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Mainstreaming nutrition services: Stabilization centers and outpatient therapeutic program centers

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Mainstreaming Nutrition Services: Stabilization Centers and Outpatient Therapeutic Program Centers

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A financial sustainability plan for government of Sindh to take over the activities to manage acute malnutrition in the province of Sindh from the donor funded projects with effect from June 2020

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Table of Contents

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List of tables and annexure

List of acronym

Abbreviation	Definition
AAP	Accelerated Action Plan For Reduction Of Stunting And Malnutrition
BCC	Behavior Change Communication
CCT	Conditional Cash Transfer
CDD	Community Driven Development
CMAM	Community-Based Management Of Acute Malnutrition
CMW	Community Midwife
CHS	Community Health Supervisor
DIL	Disbursement-Linked Indicator
EU	European Union
FAO	Food And Agriculture Organization
FP	Family Planning
GOS	Government Of Sindh
IYCF	Infant And Young Child Feeding
LHW	Lady Health Workers
LHS	Lady Health Supervisor
MAM	Moderately Acute Malnutrition
MNCH	Maternal, Neonatal And Child Health
MUAC	Mid-Upper Arm Circumference
NGO	Non-governmental Organization
NNS	National Nutrition Survey
NP	National Programme
NSC	National Stabilization Center
NSP	National Support Programme
ORS	Oral Rehydration Solution
OTP	Outpatient Therapeutic Program
PC-1	Planning Commission-Pro Forma 1
PHC	Primary Healthcare
PLW	Pregnant And Lactating Women
PPHI	Peoples Primary Health Care Initiative
RSPN	Rural Support Programme Network
RUTF	Ready To Use Therapeutic Food
SAM	Sam Severely Acute Malnutrition
SERSSP	Sindh Enhancing Response To Reduce Stunting Project
SFP	Supplementary Feeding Program
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency For International Development
WB	World Bank
WFP	World Food Programme
WINS	Women And Children/Infants Improved Nutrition

Introduction

Stunting is a major problem in Pakistan, with 12 million children with low height-for-age it is the third largest population of stunted children in the world.[i] In Pakistan 17.75% children U5 suffer from wasting, 40.2 % suffer from stunting and 11% of the children under five are affected by acute malnutrition. Only 48.4 % infants are exclusively breast fed and only 45.8% infants are fed within the first hour of life.[ii]

The prevalence of stunting among young children in Sindh, Baluchistan, KP-NMD and GB provinces is higher than the national average and exceeds the emergency threshold of 15%. In addition, 11% of the children under five are affected by acute malnutrition.[iii]

There are numerous nutrition support programmes in Pakistan. With stunning and malnutrition being a major issue in Sindh, Bilateral and multilateral partners like USAID, UNICEF, FAO, WFP, WHO, WB, EU etc. have been working actively with GoS in the nutrition sector in the province.[iv] Currently two large scale nutrition program are operating in 21 districts of Sindh. These are Accelerated Action Plan (AAP) and Program for Improved Nutrition in Sindh (PINS-2) with the assistance of European Union. Another large scale program that has recently been completed was the Nutrition Support Program (NSP) with the financial assistance of the World Bank.

AAP is an eight year plan aims to reduce stunting from 48% to 15% by 2026.[iv]PINS is a four year EU funded programme to be implemented across ten districts of Sindh.[vi]Its objective is to improve the nutritional status of children U5 and pregnant and lactating women (PLWs). It builds on the lessons learned from the WINS programme.[i]

While generally the intervention of the multiple nutrition projects are built upon one another and there has already been strong coordination mechanisms to overcome overlapping in the program activities across projects and resources are utilized in an efficient manner. However the future of these investment is still at-stake as it is customary that once the donor funding is exhausted, the activities of the projects are halted.[vii]

The objective of this assignments is to assist GoS to be prepared to carry forward the activities carried out by the donor funded projects in nutrition sector after the expiry of donor funding and completion of the project cycles of the projects namely NSP, AAP-Health and PINS-2 are completed. This assignment specially aims to provide support to GoS towards the efforts to institutionalize the existing OTP centers and NSCs and mainstream their activities into the regular budget of the government of Sindh. This report is based on the analysis of existing structures of the nutrition services delivery model of the nutrition projects, the resources provided to this model and its costs and a scenario based financial implication of GoS to take over the through forward financial liabilities of the nutrition projects as well as financial impactions to sustain operations of the current nutrition services delivery models from its own resources.

Methods

Literature search

A literature search was carried out in the months of November and December 2019. Google scholar was used as the search engine for literature search. The objective of the literature search was to access information on various models of nutrition program in Sindh and to find previous work on the economics or expenditure reporting of the nutrition program in Sindh. The search terms used were “Sindh” AND “Nutrition intervention” OR “OTP center” OR “NSC” AND “budgets” OR “Expenditures” OR “Finance” OR “Economics”. The type of material that had been

retrieved comprised research article, original articles, reports, government archives, case reports, correspondences. Literature citation, and Patents were excluded from the literature retrieved. The search period was from 2010 to the date of search. Later-on literature search was extended on Google. Snow bowling technique was used to identify gray and unpublished literature on budgeting, expenditures and economics of nutrition programs in Sindh.

Field visits

The Non-Key Expert (NKE) carried out field visits in the month of November 2019. The objective of the filed visits was to understand and review the services delivery models of nutrition programs managed by Sindh Government and its development partners/NGOs. This included visiting OTP centers, NSC and meeting with the staff carrying outreach activities. The field visits had covered few northern districts and few southern districts of Sindh. Northern Districts included Larkana and Khairpur and southern districts included Tando Allah Yar, Mirpurkhas and Tharparkar. Seven OTP centers, five NSCs were visited and two meetings were held in the field visits with the staff responsible for community outreach. The field visit plan is provided in Annexure 1.

Data Extraction

The task mentioned in the ToRs of the NKE were mainly reliant on micro level data on cost and expenditure on inputs provided for the operations of OTP centers and NSCs. These outlets are the common mean of delivery of interventions to the communities with need of managing sever and moderate acute malnutrition in children in the age group of 1-5 years. The project management of AAP Health sector and PINS-2 were involved in the data extraction. Initial meetings were held with the management of both the projects to identify data needs and access to official records.

After the field visits were completed, it was realized that a formal request should be made to the nutrition projects in Sindh for extraction of data. In order to provide the data that was needed from the nutrition projects currently operating in the province of Sindh namely PINS-2 and AAP-Health, a data extraction tool was designed and shared with the management teams of these projects. The data extraction tool was sent to both the projects in the month of November 2019. The data extraction was completed in January 2020. It included data on itemized cost of inputs provided to OTP center and NSC including salaries of contractual staff. Later on data on contractual salaries of staff was replaced with salaries of regular government employees on the basis of government approved basic pay scales.[viii] Data extraction tool is provided in Annexure 2.

AAP health had provided district wise roll out plan of nutrition program, and provided some data on physical targets and achievements (OTP centers, NSC and CHWs) up-to 2019. The itemized cost of inputs provided at OTP centers and NSC was provided by PINS-2 and AAP health. Data on utilization of OTP and NC centers was provided by AAP Health for the year 2019,

Overall financing to nutrition program was obtained from online sources and where possible from the Sindh Secretariat. PINS-2 investments were obtained from EU online resources, while NSP PC-1 was obtained from online web-portal.[ix] Total budget of AAP for one year was provided by Sindh Secretariat.[x] Besides data from the project, some information were obtained from the field staff during the field visits e.g. to develop assumptions on number of visits to OTP centers, bed occupancy of NSCs etc.

The assumptions on costing itemized OTP center, OTP outreach and NSCs were based on literature findings, field visits and opinion of the expert panel (PPHI Sindh and AAP-Health) and the data provided by the nutrition projects. The inputs of the OTP and NS centers were based on the national guidelines on management of acute malnutrition provided protocols on management of acute malnutrition at inpatient and outpatient levels.[xi]

Findings

Literature search

A total of 34 documents were retrieved from the literature search. This included few published articles and reports from academia, project documents of the nutrition projects in Sindh, Nutrition survey reports ,[ii] policy and strategy papers of government of Sindh[xii] and budgets and expenditures of Sindh government.[xiii] The three rounds of National Nutrition Survey in Pakistan covered the physical aspects of malnutrition and stunting aspect but lacked data household economics or expenditures on nutrition in relation to other household needs.[ll]

In terms of the economic data these reports provided situation of nutrition in Sindh. In few cases overall allocation to nutrition sector are provided. However these figures were unrealistic in the backdrop of alarming situation of stunting and malnutrition in Sindh. For example the Sindh Health Sector Strategy allocated PKR 4 million for eight years 2012-2020 earmarked for "evidence based actions f or under-nutrition and inter-sectoral pilots".[xiv] In other cases, the total expenditure on health of government of Sindh and its share in the total government expenditures are reported while analyzing the political and economic context of nutrition in Sindh.[xv]While in another case the total allocation to health sector were analyzed in the context of 18th constitutional amendment that had devolved the health services from the federal government to the provincial governments.[xvi]

Review of annual development plan of government of Sindh revealed 1) total expenditure of the nutrition project since inception, 2) current year allocation and 3) through forward financial liabilities. However the through forward liabilities of nutrition projects included the project costs for the remaining years of the projects.[xiii] Analysis of health department budget on recurrent side revealed aggregate allocation according to account classification by each office and district working under health department, while detailed itemized allocation or expenditures are not provided.[xvii]

Detail on expenditures on nutrition fixed centers or outreach activities were not found. There was dearth of literature on costing, expenditure analysis of financial forecasting on nutrition intervention in Pakistan in general and Sindh in particular.

Field visits

There are 972 OTP centers and 17 NSC operating in the province of Sindh. During the field visit seven OTP centers and six NSC were visited. The OTP centers were mostly operational and there was no stock out noticed in the OTP centers. In few case the OTP centers were operated as satellite centers, where the OTP centers staff provide nutrition services by visiting the local communities on daily basis. Another form of OTP centers were delivery of nutrition services for MAM arranged through mobile teams. Besides the inputs to mobile centers such as staffing, nutrition supplies, stationary and printed materials that are the common to fixed site, the mobile OTP centers are provided a vehicle to carry the staff to the communities on daily basis.

The NSCs were operational except in Mirpur Khas, where the center was near completion. It has been observed in the field visits that few NSC were operational prior to the start of the nutrition programs in Sindh. For example the NSC in Tharparkar has been operating even before 2010.

During the meetings with the community outreach staff, it was highlighted that community health workers (CHWs) operates in the areas uncovered by the LHW program. The LHWs have already been mandated to provide nutrition education to the target population. The LHWs are on the regular payroll of the health department of Sindh, while the CHWs are provided a monthly stipend and are usually recruited from the same community for the nutrition services only. The CHWs are provided all necessary material to assess the nutrition of the children and their mother and refer the cases of SAM and MAM to NSC and OTP centers; there are around 9647 CHWs who provide out-reach activities in the areas uncovered by the LHW program. However the number of LHWs is not known.

From the field visits, the average number of children visiting an OTP centers children per day was determined as 4 children and bed occupancy as 60%. During the field visits, the models of managing the SAM and MAM children were similar across the nutrition projects. SAM and MAM children were identified by the community outreach program or through the routine visits by the patients and their families to health facilitates of all levels.

The model of treating MAM children was based on primary level of out-patient care that is OTP centers and the model to manage SAM patient was the secondary level inpatient care that is Nutrition Stabilization Centers. The differences were however observed in the patterns of staffing, supplies and incentives to the staff by two currently operational nutrition projects, namely PINS-2 and AAP-Health. One LHS supervised 25 CHWs in AAP-Health while in PINS-2 40 CHWs are supervised by an LHS.

The OTP centers that are established in the government health facilities managed by PPHI (NGO) are staffed with Nutrition Assistant, while the OTP center established in government health facility managed by the health department are staffed with three persons, Nutrition Assistant, IYCF councilor and helper.

Bed strength of the Nutrition Stabilization Centers varied across districts. While commonly NSC are ten bedded but in cases the number of beds was more than ten. In few NSCs the staff was hired on the payroll of the respective projects, but in other cases the existing staff on the payroll of the health facility is paid a monthly stipend for carrying out tasks of NSCs.

To carry out outreach, the LHW are not paid any allowance for nutrition related jobs such as identifying SAM and MAM children in the communities and to refer them to the next level of care. On the other hand the CHWs are engaged in areas uncovered by the LHW programs. They are not hired full-time and paid a monthly stipend equivalent to PKR 3000/month. While hiring CHS, preference is given to candidates belonging to the same target population. The supervision of CHWs is carried out by CHS that is hired on regular basis on a monthly salary.

Data analysis

In the financial suitability plan of the nutrition intervention in the province, three types of intervention are included spreading over continuum of care for management of acute malnutrition. This include community outreach program to create demand for nutrition

intervention, OTP fixed centers for out-patient management of MAM children, and the Nutrition Stabilization Centers (NSC) for inpatient management of SAM children.

In order to estimate accurate workload of OTP and NS centers, data on outpatient visits and admission were obtained for the year 2019. In the case of out-patient visits to OTP center, the data pertained to calendar year 2019. Outpatient visits to OTP centers in 11 districts were analyzed and monthly mean outpatient visits were estimated for an OTP center. Similar exercise was carried out for admission data of five NSC. The mean visits and mean admission with 95% confidence intervals are provided in figure 1 and 2 respectively[1].

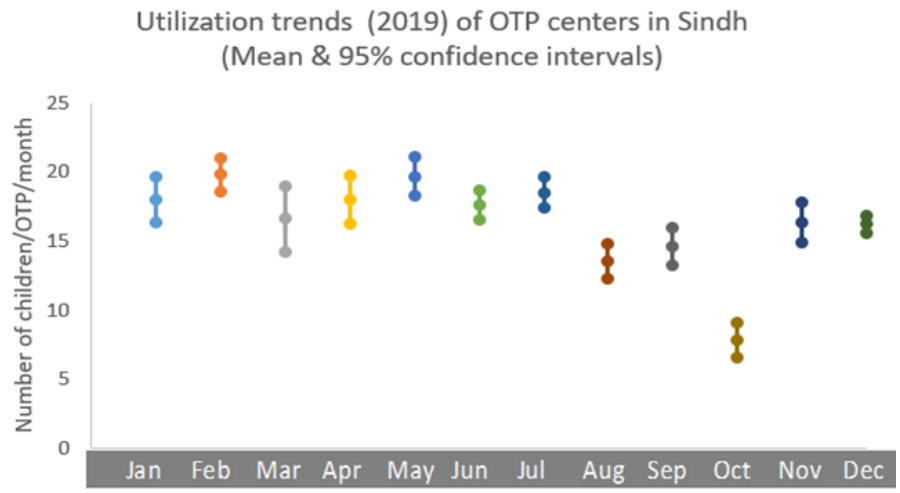

Figure 1 Utilization trends of OTP centers in Sindh

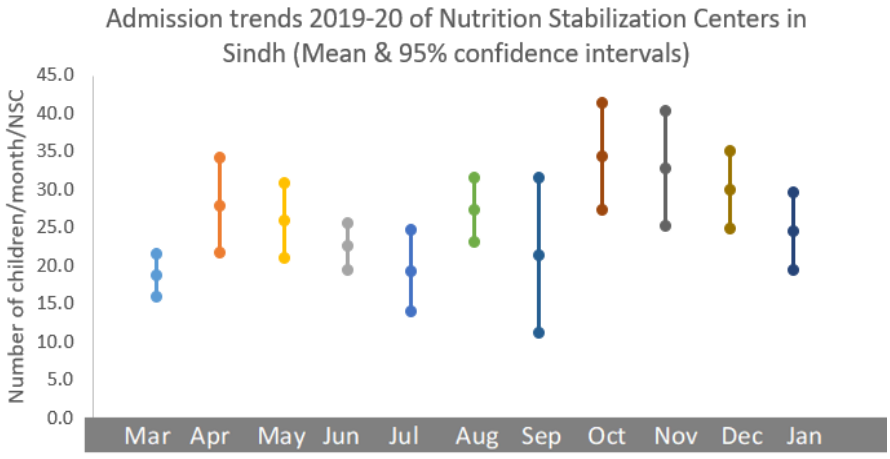

Figure 2: Admission trends of NSCs in Sindh

The provincial mean visits to OTP centers in a month are 16.42 children (Confidence intervals 15.71-17.73). The maximum 33 visits were recorded in district Sukkur in the month of March, 2019. The provincial mean admissions to NSC in a month is 25.95 children (Confidence interval

[1] Most data is from AAP health and PINS 2(ACF)

24.23-27.66). The maximum number of 76 admissions was recorded in district MirpurKhas in the month of September 2019[2].

The service data and expert opinion was used to estimate the use of essential nutrition and other supplies for OTP center and NSCs. For OTP center, case load of minimum one and maximum 4 MAM children and for NSC bed occupancy of 60% (maximum 100%). Other assumption used to estimate the cost of each of the three interventions is provided in table 1 below.

Table 1 Assumption of costing the nutrition interventions	
Outpatient Therapeutic Center (Fixed site/ mobile units)	
a)	*An existing health facility is used with no construction cost or rent*
b)	*Utilities such as Electrification, Water supply are installed and operational*
c)	*One room is provided in the facility for OTP center*
d)	*Staff is Nutrition assistant and an attendant drawing salaries working on full time basis*
e)	*Staff salaries are according to the government approved pay scales for the year 2019-20*
f)	*Medicines will be supplied from the regular store of the facility*
g)	*On the average one MAM child is treated at facility everyday*
h) *i)*	*Mobile OTP has the same inputs and activities accept that these centers do not require furniture and fixture instead a vehicle and it fuel is provided to carry the team to the field*
Nutrition Stabilization Center	
j)	*Established in an existing health facility (district or Taluka Hospital)*
k)	*Bed strength is ten and bed occupancy is 40%*
l)	*Utilities such as electrification, water supply are installed and operational*
m)	*Staff includes one pediatrician, two medical officers, eight nurses, two Ayas and two attendant working on full time basis*
n)	*Staff salaries are according to the government approved pay scales for the year 2019-20*
o)	*Medicines will be supplied from the regular store of the facility*
p)	*Out of four (or ten) admitted children for treatment of SAM, two (four) are being treated with F-75(one tin /child/day) and other medications as required and four (six) are being treated with F-100(one tin/child/day) while four (six) children are treated for dehydration.*
OTP/NSC outreach	
q)	*Staff (CHWs and CHS) is on the payroll of the facility on full time basis*
r)	*Staff salaries are according to the government approved pay scales for the year 2019-20*
s)	*There are 30 CHWs and one CHS for outreach in the catchment area of each OTP center*

Physical targets and achievements

Currently AAP-health and PINS-2 are operational in districts in Sindh, except districts of Karachi Metropolitan area and districts Dadu and Jamshoro. The districts where NSP has been

[2] The data on NSC is mostly from AAP health only as PINS 2 (ACF) has recently operationalized NSCs

operating till December 2019 have now been taken over by either AAP-Health or PINS-2. Table 2 below provide a roll out plan of nutrition intervention in districts of Sindh since 2014 to 2023.

Table 2 Roll-out plan of nutrition intervention in districts										
District	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Badin	-	-	-	NSP	NSP	AAP	AAP	AAP	AAP	AAP
Dadu	WINS	WINS	WINS	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Ghotki	-	Unicef/ USAID	Unicef/ USAID	Unicef/ USAID	AAP	AAP	AAP	AAP	AAP	AAP
Hyderabad	-	-	-	-	-	AAP	AAP	AAP	AAP	AAP
Jacobabad	-	-	-	NSP	NSP	AAP	AAP	AAP	AAP	AAP
Jamshoro	WFP	WFP	WFP	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Kambar/ Shadadkot	-	-	-	NSP	NSP/ PINS	PINS	PINS	PINS	PINS	AAP
Karachi Central	-	-	-	-	-	-	-	AAP	AAP	AAP
Karachi east	-	-	-	-	-	-	AAP	AAP	AAP	AAP
Karachi South	-	-	-	-	-	-	-	AAP	AAP	AAP
Karachi West	-	-	-	-	-	-	AAP	AAP	AAP	AAP
Kashmore	-	-	-	NSP	NSP	AAP	AAP	AAP	AAP	AAP
Khairpur	-	Unicef/ USAID	Unicef/ USAID	Unicef/ USAID	AAP	AAP	AAP	AAP	AAP	AAP
Larkana	-	-	-	NSP	NSP/ PINS	PINS	PINS	PINS	PINS	AAP
Malir	-	-	-	-	-	-	AAP	AAP	AAP	AAP
Matiari	-	-	-	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Mirpurkhas	-	-	-	AAP	AAP	AAP	AAP	AAP	AAP	AAP
Naushero Feroze	-	Unicef/ USAID	Unicef/ USAID	Unicef/ USAID	AAP	AAP	AAP	AAP	AAP	AAP
Sangbad	WFP	WFP	WFP	NSP	NSP	AAP	AAP	AAP	AAP	AAP
Shaheed Benazirabad	-	-	-	-	-	AAP	AAP	AAP	AAP	AAP
Shikarpur	WINS	WINS	WINS	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Sujawal	WINS	WINS	WINS	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Sukkur	-	-	-	AAP	AAP	AAP	AAP	AAP	AAP	AAP
Tando Allah Yar	-	-	-	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Tando Muhammad Khan	-	-	-	NSP	NSP/ PINS	PINS	PINS	PINS	PINS	AAP
Tharparkar	WFP	WFP	WFP	NSP	NSP	AAP	AAP	AAP	AAP	AAP
Thatta	WINS	WINS	WINS	PINS	PINS	PINS	PINS	PINS	PINS	AAP
Umerkot	WFP	WFP	WFP	NSP	NSP	AAP	AAP	AAP	AAP	AAP

Physical targets of OTP centers, outreach and NSC are established based on the WHO standards i.e. one OTP center in each union council, whereas one NSC is to be established in each district. The community outreach includes care at the household level by the LHWs and the areas uncovered are to be supported by the CHWs. For each 30 CHWs, one CHS is recruited in the AAP project; in the AAP districts, most of the physical targets these target are already achieved. Therefore the costing includes 206 OTP centers, five NSCs and 2969 CHWs. It is expected that the remaining OTP and NSCs centers will be established by the end of current financial year 2019-2020. The district wise physical targets and achievements are provided in table3 below.

Table 3 Physical targets and achievements as of 2019

	Districts		OTP centers		NSC		Outreach (CMWs)	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
PINS	10	8	359	263	8	8	3663	2648
AAP	19	13	819	709	12	9	8953	6999
Total	29	21	1178	972	23	17	12616	9647

While calculating the costs of all center based services, it is assumed that the required OTP centers and NSC are already established in the AAP (by GoS and other development partners) and hence after AAP, GoS only has to consider the operational management of the OTPs and NSCs as well as the outreach.

Another important consideration in calculating the cost is to run the OTPs and NSCs is that the existing structures, functions and support systems of the health department at all levels including district / facility/ outreach level are already in place and will continue to support the nutrition services through these outlets such as HMIS tools, regular medical and surgical supplies (e.g. syringes, gauze pieces, cotton swabs, canula etc); electricity and other utilities and management systems including supply chain etc..[xviii]

Cost Estimates

The cost estimates for field and community based nutrition services are presented as capital and operational costs. All capital costs are as per the WHO recommendations and the national guidelines (Annexure 3). Some additions are made on the basis of the existing model of nutrition interventions in Sindh. For example the height scale for baby/ child is not included in the list of equipment for the OTP centers but it is added in the estimate provided as per the guidance provided by the experts at PINS 2 and AAP health unit. Annexure 4 a, b and c provide itemized cost of inputs (capital and operational) of OTP centers, OTP outreach and NSCs respectively. Table 4 provides the total and all types of capital costs for establishing a new OTP center, NSC and recruiting a batch of 30 CHWs and one CHS/LHS for outreach services. In the case of NSCs, a nutrition kit is designed containing essential items to manage the NSC. The list of items in NSC kit is provided in annexure 5.

Capital costs are one time investment costs including sub categories of equipment and instruments, and furniture and fixtures. Certain types of instrumental are considered as consumable such as MUAC tape, flyers and educational material; hence these items are calculated as four and two times in a year respectively.

The total capital investment required to establish an OTP center is PKR 0.13 million and for NSC it is PKR 0.448 million. Equipment and instruments, and furniture and fixture are the major drivers (around 70%) of capital cost.

Table 4: Capital cost of establishing Nutrition intervention

	Equipment & instruments	Furniture & fixture	Others	Total
OTP center	42972	84000	2500	129472
OTP outreach	17072		1000	1068072
NS Center	100000	345000	3100	448100

Operational cost includes: staff salaries, nutrition supplies, and stationary. Other costs include utilities, repair and maintenance and POL/ fuel for (existing) vehicle. The cost of nutrition supplies are estimated based on two scenario derived from the assumptions on users of services at OTP centers and NSC as determined in the data on utilization of OTP and NSCs, field visits and the opinion of the expert panel. Staff salaries constituted largest share (63% for OTP center and 98% for outreach)

To calculate the annual operational cost of managing OTP center two scenarios are considered based on the size of district, its demography and average case load:
Scenario 1: 1patient per day/ per OTP and 60% occupancy of NSC; Cost estimation to run OTP = PKR 0.73M and cost estimation run NSC = PKR 7.9 million
Scenario 2: 4 patients per day/ per OTP and 100% occupancy in a ten bed NSC; cost to run OTP = PKR 1.4 million and cost estimation to run NSC = 8.6M.

Table 5: Operational costs of Nutrition interventions

Intervention	Staff Salaries	Nutrition Supplies scenario 1	Nutrition Supplies scenario 2	Medicine and other supplies	Stationary	Others	Total Scenario 1	Total Scenario 2
OTP center	463100	233333	933333	81250	4000	34000	734433	1434433
Outreach	7342500	-	-	-	12000	151200	7505700	7505700
NS Center	6404200	994133	1673700	2635300	10800	510000	7919133	8598700

Assuming a full coverage of the nutrition services delivery model for the year 2021-22 the financial requirements has come up to PKR 4050 million for all services if it is run as Scenario 1

and PKR 5096 million in case it is run in Scenario 2. For the subsequent years an annual composite rate of 10% financial projects can also be estimated.

Table 6: Province-wide budget implication of nutrition interventions in Sindh		
100% achievements	(in millions PKR)	
	Scenario1	Scenario 2
OTP center	865	1690
OTP outreach	3156	3156
NS Center	29	249
Grand Total	4050	5096

Conclusion

This report presents the cost of nutrition services both center based and outreach through CHWs in Sindh based on the data as received by the two main implementing partners – AAP health and PINS 2 (ACF). Only in few cases where data from field was not available, relevant estimates are used; for example number of CHSs in each district was not available, hence the ratio of LHWs to LHS which is already known is used to calculate the same[xix]. Similarly the salaries of staff differ in AAP health and PINS2, in such cases, the GoS approved pay scale is used with an assumption that after the project, the staff for OTPs and NSCs will be recruited on GoS pay scales. Lastly the management cost of project offices, monitoring and evaluation system, supply chain management and contractual costs of engaging with NGOs have not been included in the cost estimates, as these will become redundant after the project life. Consequently the cost estimates in this report are useful for the project management but their actual utility lies with the GoS.

Annexure 1

Summary of field visits						
District	Date visited	Taluka /UC	NS centers	OTP center	Outreach	Facilitates visited
Larkana	13-11-2019	4, 46	CMC, 2010, 10 beds	47	SRSO, 285 CHWs, 11 CHS	NSC CMC, OTP CMC, Shahabad & THQ Areeja
Khairpur	14-11-2019	8, 76	CH, KMC, 9 beds	76	Shifa, 467 CHWs, 24 CHSs	CH KMC, OTP in CH KMC, OTP KotDiji.
Tando Allah Yar	20-11-2019	3,20	-	22	TRDP ,239 CMWs, 6 CHSs	OTP Nasarpur & GuloHalipoto
Mirpur Khas	20-11-2019	7, 41	CH, DHQ 16 beds	38	WEO, 408 CHWs	NSC in DHQ, OTP in DHQ & MakhanSamo
Tharparkar	21-11-2019	6,37	DHQ Mithi, 12 beds	48	HANDs, Dhali Taluka, 95 CHWs	NSC in DHQ Mithi, OTP in Chalor
Sujawal	21-11-2019	4,25	CH Sujawal , 10 beds	25	PNFWH, 440 CHWs, 6 CHSs	NSC in CH Sujawal
Thatta	21-11-2019	5,40	CH Makli, 2010, 10 beds	30	PPHI,	NSC in CH Makli

Annexure 2

Requirements for running out-patient and inpatient services for acute malnutrition

a. OTP center

Basic equipment
Weighing Scale – baby
MUAC tape
Thermometer
Time watch
Scissor
Clean water for drinking (jug and cups)
Basic supplies
OTP card and Ration card for mother/caretaker
Transfer slip from inpatient to OTP
Referral slip from OTP to supplementary feeding where it exists
List of inpatients treatment sites
List of other OTP/SFP sites in the area(if SFP is available)
Essential medicine required in the routine medical protocol for OTP
RUTF
Soap for hand washing

b. NSC

Basic equipment
Weighing Scales
Infant scales(20g accuracy)
Height/length board(for infants<6 months)
MUAC tapes
W/H tables(for infants<6 months)
Calculator
Basic supplies
Soap for hand wash
Kitchen equipment to prepare feed
Cleaning products
Jugs and cups for therapeutic milk
Beds and bedding(including blankets)
Mosquito nets (in malarial areas)
Inpatient patient card & Inpatient register
Transfer slip from in patient to OTP
List of OTP sites in catchment area
Essential medicine and medical equipment
Nutritional products for inpatient care (F75, F100) and RUTF
ReSoMal (for rehydration)

Annexure 3

a. Costs of inputs provided to OTP center			
Resource inputs		Unit	Unit cost
Human Resources			
Nutrition Assistant	O	Month	44000
Public sector BPS-7	O	Month	22500
Attendant	O	Month	18000
Public sector BPS-4	O	Month	19600
Equipment and instruments			
Height measuring board	C	Item	2700
MUAC Tape (child)	C	Item	18
Height scale adult	C	Item	7000
Thermometer	C	Item	250
Electronic weighing scale mother/child	C	Item	17000
Electronic weighing scale baby	C	Item	15000
Time watch	C	Item	500
Scissors	C	Set	200
Furniture and fixtures			
Table	C	Item	12000
Chair	C	Item	6000
Bench	C	Item	5000
File Rack	C	Item	10000
Patients examination stool	C	Item	1000
IYCF Kit (Toys etc.)	C	Set	2000
IYCF corner curtains	C	Item	8000
Hand washing kit	O	Item	2000
Supplies and medicines			
RUTF	O	150 sachet	10000
Syrup Amoxicillin 250mg	O	one bottle	50
Syrup Mebendazole 100mg	O	one bottle	15
Stationary and printed materials			
OTP printing material	C	Set	2500
OPD registers/slips etc.	O	Set	1000
Utilities (Electricity, water supply etc.)	O	Month	2000
Repair and maintenance	O	Year	10000

b. Cost of inputs provided to outreach activities			
	Type	Unit	Unit cost
Human resources			
Community Health Worker	O	Month	3000
Public sector BPS-5	O	Month	21500
Community Health Supervisor	O	Month	33000
Public sector BPS-7	O	Month	22500
Equipment and instruments			
MUAC Tape (child)	C	item	18
Electronic weighing scale mother/child	C	item	17000
Vehicle (high roof)	C	Item	1050000
Stationary			
OTP printed material	C	item	1000
Referral material etc.	O	item	500
Fuel and maintenance of vehicle	O	Monthly 100 liters+1000 maintenance	12600

c. Cost of inputs provided to NS center			
	Type	Unit	Unit cost
Human Resources			
Pediatrician	O	Month	55000
Public sector BPS-18	O	Month	75000
Medical Officer		Month	80000
Public sector BPS17		Month	59000
Nurse	O	Month	35000
Public sector BPS-16	O	Month	39000
Aaya	O	Month	16500
Public sector BPS-2	O	Month	19600
Attendant/ Cleaner	O	Month	7500
Public sector BPS-1	O	Month	19000
Equipment and instruments			
NSC kit	C	Set	50000
Refrigerator	C	Item	50000
Furniture and fixture			
Air conditioner	C	Item	70000
Bed and bedding	C	Item	10000
Bench	C	Item	5000
Table	C	Item	12000
Patient stool	C	Item	5000
Stove for preparing food	C	Item	2000
Chair	C	Item	6000
Supplies and medicines			
F-75 Therapy diet 400gm	O	24 tins	10000
F-100 Therapy diet 400gm	O	24 tins	12000
ReSoMal, 84g	O	100 sachet	10000
Suspension Nystatin	O	One bottle	100
Lotion Benzyl Benzoate	O	One bottle	45
Mebendazole 100mg	O	One bottle	15
Inj. Dexamethasone phosphate 4 mg	O	Five injections	350
Solution Polyvidone Iodine 200 ml	O	One bottle	450
Tetracycline hydrochloride, 1%	O	One ointment	45
Gentian Violet 25g	O	One bottle	200
Zinc Oxide 10%	O	One ointment	300
Syrup Amoxicillin 250mg	O	One bottle	50
Syringes, cotton, IV etc.	O	set	250
Stationary and printed materials			
NSC printing material	C	Set	3100

OPD/inpatient printed materials	O	Set	700
Stationary (pen markers etc.)	O	Set	200
Utilities (Electricity, water supply etc.)	O	Month	40000
Repair and maintenance	O	Year	30000

Annexure 4

Details of Nutrition Stabilization Kit		
Name of Item	Unit	No
Sphygmomanometer along with Stethoscope (Pediatrics)	Item	1
Bowl Serving plastic	Item	6
Glass Beaker 2 Liters	Item	1
Glass Beaker 500 ml	Item	1
Glass Beaker 50 ml	Item	1
Juicer Blender	Item	1
Whisker	Item	1
Spoon for food preparation	Set	1
Spoon (Tea Spoon)	Set	1
Air conditioner 1.5 Ton (without installation)	Item	1
Bed Sheet - Cloth	Item	12
Wooden Stool (About 3 feet)	Item	1
Cooking Stove	Item	1
Microwave Oven	Item	1
Baby Weighing Scale	Item	1
Serving Plates – Plastic	Set	1
Feeding Cup – Plastic	Item	6
Blanket	Item	12
Thermometer Digital	Item	1
Water Filter	Item	1
Digital Weighing Scale for Food	Item	1
Digital Pulse Oximeter	Item	1
Four Pots (Small, Medium, Large & Extra Large)	Set	1
Bathtub with Mug	Item	1
Bucket with Mug	Item	1
Nebulizer	Item	1

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