most frequently used.	6. Only with dry mud/*matti*, without water	
		7. Others (please specify_____)	
		66. Refuse to answer	
HC**6**	Is soap available for use in your house?	1. Yes, always	2. Yes, sometimes
		3. Most often not	4. Never
		66. Refuse to answer	
HC**7**	When do you wash your/their hands with soap? Note: Tick all that apply. (Enumerator to probe at what other instances do they wash hands with soap?)	1. After using the latrine (defecation, urination)	
		2. After cleaning babies' bottoms	
		3. Before preparing food	
		4. After preparing food	
		5. Before eating food	
		6. After eating food	
		7. Before feeding children	
		8. After cleaning the house	
		9. After coming home from outside	
		10. Does not wash hands with soap	
		11. Others (please specify_____)	
		66. Refuse to answer	
HC**8**	When do children in your household wash their hands with soap? Note: Tick all that apply. (Enumerator to probe at what other instances do children wash hands with soap?)	1. After using the latrine	
		2. Before eating food	
		3. After eating food	
		4. After coming home from outside	
		5. After playing	
		6. There are no children in this household	
		7. Do not wash hands with soap	
		8. Others (please specify_____)	
		66. Refuse to answer	
HC**9**	In terms of health and hygiene, what are you careful of whilst preparing for cooking? Note: Enumerator to probe: "Anything else? Anything else?"	1. Wash hands with water	
		2. Wash hands with soap and water	
		3. Wash/clean food items (such as meat, fish, vegetables etc.) properly	
		4. Wash/clean food preparation utensils	
		5. Wash/clean fruits	
		6. Others (please specify_____)	
		66. Refuse to answer	
HC**10**	How do you clean food cooking and eating utensils? (Note: Tick all that apply)	1. Wash with only cloth or paper/paper towels	
		2. Wash with water and soap/liquid wash/surf	
		3. Wash with water and ash	
		4. Wash with cloth and water	

		5. Wash with water and mud/*matti*
		6. Wash with water only
		7. Others (please specify_____)
		66. Refuse to answer
HC**11**	What is the best way to clean hands? Note: Take only one response.	1. Wipe on cloth/towel/paper towel
		2. Wipe on leaves/other items
		3. Wash with water
		4. Wash with water and soap
		5. Wash with ash/mud/*matti*
		6. It does not matter what you use, as long as they are cleaned
		7. Others (please specify_____)
		66. Refuse to answer
HC1**2**	In the last thirty (30) days, how much did you spend on soap for the entire household?	PKR
		66. Refuse to answer
HC1**3**	What do your household members use to dry their hands? (Tick all that apply)	1. Nothing, hands dry by themselves
		2. Any cloth
		3. Towel
		4. Tissue paper/paper roll
		5. Others (please specify_____)
		66. Refuse to answer
HC1**4**	If you allow me, may I please see your hands? If the Enumerator is not allowed to observe, he/she should try and just see hands while interviewing.	1. Yes
		2. No
HC1**5**	Enumerator: Please observe the respondent's palms, fingers, and nails for signs of dirt and choose one option	1. Clean appearance
		2. Unclean appearance
		3. Neither clean nor unclean
HC1**6**	What arrangement do you have in place to cater to toilet of young children under two (02) years of age?	1. Take the child to the latrine at intervals
		2. Use a diaper
		3. Use a loincloth (*langote)* or some other cloth
		4. No such arrangements are in place
		5. No children of under 2 years is present in the household
		6. Others (please specify_____)
		66. Refuse to answer
HC1**7**	How do you usually dispose of this absorbent material/item (or which material you use to cater to toilet of young children) after using it?	1. Throw it outside the household
		2. Dispose of it outside the household at designated garbage bins/areas
		3. Dispose of it outside the household in a plastic bag
		4. Dispose of it outside the household at designated garbage bins/areas after putting it–in a plastic bag

		5. Dispose of it inside the household in a bin after putting it in a plastic bag	
		6. Dispose of it inside the household in a bin	
		7. Do not dispose of the material, reuse it after washing	
		8. Others (please specify_____)	
		66. Refuse to answer	
HC18	When do you clean your house? Note: Take only one response.	1. Every day in the morning only	2. Every day in the afternoon only
		3. Every day in the evening only	4. Once a day, no time is fixed
		5. Two times a day	6. Three times a day
		7. Once in alternate days	8. Once in two days
		9. Once in three days	10. Once in a week for one time
		11. Once seldomly	12. Others
		66. Refuse to answer	
Section 6: Diarrhoea			
DI1	What are the symptoms of diarrhoea in children? (Note: Tick all that apply)	1. Watery stools	
		2. Stomach pains	
		3. Vomiting	
		4. Vomiting and watery stools	
		5. Loss of appetite	
		6. Body weakness	
		7. Others (please specify_____)	
		77. Don't know	
		66. Refuse to answer	
DI2	In the case of diarrhoea , what should be immediately administered to the child? (Note: Take only one response)	1. Water	
		2. Tea	
		3. ORS	
		4. Zinc	
		5. ORS and zinc	
		6. Nimcol	
		7. Nothing should be given	
		8. Others (please specify_____)	
		77. Don't know	
		66. Refuse to answer	
DI3	Do you know how to make *nimcol* in your home?	1. Yes	
		2. No	

		66. Refuse to answer
DI4	What is the purpose of ORS/*nimcol*? (Note: Tick all that apply. Probe for the answer, do not read the options)	1. Helps to relieve watery stools
		2. Helps to relieve stomach pains
		3. Helps to reduce vomiting
		4. Helps to reduce body weakness
		5. Helps in replacing body salts and minerals
		6. Others (please specify_____)
		77. Do not know
		66. Refuse to answer
DI5	What is the purpose of Zinc syrup? (Note: Tick all that apply. Probe for the answer, do not read the options)	1. Helps to relieve watery stools
		2. Helps to relieve stomach pains
		3. Helps to reduce vomiting
		4. Helps to reduce body weakness
		5. Helps in replacing body salts and minerals
		6. Others (please specify_____)
		77. Do not know
		66. Refuse to answer
DI6	In the last 15 days, has any child under 5 years old in your household suffered from diarrhoea ?	1. Yes
		2. No (please proceed to DI11)
DI-6.1	If yes, specify the number of children who have suffered from diarrhoea .and note complete details of all children in Table 2 below)	Number

Section 6: Diarrhoea ; *Table No.:* 2

In the following table, insert details of all the household's children under 5 years of age that have had within the last three (03) months

From Table **1** insert PID No. of all children under 5 years old who have been afflicted with diarrhoea in the past 15 days	Name	DI7 Was the child taken to any health facility? (Code)	DI8 What was administered to the child? (Code)	DI9 From where did you obtain ORS or zinc syrup? (Code)	DI10 For how many days did you administer ORS/nimcol and/or zinc syrup to the child? (Days)

Code Key		
Question No.	Code	
DI7	1—Yes; 2—No	
DI8	1—Only ORS; 2—Only zinc syrup; 3—ORS and zinc syrup; 4—Home-made *nimcol*; 5—Homeopathic medicines; 6—Herbal medicines (from Hakeem); 7—Home-made remedies; 8—Some other medicine; 9—Did not give any medicine; 10—Others (please specify_____) **Note: In case of options 5 till 10, 77, 66, 88, & 99, proceed to DI11)**	
DI9	1—Outpatient Therapeutic Program (OTP); 2—Mobile Outpatient Therapeutic Program (OTP); 3—Some other health facility; 4—Health workers (LHWs, CHWs, CMWs)); 5 – Medical Store; 6—Doctor; 7—Hakeem; 8—Others (please specify_____)	
Other codes	77—Don't know; 66—Refuse to answer; 99—No response; 88—Not applicable	
DI-11	Compared with the last episode of diarrhoea , children are now	1. Fed with more food
		2. Fed with less food
		3. Fed with the same amount of food as of usual
		77. Don't know
		66. Refuse to answer
		88. Not Applicable (in case no children in the household are under 5 years old)
DI-12	Compared with the last episode of diarrhoea , children are now	1. Provided with more water for drinking
		2. Provided with less water for drinking
		3. Provided with the same amount of water as of usual
		77. Don't know
		66. Refuse to answer
		88. Not Applicable (in case no children in the household are under 5 years old)

Section 7- Social Safety Net			
SS-1	Have you received financial aid from any institution in the last 02 years?	1. Yes	(Proceed to SS-2)
		2. No	(Proceed to Q.SS3)
		66. Refuse to answer	
SS-1.1	If yes, how many times the aid was received?	Number	
SS-2	If yes, from which institution the aid was received? Please mention the total amount of aid and the purpose for which it was received.		

#	**Name of institution** 1- Ehsaas Program	**For what purpose** 1- Purchasing Livestock	Total Amount (in PKR)

	2- BISP 3- Rural Support Program/Local organizations/NGOs (RSPs/NGOs) 4- Rural Support Program Network 5- Bait ul Maal 6- Akhuwat 66- Refuse to answer	2- Purchasing poultry 3- Purchasing Seeds 4- Purchasing Fertilizer 5- Purchasing pesticides/insecticide 6- Purchasing business tools or raw materials 7- Cash support 66- Refuse to answer	
1			
2			
3			
4			

SS-3	Have you received aid in terms of items from any institution in the last 02 years?	1. Yes	Proceed to SS-4)
		2. No	(Proceed to the next section)
		66. Refuse to answer	
SS-3.1	If yes, how many times the aid was received?	Number	

SS-4 If yes, from which institution the aid was received? Please mention which items were received along with its quantity.

#	**Name of institution** 1. Ehsaas Program 2. BISP 3. Rural Support Program/Local organizations/NGOs (RSPs/NGOs) 4. Rural Support Program Network 5. Bait ul Maal 6. Akhuwat 7. 66- Refuse to answer	**Name of items** 1. Livestock 2. Poultry 3. Seeds 4. Fertilizer 5. Pesticides/insecticide 6. Business tools or raw materials 7. Food/ration 66- Refuse to answer	Total quantity received 1-Items 2-Kg 3-Sack 4-Litre
1			
2			
3			
4			

Section 8 Food Security

Before COVID-19 (February 2020)

FS1	Before COVID-19, how many meals a day do members of your households–used to have?	Number
		66. Refuse to answer
FS2	Before COVID-19, have you or any member of your household had to stay hungry, and went to sleep hungry, due to poverty or lack of funds?	1. Yes
		2. No (Proceed to FS5)
		66. Refuse to answer (Proceed to FS5)
FS3	If 'Yes', how many individuals of your household have had to	individuals

	stay hungry and go to sleep hungry?	
FS4	If 'Yes', how many times have you or members of your household had to stay hungry and go to sleep hungry?	times
FS5	Before COVID-19, had you or any member of your household been forced to eat something that you/they would not eat normally, due to poverty or lack of funds?	1. Yes
		2. No (Proceed to FS8)
		66. Refuse to answer (Proceed FS8)
FS6	If 'Yes', how many members of your household had to face this situation?	individuals
FS7	If 'Yes', how many times have these individuals faced such a situation?	times
FS8	Before COVID-19, had you or any member of your household been forced to consume less food due to scarcity/lack of food?	1. Yes
		2. No (Proceed to FS11)
		66. Refuse to answer (Proceed FS11)
FS9	If 'Yes', how many members of your household had to face this situation?	Individuals
FS10	If 'Yes', how many times had these individuals faced such a situation?	individuals
During COVID-19 (Present Scenario)		
FS11	In the past one month during COVID-19, how many meals a day do members of your households have?	times
FS12	In the past one month during COVID-19, have you or any member (s) of your household had to stay hungry, and went to sleep hungry, due to poverty or lack of funds?	1. Yes
		2. No (Proceed to FS15)
		66. Refuse to answer (Proceed FS15)
FS13	If yes, how many members of your household have had to stay hungry and go to sleep hungry?	Individuals
FS14	If yes, how many times have you or members of your household had to stay hungry and go to sleep hungry?	times

FS15	In the past one month during COVID-19, have you or any member of your household been forced to eat something that you/they would not eat normally, due to poverty or lack of funds?	1. Yes	(Proceed FS16)
		2. No	(Proceed FS18)
		66. Refuse to answer	
FS16	If yes, how many members of your household had to face this situation?		Individuals
FS17	If yes, how many times had these individuals faced such a situation?		times
FS18	In the past one month during COVID-19, have you or any member of your household been forced to consume less food due to scarcity/lack of food?	1. Yes	
		2. No (Proceed to FS21)	
		66. Refuse to answer (Proceed to FS21)	
FS19	If yes, how many members of your household had to face this situation?		Individuals
FS20	If yes, how many times had these individuals faced such a situation?		times
FS21	In the last 24 hours, which of the following food items have you consumed? (Note: Ask about all items one by one.)		

No.	**Food Item**	**Code**: 1—Have eaten; 2—Have not eaten
1	Wheat, barley, corn, bread, rice, and other grains	
2	Lentils (*chaana, moong, mash, masoor*, etc.)	
3	Beans, *sem*, *gowar*, *lobia,* etc	
4	Seeds and Nuts (like peanuts, almonds, pistachios, walnuts, etc.)	
5	Dairy products (e.g. milk, butter, *lassi*, yoghurt, cheese), and food made of these	
6	Organ meat (like of heart, liver, kidney)	
7	Beef, mutton, chicken	
8	Fish, seafood, etc	
9	Eggs	
10	Green-leafed vegetables	

11	Vitamin-A vegetables and roots (like pumpkin, sweet potatoes, beetroot, carrots, etc)	
12	Vitamin-A fruits (like papaya, apricot, peach, etc)	
13	Other vegetables	
14	Other fruits	
15	Oil, fats, butter, and foot items made of these	
16	Sugary foods like chocolate, sweets, cakes, candies	
17	Other beverages (like tea, coffee, etc)	

FS-22	For the following, please tell that during COVID-19					
#	Item	Decreased	Increased	Did not increase or decrease	Don't know	Not applicable
1.	Has the household earning…..					
2.	Has the household diet….					
3.	The availability of fertilizer has……					
4.	The availability of seeds has……					
5.	The availability of sprays has……					
6.	The availability of clean drinking water has……					
7.	The availability of soap has……					
8.	The availability of medicine has……					
9.	The availability of medical aid has……					
10.	The access to medical institutions has……					
11.	The availability to medical personnel has…….					
12.	The availability of transport has…….					
13.	The availability of food items has…….					
14.	The children education has…….					
15.	The availability of electricity has…….					
16.	The availability of gas has…….					

Section 9: Child Diet; *Table No.: 3*												
Total number of children in the household between 6 months-23 months							**Number**					
Child No. 1							Child No. 2					
Write PID No. of all children from 6 to 23 months old from Table 1							Write PID No. of all children from 6 to 23 months old from Table 1					
Name							Name					
Age (in months)							Age (in months)					
CD1-1	Have you ever breastfed the child	1. Yes	2. No				CD2-1	Have you ever breastfed your child	1. Yes	2. No		
CD 1-A	Have you breastfed the child with your first milk/colostrum (light yellow in color)?	1. Yes	2. No				CD 2-A	Have you breastfed the child with your first milk/colostrum (light yellow in color)?	1. Yes	2. No		
CD1-2	During the past 24 hours, did you breastfeed the child?	3. Yes	4. No (Proceed to CD4)				CD2-2	During past 24 hours, did you breastfeed the child?	3. Yes	4. No (proceed to CD4)		
CD1-3	If yes, during the past 24 hours how many times did you breastfeed the child?	(times)					CD2-3	If yes, during the past 24 hours how many times did you breastfeed the child?	(times)			
CD1-4	During the past 24 hours, what else did you feed the child other than the breast milk? And how many times?	#	Food items	1.Yes 2.No	No of times		CD2-4	During the past 24 hours, what else did you feed the child other than the breast milk? And how many times?	#	Food items	1. Yes 2. No	No of times
		1	Porridge, rice, bread, and various food items prepared from these.						1	Porridge, rice, bread, and various food items prepared from these.		
		2	Lentils (split chickpeas, yellow lentils,						2	Lentils (split chickpeas, yellow		

			red lentils, and etc)						lentils, red lentils, and etc)		
		3	Cow, goat, chicken meat					3	Cow, goat, chicken meat		
		4	Liver, kidney, heart, or other organ meat					4	Liver, kidney, heart, or other organ meat		
		5	Fish or seafood					5	Fish or seafood		
		6	Vitamin A containing vegetables (carrots, white potatoes, pumpkins, and etc)					6	Vitamin A containing vegetables (carrots, white potatoes, pumpkins, and etc) and fruits (papaya, peach, apricot, melon, and etc)		
		7	Vitmain A containing fruits (papaya, peach, apricot, melon, and etc)					7	Vitmain A containing fruits (papaya, peach, apricot, melon, and etc)		
		8	Green leafy vegetables					8	Green leafy vegetables		
		9	Other fruits and vegetables					9	Other fruits and vegetables		
		10	Eggs					10	Eggs		
		11	Company-produced baby foods (e.g. Cerelac)					11	Company-produced baby foods (e.g. Cerelac)		
		12	Lassi					12	Lassi		
		13	Dairy products (e.g. yoghurt, cheese, and food made of these)					13	Dairy products (e.g. yoghurt, cheese, and food made of these)		
		14	Beans, peas, nuts					14	Beans, peas, nuts		

		15	Oil, fats, butter, , or food made of these					15	Oil, fats, butter, , or food made of these		
		16	Sugary foods (chocolate, biscuits, candy, and etc)					16	Sugary foods (chocolate, biscuits, candy, and etc)		
CD1-5	During the past 24 hours, what else did you give the child to drink other than the breast milk? And how many times?	**#**	**Liquids**	**1. Yes 2. No**	**No of times**	CD2-5	During the past 24 hours, what else did you give the child to drink other than the breast milk? And how many times?	**#**	**Liquids**	**1. Yes 2. No**	**No of times**
		1	Plain water					1	Plain water		
		2	Infant formula milk					2	Infant formula milk		
		3	Milk such as tinned, powdered, or fresh milk					3	Milk such as tinned, powdered, or fresh milk		
		4	Juice or juice drinks					4	Juice or juice drinks		
		5	Clear broth					5	Clear broth		
		6	Lassi (liquidy yougurt)					6	Lassi (liquidy yougurt)		
		7	Thin porridge					7	Thin porridge		

Section 9: Child Diet (Continued)			
CD6	What do you do before breastfeeding your child?	1. Wash my hands	
		2. Wash my body	
		3. Nothing; I immediately start breastfeeding	
		4. Others (please specify)_____	
		66. Refuse to answer	
CD7	What do you do before feeding your child?	1. Wash my hands	
		2. Wash my body	
		3. Nothing; I immediately start feeding the child	
		4. Others (please specify) _____	
		66. Refuse to answer	
Section-10: Nutrition			
N-1	Have you ever seen a malnourished child?	1- Yes	2- No (Proceed to next section)
		66. Refuse to answer	
N-2	If yes, then how does a malnourished child look like? (Note: Tick all that apply)	1- Yellow in complexion	
		2- Has a bloated stomach	
		3- Has visible bones	
		4- Is underweight	
		5- Cannot lift weights	
		6- Is short in height	
		7- Looks younger than his/her age	
		8- Is short for his/her age	
		9- Is underweight for his/her age	
		10- Is emaciated	
		11- Is underweight for his/her height	
		12- Others (please specify_____)	
		77. Don't know	
		66. Refuse to answer	
N-3	**What do you think is the reason for malnourishement in children** (Note: Tick all that apply)	1- Lack of cleanliness	
		2- Dirty drinking water	
		3- Dirty hands	
		4- Lack of care of the child and pregnant women	
		5- No breast feeding for children of less than two (02) years old	
		6- Unsatisfactory diet of the children and the mother	
		7- Lack of food for children and the mother	
		8- Others (please specify_____)	
		77. Don't know	
		66. Refuse to answer	

Section 11: Agriculture		
AG1	Does your household have or hold any cultivable agricultural land?	1. Yes
		2. No (Proceed to AG6)
		66. Refuse to answer
AG2	If 'Yes', what is the area of this cultivable agricultural land?	acres
		66. Refuse to answer
AG3	What do you cultivate on your cultivable agricultural land? (Note: Tick all that apply)	1. Wheat
		2. Rice
		3. Vegetables
		4. Fruits
		5. Corn
		6. Sugarcane
		7. Lentils
		8. Others (please specify_____)
		9. Do not cultivate any item (Proceed to AG6)
		66. Refuse to answer
AG4	How do you utilize the agricultural produce that you cultivate? (Take only one response)	1. We sell all the agricultural produce in the market (Proceed to AG6)
		2. We utilize the entire agricultural produce in the household
		3. We sell the produce that is left over after household consumption
		4. We give away (free-of-cost) the produce that is left over after household consumption
		5. We use some in the household, and sell the remaining agricultural produce
		66. Refuse to answer
AG5	Is this agricultural produce enough for your household consumption?	1. Yes
		2. No
		66. Refuse to answer
AG6	Is there any school/institution in your area/village that teaches integrated farming-related skills?	1. Yes
		2. No
		77. Don't know
		66. Refuse to answer
AG7	Has anyone in your household received any training on setting up a kitchen garden (for growing vegetables/fruits for the household use)?	1. Yes
		2. No
		77. Don't know
		66. Refuse to answer

AG8	Is there any institution in your area/village that teaches skills for setting up a kitchen garden (for growing vegetables/fruits for the household use)?	1. Yes
		2. No
		77. Don't know
		66. Refuse to answer
AG9	Is there any cultivable agricultural land inside or adjoined to your house where a kitchen garden for vegetables can be set up?	1. Yes
		2. No (please proceed to the next section)
		66. Refuse to answer (please proceed to the next section)
AG**10**	Do you cultivate fruits and vegetables for household consumption?	1. Yes
		2. No (please proceed to the next section)
		66. Refuse to answer
AG**11**	How do you plant these vegetables?	1. In the ground/earth
		2. In pots
		3. In the ground/earth and pots
		66. Refuse to answer
AG**12**	If 'Yes', how do you utilize the agricultural produce that you cultivate? (Take only one response)	1. We sell all the agricultural produce in the market
		2. We utilize the entire agricultural produce in the household
		3. We sell the produce that is left over after household consumption
		4. We give away (free-of-cost) the produce that is left over after household consumption
		5. We use some in the household, and sell the remaining agricultural produce
		66. Refuse to answer

Section 12: Livestock

LS1	Does the household own any animal livestock, poultry, ducks etc.?	
No.	**Animal**	**Code:** **1—Yes; 2—No; 66-Refuse to answer**
1	Chickens	
2	Ducks	
3	Sheep	
4	Goats	
5	Cows	
6	Buffalo	
7	Camels	

Note: if no livestock is present in the household or the respondent refuses to answer the question move to question LS11

LS2	How does your household utilize various animal products derived from the livestock and other animals (such as milk, yoghurt, butter, clarified butter, eggs etc.)	1. We sell all the agricultural produce in the market (Proceed to LS-4)
		2. We utilize the entire agricultural produce in the household
		3. We sell the produce that is left over after household consumption
		4. We give away (free-of-cost) the produce that is left over after household consumption
		5. We use some in the household, and sell the remaining agricultural produce
		6. There is no livestock produce
		66. Refuse to answer
LS3	Are the animal products derived from livestock and other animals enough for your household consumption?	1. Yes
		2. No
		66. Refuse to answer
LS4	Do you sell animal livestock, poultry, ducks etc.?	1. Yes
		2. No
		66. Refuse to answer
LS5	Where do you hold your livestock during the day? (Note: Take only one response)	1. Outside the house
		2. In the courtyard
		3. In a room inside the house
		4. In a bedroom inside the house
		66. Refuse to answer
LS6	Where do you hold your livestock during the night? (Note: Take only one response)	1. Outside the house
		2. In the courtyard
		3. In a room inside the house
		4. In a bedroom inside the house
		66. Refuse to answer
LS7	What do you usually feed your livestock and other animals?	1. Green fodder
		2. Dry fodder/hay
		3. Oil-seed by-product
		4. Grain (such as lentils, beans, wheat, barley, rice etc.)
		66. Refuse to answer
LS8	How do you utilize animal dung etc. produced by the livestock? (Tick all that apply)	1. We use it as fertilizer
		2. We sell it
		3. We make dung cakes/oplay and use them
		4. We discard it

		5. Others (please specify_____)
		66. Refuse to answer
LS9	Does anyone visit your household to vaccinate the livestock?	1. Yes
		2. No
LS10	What do you do when your livestock and other animals are afflicted by a dangerous disease? (Note: Take only one response)	1. We treat the animals at home with traditional remedies
		2. We call veterinarians to the house to examine the animals
		3. We take the animals to a veterinary clinic/animal hospital
		4. Do not do anything
		5. Others (please specify_____)
		66. Refuse to answer
LS11	Is there any institution in your area/village that teaches skills for rearing livestock/animal husbandry?	1. Yes
		2. No
		66. Refuse to answer
		77. Don't know
LS12	Is there any institution in your area/village that teaches skills for poultry farming?	1. Yes
		2. No
		66. Refuse to answer
		77. Don't know
LS13	Does your household plant trees annually	1. Yes
		2. No (Proceed to Next Section)
		66. Refuse to answer (Proceed to Next Section)
LS14	In the last one (01) year, how many trees did your household plant?	trees
		66. Refuse to answer
Section 13: Household Income and Expenditure		
EX1	What is your household's daily expenditure on breakfast?	PKR
		66. Refuse to answer
EX2	What is your household's daily expenditure on lunch?	PKR
		66. Refuse to answer
EX3	What is your household's daily expenditure on dinner?	PKR
		66. Refuse to answer
EX4	What is your household's daily expenditure on tea?	PKR
		66. Refuse to answer
EX5	What is your household's daily expenditure on tobacco and	PKR

	betelnut products (such as cigarettes, *biri, paan, niswar, gutka* etc.) ?	66. Refuse to answer	
EX6	What is your households' total expenditure on non-food related items? (for example electricity, gas, kerosene, rent, children's education, medical expenses, transport and other miscellaneous activities)	PKR	Duration Code: 1—Daily 2—Weekly 3—Monthly 77-Do not know 66- Refuse to answer
EX7	What is your household total expenditure?	PKR	Duration Code: 1—Daily 2—Weekly 3—Monthly 77-Do not know 66- Refuse to answer
EX8	What is your household total income?	PKR	Duration Code: 1—Daily 2—Weekly 3—Monthly 77-Do not know 66- Refuse to answer

EX9 In past one week, how much quantities of the following items were utilized/consumed in your household?

No.	Items	Quantity	Quality Unit: 1—250 grams 2— Kg 3— Litre 4-Item	No.	Items	Quantity	Quality Unit: 1—250 grams 2— Kg 3— Litre 4-Item
1	Wheat			23	Onions		
2	Wheat flour			24	Spinach, mustard etc.		
3	Rice flour			25	Peas, French beans, *gowar, lobia* etc		
4	Basmati Rice			26	Carrots		
5	*Irri* Rice			27	Radish		
6	Gram flour *(Besan)*			28	Cucumber		
7	Split chickpeas *(Chana dal)*			29	Mangoes		
8	Yellow lentils *(Mung dal)*			30	Bananas		
9	Red lentils *(Masoor dal)*			31	Apples		

10	Black gram *(maash dal)*			32	Guava		
11	Sugar			33	Eggs		
12	Raw sugar (*gurrh*)			34	Fish		
13	Raw sugar powder			35	Chicken meat		
14	Tea			36	Mutton		
15	Cooking oil			37	Beef		
16	Clarified vegetable-based butter (*Banaspati*)			38	*Tandoor* bread		
17	Clarified milk-based butter (Desi ghee)			39	Almonds		
18	Butter			40	Pistachios		
19	Milk			41	Walnut		
20	Yoghurt			42	Peanuts		
21	Tomatoes			43	Dates		
22	Potatoes			44	Dry dates		

Section 14: Observations		
Ob1	What is the overall state of cleanliness of the housing unit?	1. Very clean
		2. Very dirty
		3. Neither clean nor dirty
Ob2	What is the overall state of cleanliness of the rooms inside the housing unit?	1. Very clean
		2. Very dirty
		3. Neither clean nor dirty
Ob3	What is the overall state of cleanliness of the housing unit's courtyard?	1. Very clean
		2. Very dirty
		3. Neither clean nor dirty
Ob4	Has the housing units been swept?	1. Yes
		2. No
Ob5	Is there any human or animal feces present in the housing unit?	1. Yes
		2. No
Ob6	Is there any trash or refuse littered in in the housing unit?	1. Yes
		2. No

Ob7	Is there any stagnant water in in the housing unit?	1. Yes
		2. No
Ob8	Is this any unpleasant odour in the housing unit?	1. Yes
		2. No
Ob9	Are adult members of the household neat and clean?	1. Yes
		2. No
Ob10	Are the children of the household neat and clean?	1. Yes
		2. No
Ob11	Is the latrine clean overall?	1. Yes
		2. No
Ob12	Is the latrine pit clean?	1. Yes
		2. No
Ob13	Is there any feces present in the latrine?	1. Yes
		2. No
Ob14	Is there water available in the latrine?	1. Yes
		2. No
Ob15	Is there an area to wash hands (e.g. wash basin) in the latrine?	1. Yes
		2. No
Ob16	Is there soap available in the latrine?	1. Yes
		2. No
Ob17	Note for Enumerator: Ask the respondent to show where members of household most often wash their hands?	1. There is a specific place for handwashing inside the latrine
		2. There is a specific place for handwashing outside the latrine
		3. There is no specific place for handwashing in the household
Ob18	Is water available in the washing area?	1. Yes
		2. No
Ob19	Is soap available in the washing area?	1. Yes
		2. No
OB20	Ask for a glass of drinking water and note the following:	
1	Does the drinking water have any odour?	1. Yes
		2. No
2	Does the drinking water have any colouration?	1. Yes
		2. No
3	Does the drinking water have any unpleasant taste?	1. Yes
		2. No

Annexure 3: Focus Group Discussion Questionnaire

Village Questionnaire			
District		**Tehsil**	
Union Council		**Village**	
Venue of FGD			
Name of Moderator		**Name of Note Taker**	
Date of FGD		**No. of Participants**	
Start time of FGD		**End time of FGD**	

Introduction and Consent:

Assalam-o-alaikum.

My name is _____ and I am here on behalf of _____. Our firm conducts research on socio-economic conditions in the country.

At the moment, we are working on a project that aims to improve the dietary deficiencies and health/ hygiene of mothers and children. The purpose of visiting you is to gain insights regarding health and hygiene of mothers and children, so that their dietary deficiencies may be addressed and their health/hygiene standards may be improved.

We will get information from you through conversations. Each of you should openly express your opinion. This conversation will take approximately one hour of your time.

Participation in this discussion is completely voluntary, and you have the right to not answer any or all of the questions. However, we do hope that you will participate in this discussion, as your opinion is of great importance to us. The information you provide will only be used to develop a research report.

You can ask any questions you may have regarding this conversation. If not, may I begin the questions now?

Participants Information					
Sr. No.	Name	Age	Gender	Phone No.	Occupation/ Vocation
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

Section 1: Agriculture		
AG1	Which crops do you sow during the Rabi season? And what is the average yield/output per acre?	
Serial Number	Name of crop	Kg per acre
AG2	Which crops do you sow during the Kharif season? And what is the average yield/output per acre?	
Serial Number	Name of crop	Kg per acre
AG3	What type of seed do you use during sowing? Traditional/*Desi* or hybrid	
AG4	What type of medicine/sprays do you use for crop protection?	
Serial Number	Name of crop	Medicine/sprays
AG5	What type of plough do you use to prepare fields for sowing? And how?	
AG6	What is the source of irrigation? Tube well, well, rain or canal water	
AG7	How do you do irrigation? Drip irrigation, Spray or canal water, or water course	
AG8	How are fields harvested/picked?	
AG9	How are food grains separated?	

AG10	**Do you use dirty water from you house for irrigation?**	**1. Yes**	**2. No**
AG11	**If yes, then is the dirty water directly used for irrigation?**	**1. Yes**	**2. No**
AG12	**If no, then how is the dirty water cleaned before being used for agriculture**		
AG13	**How do you protect the fields from the detrimental effects of weather/climate?**		
AG14	**How do you do off-season cultivation?**		
AG15	**Do people in your village also do subsistence farming?**		
AG16	**In what farming activities are women involved?**		
AG17	**Is there any agricultural office in your area?**		
Section 2: Drought			
DR1	How do the residents of your area/village prepare themselves to face a drought? *(Note to Moderator: Probe for extra information)*		
DR2	During droughts, what kind of crops do you sow?		
Section 3: Flood			
FL1	How do the residents of your area prepare to face floods? *(Note to Moderator: Probe for extra information)*		
FL2	What crops do you sow after the flood water has receded?		
Section 4: Plantation			
PL1	Are there any annual tree plantation drives conducted in your area?		
PL2	In the last year, how many trees were planted during the tree plantation drive?		

PL3	What are the plans to protect trees that were planted last year?
PL4	Approximately how many trees (in percentage terms) planted last year are alive?
PL5	Do any government/non-government personnel visit your area to vaccinate livestock?
PL6	Is there any institution in your area/village that teaches skills for rearing livestock/animal husbandry?
PL7	Is there any institution in your area/village that teaches skills for poultry farming?
PL8	Is there any institution in your area/village that teaches skills for cultivating vegetables for household use in the household?
PL9	Is there a farmer field school/institution in your area/village?

Section 5: Social Safety Net

SS1	What aid was received to the households in your village during last 02 years? Specify the items received, name of the institutions from whom the items were received and the number of households who received them.		
	Name of institution 1- Ehsaas Program 2- BISP 3- Rural Support Program 4- Rural Support Program Network 5- Bait ul Maal 6- Akhuwat 7- Others (please specify_____) 66- Refuse to answer	**Items** 8. Cash support 9. Livestock 10. Poultry 11. Seeds 12. Fertilizer 13. Pesticides/insecticide 14. Business tools or raw materials 15. Others (please specify_____) 66- Refuse to answer	**Number of Households**

Annexure 4: Village Observation Checklist

Observation Checklist			
District		**Tehsil**	
Union Council		**Village**	
Name of Supervisor		**Date**	

Section 1: Observation	
OB1	What is the sewerage/drainage mechanism in the area?
OB2	What is the cleanliness condition of the area?
OB3	Is there dirty swamp water in the area?
OB4	What is the condition of the streets in the area? (Pakki / Katchi / Clean / Dirty)
OB5	What is the condition of the sewerage/dirty water in the area?
OB6	Are there animal/human excrete lying on the streets of the area?

Section – 2 – Item Prices					
PR1	What are the prices of the following items in your village? *(Note: Acquire prices of following items from shops and markets located in the village)*				
1	Wheat/kg	PKR	23	Onions/kg	PKR
2	Wheat flour/kg	PKR	24	Spinach, mustard etc./kg	PKR
3	Rice flour/kg	PKR	25	Peas, French beans, *gowar*, *lobia* etc./kg	PKR
4	Basmati rice/kg	PKR	26	Carrots/kg	PKR
5	*Irri* rice/kg	PKR	27	Radish/kg	PKR
6	Chickpea flour (*besan*)/kg	PKR	28	Cucumber/kg	PKR
7	Lentil (*channa*)/kg	PKR	29	Mangoes/kg	PKR
8	Lentil (*moong*)/kg	PKR	30	Bananas/dozen	PKR
9	Lentil (*masoor*)/kg	PKR	31	Apples/kg	PKR
10	Lentil (*maash*)/kg	PKR	32	Guava/kg	PKR
11	Sugar/kg	PKR	33	Egg/piece	PKR
12	Raw sugar (*gurrh*)/kg	PKR	34	Fish/kg	PKR
13	Raw sugar powder/kg	PKR	35	Chicken meat/kg	PKR
14	Tea/kg	PKR	36	Mutton/kg	PKR
15	Cooking oil/kg	PKR	37	Beef/kg	PKR
16	Clarified veg-etable-based butter (*Banaspati*)/kg	PKR	38	*Tandoor* bread/piece	PKR
17	Clarified milk-based butter (Desi ghee)/kg	PKR	39	Almonds/50g	PKR
18	Butter/kg	PKR	40	Pistachios/50g	PKR
19	Milk/kg	PKR	41	Walnuts/50g	PKR
20	Yoghurt/kg	PKR	42	Peanuts/50g	PKR
21	Tomatoes/kg	PKR	43	Dates/kg	PKR
22	Potatoes/kg	PKR	44	Dry dates/kg	PKR

Annexure 5: Household Interview Status

	Household Status					
	Realized Sample	Refusal	Locked	House Not Found	Migrated	Total
Dadu	763	9	9	5	14	800
Jamshoro	373	0	7	0	21	401
Kamber Shahdadkot	767	3	1	0	39	810
Larkana	571	0	2	5	26	604
Matiari	357	3	15	0	25	400
Shikarpur	341	0	9	4	49	403
Sujawal	387	0	4	4	22	417
Tando Allahyar	341	0	4	0	63	408
Tando Muhammad Khan	377	0	6	1	18	402
Thatta	340	4	11	8	39	402
Total	**4617**	**19**	**68**	**27**	**316**	**5047**

Annexure 6: Additional Findings Gathered Through the Midline Household Survey

This section presents findings for other relevant modules of the survey questionnaire for a detailed understanding of the situation of surveyed households in the Programme districts.

6.1. Agricultural and Livestock Practices

This sub-section reports few leading indicators from the agriculture and livestock modules of household survey questionnaire encompassing: cropping pattern recorded among households owning cultivable agricultural land and the ways families utilize their agricultural and livestock production.

Exhibit 6.1-1 furnishes the cropping pattern as reported in the Midline survey. Wheat, Rice and vegetable are the major crops, while cropping corn and sugarcane were reported by a smaller percentage of households. The baseline survey data reveals no significant difference in the pattern of cropping.

Exhibit 6.1-1: Surveyed Households Cultivating Various Crops - Midline Survey (in Percentage)

	Overall	Treatment	Control
Wheat	40.4	35.8	45.5
Rice	33.2	31.7	34.9
Vegetables	9.8	13.9	5.3
Fruits	1.3	1.2	1.3
Corn	5.0	5.0	5.0
Sugarcane	4.0	4.6	3.4
Lentils	0.6	0.5	.8
Other	3.4	4.3	2.4
Do not grow	2.1	2.9	1.3

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.57 of the Baseline Report provides comparable Baseline Estimates]

The agricultural produce is predominantly utilized for both household consumption and commercial purposes. Exhibit 6.1-2 shows that close to 36% of the surveyed households used some produce for household consumption and sold the remaining into the market. 13.8% and 10.1% of the households solely utilized the produce for either household consumption or earning purposes. Only slight variations are observed among the sampled group.

Exhibit 6.1-2: Ways of Utilizing Agriculture Produce by Surveyed Households (in Percentage)

	Overall	Treatment	Control
Use some in the household, and sell the remaining	36.2	34.3	37.9
Utilize the entire agricultural produce in the household	31.8	29.6	33.9
Sell the produce that is left over after household consumption	21.1	25.8	16.5
Sell all the agricultural produce in the market	10.1	9.4	10.7
Give away (free-of-cost) the produce after household consumption	0.7	0.9	0.4

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.58 of the Baseline Report provides comparable Baseline Estimates]

Furthermore, unlike agricultural produce, livestock produce is fundamentally used for fulfilling household consumption needs. As recorded in Exhibit 6.1-3, more than half of the surveyed households who reported livestock ownership (23% out of 36%) use all animal food outputs for household diet. However, ~4% of households also said of selling livestock products in the market but only when household needs are met. Only 2% out of 36% of the households sell all the products in the market. 6% of households also reported the sale of animal livestock in the Midline survey.

Exhibit 6.1-3: Ways of Utilizing Livestock Produce by Surveyed Households (in Percentage)

	Overall	Treatment	Control
Number of Household	1,617	885	732
Ways of Utilizing Livestock Produce			
Sell all the animal products in the market	1.9	2.5	1.3
Utilize the entire animal products in the household	23.1	25.6	20.6
Sell the animal products that are left over after consumption	3.6	3.3	3.8
Use some in the household, and sell the remaining	4.9	5.3	4.4
There is no livestock produce	2.5	2.5	2.6
Households Reported Sale of Animal Livestock	6.3	8.2	4.4

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.61 and 3.62 of the Baseline Report provides comparable Baseline Estimates]

6.2. Drinking Water Quality Reported

This sub-section reports findings concerning the water quality module of the survey questionnaire. Only 3.3% (3.9% and 2.8% in treatment and control villages, respectively) of surveyed households complained about having not cleaned water. The specific question was, 'Is the drinking water obtained for household drinking purposes cleaned?' The results are recorded in Exhibit 6.2-1.

Those households who categorically denied access to cleaned water were further probed about the frequency of not having clean water. Three separate questions were asked 'On how many days in a month does the water have an odour?' 'On how many days in a month is the water coloured?' and 'On how many days in a month does the water have a bad taste?' The Exhibit reveals that these (3.3%) households obtain the bad quality of water for almost a whole month (average 24 days in a month) in terms of unpleasant odour, water colouration, and unpleasant taste. This information is not comparable with the Baseline data due changes in the format of questions asked about quality of drinking water.

Exhibit 6.2-1: Surveyed Households Reported Water Quality (in Percentage)

Surveyed Households		Overall	Treatment	Control
		4,617	2,331	2,286
Is water obtained for household drinking purposes cleaned?	**Yes**	96.7	96.1	97.2
	No	3.3	3.9	2.8
If not, Have an odour	**Average Days in a month**	24	23	24
If not, water coloured	**Average Days in a month**	24	23	25
If not, water have a bad taste	**Average Days in a month**	24	23	25

Source: Household Survey, PINS (ER3) Midline Study, 2021

6.3. Awareness and Practice regarding the Use of Chlorine for Water Treatment

This sub-section provides information regarding awareness and practice of using chlorine for water purification is compiled in Exhibit 6.3-1. The Exhibit reveals that approximately 81% of survey respondents do not know about chlorine and its use as a water purifier. However, the majority (78%) of those who have knowledge about chlorine complained non-availability of chlorine or chlorine tablets in their areas. Close to 18% of respondents also believed that chlorine affects the water quality in terms of taste and odour.

Exhibit 6.3-1: Using Chlorine for Water Purification [Awareness and Practice]*

		Overall	Treatment	Control
Surveyed Households		708	373	335
Awareness about Chlorine or chlorine tablets?	Yes	18.1	20.6	15.2
	No	81.5	79.4	83.9
	Refuse to answer	0.4	0.0	0.9
Purpose does chlorine or chlorine tablets serve	Improves the taste of water	38.5	44.6	31.4
	Improves the coloration of water	30.4	28.1	33.1
	Cleans/purifies water for drinking	30.0	26.6	33.9
	Do not know	1.2	0.7	1.7
Why does not your household treat water with chlorine?	Chlorine or chlorine tablets are not available	78.2	81.0	74.1
	The water gets a peculiar odour	11.3	8.9	14.8
	The water tastes bad	6.8	6.3	7.4
	Treating water with chlorine or chlorine tablets is expensive	3.8	3.8	3.7

Source: Household Survey, PINS (ER3) Midline Study, 2021
* These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.

6.4. Toilet Facilities and Structure

This sub-section provides additional findings gathered from the latrine and sanitation module of the survey questionnaire. At the Midline stage, survey respondents who reported having toilet facilities in their house were probed with a few additional questions regarding their household toilet facilities. They were asked about the total number of toilets and functional toilets in the household and planning for building more toilets. Further, planning for building more toilets was enquired. Nearly 33% and 25% of survey respondents for treatment and non-treatment villages, respectively, affirmed intention to construct at least one more toilet for the households. The results are recorded in Exhibit 6.4-1.

Exhibit 6.4-1: Toilet Facilities Reported by Surveyed Households* (in Percentage)

Surveyed Households		Overall	Treatment	Control
		3,282	1,604	1,678
How many toilets are there in your house?	One	68.1	65.9	70.3
	Two	2.6	2.5	2.7
	Three	0.4	0.4	0.4
Of them, how many toilets are functional?	One	67.1	64.6	69.7
	Two	2.3	2.5	2.0
	Three	0.3	0.4	0.3

Exhibit 6.4-1: Toilet Facilities Reported by Surveyed Households* (in Percentage)				
Surveyed Households		**Overall**	**Treatment**	**Control**
		3,282	1,604	1,678
Are you planning to build more toilets in your house?	**Yes**	28.8	32.9	24.7
	No	71.2	67.1	75.3
If yes, then how many toilets are you planning to build?	**One**	23.1	25.7	20.6
	Two	4.8	6.4	3.2
	Three	0.6	0.6	0.6

Source: Household Survey, PINS (ER3) Midline Study, 2021
***These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.**

In terms of the structure of toilets, 23% and 16% of households reported *pakka* and *kaccha* structure, respectively, while 29% of households have *kaccha-pakka* structure. The results are recorded in Exhibit 6.4-2. No significant differences are evident across the sampled groups. The Exhibit also furnishes information regarding the construction of the toilet. Only 4% of households reported the construction of toilets by NGOs and the Government.

Exhibit 6.4-2: Structure and Construction of Available Toilet Facilities (in Percentage)				
Surveyed Households		**Overall**	**Treatment**	**Control**
		3153	1543	1610
What is the construction type of the latrine/toilet?	**Kaccha**	22.7	22.6	22.7
	Kaccha-Pakka	29.6	28.1	31.1
	Pakka	16.0	15.5	16.5
Who Constructed	**Self**	63.7	61.3	66.1
	Government	0.8	1.0	0.6
	Latrine was already present	1.3	1.1	1.5
	NGO	2.9	3.2	2.7
	Others	0.2	0.1	0.3

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.37 and 3.38 of the Baseline Report provides comparable Baseline Estimates]

6.4.1. Ways of Removing Excreta from the Latrine/Toilets

Exhibit 6.4-3 provides detailed responses to the question 'What type of latrine/toilet your household mostly use?'. The Exhibit also furnishes the response to the question, 'How do you remove excreta/waste from the latrine/toilet (s) in your house?' if the households do not have an improved sanitation facility (which is calculated by combining the instances of households using latrines with a sewerage system or septic tank).

Exhibit 6.4-3: Drainage of Toilets Across Sampled Group (in Percentage)				
		Overall	Treatment	Control
What type of latrine/toilet your household mostly use?	Latrine/toilet with flush connected to sewerage systems	15.4	12.5	18.3
	Latrine/toilet with flush connected to septic tank	3.1	2.6	3.6
	Latrine/toilet with flush connected to open drainage	35.3	32.5	38.1
	Eastern latrine/toilet with open drainage	15.5	17.0	14.0
	Eastern latrine/toilet without drainage	11.9	13.3	10.6
	Dry pit	12.0	14.0	10.0
How do you remove excreta/ waste from the latrine/ toilet?*	Flush into the pit	26.0	25.3	26.7
	Flush into open drains	45.6	42.5	48.6
	Collect and dispose outside the house	12.6	12.9	12.4
	Flush into closed drains	12.4	14.5	10.4
	Sweeper picks it up	2.9	4.6	1.2
Source: Household Survey, PINS (ER3) Midline Study, 2021 [Exhibit 3.40 of the Baseline Report provides comparable Baseline Estimates] **These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.				

6.5. Hand Washing Practice Among Households Members and Children

This sub-section records added findings captured from the hygiene module of the survey questionnaire. Exhibit 6.5-1 shows adult household members and children practice handwashing in nearly 85% and 72% of surveyed households, respectively. However, no difference is evident among the treatment and control groups. It is worth highlighting that the percentage of households with family members practising handwashing has increased from 73%, estimated at the baseline level.

Exhibit 6.5-1: Surveyed Households with Members Practicing Hands Washing (in Percentage)			
	Overall	Treatment	Control
Surveyed Households	3907	1949	1958
Family Members	84.6	83.6	85.7
Children	72.5	72.9	72.0
Source: Household Survey, PINS (ER3) Midline Study, 2021 [Exhibit 3.41 of the Baseline Report provides comparable Baseline Estimates]			

Exhibit 6.5-2 records the handwashing practice among children. 32% of respondents stated of children washing their hands after using the latrine, which was relatively the highest incidence reported. However, it is essential to highlight that 68% of the responses did not account for hand washing with soap after using the latrine. This can lead to the spread of fecal contamination among children resulting in gastrointestinal infection and typhoid. Furthermore, only 9.4% of responses reported washing hands after playing, and 11.8% of responses after coming from outside.

Exhibit 6.5-2: Practicing Hand Washing With Soap – Children				
		Overall	Treatment	Control
Surveyed Households		4584	2319	2265
When Wash Hand with Soap?	After using the latrine	32.0	31.7	32.3
	Before eating food	24.3	24.4	24.1
	After eating food	18.2	17.5	18.8
	After coming home from outside	11.8	11.7	12.0
	After playing	9.4	10.2	8.6
	There are no children in this household	2.4	2.5	2.3
	Do not wash hands with soap	1.9	1.9	1.8

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.45 and 3.46 of the Baseline Report provides comparable Baseline Estimates]

6.6. Awareness of Symptoms and Treatment of Diarrhoea

This sub-section provides results concerning the awareness level of survey respondents about diarrhoea symptoms and treatment methods. As recorded in Exhibit 6.6-1, the Midline survey illustrates that of all the surveyed respondents, approximately 27% correctly identified the main symptom of diarrhoea in children—watery stools. Close to 19% of respondents identified stomach pains, while close to 17% of the respondent (incorrectly) believed that diarrhoea involves vomiting.

Exhibit 6.6-1 Surveyed Respondents Reported Awareness about Diarrhoea Symptoms (in Percentage)				
		Overall	Treatment	Control
Surveyed Households		4588	2310	2278
Diarrhoea Symptoms	Watery stools	27.2	27.4	27.0
	Stomach pains	18.5	18.8	18.2
	Vomiting	16.5	16.7	16.3
	Vomiting and watery stools	16.1	16.0	16.2
	Do not know	9.8	10.0	9.5
	Body weakness	6.5	6.0	7.1
	Loss of appetite	5.3	5.0	5.6

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.47 and 3.49 of the Baseline Report provides comparable Baseline Estimates]

In terms of treatment to relieve symptoms of diarrhoea in children, approximately 67% of respondents identified that *nimcol* (a combination of water, sugar, and salts—a popular home remedy for dehydration) or oral rehydration solution (ORS) should be immediately provided to such children. Interestingly, the comparative percentage was 70% in the Baseline survey.

In addition, nearly 20% of respondents opined that nothing should be given to a child in cases of diarrhoea, as the condition alleviates itself. Most importantly, the survey found that only close to 2% of respondents were aware of the importance of zinc to relieve pediatric diarrhoea. The findings are aggregated in Exhibit 6.6-.2. The Exhibit also reveals that notable differences exist in terms of the awareness level of immediate treatment of diarrhoea across the treatment and non-treatment groups

Exhibit 6.6-2: Surveyed Respondents Reported Awareness about Immediate Treatment of Diarrhoea (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4,521	2,272	2,249
In case of diarrhoea, what should be immediately administered to the child?	ORS	37.4	38.6	36.2
	Nimcol	30.0	27.6	32.4
	Nothing should be given	19.7	20.5	19.0
	ORS and zinc	5.1	5.2	4.9
	Others	2.3	2.0	2.6
	Water	2.2	2.6	1.8
	Zinc	1.7	1.8	1.6
	Tea	1.6	1.7	1.5

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.48 and 3.49 of the Baseline Report provides comparable Baseline Estimates]

Exhibit 6.6-3 indicates that although respondents may be aware of the use of *nimcol* during instances of pediatric diarrhoea, only close to 17% of respondents are (correctly) informed that it helps replace salts and minerals lost due to dehydration. In contrast, the majority, close to 27%, believe that *nimcol* helps in relieving watery stools. Approximately 6% of respondents are entirely unaware of the use/purpose of *nimcol.*

Exhibit 6.6-3: Surveyed Respondents Reported Awareness about the Use and Purpose of Nimcol (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4,617	2,331	2,286
Percentage of Respondents who affirmed the knowledge of Home-made Nimcol		55.1	52.2	58.0
Purpose of Nimcol	Helps to relieve watery stools	27.5	28.4	26.6
	Helps to relieve stomach pains	17.7	18.6	16.9
	Helps to reduce vomiting	17.2	17.3	17.0
	Helps to reduce body weakness	15.4	14.3	16.5
	Helps in replacing body salts and minerals	16.5	15.5	17.4
	Do not know	5.8	5.9	5.7

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibits 3.50 and 3.51 of the Baseline Report provides comparable Baseline Estimates]

Data regarding the awareness of the use of zinc can be seen in Exhibit 6.6-4. It indicates that a vast majority (62%) of respondents are entirely unaware of its purpose, whereas close to 21% correctly identify its use in alleviating symptoms of diarrhoea.

Exhibit 6.6-4: Surveyed Respondents Reported Awareness about the Purpose of Zinc Syrup (in Percentage)

		Overall	Treatment	Control
Surveyed Households		4,576	2,305	2,271
Purpose of Zinc Syrup	Helps to relieve watery stools	21.4	20.8	21.9
	Helps to relieve stomach pains	13.5	14.3	12.8
	Helps to reduce vomiting	12.0	11.7	12.3
	Helps to reduce body weakness	8.3	7.8	8.7
	Helps in replacing body salts and minerals	7.2	6.5	7.9
	Do not know	37.6	38.9	36.4

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.52 of the Baseline Report provides comparable Baseline Estimates]

In the Midline survey, two questions were added in the section on diarrhoea. Compared with the last episode of diarrhoea, it was enquired that how children are now fed (more, less, or same) and provide a (more, less or same) amount of drinking water. Exhibit 6.6-5 compiles household responses. However, most households stated that the same amount of food and water is provided to children.

Exhibit 6.6-5: Comparison with the Last Episode of Diarrhoea [Children are now]*

	Overall	Treatment	Control
Surveyed Households	4,617	2,331	2,286
Fed with more food	5.2	5.6	4.9
Fed with less food	9.6	11.1	8.0
Fed with the same amount of food as of usual	16.7	17.7	15.7
Refuse to answer	5.5	7.1	3.8
No children in the household aged below 5 years	63.0	58.6	67.6
Provided with more water for drinking	9.9	9.7	10.1
Provided with less water for drinking	5.9	7.7	4.1
Provided with the same amount of water as of usual	15.7	17.1	14.4
Refuse to answer	5.1	6.6	3.6
No children in the household are under 5 years old	63.3	58.9	67.8

Source: Household Survey, PINS (ER3) Midline Study, 2021
***These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.**

6.7. Household Calorie Intake

The Survey questionnaire constituted of a detailed household food consumption module to probe weekly household consumption. It comprised a list of 44 food items. The reported food consumption was translated into calories (Food Energy – Kcal) using Food Consumption Tables for Pakistan (GoP, 2001) estimate daily calorie intake per adult equivalent. The results are recorded in Exhibit 6.7-1.

Exhibit 6.7-1: Calorie Intake – Median
[Estimated from Household Weekly Consumption of Food Items]

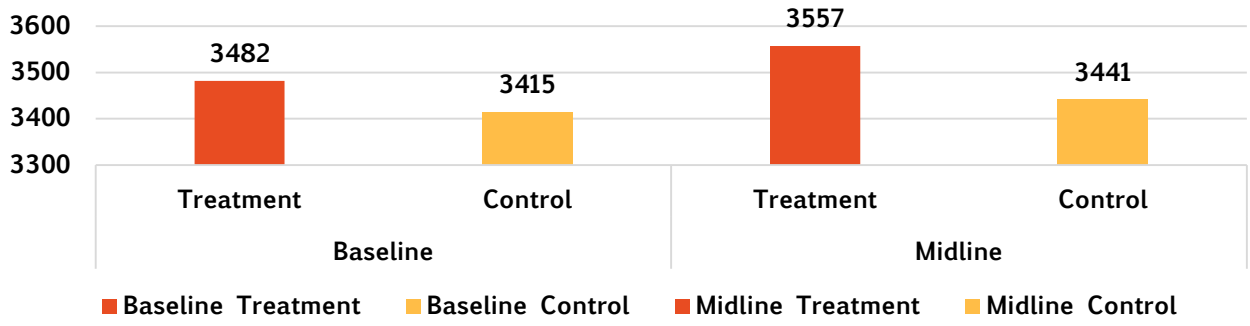
	Overall	Treatment	Control	t-Test [Treatment v/s Control]	
Surveyed Households	4617	2331	2286	t-Value	p-Value
Per Capita Daily Calories	2926	2988	2846	4.79	0.000
Per AEU Daily Calories	3500	3557	3441	4.78	0.000

Source: Household Survey, PINS (ER3) Midline Study, 2021
[Exhibit 3.13 of the Baseline Report provides comparable Baseline Estimates]

The findings show that households across treatment and control areas are estimated to be consuming calories more than 2,350 kcal per adult equivalent per day i.e., the minimum standard of daily calorie intake. The Government of Pakistan uses this cutoff for deriving the official poverty line. However, the proportion of such households is relatively higher in the treatment areas than in the control. The mean difference among the groups is statistically significant, according to the p-values of the t-test indicating that both groups are dissimilar in this context.

A slight improvement is observed in the inter-survey comparison of household calorie intake (Exhibit 6.7-1a). The exhibit also reveals that households in the treatment area have the edge over households of control area in terms of per AEU calorie intake in both surveys.

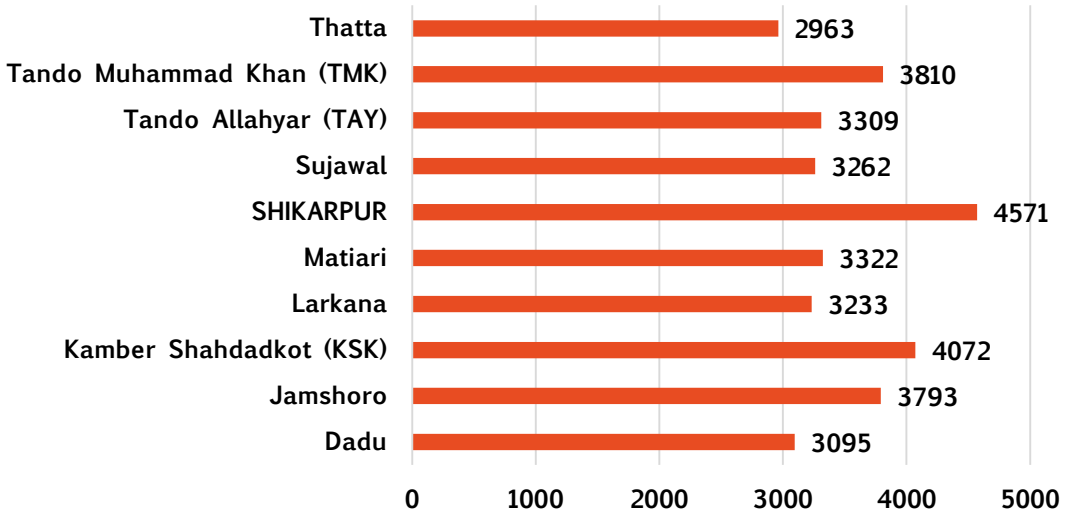
Exhibit 6.7-1a: Inter-Survey Comparison of Household Calorie Intake [Per Adult Equivalent Unit]



Source: Household Survey, PINS (ER3) Midline Study, 2021 and PINS (ER3) Baseline Study, 2019

Exhibit 6.7-2 illustrates the variations recorded in households concerning per AEU calorie intake by project districts. Against the highest intake of 4,571 kcal/ per adult equivalent unit in Shikarpur, the lowest value of 2,928 kcal/ per AEU is noted in the Thatta district. In the baseline survey, the highest and lowest values of calorie intake were recorded in Tando Allahyar and Sujawal districts, respectively. The calorie intake estimates reveal a significant drop (from 4472 to 3308) in the Tando Allahyar district during the inter-survey period.

Exhibit 6.7-2: Median Calorie Intake per AEU by Districts



Source: Household Survey, PINS (ER3) Midline Study, 2021

The sources of acquiring household calorie intake are furnished in Exhibit 6.7-3. Grains (such as barley, rice, wheat, and corn) contribute to nearly half (45%) of the percentage of households' calories intake followed by oil and ghee as it contributes to 20% of the total calories. Other items such as dairy products, vegetables, and meat contribute only 5%, 4% and 6% of total calories, respectively. It is noteworthy that the uptake of fruits and dry fruits/nuts is almost negligible. The Exhibit also indicates that mean differences in treatment and control groups are not statistically significant for Oil and Ghee and dairy products. A relatively higher proportion of grains intake is observed in the control than in the treatment areas.

Exhibit 6.7-3 Percentage Share in Total Calories – by Food Groups (Estimated from Household Weekly Consumption of Food Items)			
	Overall	**Treatment**	Control
Cereals	45.2	44.9	45.7
Pulses	5.7	5.7	5.7
Sugar	9.2	9.3	9.2
Tea	3.8	4.1	3.6
Oil and Ghee	20.0	19.7	20.1
Dairy Products	5.0	5.0	5.1
Vegetables	3.7	3.8	3.6
Fruits	0.0	0.0	0.0
Meat	5.7	5.7	5.7
Dry Fruits	0.0	0.0	0.0
Source: Household Survey, PINS (ER3) Midline Study, 2021			

6.8. Perception about Malnourishment

A short module is introduced in the Midline survey to get the perception of women respondents regarding the symptoms and reasons for child malnourishment. The module first probes 'Have you ever seen a malnourished child? If yes, then how does a malnourished child look like?'. Overall, close to 34 percent respondents positively answered this question. The major symptoms expressed by the respondents include; yellow in complexion, has visible bones, underweight, and has a bloated stomach.

Answering the question, 'What do you think is the reason for malnourishment in children?' the majority of respondent indicated lack of cleanliness (21.5%), no breastfeeding (15.2%), an improper diet of children (15%), lack of care (14%), dirty drinking water (12.5%) and dirty hands (10.5%). The responses received are shown in Exhibit 6.8-1.

Exhibit 6.8-1: Perceptions About Malnourished Children of Survey Respondents (in Percentage)*				
		Overall	**Treatment**	**Control**
Surveyed Households		4,617	2,331	2,286
Symptoms:	**Yellow in complexion**	22.3	20.2	24.5
	Has visible bones	16.9	18.1	15.6
	Is underweight	16.4	17.3	15.3
	Has a bloated stomach	12.6	13.0	12.1
	Looks younger than his/her age	10.2	9.8	10.6
	Cannot lift weights	7.0	6.8	7.1
	Is short in height	6.2	6.6	5.7
	Is short for his/her age	3.8	4.4	3.2
	Is underweight for his/her age	3.5	3.0	4.0
	Is emaciated	0.6	0.5	0.8
Reasons:	**Lack of cleanliness**	21.5	23.2	19.6
	No breast feeding for children of less than two years old	15.2	15.3	15.0
	Unsatisfactory diet of the children and the mother	14.6	13.6	15.8
	Lack of care of the child and pregnant women	14.3	15.1	13.5
	Dirty drinking water	12.5	12.5	12.6
	Dirty hands	10.5	10.9	10.1
	Lack of food for children and the mother	6.9	5.3	8.7
	Do not know	3.5	3.8	3.3

Source: Household Survey, PINS (ER3) Midline Study, 2021

***These are new findings included in the midline survey, and have no comparable baseline estimates from the 2019 Baseline Study.**

Annexure 7: Comparable Baseline Estimates

7.1 Livestock & Agriculture

Districts	Jamshoro, Thatta, Larkana, Kamber, Sujawal, Matiari, Shikarpur, Tando Allahyar, Dadu, Tando Muhammad Khan,

Department		**Livestock,**
Year		**'2017-18','2018-19'**
	Generated On: Jun 22, 2021	
#	**Indicator**	**Performance**
1	LIVO1.1 Number of households with vaccinated/ Drenched animals (LS)	58,860
2	LIVO1.2 Fully operation and commissioned LIVS-MIS to empower and enable data collectors, M&E staff and Departments	0
3	LIVO1.3 Number of community groups(VBOs) created	
4	LIVO1.4 Number of livestock farmers (male and female) trained in effective livestock management, nutrition, disease management and livestock rearing management	0
5	LIVO1.6 Number of cold chains established for vaccine storage	17
6	LIVO1.7 Number of Villages received Livestock Extension Services through CLEW(PINS)	0
7	LIVO1.8 Number of women selected and provided with goats (PINS)	1,317
8	LIVO1.9 Number of community livestock extension workers trained (PINS)	191
9	LIVO1.10 Number of community extension workers provided with Extension Kits (PINS)	189
10	LVO2.2 Number of community poultry entrepreneurs (CPE) trained in poultry management and market-oriented production	2,791
11	LVO2.3 Number of Poultry Entrepreneurs provided with cockerel, utensils and feed (PINS 3)	2,577
12	LIVIR1 Cumulative number of households establishing backyard livestock and poultry raising (5 HHx 100 villages 24 districts)	9,350

Progress Report		
Districts	Jamshoro, Thatta, Larkana, Kamber, Sujawal, Matiari, Shikarpur, Tando Allahyar, Dadu, Tando Muhammad Khan,	
Department		Agriculture,
Year		'2017-18','2018-19'
Generated On :**Jun 22,2021**		
#	**Indicator**	**Performance**
1	AO1.1 Fully operation and commissioned AGRI-MIS to empower and enable data collectors, M&E staff and Departments	0
2	AO1.2 Number of established Farmer Field Schools (FFS) Male	200
3	AO1.3 Number of Exposure visits organized	0
4	AO1.4 Number of field staff trained through TOT	10
5	AO1.5 Number of kitchen gardening demonstrations	150
6	AO1.7 Number of established Farmer Field Schools (FFS)-Female	70
7	AO1.8 Number of established Farmer Field Schools (FFS)	560
8	AO1.9 Number of kitchen gardening oriented households	3,000
9	AO1.10 Number of households provided with agricultural inputs for kitchen gardening (Seeds etc.)	914
10	AO1.11 Number of display centers established for agricultural machinery demonstrations	11
11	AO1.12 Number of TV talk shows organized	0
12	AO1.13 Number of radio programs organized	0
13	AO1.14 Number of agriculture exhibitions organized	0
14	AO1.15 Number of agriculture extension staff and project field staff trained	50
15	AO1.16 Number of households selected based on baseline assessments or mapping	8,400
16	AO1.17 Training manuals developed for FFS and Kitchen gardening	0
17	AO1.18 Number of female village-level agricultural entrepreneurs selected and trained	0
18	AO1.19 Number of households that benefited from investment fund	6,400
19	AO1.20 Number of Farmer Business Schools (FBS) established	10
20	AO1.21 Number of demonstration plots established in flood and drought-prone areas to increase crop production	70
21	AO1.22 Number of farmers trained in climate-smart agriculture and crop production	13,487
22	AO1.23 Number of farmers assisted financially for procurement of seeds and other inputs	4,413
23	AO1.24 Number of forest and fruit plants cultivated	24,062
24	FSHIR2 Number of demo fish ponds fully stocked	0

Annexure 7.2: District Summary Table

Districts	Dadu	Jamshoro	Kamber Shahdadkot	Larkana	Matiari	Shikarpur	Sujawal	Tando Allahyar	Tando Muhammad Khan	Thatta	Grand Total
Trained Masons	145	85	120	110	75	95	100	80	75	85	**970**
Trained Plumbers	145	85	120	110	75	95	92	80	75	85	**962**
Trained CRPs	636	346	498	477	348	418	394	375	397	331	**4,220**
Trained Wash Entrepreneurs	145	85	120	110	75	95	95	80	75	85	**965**
Trained AEs	668	346	494	462	341	409	422	390	351	334	**4,217**
Engagement Female Agri Entrepreneurs	-	-	-	-	-	-	-	-	-	-	**-**
Farmer Field Schools	291	171	241	221	150	194	190	165	160	155	**1,938**
Household Latrine Construction	-	-	-	-	-	-	-	-	-	-	**-**
Trained CLEWs	28	16	24	22	15	19	19	16	15	17	**191**
Trained Poultry Entrepreneurs	1,456	855	1,205	1,105	781	983	967	836	790	775	**9,753**
Poultry Entrepreneurs Financial Support	129	156	241	221	145	194	131	165	152	114	**1,648**
Poultry Demo Cages	86	156	241	221	145	194	122	161	145	114	**1,585**
Goat Beneficiaries	714	467	670	677	783	556	882	773	643	576	**6,741**
Goat Beneficiaries Total Amount	21,467,600	13,871,200	19,847,000	19,846,500	23,246,900	16,057,500	26,261,650	22,931,400	18,908,200	17,135,700	**199,573,650**
KG HH Orientation	29,661	18,579	26,028	23,868	16,200	17,296	20,520	17,550	17,280	15,879	**202,861**
KG HH Veg Seeds Provision	29,661	18,579	26,028	23,868	16,200	21,102	20,520	17,550	17,280	15,879	**206,667**
HH KG Implementation	29,661	18,579	26,028	23,868	16,200	17,272	20,520	17,550	17,280	15,879	**202,837**
KG HH Orientation Food Processing	-	9,332	6,025	1,515	2,160	4,435	4,798	2,430	4,115	3,173	**37,983**

Districts	Dadu	Jamshoro	Kamber Shahdadkot	Larkana	Matiari	Shikarpur	Sujawal	Tando Allahyar	Tando Muhammad Khan	Thatta	Grand Total
Bio Fortified Progressive Farmers	2	2	2	2	2	2	2	2	2	2	**20**
Paddy Fish Farms	5	-	-	-	-	5	5	-	-	5	**20**
Tree Plantation Campaigns	29	17	24	22	15	20	20	16	15	16	**194**
Trained Community Activists	10	20	20	20	10	22	20	20	20	20	**182**
Community Fish Ponds	2	2	1	1	1	2	2	2	2	2	**17**
Fish Farmers	40	40	40	40	40	40	38	10	40	72	**400**
VOs Maringa Campaigns	291	171	241	221	150	194	190	165	160	155	**1,938**
Small Farmers With Financial Support	1,650	1,270	1,648	1,650	495	1,650	2,519	346	1,961	1,915	**15,104**
Small Farmers Implementing CPT	1,650	1,270	1,648	1,650	495	1,650	2,519	346	1,961	1,915	**15,104**
Hand Pumps	29	17	22	21	15	19	18	16	15	12	**184**
Alternate Water Sources	18	5	15	12	2	17	-	4	13	11	**97**
Rain Harvesting Ponds	28	52	15	-	-	-	-	-	-	-	**95**
LSO Chlorine Production And Promotion	-	1	1	-	-	-	1	-	-	2	**5**
Trained LSO Members Water Quality Testing	292	170	240	205	150	184	200	160	155	162	**1,918**
Trained LSO Members WASH AFSL	291	170	240	220	162	177	201	160	150	196	**1,967**