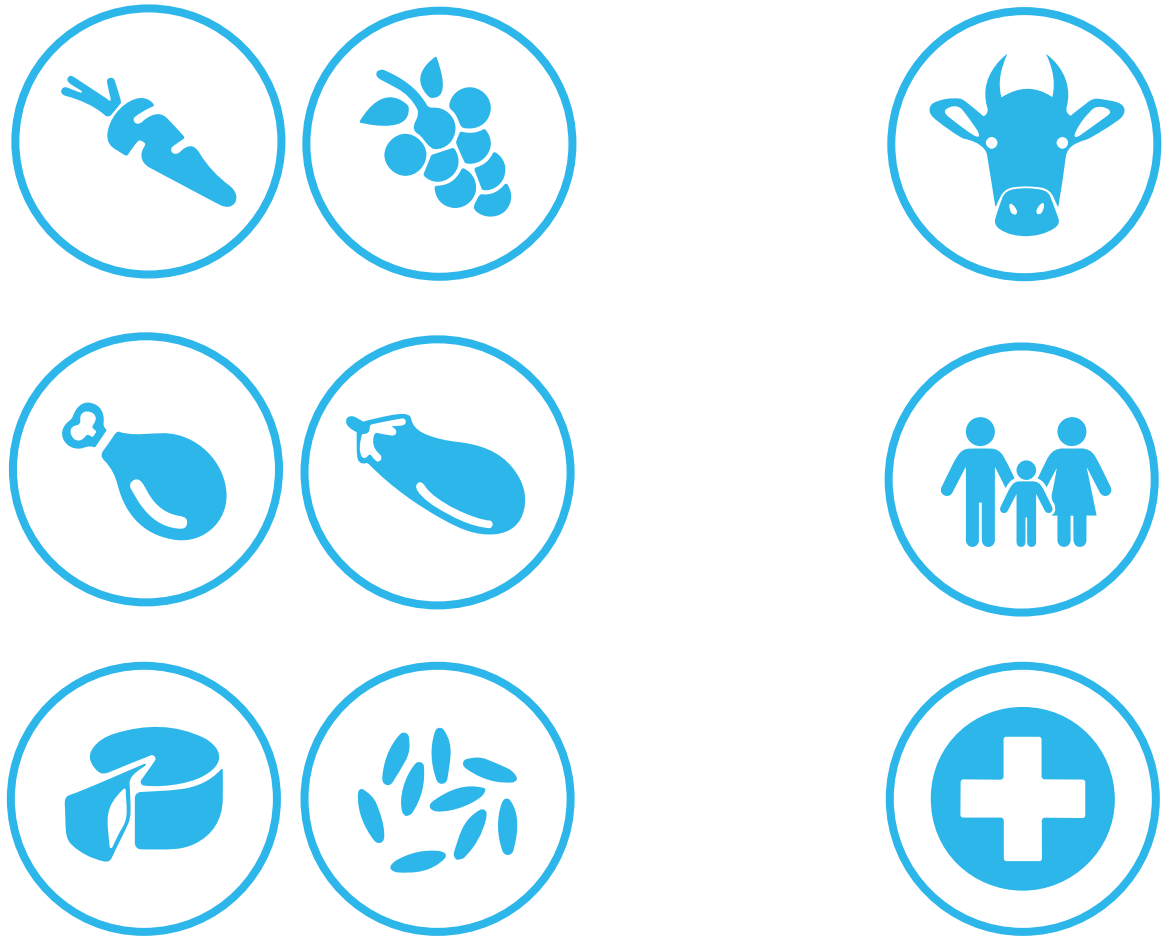
Food and Agriculture Organization of the United Nations

PAKISTAN FOOD SECURITY CLUSTER
Strengthening Humanitarian Response

Guidelines

Integrating Nutrition into Food Security and Livelihoods Interventions for Emergencies



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Disclaimer
The observations and opinions expressed in this publication do not necessarily reflect the position of all Food Security Working Group and Cluster members.

Acronyms and Abbreviations

ACF	Action Contre La Faim (Action Against Hunger)
ACTED	Agency for Technical Cooperation and Development
AJK	Azad Jammu & Kashmir
BMI	Body Mass Index
CCCM	Camp Coordination and Camp Management
CFW	Cash for Work
DFSA	Detailed Food Security Assessment
DRR	Disaster Risk Reduction
ECHO	European Civil Protection and Humanitarian Aid Operations
FAO	Food and Agriculture Organization of the United Nations
FATA	Federally Administered Tribal Area
FS&N WG	Food Security and Nutrition Working Group
FSC	Food Security Cluster
GAM	Global Acute Malnutrition
GB	Gilgit-Baltistan
HCT	Humanitarian Country Team
HRT	Humanitarian Regional Team
KP	Khyber Pakhtunkhwa
LRA	Livelihood Recovery Appraisal
MAM	Moderate Acute Malnutrition
MIRA	Multi Cluster Initial Rapid Assessment
MoNHSRC	Ministry of National Health Services Regulations & Coordination
MUAC	Mid Upper Arm Circumference
NDMA	National Disaster Management Authority
OTP	Out Patient Therapeutic Program
PDM	Post Distribution Monitoring
PDMA	Provincial Disaster Management Authority
PEFSA	Pakistan Emergency Food Security Alliance
PLW	Pregnant and lactating women
PMD	Pakistan Meteorological Department
PPHI	Peoples Primary Health Care Initiative
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SFP	Supplementary Feeding Program
SLEAC	Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage
SQUEAC	Semi-Quantitative Evaluation of Access and Coverage
SUPARCO	Pakistan Space and Upper Atmosphere Research Commission
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	United Nations World Food Programme
WHH	Welthungerhilfe
WHO	World Health Organization
WINS	Women and Children/Infant Improved Nutrition in Sindh

About this document

The development of these guidelines were initiated by the "Food Security Nutrition Sensitive Working Group," of the Pakistan Food Security Cluster comprising of WFP, UNICEF, and Ministry of National Health Services, Regulation & Coordination; Ministry of Food Security and Research and FAO as co-chairs, with engagement of major INGOs, working in nutrition sensitive/specific, food security and livelihoods. Formative research was carried out in the form of individual consultative meetings and consensus building workshops and post workshop feedback. This was supplemented by desk review using Google Scholar and PubMed, websites of organizations including FAO, WFP, UNICEF, and WHO, and manual review of relevant reports. Comprehensive documents that served as key building blocks for these guidelines include the FAO's Synthesis of the good practices and lessons learnt on integrating nutrition and food security programming fact-sheet, the Guidance Checklist for Good Coordination and Programming between Food Security and Nutrition Clusters, as well as ACF International's 2014 Nutrition Security Policy, and Maximising the Nutritional Impact of Food Security and Livelihoods Interventions – A manual for field workers. The FAO E-learning training module was referenced for explaining the key concepts on integrated programming . Efforts were made to link and draw conclusions from both primary and secondary research findings. Thematic analysis was conducted in line with the objectives of the guidelines. The guidelines will be disseminated widely among FSCs, nutrition development partners and other key stakeholders, including donors and relevant government counterparts.

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These guidelines have undergone several rounds of consultative processes with the Food Security and Nutrition Sensitive Working Group *(See Annex 11 for list of members)*. We gratefully acknowledge the inputs generated from in depth interviews held between June and August 2016, and focus group discussions on 27 June 2016. *(See Annex 12 for full list of participants).* Meetings and workshop were made possible with the financial support from ECHO and the technical support from the Food Security Working Group.

Contents

0 I
Introduction

1.1. Background and Rationale

Food and nutrition security is a high priority on the global agenda, linked with 14 out of the 17 Sustainable Development Goals (SDGs), specifically SDG 2[2] . The global agenda of integration of the Food Security Cluster and the Global Nutrition Cluster highlighted the need for developing strategies and sharing best practices in support of food security and nutrition needs for crisis affected households and populations[3]. There is strong evidence that linkages between food security and nutrition need to be considered in the design and delivery of emergency response[4]. As illustrated in the UNICEF Conceptual Framework *(Figure 1)* - widely used by the nutrition community for analysing the nutrition situation and designing interventions - maternal and child undernutrition have multiple immediate causes operating at individual level, underlying causes operating at household level, and basic causes operating at the societal level. This framework is applicable in Pakistan, where the causes of chronic malnutrition and food insecurity are complex, and compounded by frequent, unpredictable shocks including natural disasters and conflicts (see further discussion in *Chapter 2*).

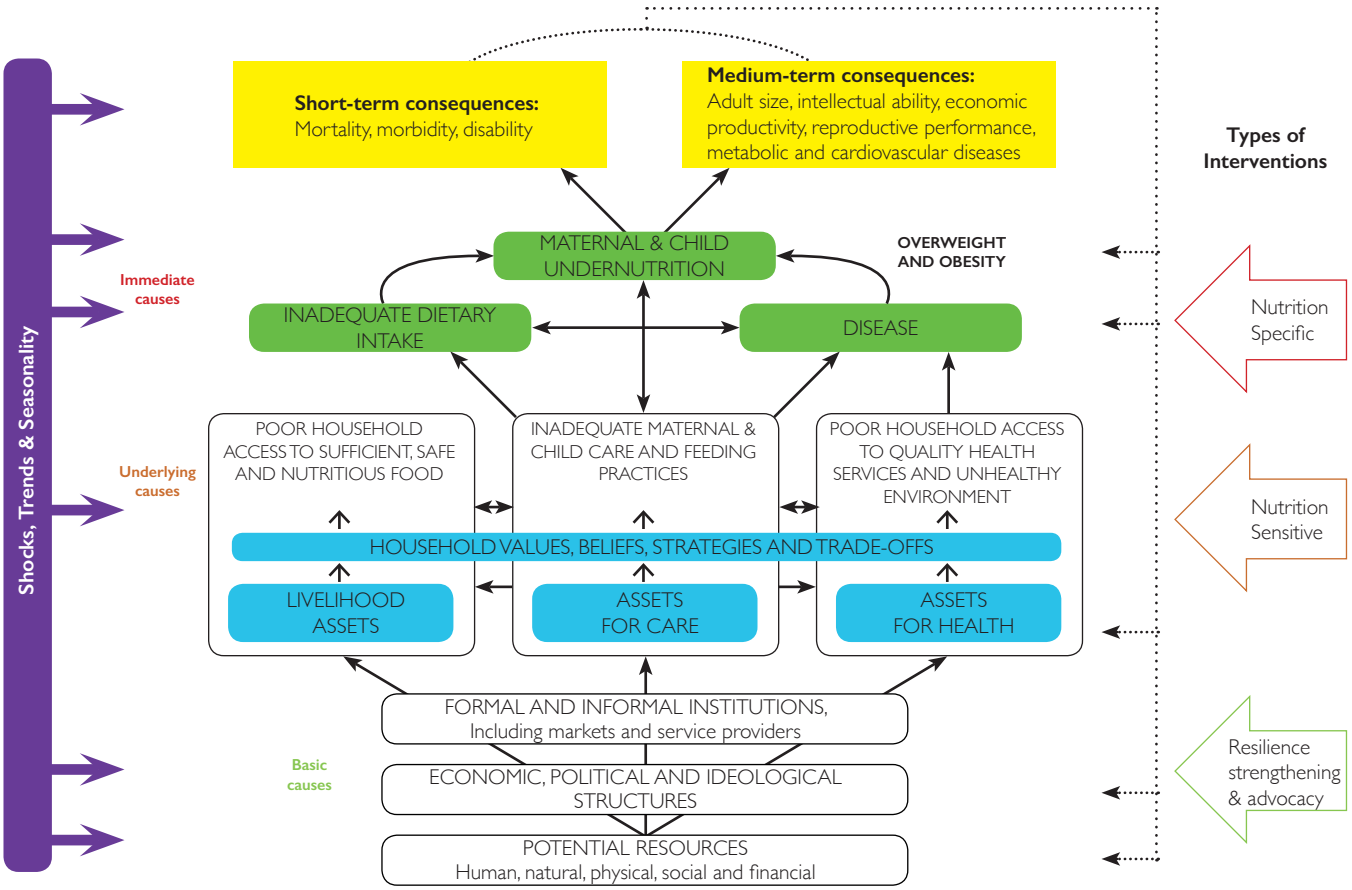


Figure 1. UNICEF Causal Framework for Malnutrition, adapted from UNICEF 1994, BLACK 2008 and ACF Nutrition Policy 2014[5].

Coherent, well-coordinated multi-sectoral approaches which combine nutrition specific and nutrition sensitive interventions are needed to effectively address food security and nutrition issues in both stable and crisis context. Integrated nutrition-sensitive food security and livelihood interventions can greatly improve the nutrition status of individuals, and ensure that underlying determinants, such as access to nutritious foods, health and sanitation environments and child care practices are addressed[6].

Integrating nutrition into FSL programmes in emergencies will also serve to enhancing resilience in areas prone to conflict and disasters. Nutrition is recognized to be both an input to and outcome of strengthened resilience. In emergency situations, households that are least resilient are at the greatest risk for malnutrition. Well-nourished individuals and households that are nutritionally secure can better withstand, endure and recover more quickly from external shocks[7].

Box 1: Nutrition Specific and Nutrition Sensitive Interventions

Nutrition-specific interventions: Interventions that address the immediate determinants of fetal and child nutrition and development—adequate food and nutrient intake, feeding, care-giving and parenting practices, and low burden of infectious diseases.

Nutrition-sensitive interventions: Interventions that address the underlying determinants of fetal and child nutrition and development—food security; adequate care-giving resources at the individual, household and community levels; and access to health services and a safe and hygienic environment—and incorporate specific nutrition goals and actions.

(Ruel et al., 2013)[8]

1.2. Purpose of the guidelines

Currently, no guidance is available at the country level that support key stakeholders in Pakistan on planning and implementing integrated nutrition sensitive FSL projects, and monitoring and evaluating the outcomes and impacts. To fill this gap, the Pakistan FSWG/C developed these guidelines aimed at facilitating the work of integrating nutrition within the nutrition, food security, and livelihood sectors and across the entire project cycle, from assessment, design, and implementation of interventions to monitoring and evaluation. These guidelines are specifically designed for emergencies within the Pakistan context and take into account local norms and practices. By broadening the understanding on the why and how to plan FSL response to emergencies with a nutrition lens, these guidelines will hopefully encourage further integration of nutrition into FSL interventions.

1.3. Scope

The guidelines are meant to:

- Provide an overall context of Pakistan in relation to the basic, underlying and immediate causes of malnutrition;
- Clarify relevant concepts on designing nutrition sensitive interventions for food and livelihood intervention;
- Provide step-by-step guidance on how to integrate nutrition into programmes and projects, following a project cycle approach;
- Provide country specific examples of previous and ongoing work in Pakistan;
- Illustrate existing capacity and entry points, as well as potential barriers and challenges for relevant actors in the planning, implementation, and M&E of nutrition sensitive FSL interventions in emergencies.

The guidelines do not cover basic concepts on food security, livelihoods and nutrition science, guidance on designing nutrition-specific programming for emergencies and guidance on nutrition sensitive policy design. Reference will be made to sources elsewhere where they are well documented, with essential definitions included in the annexes.

The intended users of this guide include: policy makers at the federal and provincial level; programme managers who work on the implementation, monitoring and evaluation of interventions in different sectors that have close linkages to nutrition (e.g. agriculture, livelihood/livestock, education, WASH, health, and food security interventions); international and national non-governmental organizations (NGOs) and Community-based organizations (CBOs); United Nation organizations (UNOs), as well as experts from research organizations and academia, and donors supporting nutrition sensitive interventions in Pakistan.

02
Assessing the Pakistan Nutrition Situation

The first step in designing any nutrition sensitive intervention is making a thorough assessment of the context, to understand the current nutrition situation, especially in relation to women and children, and the causes for malnutrition. Context assessment can include potential food resources, agro-ecology, seasonality of production and income, access to productive resources such as land, market opportunities and infrastructure, gender dynamics and roles, opportunities for collaboration with other sectors or programmes, and local priorities[9].

2.1. Pakistan's Country Profile

Pakistan is ranked at 147 out of 188 on "Human Development Index" (HDI), only higher than Afghanistan in South Asia[10]. Poverty has risen in the last decade, with over 50% of the population living below the poverty line of $2 per capita per day[11]. Further, based on recently updated national poverty line, 29.5% population in Pakistan is poor (18.2% in urban and 35.6% in rural areas) with per capita income[12]. Despite substantial poverty reduction and improvement in the role of women during the 1980-2000 period, economic constraints remains the main limiting factor for achieving food security. Poverty affects both farming and non-farming households[1] in rural areas, primarily due to unequal land distribution and access to water. Wide disparity in development exist at national, provincial and local level and between rural and urban areas, largely due to inequalities in land holding and access to education and employment opportunities. These disparities are further intensified by divides between different ethnic groups, gender inequalities, social exclusion and marginalisation of minority groups.

Following the global food crisis of 2007-2008, food prices continue to be highly volatile. This, coupled with a stagnant economy, inadequate employment for growing a population, low labour force participation rate and landlessness, limits the poor's access to safe and nutritionally adequate foods. Additionally, physical access for food is a challenge in many areas in Gilgit-Baltistan, Balochistan, Azad Jammu Kashmir and Khyber-Pakhtunkhwa[13].

Additionally, Pakistan is frequently affected by both natural and man-made disasters. Natural disasters include large-scale floods, earthquakes, cyclones, landslides, extreme temperatures and droughts. Climate change is expected increase the frequency and intensity of Pakistan's weather related disasters. Repeated conflict and the tense security situation prevalent in KP since 2009 have also posed massive threats to the society, economy, environment, and food and nutrition security (see *Section 2.3.4* for impacts of emergencies on food and nutrition security).

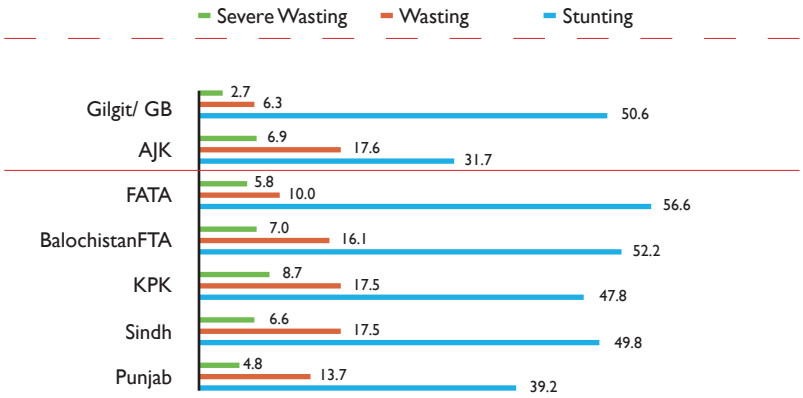
1 Excluding agricultural laborer households

2.2. Understanding the nutrition situation

The first step of a nutrition situation analysis is the understanding the nutrition profile of an area, including prevalence of different types of malnutrition (i.e. chronic and acute malnutrition, micro-nutrient deficiencies and obesity), distribution across population groups and geographic areas, seasonal and long term trends. Understanding the nutrition profile is essential for defining programme objectives, and for identifying the most vulnerable populations for targeting purposes, as well as the selection of appropriate interventions.
In Pakistan, some data for the national and provincial levels, such as prevalence of chronic and acute malnutrition (stunting and wasting), anaemia, vitamin and mineral deficiencies, obesity and chronic disease and exclusive breastfeeding are available from secondary sources, namely the 2011 NNS and 2014 MICS for Punjab and Sindh. Primary anthropometric data at individual level such as weight for height, MUAC, anaemia and BMI are useful but can be challenging to collect in emergencies, in terms of logistics and due to frequent shocks and volatility.

National level data reveal that the overall prevalence of undernourishment in Pakistan is 22% and 41.4 million population is undernourished[14]. The forthcoming report of Food Security Analysis (FSA) conducted in 2015-16 reports 18% of population in Pakistan is undernourished[15]. However, over 9 million children under five are affected by stunting. This is the third highest population of stunted children in the world. The 2011 NNS showed that since the last survey in 2001, stunting and wasting rates have increased from 42% to 43.7% of children under five stunted and 13% in 2001 to 14% 2011 wasted, and 31.5% were underweight, unchanged from 2001[16]. Regionally, the more recent Multiple Indicator Cluster Survey (MICS) conducted in Sindh in 2014 reveals that 48% under 5 children are stunted, 42% are underweight and 15.4% are wasted[17]. Likewise, in Punjab, the more recent MICS survey conducted in 2014 reveals that 33.5% under 5 children are stunted, 33.7% are underweight and 17.5% are wasted[18]. Consequently, these children are more vulnerable to disease, and at risk of long term, irreversible impairment of mental and physical development.

Figure 2: Nutrition Status of children under five.



Source: - Pakistan National Nutrition Survey - 2011

Additionally, the 2011 NNS reported widespread micro-nutrient deficiencies among women and children under five, with marked increases from the 2001 survey. At the national level, 62% of children were found with anaemia, and 43.8% were iron deficient. Disaggregated data at the provincial level shows variations in anaemia rates ranging from 13.4% in KPK to 36.4% in Punjab. Nationally, 54% of children were found to be vitamin A deficient nationally, increasing from 13% in 2011. Similar increases were found in women of reproductive age (non-pregnant), where the NNS 2011 showed widespread anaemia at 50.4%, vitamin A at 42%, vitamin D at 66.8% as well as zinc deficiency, at 41.3%. The only improvement is found in both groups is in iodine deficiency, due to a successful national salt fortification program and awareness campaign[19].

The Global Nutrition Report 2015 shows that Pakistan is currently off course for the progress on all the World Health Assembly nutrition targets, including stunting, wasting and overweight in children under five, anaemia and exclusive breastfeeding for children under 6 months[20].

2.3. Understanding the main causes of malnutrition

2.3.1. Food production and food security

Agricultural production is a key determinant of household food security in terms of availability and access, as well as income distribution, especially in a country like Pakistan, where more than 60% of population depends on agriculture sector for their livelihood. The agriculture sector contributes to 20% percent of GDP and employs 42% percent of country's labour force[21]. Agriculture sector also accounts for about 40% of rural household incomes[22]. Agriculture contributes to about 21% of the Gross Domestic Product (GDP), and employs 45% of the country's labour force, and accounts for about 40% of rural household incomes[23]. A World Bank report in 2007 stated that the poorest 40% of rural households derive about 30% of their total income from agriculture, and that the majority of the rural population were neither tenant farmers nor farm owners[24]. This is exacerbated by the existence of feudalism and bonded labours in some areas (South Punjab and Sindh).

Agriculture production is unevenly distributed across different areas of the country. Total cereal or staple crop production, predominantly wheat, maize and rice, is concentrated in the provinces of summary Punjab and Sindh, and is forecasted to reach 41.6 million tonnes in 2016[25], where 30% and 40% of the harvest of wheat and maize is exported. In contrast, KP and Balochistan suffer from shortfalls in cereal based foods, though Balochistan shows a positive trend in production of animal sourced foods[26]. These provinces often depend on production in Punjab or imports to satisfy their needs. Many rural households cannot afford inputs, or lack the know-how to grow enough food for sustenance, let alone for sales. Seasonal variations as well as natural and man-made hazards further affects agricultural production, and hence food availability in different regions of Pakistan (see *Section 2.4*). The NNS 2011 reported a high prevalence of food insecurity at the national level, at 58%, and even higher in Sindh province, where 72% of households were food insecure, with 52% of the population in a state of hunger (severely and moderate). The state of food insecurity report (SOFI 2015) estimated that 22% population in Pakistan is undernourished or caloric deficient[27]. The forthcoming State of Food Security report estimates that 18% of population in Pakistan is undernourished. Across the provinces/regions, the prevalence of undernourishment is highest in Gilgit-Baltistan (51%) followed by 43% in FATA and 40% in Balochistan. On the other hand, Islamabad has the lowest prevalence of undernourishment (12%) followed by 14% in Punjab and 20% in KP[28].

2.3.2. Food consumption patterns and diet quality

Assessment of food consumption patterns and diet quality, in terms of diversity, energy, provide an understanding of whether current diets meet nutrition needs and help identify populations that are the most food insecure and vulnerable to malnutrition.

In Pakistan, cereals, fats, sugars and dairy products represent the main sources of caloric and macronutrient intake, and staple crops account for more than 50% of caloric intake (*Table 1*), with wheat as the major source[29]. Nationally, 35% of households have low dietary diversity , consuming fewer than five food groups per week. There is wide disparity between provinces. For instance, 55% of households in GB and 44% in Sindh consume non-diverse diets[30].

In Pakistan, there is an overall low household dietary diversity and consumption of micro-nutrient rich foods (vegetables and fruits)[31]. Table 1 reveals that Dietary Diversity in Sindh is lower than national average, with 18% with a DD score ≤ 60%, versus 17% for the general population[32].

A 2009 study across different agro-ecological zones of Pakistan found low consumption of foods that are high essential micro-nutrients, such as iron, calcium, and Vitamin A, especially in deserts and in fragile and marginal areas, and even more so on small farms and in areas with landless people[33]. Calcium deficiencies are most acute in desert ecologies (48%), but across the country as a whole are only 4%[34]. Vitamin A deficiency is of the greatest concern, as the shortage of this in rural areas was reported to be 85%[35], mainly due to the high costs of Vitamin A rich foods, such as edible oils, eggs, vegetable and fruits[36].

The limited amount of iron, zinc, iodine and vitamin A in the diet, poor infant and young child feeding practices, including poor care practices such as reduced exclusive breastfeeding and lack of knowledge about early initiation of breastfeeding, all have an impact on dietary patterns during pregnancy and early childhood and on nutritional status. These findings illustrate the importance of targeting women and children in any nutrition sensitive intervention.

Table 1: Pakistan food consumption patterns

Population	Average Per capita Kcal consumption	Average % of Calories from Staples[3]	% Population with Share of Cereal>60%[4]	Households Dietary Diversity Score[5]	% of households with low dietary diversity
Pakistan	2,360	51.2	17	5.0	35
Urban		51.2			
Rural		51.3			
Punjab	2,485	49.9	13	5.0	35
Sindh	2,229	56	18	4.8	44
KPK	2,313	51.6	27	4.6	18
Balochistan	2,064	49.2	9	4.9	35
Islamabad	2,652	46.6	4	5.4	19
FATA	1,951	46.6	29	4.9	40
Gilgit-Baltistan	1,973	53.9	36	4.3	55
AJK	2,204	49.8	21	5.4	23

2 Households that, over the course of a seven day recall period, consumed foods from five or fewer of the seven food groups are classified as having low dietary diversity.
3 SDPI Sustainable Development Policy Institute and World Food Program; Krishna; Food-Security-in-Pakistan-Issues-and-way-Forward.pdf. SDPI. 2015. Accessed online at http://www.sdpi.org/sdc/presentation-sdc/Abid-Krishna_Food-Security-in-Pakistan-Issues-and-way-Forward.pdf
4 Government of Pakistan, Ministry of National Food Security and Research, State of Food Security in Pakistan, Islamabad, Pakistan
5 Government of Pakistan, Ministry of National Food Security and Research, State of Food Security in Pakistan, Islamabad, Pakistan

Box 02: Example Questions to be included in nutrition sensitive food security and livelihoods assessments

A. Nutrition Situation of the target geographical area

- What is the prevalence of malnutrition in the country/programme area?
- Are there any seasonal or gender patterns in rates of acute malnutrition? How are these explained?
- Are certain geographical areas more affected by malnutrition than others? (If so, which ones and why?)
- Are certain livelihood groups and/or socio-economic groups, such as smallholders, land less, urban residents, unemployed, ethnic minorities, more affected by malnutrition than others? What forms of malnutrition, and why?

B. Food groups, nutritional contents of food and major crops including livestock

- What are the different food groups, which foods are rich in major nutrients (including iron, vitamin A, calcium, iodine etc.) and frequency of food in take by men, women and children(girls/boys) during last seven days or 24 hours (dietary recall)?
- What kind of resources including crops, vegetables, livestock and poultry are available and to what extent are these resources adequate in meeting nutritional needs?
- How can we improve the food and fodder crops, as well as vegetables and fruits availability through household production along with livestock and poultry inputs to improve dietary diversity?
- What are the most climate resilient crops that can be grown? What are the main constraints to food production?
- Are there times of food scarcity; if so, for which foods and for how long?

C. Adequacy of food consumption pattern or dietary intake or micro-nutrients.

- What do household members eat and in what quantity (including women, children, girls and boys)? Do they eat together?
- How is the food prepared and preserved? What is considered a good meal? And in which season?
- How much is the overall household expenditure and how do much they earn? How much of the foods requirements are met by the household food production before and after disaster(s)?
- What kind of assistance is required in terms of food rations, agriculture, livestock, food?

D. Agro-biodiversity portfolio and availability

- What types of major crops, vegetables and fruits, including legumes, seeds and nuts are produced? What type of animals and poultry are available?
- What damages were incurred in recent years, with reference to crop, livestock, poultry and horti culture productions?

E. Care given to children, and pregnant and lactating women

- When is breastfeeding started, what are prevailing trends of exclusive breast feeding till six months of age? How long are children breastfed (girls/boys)?
- In children under 2 years of age, when is complementary feeding started, what are the major complementary foods and their frequency and quantity given in the last week?
- How are children above 2 years fed?
- Is there a decrease in food intake by the household members, pregnant and lactating women and children after the floods?
- Breast feeding substitutes must not be given in emergencies, so enquire about the practice to minimize the risks.

F. Gender sensitivity toward the food consideration and selection

- Who is involved in food production (and how)?
- Who is involved in selecting and preparing the foods to be eaten?
- Who is involved in making decisions on and purchasing foods?

2.3.3. Health and Sanitation Environment

In food insecure, rural areas, inadequate access to safe water, sanitation or health facilities and infrastructure, as well as poor hygiene conditions and practices result in diarrhoea or repeated parasitic infestations and impedes proper utilization and absorption of nutrients from available foods. Those who suffer from malnutrition, frequently exacerbated by associated diseases (malaria, etc.), also have an elevated risk of diarrhoea. This results in a vicious circle that harms a child's growth and development. Much of rural Pakistan and urban slums do not have access to safe water and sanitation. Around 50% of the population has access to piped water, with wide inter-province variations, and risk of contamination is high[38]. The majority of households (90 percent) do not treat their drinking water, and only 8 percent of households use an appropriate water treatment method, and less so in rural households, and some engage in unsafe food preparation practices such as washing vegetables using contaminate water. A major bottleneck is the quality of available data, and some of the definitions used for characterizing "safe water," including rainwater collections.

In emergencies, the prevention and control of the outbreak of infectious diseases becomes more critical and challenging. After the 2010 floods, the affected provinces sustained varying degree of damages of health facilities and water supply and sanitation, and the incidence of acute diarrhoea increased immediately, as well as malaria, after 6 months[39]. As discussed in *Case Study 1*, prolonged drought in Tharparkar saw a rise in deaths from drought-related waterborne and viral diseases, as well as zoonotic diseases. These last killed also thousands of small animals, reducing availability of the major food source for protein and confirming that zoonotic diseases are one major determinant of malnutrition. See below further discussion on the impact of emergencies on food security and nutrition.

2.3.4. Impact of emergencies on food security and nutrition

Given that Pakistan is prone to both acute and protracted emergencies, due to a combination of recurring hazards, both natural and man-made, adversely affecting the overall nutrition and food security, as well of access to food, health and care, it is crucial to understand the extent to which emergencies could impact the food security and nutrition status of the affected population. This depends on the intensity, duration, and type of disasters and prior nutritional and food security status of the population. *Annex 9* shows the current disasters in Pakistan and their potential impact. In the agricultural sector, poor smallholder farms, and pastoral and fishing communities with low and variable food production are often the least resilient to and the most affected by shocks. Natural disasters have continued to displace populations and have caused destruction of crops, food stock for daily use and for planting the next season's crop, as well as poultry and livestock assets.

While monsoon rains bring fertile lands, Sindh, Punjab and Khyber Pakhtunkhwa are most frequently and severely affected by floods, with heavy floods in 2011-2012, and most recently in 2015. Many agricultural lands lie in flood prone districts. In flood affected areas, as only 15% of the households were found to be at the acceptable level of food consumption, and 65% are at borderline level[40]. On the other hand, some areas in the southern region of Pakistan remain chronically vulnerable to drought . In 2012-2013, droughts[41] caused extensive damage in Balochistan, Sindh and Southern Punjab[42]. (See *Case Study 1*, Impact of prolonged drought in Tharparkar, North Sindh).

In Northern Pakistan, where subsistence agriculture is a key livelihood, an earthquake of magnitude 7.5 caused over 200 deaths in October 2015, and resulted in damages to livestock, agriculture infrastructure and water channels; households received food aid at the wake of the disaster and many continue to suffer from its impacts.

Conflicts and insurgencies, particularly in northern Pakistan's FATA and KP provinces, have led to an estimated 1.9 million being displaced, and these populations do not have the capacity nor land to produce food and rely mainly on humanitarian assistance for food and basic necessities.

Case Study 1: Impact of prolonged drought in Tharparkar, North Sindh[43]

Since 2012, drought has led to persistent crop failures, low cereal production, and high prevalence of zoonotic diseases leading to loss of small animals especially in sheep and goats. Shortage in water supply has resulted in reduced harvest by 34-53% and livestock by 48%. The outbreak of sheep pox has killed thousands of small ruminants that are critical to household food security.

Poverty, lack of access to health facilities, lack of availability of safe drinking water, high levels of illiteracy, lack of family planning, and climate change caused further deterioration in the nutrition status of children and women. Tharparkar has high fertility rates, and the highest under-five mortality rate in Pakistan with 90-100 deaths/ 1,000 live births. The malnutrition rates are above the national average, with GAM rate at 22.7% and stunting at 45.9%. More than 190 children have died and 22,000 have been hospitalised in Tharparkar district in 2016 because of drought-related waterborne and viral diseases.

NDMA, PDMA and Sindh Government are providing health treatment and also distributing food items in some areas. Pakistan Emergency Food Security Alliance (PEFSA) has implemented an intervention to respond to the emergency concluded in 2015.

2.4. Institutional and stakeholder capacity for nutrition

Understanding the institutional and stakeholders that work on nutrition can allow programme planners to understand the enabling environment for nutrition sensitive interventions in the country, in terms of entry points and opportunities for collaborative action, existing and potential resources, and where expertise and support can be sought. Institutions and stakeholders may be governmental or non-governmental (i.e. UN, civil society and private sector).

2.4.1. Pakistan's Government commitment and actions

Policy frameworks and regulations in nutrition, food and agriculture and other sectors as well as high level political commitment that explicitly mention nutrition, can provide an enabling environment for integrating nutrition into FSL interventions. Some key measures and actions in Pakistan are discussed below. *Box 3* outlines specific priorities for Pakistan that can improve the enabling environment for nutrition sensitive policy and programming for FSL, to ensure better impact on nutrition.

High level Nutrition Commitment

- In 2013, Pakistan joined the Scaling Up Nutrition Movement to step up national efforts in combating chronic child undernutrition, with national level coordination by the Planning and Development ministry and sub-secretariats at four provincial levels[44]. Networks include the SUN Academia and Research; Donors network, Civil society alliance, SUN Business Network and UN Network for SUN[45]. They enable negotiations with the Government on financial commitments for sustainability in the area of Nutrition and food security in Pakistan, and present potential platforms to coordinate multi-sectoral, nutrition sensitive interventions.
- For 2015-16, there is specific budget allocation for Nutrition and the Sustainable Development Goals (SDGs).

National Level Policies

- National Agriculture and Food Security Policy The Government of Pakistan has been in consultation with different stakeholders on this, it is currently being finalized.
- Pakistan Integrated Nutrition Strategy" (PINS) formulated in consultation between government and development partners. It emphasizes complementary and coherent actions through cross-sectoral planning, and sectoral integration of all vertical programmes into a single entity for implementation.
- National dietary guidelines have been drafted and are under review. They will be available in early 2017.

National level Programs

- National Income Support Program (NISP) (formerly known as the Benazir Income Support Programme (BISP)) is a Federal Government national programme allocation that provides a social safety net to women and contributes to national food and nutrition security[46].
- Emergency response: In response to the last three floods, Pakistani government distributed agricultural inputs along with supplementary nutritious foods in flood-affected districts. To improve household livelihoods, cash was also distributed among the affected population.

Provincial Level Strategies

The devolution of Pakistan's government (2010-11) has led to the formulation of Inter-Sectoral Nutrition Strategies geared towards addressing highly variable contextual needs at the provincial level, as well as the placement of responsibility on nutrition related actions with the provincial Planning and Development Departments (P&DDs), for effective steering across sectors. Several intersectoral strategies have been developed and approved:

- Sindh - The Inter-Sectoral Nutrition Strategy Sindh addresses the Departments of Agriculture, Food, Livestock, Poultry, and Fisheries, Health, Education, WASH, and Social protection are well addressed with active roles in Planning & Development[47].
- KPK - A Multi-Sectoral strategy was finalized in 2014 by the Planning & Development Department. The Agriculture, Food, Education, Social Protection, Health and Nutrition Departments each have a role to play in improving the nutritional status of the population.
- Punjab - Punjab Multi-Sectoral Nutrition Strategy 2015.

Box 3: Specific priorities for improving the enabling environment for nutrition sensitive policy and programming for FSL in Pakistan, to ensure better impact on nutrition[48]:

Politics and Governance

- National Nutrition Policy and Action Plan is in place, including plans to effectively monitor and evaluate the programmes and interventions that are implemented under the Action Plan;
- Maintain the current level of political interest in nutrition at the highest possible level;
- Support multi-sectoral strategies to improve nutrition, with national, regional and local government structures, especially ensuring that systems are in place that facilitate coordination among different departments, especially those related to health, WASH, nutrition, and agriculture, and ensure all sectors are involved in the SUN process.

Capacity Building
At individual/organizational and systemic level

- Develop and strengthen strategic, operational, and technical capacities at all levels, especially with regard to technical knowledge, communication, and networking skills and design and operationalization of nutrition-sensitive programs.
- Increase nutrition literacy, from policy makers to extension workers and communities, as well as knowledge of agriculture and nutrition pathways.

For Financial Resources

- Continue budgetary allocations analysis, including non-public sector financing;
- Improve use of existing financial resources for nutrition sensitive programming, and monitor utilisation of budgets as an overarching indicator of success.

Generating Data and Evidence
(for tracking progress and demonstrating impact)

- Ensure synchronised, regular and integrated collection and analysis of appropriate and high-quality data on agriculture, nutrition, and health; specifically monitor dietary consumption and access to safe, diverse and nutritious foods;
- Carry out thorough evaluations of agriculture–nutrition policy and programmes to further under stand how they are shaped and how they can be best informed by relevant research;
- Effectively and succinctly communicate research findings in a timely manner to inform policymakers (e.g., through policy briefs, face-to-face meetings, and nutrition champions)

2.4.2. Non-Governmental Stakeholders in FSL/Emergencies and Nutrition in Pakistan

Complementary to government actions and commitments, development partners, including UN Organizations, civil society (international/ local NGOs) and private sector have ongoing programs or projects at different levels that aim to address food insecurity and malnutrition with support from international Donors. Mapping out how these actors currently work together and independently on nutrition sensitive and specific interventions is necessary for identifying gaps as well as potential entry points for coherent actions. Examples case studies can be found in *Section 3*.

Multi-Stakeholder Coordination Mechanisms

The SUN Multi-stakeholder Platform at the national level gives an overview of the relevant ministries and the most active development partners working in Nutrition and FSL:

- Government Ministries
    - o Ministry of Planning Development & Reform – Nutrition Section/ acts as SUN Secretariat Scaling up Nutrition (SUN) section is housed in Ministry of Planning Development & Reform. Under the guidance of "Chief of Nutrition", It undertakes research studies and state policy development (Guidelines; strategies & policies..) initiatives for the growth of and the expansion of the public and state infrastructure of nutrition in line with the Vision 2025

    - o Ministry of National Health Services Regulation & Coordination – Nutrition Wing; and National Nutrition Cell is housed in Ministry of National Health Services Regulation & Coordination. Nutrition wing is looking after matters related to coordination; regulation and monitoring of Nutrition related matters at federal level and there ate nutrition wings at provincial level as well.

    - o Ministry of National Food Security & Research – Food Commissioners. The Ministry of National Food Security & Research is mainly responsible for policy formulation, economic coordination and planning in respect of food grain and agriculture. It also includes procurement of food grains, fertilizer, import price stabilization of agriculture produce, international liaison, economic studies for framing agricultural policies[49].

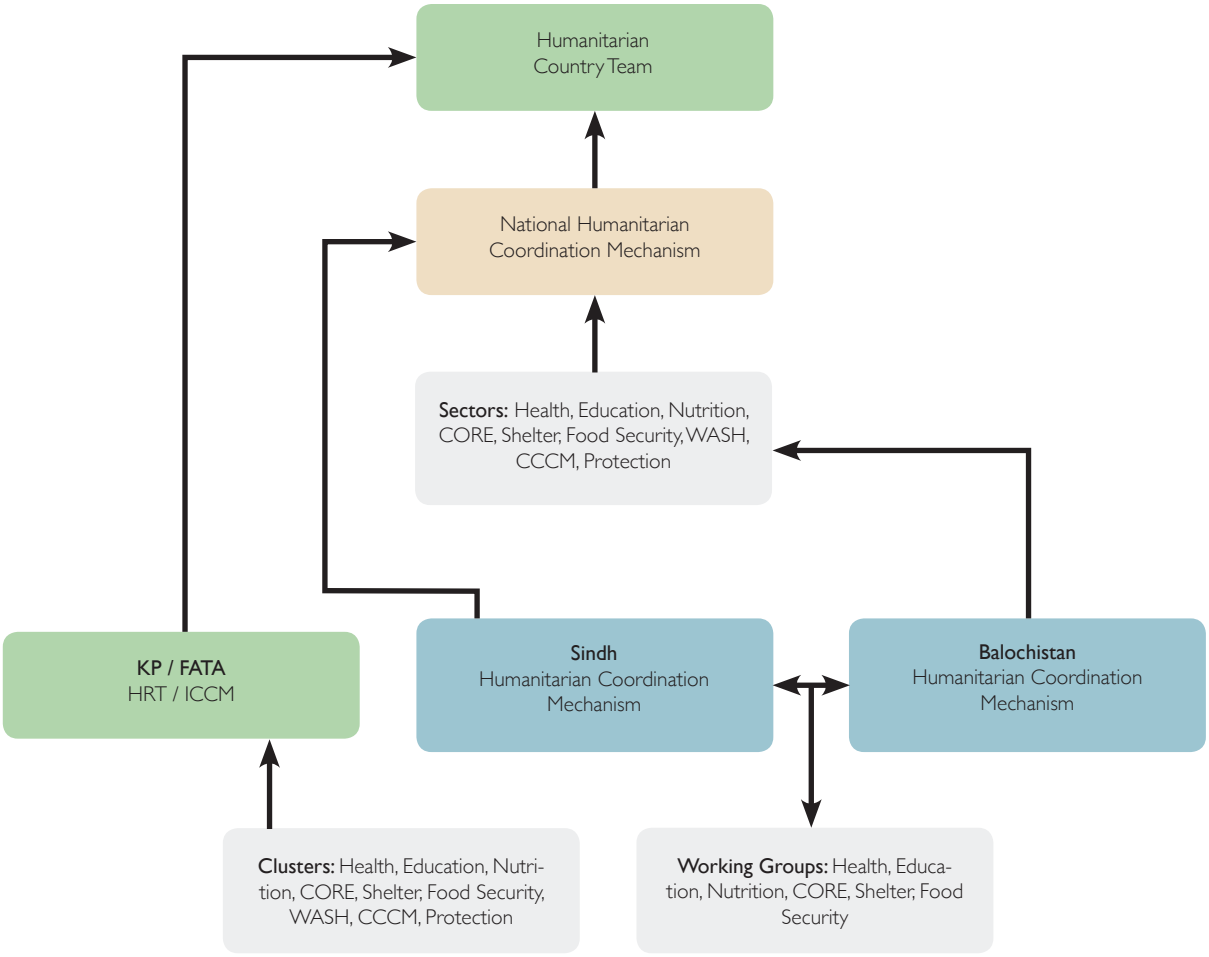
- United Nations System - WFP; WHO; UNICEF; FAO and World Bank;
- Donor Agencies – DFID (UK), DFAT (Australia) and European Union;
- Civil Society (INGOs) – Save the Children; Micro-nutrient Initiative (MI); Global Alliance for Improved Nutrition (GAIN); and Harvest Plus (IFPRI).

The Pakistan Food Security Cluster - Since its formal activation in 2010, the Pakistan Food Security Cluster (WFP, UNICEF, and MoNHSR&C and FAO as co-chairs) has played a vital role in strengthening humanitarian and government capacity in planning and implementing appropriate and timely responses to emergency, in particular for relief and early recovery at the country, provincial, and district levels. The FSC facilitates a rapid and coordinated response across sectors in food assistance and agricultural livelihood-based programs. It coordinates with other clusters for their technical inputs and views while devising strategy and policy for any response that may be required. Food Security Cluster proactively provides support to reduce the coordination gap between the Government of Pakistan and cluster members[50].

Pakistan Emergency Food Security Alliance (PEFSA) was an alliance between six organizations, Action Against Hunger (ACF), Agency for Technical Cooperation and Development (ACTED), Care International, International Rescue Committee (IRC), Save the Children, and Oxfam GB with support from ECHO.

(For more information on their interventions, see *Case Study 7*)
Other key humanitarian actors include Concern Worldwide and WHH, as well as many local NGOs working in the provincial and district levels, including the Islamic Relief Pakistan, Shifa Foundation and Hands.

Figure 3 Current Coordination Structure in Pakistan[51]



2.5. Overall challenges in the assessment phase[52]

Challenges in the assessment phase are mostly related to data gaps due lack of recently collected, reliable data at all levels, knowing what information to collect, as well as the capacity to collect this information and its appropriate interpretation and subsequent application.

- Lack of coordination and understanding between the relevant Government Departments,
- The NNS is only carried out every 10 years,
- Population estimates are outdated and projections can be misleading (last Census was conducted in 1998),

- Agricultural statistics data are often outdated and unreliable and analysis is not thorough,
- Lack of funding for successive and sustainable assessments e.g. MIRA, SQUEAC, SMART and SLEAC are too high cost if country-owned and operated,
- Lack of data alignment between various sources: in emergencies, anthropometric indicators can be challenging to collect (security and capacity issues).
- Each ministry has its own information system, there is no unified information system for nutrition –i.e. a national framework to collate information from multiple sources in order to be able to triangulate different data, do a multisector analysis for malnutrition and inform multisector responses. For information about info systems in Pakistan, it is interesting to see the SUN website.

Finally it is recommended to carry out "Nutrition Causal Analysis."[6] This will allow integration of food security and nutrition sensitive interventions and promote multi-sectoral planning and linkages with nutrition specific interventions, FSL and WASH and health.

The problem tree for malnutrition provides an inclusive "list" of nutrition specific and nutrition sensitive intervention options relevant to address the different levels of causes of malnutrition and can be useful to carry out a multi-sectoral analysis of the multiple causes of malnutrition and to recognize applicable solutions and intervention(s).

Summary

- A nutrition sensitive assessment allows an understanding of the country-specific context that shape the food security and nutrition situation.
- Food insecurity and malnutrition in Pakistan persists due to complex and multiple causes, and ongoing emergencies pose additional challenges on improving nutrition status.
- There are multiple governmental and non-governmental actors as well as existing interventions that can provide entry points and platforms for designing and implementing nutrition sensitive FSL interventions, but improved multi-sector coordination is needed.
- Capacity on nutrition data collection needs to be strengthened.
- Nutrition Causal Analysis is recommended to allow integration of food security and nutrition sensitive interventions.

6 Nutrition Causal Analysis is by necessity multi-sectoral.

03

Integrating Nutrition in FSL Interventions in Emergencies (How to)

After the completion of the nutrition assessment phase to identify the causes and extent of malnutrition, and the most vulnerable population, it is possible to move to the next step of incorporating nutrition into the design of FSL interventions based on the country context. It is to be underlined that simple collection of data on nutrition, food, health and care sectors is not sufficient to identify the causes of malnutrition. After being collected, data need to be analysed. There are several techniques to make a nutrition situation analysis, for example building problem trees as shown in *sub-section 3.1.4*.

The following steps and recommendations constitute an adaptation of the FAO Key Recommendations for Improving Nutrition through Agriculture and the Food System to the context of FSL interventions in emergencies (see *Annex 2*).

3.1. Key principles for designing nutrition sensitive FSL interventions in emergencies

3.1.1. Incorporating explicit nutrition objectives

As suggested by the key recommendations for maximizing nutrition impact of agriculture and food system programs *(Annex 2)*, nutrition improvement cannot be expected to be achieved unless the programme incorporates explicit nutrition objectives and indicators to track progress (see *Section 4* on M&E). See below for two real-life examples from FSL interventions for emergency in Pakistan, with General Objective (GO) for food security and livelihoods and a nutrition sensitive Specific Objective (SO).

Example 1- Adapted from the FAO project - Support for the recovery of agriculture-based livelihoods of vulnerable farmers affected by 2012 floods of Sindh and Balochistan provinces in Pakistan.

General Objective	**Restore food security and agriculture-based livelihoods of resource-poor, food-insecure vulnerable farming households affected by recurring floods in Jacobabad and Kashmore districts (Sindh province) and Jaffarabad district (Balochistan province).**
Specific objective	Increase access to a diversified and nutritious diet for beneficiaries to prevent further deterioration of the nutritional status of children, women and women-headed households living in the most severely flood-affected areas

Example 2 – Adapted from a Welthungerhilfe (WHH) project plan (projected - Jan 2016 –end of 2017).

General Objective	**To contribute to resilience building for drought affected communities in Tharparkar District, Sindh Province, Pakistan**
Specific objective	Improve nutrition status of vulnerable groups (pregnant and lactating women (PLW) and children under two (U2)) in 40 villages of UCs Mithrio Charan and Parno through integrated multi-sectorial interventions

3.1.2. Targeting and selection of beneficiaries

Targeting can increase cost-effectiveness by prioritizing groups which are most affected by undernutrition or at greatest risk as beneficiaries of the programme. Beneficiaries might include:

- Direct beneficiaries are those who directly participate in project activities.
- Indirect beneficiaries are those who may not directly participate in an activity but still benefit from it, such has family members, or the community at large.

In order to increase the nutrition impact of programs, it is recommended to target the most vulnerable. This includes not only socially vulnerable groups such as smallholder and marginal farmers, landless labourers, women, indigenous people, food insecure households, households living in at risk areas, but also the physiologically vulnerable, such as the "1000 days" (adolescent girls, women of reproductive age, pregnant women and small children), people such as PLHIV, elderly and disabled people. This implies that nutritional status (anthropometry); physiological status (e.g. PLW), health status (e.g. incidence of diarrhoea); age, sex, and socioeconomic status can used as criteria for targeting beyond the community and the household level, up to the individual-level.

- Nutrition is a multi-sectoral issue, and therefore requires a multi-sectoral approach. However, the various sectors that are involved in multi-sectoral nutrition strategies such as health, WASH, agriculture often target different groups, so potential conflict or inconsistences might arise. For example, agriculture programs may focus primarily one economically active groups and leave the most vulnerable behind. It is important to understand this in order to develop specific strategies for multi-sectoral coordination and to foster agreement on beneficiaries selection and criteria thereof.
- Consortiums, such as PEFSA, are multistakeholder initiatives which worked on different issues in the same geographic area. Sharing beneficiaries list and developing joint identification mechanisms can allow organizations to work together as a single community committee to make decisions for beneficiaries selection.
- The special needs of nutritionally vulnerable people, such as maternal and infant young child nutrition, in particular for children aged 6-23 months and PLWs, should be taken into account. This implies that a do-no-harm approach must be applied, for example ensure not to overly increase women's workload, because this may directly harm their health and nutritional status and impinge the child and family caring activities for which they are responsible. This can be done, for example, by supporting home based income generation activities (IGAs) which allow mothers to take care of the child while having an activity or by planning childcare facilities (e.g. kindergarten/nursery) for women to leave the child while working.

Annex 5 shows a targeting criteria drafted by PEFSA, working with Government of Sindh, to conduct community based targeting through the involvement of village committees. This example demonstrates how to select beneficiaries based on causes of malnutrition and nutrition status, using a multi-sectoral approach from individual to district level.

3.1.3. Integrate nutrition from the emergency to the recovery phase

As discussed in *Section 2.3.4*, emergency can have a negative impact on individual nutritional status, particularly in vulnerable population groups[53]. Currently, nutrition, especially the prevention of malnutrition, is not always design and delivery of emergency response. Well-nourished individuals and households that are nutritionally secure can better withstand, endure and recover more quickly from external shocks in emergency situations. Integrating nutrition into FSL programmes in emergencies will also serve to enhance resilience in areas prone to conflict and disasters.

The phase of the emergency (defined here by the amount of time passed since its occurrence), type of crisis, its onset, duration (especially in protracted crisis) and its impact are among the most important factors that determine the feasibility and degree of nutrition integration into FSL programmes. The following table was compiled based on reports from and a series of meetings and discussions with various development actors, to illustrate key considerations for each phase[54]:

Table x. Key considerations for nutrition integration by emergency phase

Phase of Emergency	Key Considerations for Nutrition Integration in Each Phase
Initial	• For immediate relief and preventing deterioration of nutrition status: o Blanket distribution of food is generally recommended and practiced, to meet the 2,100 kcal/day initial estimated energy requirement[55] o Food assistance should be nutrition focused, planned based on (rapid) needs assessments and in coordination with potential organizations involved. Monthly or fortnightly food assistance, sufficient to fulfil the basic nutritional and caloric requirements of a household among the targeted group should be provided. • Food production - Support resumption of the agricultural production cycle (where feasible), through the provision of inputs, crops including wheat, rice, maize, lentils and cash crops, vegetable seeds, fertilizers and tools along with crop production trainings. • Livestock interventions – Prioritise livestock survival and protection (for e.g. provision of shelter, feed and fodder, medicines, de-wormers, vaccinations and evacuation of live stock to safe places) to safeguard access to dietary protein.
Stable Relief[56]	• Nutrient requirement of beneficiaries can be revised and adjusted based on specific context. • Food Production o Homestead food production (kitchen gardening of nutrient dense foods) through the promotion and provision of vegetable gardens, fruit, and fodder plants and/or animal husbandry and backyard poultry farming. o Provision of a diverse range of nutrient rich cereal crops, beans, lentils, vegetables and fruits of local varieties, along with micro-nutrient supplementation, would be beneficial for the prevention of micro-nutrient deficiencies • Livestock interventions – o Provision of a feeding and milking kit for the feeding and watering of livestock; o Targeted households should also be encouraged to restock poultry. • Cash based interventions can be designed to target vulnerable population to enhance the household's purchasing power and improve their economic livelihood. For example, cash transfers could be coupled with poultry distribution. • Nutrition and household food security awareness sessions along with training on food processing and preservation, emphasizing their important role in maintaining valuable micro-nutrients.

Early Recovery	• Food Production - Provision of resilient seeds to grow resilient crops and adoption of disaster risk reduction measures for crops, fodder, legumes, pulses, vegetable production and preservation along with seed production and storage. • Livestock interventions- Households can be targeted and supported with livestock re stocking of locally adopted small and large ruminants (e.g. appropriate combinations include where sheep and goats are distributed in the ratio of two females and one male animal per household, along with animal feed/fodder packages.) • Nutrition education and BCC – o Training sessions on nutrition and food security awareness should be planned using standard nutrition messages, adapted based on local best practices for the affected population. o Farmer's field school and women's open school approach can be used to teach nutrition, crop management, livestock management and animal husbandry through o This can be supplemented with Cash/Voucher schemes for the most vulnerable beneficiaries e.g. women and elderly.

For people affected by forced displacements, living in camps or informal settlements as well as hosting families and relatives, especially in protracted crisis, it is essential to ensure a balanced dietary intake to prevent malnutrition, including micro-nutrient deficiencies[57].

3.1.4. Promote multi-sectoral planning and linkages with nutrition specific interventions

As mentioned previously, nutrition is a multi-sectoral issue and therefore requires a multi-sectoral approach. Using a multi-sectoral approach for nutrition sensitive programming can allow organizations to apply their specific expertise to jointly deliver a comprehensive set of interventions in collaboration with partners, share resources and use existing infrastructure and interventions where available, which can result in time and cost savings. It can allow nutrition sensitive FSL interventions to be linked or integrated with nutrition specific interventions being implemented in the same geographical area (see further discussion in *Section 3.2.4*).

One approach that could facilitate collaboration of stakeholders from different sectors in planning interventions to achieve different nutrition sensitive objectives would be a 'problem-solution tree for malnutrition.' *(Figure 4)* The problem tree for malnutrition can be useful in carry out a multi-sectoral analysis of the multiple causes of malnutrition and to identify appropriate solutions and relevant intervention(s). Therefore, the problem-solution provides a very comprehensive "list" of nutrition specific and nutrition sensitive intervention options relevant to address the different levels of causes of malnutrition. From this comprehensive list of interventions, partners can select the most appropriate ones based of criteria such as institutional expertise and mandate, technical and financial capacity, sustainability and existing entry points such as complementary interventions. Some of these interventions can be implemented by the respective sectors, whereas others would require multi-sectoral collaboration. Care must be taken not to overload the administrative process of the respective partners.

Figure 4 From Problem tree to solution tree, an example[7]

7 Adapted from: FAO 2015. Agreeing on causes of malnutrition for joint action. E-learning module. Accessible at: http://www.fao.org/elearning/#/elc/en/course/ACMJA.

3.2. Examples of nutrition sensitive food security and livelihood interventions

3.2.1. Homestead food production in the context of broader nutrition-sensitive agriculture and food systems strategies

Homestead food production refers to growing nutritious produce that is mostly consumed at home. It enables families that have limited access agricultural lands to improve their nutrition through increasing the micro-nutrient contents of the diet, and it can help reducing household food expenditures, and increasing the productivity of small land surfaces that may be currently underutilized. Homestead food production can focus on fruits and vegetables (i.e. home/kitchen gardening), or include additional crops (e.g. cereal - legume intercropping), as well as small animals (e.g. integrated crops, poultry, fish ponds).

Nutrition sensitive homestead food production is part of the broader spectrum of nutrition sensitive agriculture interventions, which aim at improving the overall availability and affordability of diverse and nutritious foods, not only for household consumption but also for the market. It is clear that promoting diversification and production of nutritious foods alone will not suffice to ensuring nutrition, because nutrient value might be lost in the post production phases or might not reach those most in need. This is why nutrition-sensitive approaches in the food and agriculture sector should adopt a food systems approach and apply a nutrition lens not only to production, but also to post-harvest handling, storage, processing, trade and marketing, and at the consumer level, along the entire value chain of that food. When this approach is applied to specific food, it allows for the identification of critical points where there is potential to 'increase the nutrient value of a selected food,' and where the risk of nutrient losses are greatest, and the identification of steps that should be taken to safeguard the nutritional quality of the food. Homestead food production and, more generally, nutrition sensitive agriculture and food system interventions, can be included as part of larger FSL interventions in both non-emergency and emergency contexts (e.g. to recover agricultural and/livestock production from shocks).

3.2.2. Livestock- based interventions

While livestock interventions' direct impact on nutrition status is not well documented, they often increase household access to animal sourced foods (ASF), which are good sources of protein and micro-nutrients (iron, zinc and calcium, vitamin A, the only source of vitamin B12 and riboflavin). There is some emerging evidence on intake of ASF and improvements in child cognitive and physical development[58]. Consumption of ASF is the most direct way to improve household nutrition, and potentially reducing micro-nutrient deficiencies. Sales of livestock can also generate income for purchasing nutritious foods for the household.

Protection and restoring/provision of livestock and livestock inputs are central elements of livestock interventions in emergencies. Livestock interventions, such as those supporting the diversification of livestock production can be made nutrition sensitive by incorporating activities on nutrition education and promotion of the nutritional value of ASFs, especially for increasing the diet quality and adequacy of women and U5s[59].

In Sindh, there are interventions that combine rehabilitation from natural disasters (flooding, drought) within villages with poultry distribution and kitchen gardening. These components were outlined in *Case Study 2* below. It is notable that the intervention specifically targeted female beneficiaries, and integrated gender into household food security trainings.

Case Study 2: Support for the recovery of agriculture-based livelihoods of vulnerable farmers affected by 2012 floods of Sindh and Balochistan provinces in Pakistan[60]

Implementing organizations/partners: FAO, Food Security Cluster, ACTED, the Goth Seengar Foundation and the Centre for Peace and Development, district government-line departments

Funding: DFID; 6,361,961 (USD)

Time Period: July 2013 to 30 April 2015

Background: The 2012 Floods damaged standing crops in the area, leaving people unable to cultivate their land due to the loss of agricultural inputs, lack of access to cash, standing water in the field and out-migration. Assets losses in livestock, poultry, feed, fodder were reported, along with diseases and infestations. Most of the affected populations were smallholder farmers and 35% were already affected by floods in 2010.

Target population: 71, 747 flood-affected households (approximately 452, 006 people) were assisted through the project.

Under the overall objective to restore food security and agriculture based livelihoods, the project included a nutrition objective to increase access to a diversified and nutritious diet for beneficiaries to prevent further deterioration of the nutritional status of children, women and women-headed households living in the most severely flood-affected areas. Nutrition sensitive activities included kitchen gardening, poultry and livestock model schemes that specifically targeted women. Some activities included:

- Distribution of wheat and legume seed packages
- Establishing 210 WOS for 5,250 female beneficiaries to encourage participation in kitchen gardening, poultry and livestock activities, and to build capacities in managing household nutrition needs.
- Trainings were provided on the role of vegetables in household nutrition and on Integrated household food security and nutrition, with a focus on gender.
- Zinc sulphate was provided to rice farmers to increase the nutrient content of rice.

Impact:
There was an increase in the consumption of rice, wheat, lentils, vegetables and eggs. Improvements from baseline in food consumption and self-sufficiency as measured by the Food Consumption score, and overall participants' perception on food security. 88.7% of beneficiaries were satisfied with the intervention and intend to establish kitchen gardens in the future.

Key Success Factors:
Gender integration, Stakeholder involvement at all levels at all stages of the project cycle, extensive social mobilization.

Considerations for replication:
- Inclusion of legumes/pulses in crop packages distributed to farmers for intercropping with major crops, along with capacity training on cultivation, processing and cooking techniques to encourage consumption as part of daily diet.
- The collective vegetable gardening activity (following the FFS/WOS approach) should be promoted in other parts of Sindh to economically empower vulnerable women and provide them with the opportunity to include nutritious foods in their daily diets.

Considerations for improvement:
To better measure the impact on nutrition status of women and children in the participating households, nutrition indicators such as HDDS, IDDS or MDD-W should be included in the baseline and evaluation surveys.

3.2.3. Cash-based programmes and interventions

Cash transfer programmes (CTPs) are an emerging strategy being used during periods of food insecurity or during emergencies for the prevention of acute malnutrition. Predictable, sustainable transfers of food or cash can strengthen resilience by providing a safety net in disaster prone areas, or to destitute and seasonally at-risk populations[61].

Some examples of nutrition sensitive CTPs include[62]:
- Cash for training (CfT) intervention focusing on improving the nutritional status of a household (see *Annex 7* for an example of a 3 day CfT lesson plan, with topics on livestock, agriculture and nutrition).
- Travel cash vouchers for access to health services, livestock deworming & vaccination.
- Cash for work (CFW) activities for building livestock communal shelters can be coupled with distribution of livestock inputs
- Cash transfers can be coupled with poultry distribution to improve household food security.
- Conditional cash grants for purchasing agricultural inputs complemented with the provision of water resistant-metal containers for preserving grains and seeds.

Cash-based interventions combined with nutrition-specific interventions, such as provision of nutritional/micro-nutrient supplements for treatment of acute malnutrition, can contribute to preventing malnutrition. However, evidence is still needed on how the size, timing and conditionality of cash transfers affect impacts[63] (see *Case Study 4*).

Case Study 3: Inclusion of a Cash Based component within an integrated nutrition sensitive intervention - The Research on Food Assistance for Nutritional Impact (REFANI) Pakistan Study[8]

Organizations / Partners implementing intervention:
Action Against Hunger, ENN, Department of Health and the Provincial Nutrition Cell (Sindh), as well as the People's Primary Healthcare Initiative

Funding: EU, ECHO and UKAID

Time period: July 2015 to May 2016

3.2.4. Integrated Approaches with nutrition specific interventions, FSL and WASH

To enable optimal use of resources and cross-sector collaboration, nutrition sensitive FSL interventions could be linked or integrated with nutrition specific interventions being carried out in the same or nearby geographical locations, taking on board the health department, Lady Health Workers, food, agriculture and livestock departments. In Pakistan, this approach is supported by a study conducted the PEFSA project implemented by Save the Children, in close coordination and collaboration with the Sindh provincial department of health and Nutrition Cell in the drought and flood affected district Sanghar. The program combined nutrition sensitive interventions focusing on health and nutrition education, WASH and coupled with monitory support to the poor households to improve food security; and nutrition specific interventions for the Community Based Management of Acute Malnutrition (CMAM) for U5s and PLWs. The results suggested that nutrition specific interventions have better results when combined with nutrition sensitive activities[64]. Another independent assessment of the PEFSA V interventions also reached similar conclusions *(see Case Study 7)*.

Another project in Sindh that uses an integrated approach is the EU funded Women and children/infants Improved Nutrition in Sindh (EU-WINS) mentioned in Case Study 4 below. WINS a 4-year project (2013-2016) that uses a multi-sector approach to address undernutrition, involving access to maternal nutrition and health services, SAM treatment, use of nutritious foods by women and children, and evidence-based learning[65].

Background:
The EU-WINS programme is an integrated nutrition sensitive WASH/FSL/BCC programme aimed at reducing the risk of under nutrition in children aged 6-59 months. Nutrition-sensitive FSL and WASH activities were designed to integrate the nutritional treatment and prevention components of the programme. These include complementary feeding food vouchers, livestock vaccination interventions, construction and rehabilitation of water points and includes BCC/community mobilisation component. It was implemented in 17 union councils from different livelihood zones of the Dadu District, Sindh Province. The area is prone to flooding, and there is high prevalence of SAM, as measured by wasting, especially during the summer lean period.

Evaluation study:
The REFANI study implemented a Cash Transfer Program on 2,496 poor and very poor households with a child or children aged between 6-48 months that are part of the EU-WINS programme. The objective of the REFANI study was to assess the effectiveness of different cash transfer programmes (CTPs) in reducing the risk of undernutrition in children in these households, by comparing 4 different approaches:
1) Standard EU-WINS intervention (nutrition and BCC programming, no cash intervention);
2) EU-WINS care and 1,500 Rs per month (Seasonal Cash Transfer);
3) EU-WINS care and 3,000 Rs per month (Seasonal 'Double' Cash Transfer) and;
4) EU-WINS care and a monthly fresh food voucher worth 1,500 Rs per month to be exchanged for fresh foods at specified traders.

8 The overall goal of the REFANI study is to strengthen evidence base on the nutritional impact and cost-effectiveness of cash- and voucher-based food assistance programmes, and identify mechanisms through which this effectiveness is achieved. More information at http://www.ennonline.net/fex/51/refanipakistan

Challenges in carrying out the study:

- Vertical sector-based government systems, dramatically variable climate (floods, extreme high temperatures) led to some difficulty around recruiting and retaining female data collectors.
- Tribal conflicts in August 2015 led to the replacement of some intervention areas and participants.

Results of the study:

The REFANI study assessed the short and longer-term effectiveness of the seasonal cash transfer programmes (CTPs) on the nutritional status of children, with prevalence of wasting as primary outcome. The costs, cost effectiveness and nutrition status of children benefiting from households under four different arms of intervention, were compared at the 6-month mark and again after 1 year. Results will be available in early 2017.

Considerations for Replication:

The REFANI project provides an example of evaluation of integration of social safety net cash-based interventions in nutrition sensitive WASH/FSL/BCC programmes as well as robust impact evaluation. It demonstrates the need and opportunity for not only strengthening the evidence base on the nutritional impact and cost-effectiveness of cash- and voucher-based food assistance programmes, but also general operations research development on the nutritional impact of multi-sectoral interventions.

3.2.5. Nutrition education and Behavior Change Communication (BCC).

Nutrition knowledge affects household practices for food production, purchase etc. and sound nutrition knowledge can empower heads of households to make informed decisions in these practices, which can lead to a more nutritionally adequate diet, and better nutrition outcomes in the long-term (see *Figure 6* Impact pathway). As recommended in *Section 3.1.3*, nutrition education and awareness sessions should be an integral component of FSL interventions, where possible, starting from the stable relief and early recovery phases of the emergencies, and standard nutrition sensitive messages can tailored towards local context. BBC strategies should target influential groups including heads of households, teachers and religious chiefs.

Case Study 2 above included an education component by providing gender sensitive trainings on the role of vegetables in household nutrition and integrated household food security and nutrition. *Case Study 5* below describes a standard module used in Tharparkar[9].

Case Study 4: A standard nutrition sensitive module for PLW and mothers of young children in Tharparkar

The module, developed by Concern Worldwide for an ECHO funded project, is targeted towards pregnant and lactating women, as well as primary caregivers of children under 2, and contained 4 'cycles' with integrated nutrition messages. These include:

- Cycle 1: WASH and nutrition, including handwashing practices, importance of balanced, nutritious and diverse diets for PLW and children aged 6-23 months
- Cycle 2: Livestock, including rearing practices, diseases and the nutrition importance of animal sourced foods
- Cycle 3: Food safety, including food preparation
- Cycle 4: Disaster preparedness at the household level, including measures when facing different types of natural and man-made disasters such as flood, earthquakes and fire.

Another idea for integrating nutrition education include participatory cooking demonstrations for preparation of nutrition-dense foods that[10]

- o focus on education around food utilization, as well as WASH (food safety as well as safe water and hygiene practices),
- o concurrently take place with awareness raising for complementary and exclusive breastfeeding.

9 Example provided by Concern Worldwide (in Sindhi)
10 Examples suggested by focus group discussion with development partners in Pakistan

3.3. Overall challenges for integrating nutrition into FSL interventions[11]

- Targeting
  - o In order to meet the vulnerability criteria, some families were reported to starve their children. This distortion is an unintended negative effect of targeted programs.
  - o Referral mechanisms from nutrition specific (e.g. SAM treatment clinics) to nutrition sensitive interventions can be time consuming
- Design and Implementation
  - o Difficulty in establishing linkages between human nutrition and livestock support and deworming activities and vaccination activities
  - o Relative short project duration
  - o When training for female heads of households e.g. kitchen gardening is delivered outside villages, cultural and security issues are sometimes encountered. For this reason, it is recommended that training be also given to a male member from the same household.
- Budgeting and resource mobilization
  - o Lack of examples for costed interventions with integrated nutrition component[66]
  - o Priority for funding given to nutrition specific interventions, and no specific funding for nutrition sensitive interventions.

Summary

- A nutrition sensitive FSL programme must incorporate explicit nutrition objectives and indicators to track progress.
- The degree of nutrition integration depends on the phase of the emergency.
- Targeting those who are most affected by undernutrition or at greatest risk as beneficiaries of the programme can increase cost-effectiveness. Organizations working in the same area can jointly develop selection criteria, in consideration of the special needs of these beneficiaries.
- A multi-sectoral approach should be applied to allow cross sector collaboration and optimum use of resources.
- A problem-solution tree approach can be useful in carry out a multi-sectoral analysis of the multiple causes of malnutrition and to identify appropriate solutions and relevant intervention(s).
- Some integrated approaches could include one or more component of agricultural (crop and livestock production), cash based interventions and nutrition education, or link nutrition, FSL and WASH.

11 Based on case studies and individual in-depth interviews and FGDs

04
Monitoring and Evaluation

Well planned and thorough monitoring and evaluation of nutrition focused food security and livelihood interventions is an integral part of a project or program's success. M&E allows decision-makers to understand what is working what can be improved and generates evidence regarding the impact, which can be useful for replicating the intervention and optimizing the use of resources in future programming. It should be operationalized at every step of the intervention and activities. The following section focuses on M&E guidance for nutrition sensitive FSL interventions, General guidance on designing M&E protocol exist at the global level and is therefore not elaborated here.

Box 4: Key Definitions

Monitoring refers to a continuous process of data collection and analysis, meant to ensure that inputs, processes and outputs are implemented as planned. Part of its purpose is to detect unforeseen negative consequences that may arise because of the intervention (e.g. sheep suffering from sheep pox as a result of the intervention or of external events).

Evaluation is the process of assessing changes in the food and nutrition security situation that can be attributed in part or wholly to a project or programme. Impact assessment focuses primarily on assessing changes at the outcome level and at the impact level (e.g. the introduction of orange flesh sweet potatoes in the community garden increase the weekly consumption of vitamin-A rich food and improve the retinol status of children under 5).

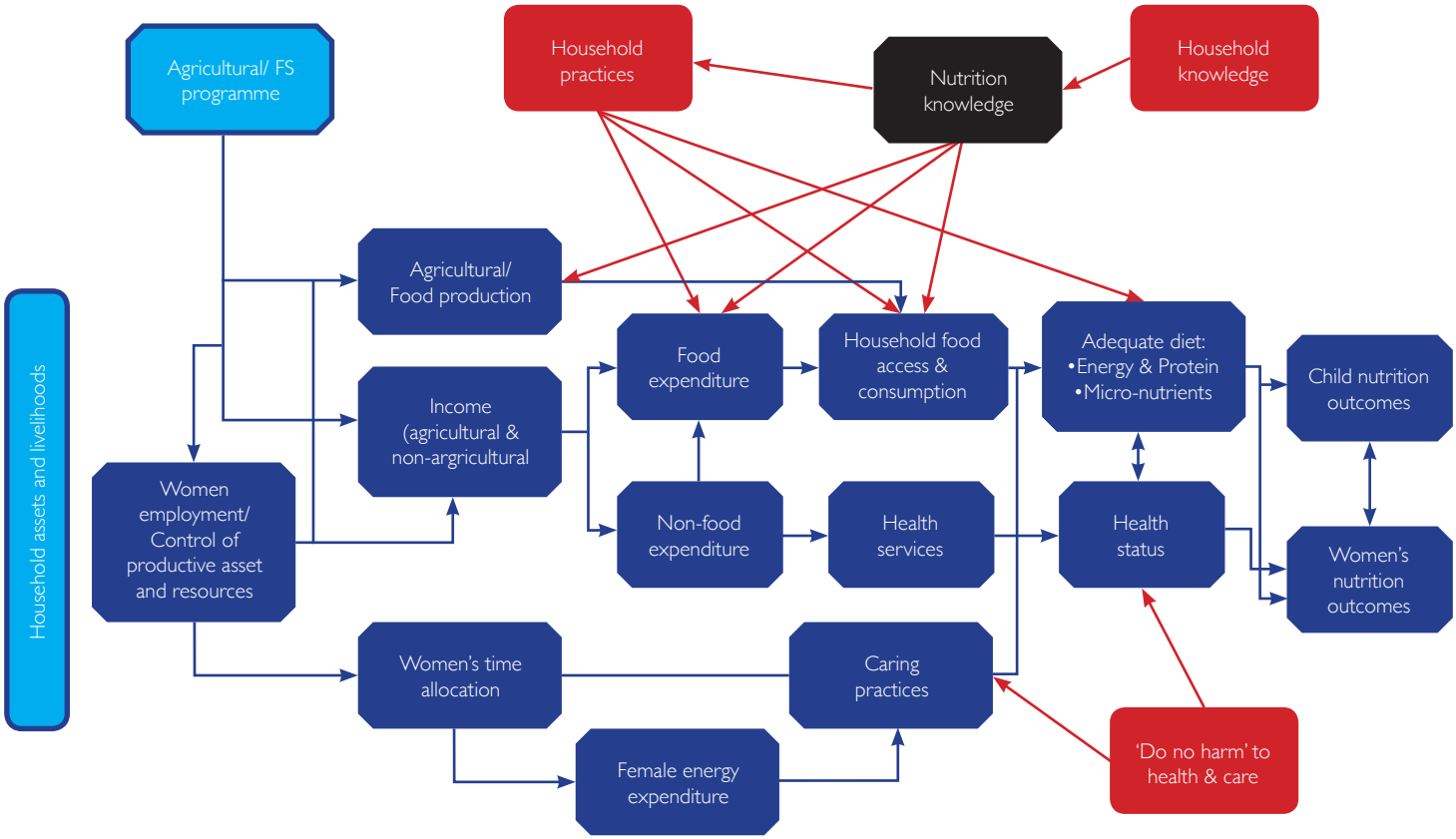
ACF 2011. Maximizing the nutritional impact of food security and livelihoods interventions. A handbook for field workers.

4.1. Measuring the impact of your food security intervention on nutritional status

4.1.1. What to measure and how?

There are several pathways in which FSL interventions can contribute to improving nutrition, especially if it has many sectoral components. Taking agriculture as example, there are several ways in which an agriculture program can impact nutrition. For example, by increasing production of nutritious foods for own consumption, increasing rural incomes which can then be spent on purchasing nutritious foods, and empowering women in agriculture, with special reference to increasing women incomes and control of resources, which again can translate to increase investments in health, nutrition and education of children and the entire household. These three main "agriculture to nutrition pathways" are shown in the graph below.

Figure 6. Impact pathways from Agriculture/ Food Security to nutrition



Adapted from: Stuart Gillespie, Jody Harris, and Suneetha Kadiyala, 2012[67]

As clear from the graph, the chain from the input (e.g. the agriculture program or project) to the final impact (i.e. improved child nutrition) is long and composed of various steps, which correspond to various assumption of the program's "theory of change". For example, that promoting production of a selected crop will translate in increased household access and consumption, and that this will translate in improved diets and therefore in improved nutrition. However, it is not guaranteed that each step of the chain will be verified. Therefore, for any programme aiming to be nutrition sensitive, it is essential to make the intended pathways for nutrition explicit, and to measure all steps along the pathway(s).

Understanding your project's impact pathway will help to identify:

- Indicators to monitor your interventions throughout the intended impact pathways. For example, food security programs might be designed under the assumption that income generation from agriculture will translate into positive nutrition impact. However, as revealed from past research, this is not necessarily the case, because the use of income depends on the food environment (what kinds of food are available, affordable, convenient, and desirable), and on who controls the income[68]. It is therefore important to understand and measure whose income has increased, and how additional income is spent.

• Potential negative impacts and actions to mitigate them, as well as indicators to monitor them. For example, nutrition sensitive interventions will often (intentionally or unintentionally) affect one or more aspects of women's empowerment. Aspects including women's income control and time/labor burden should be assessed quantitatively or qualitatively, in order to follow the principle of 'do no harm,' such as increasing women's workload or creating barriers in childcare, as discussed in the targeting of women in *Section 3.1.2* and gender as a cross-cutting issue in *Section 5.1.*

4.1.2. Considerations in choosing indicators

Indicators of nutrition status and food consumption are useful at multiple phases of an intervention. In the assessment stage, these can be used to identify and target vulnerable groups that require urgent assistance (see *Section 2.1-2.2*). When taken at baseline, it provides an understanding of the nutrition status of the target population before beginning the program. Collecting data for the same indicators at regular intervals and at the end of the intervention can allow monitoring the progress and evaluation of the impact the intervention.

The selection of indicators would depend on the capacity, program objectives and, as said above, on the desired impact pathway (see *Figure x*). Appropriate indicators should be identified for each relevant pathway (there is usually more than one).

One important question is whether the nutrition impact of FSL programs should or should not be measured by child anthropometry. Regarding this, it is necessary to consider that the onset of chronic malnutrition (stunting) is slow and it can take time to reverse these trends (at least two years), and that it depends not only on food intake and agriculture related determinants, but also on health status and health related determinants such as access to services and WASH, as well as caring and feeding practices, which is very much linked to caregiver's education and knowledge. Therefore, stunting may not be the best indicator for evaluating short-term impact. However, it might be a suitable indicator for measuring long-term impact of a multi-sectoral programme. Likewise, the prevalence of acute malnutrition (wasting) is dependent on seasonal variations, health status and disease trends. As such, these nutrition indicators might be difficult to measure for standalone emergency food security interventions where the duration are most often less than 1-2 years.

On the other hand, as food security-nutrition interventions usually have a primarily aim of improving production and/or consumption of nutritious foods, indicators of food environment, food access and dietary quality are the most appropriate level of impact indicator for nutrition outcomes. Dietary diversity scores are easy-to-measure proxy indicator of food security and are low-cost, quick and simple to analyse. They also allow measuring trends and are sensitive to change[69]. Some standardized diet-related indicators that can be used for

monitoring the nutrition situation before, during and after intervention for crisis situations include:

- Individual Diet Diversity Score (IDDS) (Minimum dietary diversity)
- Minimum Dietary Diversity for women (MDD-W)
- Household Dietary Diversity Score (HDDS)
- Food consumption score (FCS)

(See *Annex 3* for further information on these indicators)

The Compendium of Indicators for Nutrition-Sensitive Agriculture (FAO 2016) is a comprehensive resource that describes a range of indicators, which can be used to monitor and evaluate the nutrition-related impacts in agriculture and rural development. It provides guidance on what each indicator measures and key features of data collection, as well as references to relevant manuals[70].

Capacity for conducting monitoring and evaluation need to be ascertained at the beginning of the project, and if determine if capacity building is necessary through trainings for data collection, analysis and reporting. This will help ensure the quality and reliability of the data collected, and the results are presented in a timely and meaningful manner for the intended audience.

The *Example 3* below provides a snapshot of an M&E plan where indicators were selected to measure outcome of the intervention.

Example 3 – Adapted from monitoring and evaluation plan, Welthungerhilfe 2016 (see *Annex 8*).

Specific Objective	Outcome	Objectively verifiable indicators	Proposed Methodology
Improve nutrition status of vulnerable groups has improved in 40 villages of UCs Mithrio Charan and Parno through multi-sectoral interventions	• Consumption of nutrient-rich foods is promoted, especially among PLWs and children under two	• 4,200 households in UCs Mithrio Charan and Parno consume at least two nutrient rich foods by end of project	At baseline and endline Dietary diversity indicators e.g. • HDDS • IDDS Pre- and post-intervention KAP survey

Case Study 5 below provides an example of an evaluation of the PEFSA-V interventions that integrates nutrition, FSL and WASH.

Case Study 5: Assessment of PEFSA V, an integrative approach of Nutrition, FSL and WASH to overcome Nutrition Emergency in Sindh, Pakistan

Organizations / Partners implementing intervention: PEFSA partners *(see 2.5.2)*
Funding: ECHO
Time Period: Assessment conducted in 2015, Interventions concluded in 2015.

Background: PEFSA-V interventions uses an integrated approach to address the multiple and interconnected roots of acute malnutrition in PLWs and U5 in Sanghar and Badin districts of Sindh that are facing an acute food and livelihood crisis (IPC classification phase 3, GAM rates 27-29%). ~80% of the total population of these districts lives in rural areas and relies mainly on subsistence farming for their livelihoods. The project aimed to increase the ability of households to meet basic food needs, access cleaner water, and improve sanitation practices to reduce water borne diseases while improving access to nutrition services. A comprehensive baseline survey was used to choose a combination of interventions based on the immediate needs of the target population.

PEFSA's inter-sectoral approach were evaluated to understand the effectiveness of integrated interventions in terms of overcoming malnutrition– i.e. what were the most effective combination/s of interventions, by comparing the impact of each modality, as shown below.

(i) Nutrition; (standalone)
(ii) Nutrition and FSL;
(iii) Nutrition and WASH; and
(iv) Nutrition, FSL, and WASH. (fully integrated)

Methodology used: MUAC, early initiation of breastfeeding, HDDS, IDDS, FCS, Diarrhoea prevalence

Summary of Impact: Over a 3-6 month period, improvements in MUAC were highest for approach iv (fully integrated) when compared to the implementation of (i) standalone nutrition intervention, with a difference of 0.576 cm – which is critical as it reduces the possibility of relapse for at-risk children. Early initiation of Breastfeeding is an important factor for improved nutrition among newborns, and improvements were the greatest in the integrated approach where nutrition, WASH and FSL activities take place.

Challenges: Interventions were not consistent in all areas due to pre-intervention situation of the target population and by the availability of resources.

Recommendations based on evaluation results:

- As WASH activities showed better results amongst the integrated programmes, and there is a need to expand it even further. This should be coupled with hygiene awareness sessions and other activities within the framework of Community Led Total Sanitation (CLTS). This change in behaviour will create a lasting impact.
- For food security and livelihoods, emergency food interventions were unable to address the issue of malnutrition in a sustainable manner. With the underlying causes of malnutrition related to land distribution issues and continuous dependence on landlords, it is even more important to incorporate other more sustainable food security activities under PEFSA, for e.g. skills training, better agricultural production techniques, etc. This should be combined with advocacy at national and provincial level for more equitable distribution of land as a key natural resource.
- To continue PEFSA in the target areas with integrated programme modalities as its key implementation mechanism, there is a need for supplementary interventions, or to strengthen the existing interventions by other partners of the government.
- Attention should be given to tackling undernutrition through an integrated approach, from a short, medium and long-term perspective.

4.2. Overall challenges in M&E[71]

Inadequate capacity (technical and financial) in data collection and analysis.

Summary

- M&E should be operationalized at every step of the intervention and activities.
- M&E requires well-defined nutrition objective, measurable targets and outcomes.
- Selection of indicators would depend on the capacity, program objectives and impact pathway(s), relevant indicators are needed for each impact pathway identified.

05
Cross-cutting issues

5.1. Gender and Protection Issues in Nutrition Focused Food Security and Livelihood

Gender and nutrition are interlinked and there is a reciprocal relationship between the two – i.e. Gender inequality can be a cause as well as an effect of hunger and malnutrition. Higher levels of gender inequality are associated with higher levels of both acute and chronic undernutrition[72]. Hence, promoting gender equality by considering men's role in closing the gender gap, as well women's decision-making process, roles and responsibilities in the household and in the community is critical at all stages of the project cycle. This is especially relevant for Pakistan, where gender inequality has persisted – it is currently ranked at 121 out of 155 countries in the 2014 Gender Inequality Index, above India but below Bangladesh[73]. There are low secondary education (29.2)[74]. And labour force participation (24.4%) rates among women[75], and cultural practices and norms result in lack of women's involvement in decision-making, early marriages and high fertility rates

The following factors are relevant to creating awareness and fair treatment across genders, as well address as protection concerns when dealing with nutrition concerns regarding food security and livelihood:

During needs assessment

For program administration

- Train and employ female enumerators to collect information;
- Women, girls, boys and men should be involved in collecting information

For program design

- Involve an equal number of women and men in needs assessments to the extent possible;
- Review current and accurate statistics on literacy levels and employment rates of female- and male-headed households
- Review up-to-date statistics on malnutrition rates for both girls and boys in terms of stunting, wasting and underweight, MUAC
- Collect information on how gender and cultural dynamic influence food production, purchase, and sale, i.e. how cultural and religious food restrictions affect both genders
- Aggregate dietary diversity score by age and gender discrepancies on the prevailing micro-nutrient deficiencies.
- Conduct an in-depth analysis of women's workload, time sharing, and balance of powers within the household
- Understand women's and men's access to and control over land or other critical productive resources and their changes over time. Be aware of the short and long-term losses of livelihood assets of women and men following shocks (e.g. single season's harvest or permanent loss of land)
- Understand coping strategies of both women and men in crisis situations

During project planning and implementation

For program administration

- Train and employ local female staff and facilitators to allow more effective communication with female beneficiaries.

For program design

- Tailor livelihoods programs to the unique needs of various segments of the affected community (e.g. female heads of households, adolescent girls and boys, displaced women and men, elderly persons, disabled survivors of Gender Based Violence, etc.).
- Pay special attention to pregnant women and lactating mothers, and address their increased nutritional needs while planning interventions.
- Include and ensure equal and meaningful participation of women and men in decision-making and management of livelihood assets.
- Adopt positive measures to address discrimination in allocation of food resources (e.g. ensure that most vulnerable individuals such as children under five, sick or malnourished, pregnant and lactating women, disabled, elderly and other vulnerable groups are given priority for feeding).
- Select safe, neutral, and accessible distribution points, particularly for women and beneficiaries with disabilities, in a culturally sensitive manner, to incorporate care for protection issues. (e.g. distribution organized at different time intervals to avoid crowds and long waiting periods to ensure timely distribution).

During project monitoring and evaluation

- Develop monitoring and evaluation tools in consultation with all vulnerable groups, including women, PWD, older people in the target population to specifically review the impact of food distribution in each demographic. Questionnaires should be designed to examine how the food needs of women, girls, boys, and men have been addressed.

Case Study 2 in *Section 3.2* outlined an FAO nutrition sensitive intervention in a flood response, that fully integrated gender considerations in its programme design, from targeting of women to inclusion of a gender component in household nutrition and food security. *Case Study 6* below provides an example of national social protection in Pakistan that has targeted at women.

Case Study 6: National Income Support Program (NISP) (formerly known as the Benazir Income Support Program)

Gender sensitive elements:
The NISP is a CTP that specifically targets female heads of households and adult females of eligible poor. The National Income Support Programme delivers its money orders to female recipients through the post office, rather than obliging women to collect the money from a central disbursement point[76].

Impact:
Support commenced in 2009, and by 2011, 9 million women received identity cards and 4.6 million adult females had received cash payments of $180 a year[77]. NISP beneficiary families currently number 5.5 million[78]. Additional support of the NISP is proposed, which would broaden its provisions and significantly increase the number of beneficiary families.

5.2. Accountability

Programmes should strive to be accountable to the target affected population at all phases of the project cycle. This means:

- Provide timely and adequate information about an organization and its proposed activities, using local language and through easily accessible channels.
- Ensuring target populations have opportunities to voice their opinions, influence project design, say what results they want to see and judge the results the project achieves
- Training and handing over leadership of some activities to community members

Multi-sectoral interventions are quite new, so it is essential to reinforce accountability to affected populations. When it comes to accountability for multi-sectoral approaches and programs, there is no "one size that fits all". To be able to respond sufficiently to country needs, coordinators such as FSC leads could work with their partners and cluster coordinators colleagues to establish clear mandates, mutual accountabilities and responsibilities that fit the local context. Humanitarian actors and partners of clusters should not always assume that everyone understands what they do and who they are. It is important to explain the cluster set up, mandate and the aim of multi-sectoral approach. This will help the humanitarian community to better picture which integrated projects work well, with whom, where and when and how to address the bottlenecks identified by the beneficiaries, and monitor and disseminate results of these projects.

There is guidance available on accountability at the global level in the following in the resources.

Accountability to Affected Population during needs assessment:

- *Humanitarian Assessment, the good enough guide 2014:*

http://reliefweb.int/sites/reliefweb.int/files/resources/h-humanitarian-needs-assessment-the-good-enough-guide.pdf

Accountability to Affected Population during project implementation and M&E:

- *Impact Measurement and Accountabilities, the good enough guide, Oxfam 2007:*

http://www.livestock-emergency.net/userfiles/file/common-standards/Oxfam-2007.pdf

- *Building capacity in integrating food security and nutrition programming, FAO 2014:*

http://www.fao.org/fileadmin/user_upload/food-security-capacity-building/docs/Synthesis_good_practices_EN_FINAL.pdf

Accountability among cluster leads when implementing multi-sectoral programs. More information:

- *Proposed Responsibilities and Accountabilities Matrix - Health, Nutrition and WASH (Water Sanitation Hygiene) Clusters:*
http://educationcluster.net/?get=000936%7C2014/03/Accountabilities_Matrix_Health_Nutr_and_WASH_Clusters.pdf
- *INTER-CLUSTER MATRICES OF ROLES AND ACCOUNTABILITIES - Checklists of Roles and Accountabilities between WASH and other clusters to reduce overlaps and gaps in emergency response:*
http://washcluster.net/wp-content/uploads/sites/5/2014/04/ICM-final-13-01-2010-2.pdf

06
Coordination

6.1. Coordinating and collaborating on nutrition sensitive interventions

As discussed in *Section 2.4.2*, the Pakistan government, development partners, civil society (international/ local NGOs) and private sector all have ongoing programs or projects at different levels that aim to address food insecurity and malnutrition with support from international donors. It is essential coordinate these actors to facilitate joint planning and action for coherent nutrition sensitive and specific interventions, avoid any overlapping efforts and allow for the sharing and optimum use of resources and lessons learned.

What role can the FSWG/C play?

By convening multi-stakeholder working groups and workshops that address the gaps and challenges faced by humanitarian partners in integrating nutrition into food security and agriculture programmes for emergencies, the FSWG/C can facilitate a participatory process in the planning of nutrition sensitive FSL interventions. Workshops should aim to help participants understand the nutritional implications of food security and livelihood. Technical consultative meetings can be held to facilitate decision-making on joint actions and programmes, and provide recommendations in order to transform plans into action.

Role of multi-stakeholder platforms

Some of these platforms in Pakistan, such as the SUN and its sub-networks, were identified in *Section 2.4.2.* These can be used to promote and facilitate the coordination of multi-sectoral actions. They can provide channels for sharing and disseminating knowledge on challenges, best practices and lessons learnt from ongoing and existing nutrition sensitive FSL interventions in emergencies.

Consortium action

A consortium can facilitate the linkages between interventions among different actors in the same districts, e.g. FSL and cash based incentives. In a multi-stakeholder intervention, the consortium as a whole entity should target the same groups and communities, even when using different units: same individuals, households, villages, communities must be targeted by the different actors of the consortium. However, each member will then have different groups to work with. See *Case Study 7* below on the lessons learned from the work of PEFSA.

Case Study 7: Working in Alliance – lessons learned from PEFSA[79]

PEFSA (Pakistan Emergency Food Security Alliance) was formed in August 2011 by six organizations, Action Against Hunger (ACF), Agency for Technical Cooperation and Development (ACTED), Care International, International Rescue Committee (IRC), Save the Children, and Oxfam GB, with support from ECHO. The PEFSA formed to maximize effectiveness in response to three floods affected provinces - Sindh, Khyber Pakhtunkhwa and Punjab. Since the initial response, it continues to operate at the country program level to provide innovative solutions to the chronic food insecurity and malnutrition issues following man-made or natural humanitarian disasters. All agencies have existing programs in Sindh and strong links with communities, local government and other stakeholders and agencies intervening in these areas. Together their efforts cover a spectrum of sectors in Sindh Province, Pakistan, including nutrition, food security and livelihoods, WASH, shelter, health, education, economic empowerment and emergencies.

Challenges:

- Certain important activities were not prioritized because of staff workloads and a lack of comprehensive planning.
- There was concern regarding the coherence of programming, and the need for the Alliance to identify a vision for itself in the medium term, in order to maintain relevance.

Considerations for improvement:

Investments should be made in food security surveillance and needs assessment, increased coherence of program design, planning for learning and technical support, and further standardization of monitoring. Specific recommendations include:

- Establish objectives of the Alliance and objectives of working in Alliance early on in the process;
- Establish with the donor a vision of what the Alliance contributes to food security at a national level in the medium term;
- Identify, plan for and schedule activities of the Alliance, including research and learning, so they can be incorporated into agency implementation plans;
- Establish functional leads and bring on other technical/ mainstreaming support as need arises;
- Ensure that technical support is demand driven, appropriately resourced and tailored to the different needs of the agencies;
- Ensure that technical leads have clear ToR that reflect the priorities of the Alliance;
- Standardize indicators and data collection for important process and impact monitoring;
- Joint assessment of needs is critical to moving towards harmonization of program strategies; ideally an Alliance should undertake a joint assessment throughout the areas of geographic coverage and target those that are worst affected;
- PEFSA must identify a niche in the food security sector in order to maintain relevance going forward; it is a unique opportunity to undertake research; this should have been planned from the beginning.

Recommendations to donors:

- Ensure frequent, close contact with Alliance agencies especially during the planning stage;
- Be clear and transparent regarding donor objectives for the Alliance programs and for the Alliance itself.

Annexes

Annex 1:
Standard definitions for Nutrition, Food Security and Livelihoods

Malnutrition refers to an abnormal physiological condition caused by deficiencies, excesses or imbalances in the energy and/or nutrients necessary for an active, healthy life. The term encompasses undernutrition including micro-nutrient deficiencies, overweight and obesity.

Undernutrition - too little food intake relative to nutrient requirements – can manifest in the form of acute malnutrition or wasting (low weight for height), chronic malnutrition or stunting (low height for age) and underweight (low weight for age).

Micro-nutrient deficiencies - Micro-nutrients are essential vitamins and minerals that everyone needs - in minute quantities - for good health. These essential vitamins and minerals include vitamin A, iodine, iron, and folic acid. Without micro-nutrients, the human body does not grow and function properly. The consequences of not getting enough micro-nutrients can range from birth defects and mental impairment to child deaths due to a lowered immune system and a consequent susceptibility to diseases.

Underweight refers to children who have a low weight compared to others of the same age and is measured by a 'weight-for-age' (W/A) index. Underweight can either be a sign of stunting or wasting, or a combination of both.

Overweight and obesity are a result of excessive food intake relative to dietary nutrient requirements. Overweight and obesity can coexist with micro-nutrient deficiencies (shortage of minerals or vitamins) and stunting.

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life[80].

Nutrition security is achieve when a household has secure access to food coupled with a sanitary environment, adequate health services, and knowledgeable care to ensure a healthy life for all household members[81].

Livelihoods - A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base[82].

Components of Food Security and Nutrition - Food security can be broadly divided into three main components. The first one is food availability, the second one is access to food (economic access to food, and equity of food), and the third one is food utilization or absorption. Sustainable food and nutrition security (SFNS) can only be achieved when all components of food security and nutrition are fulfilled simultaneously.

1. Food availability: the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid), storage or trade.
2. Food access: physical or economic access by individuals or households, to adequate resources (entitlements) for acquiring appropriate food for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command, based on the legal, political, economic, and social arrangements of the community in which they live (including traditional rights such as access to common resources);
3. Use and utilisation of food: (1) Use of food refers to the household level and considers the adequate composition of diets and the preparation of healthy meals, aspects of food processing and conservation. Diet diversity, nutritional "literacy" and behaviour change, in terms of adopting appropriate dietary practices, play a major role. This dimension highlights the importance of social and non-food related aspects in food and nutrition security; (2) the biological utilisation of food refers to individuals. To reach a state of nutritional well-being and health, whereby all physiological needs are met, diets must be adequate – depending on individual dietary needs (lifecycle). How nutrients are utilised in the body is influenced by the health status of the individual, which depends on safe water, hygiene and sanitation, as well as sufficient health services;
4. Stability: the concept of stability refers to the temporary dimension of all other dimensions. To be food secure, a population, household or individual must have stable access to adequate food at all times. They must be resilient enough to withstand shocks and hazards affecting other SFNS dimensions. Some food insecurities can be acute (due to crisis and shocks), temporary and seasonal (e.g. the "lean" period before the next harvests) or chronic. They require differing approaches to overcome them.

Vulnerability refers to the full range of factors that place people at risk of becoming food-insecure. The degree of vulnerability of individuals, households or groups of people is determined by their exposure to risk factors and their ability to cope with or withstand stressful situations.

Resilience - Resilience is the ability to prevent disasters and crises, and to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving food and agricultural systems under threats that impact food and nutrition security, agriculture, and/or food safety/public health" *(FAO, 2013).*

Annex 2:
Guiding Principles for designing of nutrition sensitive food security and livelihood interventions in order to maximize impact[85]:

(i) **Incorporate explicit nutrition objectives and indicators into their design**, and track and mitigate potential harms, while seeking synergies with economic, social and environmental objectives.
(ii) **Assess the context at the local level, to design appropriate activities to address the types and causes of malnutrition** (this was elaborated in chapter 2).
(iii) **Target the vulnerable and improve equity** through participation, access to resources, and decent employment. Vulnerable groups include smallholders, women, youth, the landless, urban dwellers, the unemployed.
(iv) **Collaborate and coordinate with other sectors** (health, environment, social protection, labour, water and sanitation, education, energy) and programmes, through joint strategies with common goals, to address concurrently the multiple underlying causes of malnutrition.
(v) **Maintain or improve the natural resource base** (water, soil, air, climate, biodiversity). This is critical to the livelihoods and resilience of vulnerable farmers and to sustainable food and nutrition security for all, especially in areas prone to or already impacted by natural disasters or conflict. Manage water resources in particular to reduce vector-borne illness and to ensure sustainable, safe household water sources.
(vi) **Empower women** by ensuring access to productive resources, income opportunities, extension services and information, credit, labour and time-saving technologies (including energy and water services), and supporting their voice in household and farming decisions. (Gender as a crosscutting issue is elaborated in chapter 5)
(vii) **Facilitate production diversification, and increase production of nutrient dense crops and small scale livestock.** Diversified production systems are essential for vulnerable producers to cultivate resilience to climate and price shocks, more diverse food consumption, reduction of seasonal food and income fluctuations, and greater and more gender-equitable income generation.
(i) **Improve processing**, storage and preservation to retain nutritional value, shelf-life, and food safety, to reduce seasonality of food insecurity and post-harvest losses, and to make healthy foods convenient to prepare.

Incorporate nutrition promotion and education Nutrition knowledge can enhance the impact of production and income in rural households, especially important for women and young children, and can increase demand for nutritious foods in the general population.

Annex 3:
Indicators for nutrition status and nutrition situation
(source: UNICEF/WFP and WHO)

Type of Malnutrition	Indicators at the individual level	Public health significance
Undernutrition	**Wasting:** low weight for height (W/H) >> Global acute malnutrition (GAM): W/H < -2 z-scores >> Severe acute malnutrition: W/H < -3 z-scores >> Moderate acute malnutrition: W/H between -3 and -2 z-scores	**Benchmarks of prevalence** at the population level (WHO): GAM < 5%: acceptable GAM 5-9%: poor GAM 10-14%: serious GAM ≥ 15%: critical • Increased risk of morbidity • Increased risk of mortality
	Stunting: low height for age (H/A) >> Global chronic malnutrition: H/A < -2 z-scores >> Severe chronic malnutrition: H/A < -3 z-scores >> Moderate chronic malnutrition: H/A between -3 and -2 z-scores	**Benchmarks of prevalence** **at the population level (WHO):** Stunting < 20%: acceptable Stunting 20-29%: poor Stunting 30-39%: serious Stunting ≥ 40%: critical • Increased risk of morbidity • Increased risk of mortality • Decreased performance at school
	Underweight: low weight for age (W/A), combining wasting and stunting >> Global underweight: W/A < -2 z-scores >> Severe underweight: W/A < -3 z-scores >> Moderate underweight: W/A between -3 and -2 z-scores	**Benchmarks of prevalence** **at the population level (WHO):** Underweight < 10%: acceptable Underweight 10-19%: poor Underweight 20-29%: serious Underweight ≥ 30%: critical • Increased risk of morbidity
	Underweight: MUAC • In children: >> Global: MUAC < 12.5 cm >> Severe: MUAC < 11.0 cm >> Moderate: MUAC 11–12.5 cm • In women: >> Global: MUAC < 22.5 cm >> Severe: MUAC < 21 cm >> Moderate: MUAC 21–22.5 cm	• In children: Increased risk of mortality • In women: Increased risk of low birth weight Babies
	BMI in adults: W/H2 >> Severe: BMI < 16.0 >> Moderate: BMI 16-16.9 >> Mild: BMI 17-18.4 >> Normal: BMI 18.5-24.9	**Benchmarks of prevalence** **at the population level (WHO):** BMI below 18.5 for 5-9%: low BMI below 18.5 for 10-19%: mild BMI below 18.5 for 20-39%: high BMI below 18.5 for ≥ 40%: very high • For women: Increased risk of low birth weight babies • For all adults: Increased risk of mortality with very low BMI
	Anaemia: low blood haemoglobin (Iron deficiency is most common cause) >> Standard thresholds available for adults and children[83]	• For women: Increased risk of: - mortality when giving birth - low birth weight babies • For children: - increased risk of stunting - decreased performance at school • For all: - decreased physical capacity - decreased resistance to disease
	Vitamin A deficiency: low serum retinol >> Standard thresholds available for adults and children	Decreased resistance to disease • Impaired or loss of vision
	Iodine deficiency: low urine iodine >> Standard thresholds available	• Increased risk of mental and physical disabilities • Decreased performance at school

Overweight and obesity	**BMI in adults: Weight/Height2** >> Overweight: BMI 25-29.9 >> Obese: BMI ≥ 30	• Increased risk of chronic diseases: diabetes, cancer, hypertension • Increased risk of mortality

Caution on measuring MUAC: There is a chance that convenience sample of individuals might produce alarming results and trigger concerns about the nutrition situation, but extrapolation to the population as a whole would not be possible. In such cases, the assessment should be followed by a rigorous nutrition survey.

Additional indicators for Nutrition Situation	
Category	**Indicator**
Water access	Quality: potable/non-potable, treated/untreated
	Quantity: litres per person per day
	Distance to water source
	Time taken for round trip to collect water
Water usage	Storage capacity in house: litres
	Type of storage: covered/uncovered
Sanitation	Type of sanitation used: household latrine, communal latrine, etc.
	Hand washing: always, sometimes, never
Health status	Prevalence of infectious disease: i.e. percentage of children who have been sick over the previous 2 weeks
	Prevalence of chronic diseases
	Trends in infectious and chronic diseases: seasonal and long-term
Health care	Nearest staffed and equipped clinic or hospital: distance and time to reach it
	Presence of emergency health services: government, United Nations, NGO or other
	Immunization coverage, particularly measles
Health practices	Food handling practices: hygienic/unhygienic
	Extent to which people seek professional health care when sick
Care	Feeding practices: breastfeeding, complementary feeding, etc.
	Age and education level of child care taker, i.e. mother
	Personal hygiene of children and their care taker: acceptable/risky
	Relationship between children and their care taker
	Relationship between heads of household and children
	Other occupations undertaken by care taker: casual labour, collection of water, etc.

Annex 4:
Tool and Methodology for nutrition situation assessment and analysis

Measurement of diet quality

Minimum Dietary diversity (Women/ Children)			
What it measures	Population	Data collection	Data analysis
A partial measure of dietary quality, which reflects nutrient adequacy and dietary diversity	Women of reproductive age (15-49 years)	Data are collected on the foods and beverages consumed in the previous 24 hours which are aggregated into 10 distinct food groups. Does not require quantitative food intake.	Several indicators can be derived from the basic data, including (i) proportion of women who consume 5 or more food groups out of ten, (ii) mean dietary diversity score, (iii) proportion of women consuming any specific food group such as animal source foods.
	Children under 2 years	Same as above. The guidelines recommend open recall but DHS uses a list	Proportion of children 6–23 months of age who receive foods from 4 or more food groups (of 7). It is recommended that the indicator be further disaggregated and reported for the age groups: 6–11 months, 12–17 months and 18–23 months
IDDS - Individual Dietary Diversity Score			
Same as above	Usually children over age 2 years	Consists of either an 8-question list (one for each food group), or a qualitative 24-hour food list (i.e. what did the child eat yesterday, without amounts)	Sum score – can calculate a mean or percentiles

Measurement of diet quality

Food Consumption Score (FCS)	• The frequency weighted diet diversity score is a score calculated using the frequency of consumption of different food groups consumed by a household during the 7 days before the survey. • An acceptable proxy indicator to measure caloric intake and diet quality at household level, giving an indication of food security status of the household if combined with other household access indicators. • It is a composite score based on dietary diversity, food frequency, and relative nutritional importance of different food groups. • Used primarily by the World Food Programme
Household Dietary Diversity Scale (HDDS)	• Dietary diversity represents the number of different foods or food groups consumed over a given reference period • similar to the FCS, but usually with a 24-hour recall period without frequency information or weighted categorical cut-offs • It is a proxy measure for HH food access to diverse foods • Number of food groups examined: 12 • Target: household (HDDS) • Widely promoted by FAO and USAID (FANTA).

References and Resources:

• FAO 2015. METHODOLOGY: Minimum Dietary Diversity for Women
A Guide to Measurement http://www.fao.org/3/a-i5486e.pdf
• Swindale, Anne, and Paula Bilinsky. 2006. Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, D.C.: FHI 360/FANTA.
http://www.fantaproject.org/monitoring-and-evaluation/household-dietary-diversity-score
• *Agreeing on causes of malnutrition for joint action* (FAO): http://www.fao.org/3/a-i3516e.pdf
• *Joint Approach in Nutrition and Food Security Assessment (TOF/JANFSA)* (WFP/UNICEF): pilot stage
• *Link NCA* (ACF): A participatory and response-oriented nutrition causal analysis.
www.linknca.org
• *Cost of the diet* (Save the Children): A tool for understanding the barriers to improving child nutrition.
www.savethechildren.org.uk/resources/online-library/the-minimum-cost-of-a-healthy-diet
• *IPC Acute Malnutrition Classification:*
www.ipcinfo.org/ipcinfo-technical-development/ipc-nutrition-phase-classification/en/

Annex 5:
PEFSA V BENEFECIARY SELECTIONS PROCESS TARGETING CRITERIA for Communities and Households[12]

Villages and communities	SECTOR	INDICATORS	WEIGHTING
Nutrition	**Nutrition**	• SAM • PLW	40
FSL	**FSL**	• Access to markets • Availability of food • Availability of income opportunities • Access to land	30
WASH	**WASH**	• Access to clean Water • Access to sanitation • Hygiene practices • Public health Risk • Presence of other actors	30
Total for Communities and Villages			
Households	**Demographics for Houses holds**	• FCS • Infants <5 years, • PLWs • High levels of food-insecurity and potential for malnutrition, • Women-, aged/ • Child-headed households; • Families of disabled, chronically ill or • High dependency ratios; • Minorities	100

Grid showing an example from PEFSA on targeting criteria[13]

	Criteria	Strategy/Actions	Process	Who	When
Districts - Badin and Sanghar **Taluka - 2 in each district**	Gam Rate; IPC ranking; Govt. PC-1 priority districts, WASH and FSL indicators	Criteria: GAM rates based on previous interventions; agreed points with Nutrition Cell and coverage of the whole Taluka for impact			
28 Hotspot UCs - district Badin and Sanghar	Details: 12 UCs from Sanghar; and 16 UCs from Badin. Names already determined. **Criteria: Nutrition:** GAM rates; **FSL:** (Access to markets, Availability of food, Availability of income opportunities and Access to land) **WASH** (access to clean water and latrines, Hygiene practices **Weighting**	Existing data analysis of previous interventions whereby we are determining UCs.	Use Nutritional causal analysis casual analysis for taluka as starting activity. Need clarification from nutrition agencies	Nutrition, WASH and FSL teams	
Hotspots - Villages and Communities	Criteria: based on **WASH** access to clean water and latrines, Hygiene practices, presence of other players **FSL:** Access to markets, Availability of food, Availability of income opportunities and Access to land	Integrated profiling for WASH/FSL and Nutrition. MUAC will carried out by all agencies at time of village profiling.	Integrated template to identify mini hotspots with methodology (clusters villages and profiling villages using FS and WASH & MUAC screening	Nutrition, WASH and FSL teams	
Beneficiary Households	Criteria for FSL: FCS, Markets, Availability of FSL activities, availability of daily work, WASH: access to clean water and latrines, Hygiene practices	Working on cross sector referrals mechanism (MUAC screening)	Beneficiaries assessment templates	FSL/WASH agencies	
Individual	FSL/WASH:	Need to work on modalities with uniform approach to hit seasonality and timeliness	Working on exclusion criteria	FSL/WASH agencies	

12 Provided by Care International, on behalf of PEFSA Consortium
13 Provided by Care International

Annex 6:
Example of costing interventions

Livestock Support – Animal Feeding in Emergency

POPULATION	Population depending on livestock (40%)	Livestock-based HHs for assistance	Cost of Inputs *(USD) Millions*	Cost of Operation *(USD) Millions*
100,000	40,000	5,700	0.9861	0.30
500,000	200,000	28,600	4.9478	1.48
1,000,000	400,000	57,100	9.8783	2.96
2,000,000	800,000	114,300	19.7739	5.93
5,000,000	2,000,000	285,700	49.4261	14.83

Source: - FAO matrix for response for animal feed in emergency

* Costing formula for livestock support – animal feeding in emergency "The cost of standard livestock package comprising of animal compound feed (240 kg), de-wormers (one blister pack per animal), vaccination (Foot and mouth disease, enterotoxaemia, Hemorrhagic Septicemia, Black Quarter, Caprine Contagious Pneumonia, Anthrax etc), thick and thin plastic sheets, milking kit (10 litre milk can, 10 litre milk pail, yogurt tray, Lassi bucket), feeding kit (feeding trough (20 kg) and watering trough (40 litre) either for two large or 4 small ruminants for two months and poultry feed (50) kg, will cost USD 225 per household."

Agriculture Based Interventions

POPULATION	Population dependent on agriculture (60%)	Agri-based HHs for Assistance	Cost of Inputs *(USD) Million*	Cost of Operation *(USD) Million*
100,000	60,000	8,500	0.78	0.23
500,000	300,000	42,800	4.00	1.20
1,000,000	600,000	85,700	8.00	2.40
2,000,000	1,200,000	171,400	15.80	4.74
5,000,000	3,000,000	428,600	39.00	11.70

Source: - FAO matrix for response for animal feed in emergency

** Costing for targeting agriculture based Interventions - The cost of a crop kit ((50 Kg wheat seed, 50 Kg DAP, 50 Kg Urea and 405 gm of vegetable seeds) is estimated to be USD 92 per household and 60% population based on agriculture

Annex 7:
Cash for Training (CfT) session plan for 3 days
(Provided by Concern Worldwide)

Topics	Day 1	Day 2	Day 3
Nutrition	• What is nutrition and Malnutrition (pictorial examples), measurement (MUAC), importance of nutrition for human body growth.	• Food items for pregnant, lactating mothers and children especially newly born child, importance of breast feeding • Importance of hand washing, when, how to do hand washing share pictures illustration)	Cash collection
	• Different types of nutrients and their role in growth (showing pictures of different food items containing major nutrients) • Sources of nutrients (vegetables, Fruits, dry fruits, Fish, lentils, etc.) • All Fruits, vegetables that are available in local area market or can be grown at home (KG). *(Showing pictures and their nutrition importance)*	• Importance of water in personal hygiene • How food and water become contaminated • And how to keep them safe from contamination • What are water-borne diseases • Water treatment methods/ techniques at local level and its benefits	
Livestock management	• What are the type of livestock, feeds, fodders, and natural pastures available in drought areas? • (Showing pictures) • Importance of livestock according to nutrition (milk)	• Different types of local livestock diseases • Vaccination and de-worming Calendar • (Calendar in local language will be dispatched in community area for future references) • Livestock Feed management at local level • Formulation of nutritive feeds from local available resources for livestock	
	• Livestock Nutrition importance • Livestock space (open grazing), shedding (protection from direct sun), watering		
Agriculture	• Seasons (Kharif, Rabi) and crops/vegetables which are mainly grown in Tharparkar region, Seasonal calendar • Diversified food options e.g. Bajra (Millet) production and utilization.	• Kitchen gardening: simple methods on how to grow certain vegetables at home in pots • What are the wild foods naturally grown in the area (mushrooms, watermelons, etc. How to care them and their importance in Nutrition.	

Annex 8:
Example M&E Plan
(Provided by WHH)

Ref. No.	Result	Indicator	Clarification of Indicator/ Information required	TARGETS Target value (TV); Intermediate values (IV), Initial Value (INV)	Methods of data collection; source(s) of information	Frequency	Timing of data collection (Q=Quarter	Documentation	Responsible	Supported by	Remarks
Impact/ Overall goal											
I-1	Overall Goal: To contribute to resilience building for drought affected communities in Tharparkar District, Sindh Province, Pakistan										
Project Purpose/ Outcome (PP)											
	(Outcome): The nutrition status of vulnerable groups has improved in 40 villages of UCs Mithrio Charan and Parno through integrated multi-sectorial interventions.		The Project will focus mainly on food insecure and nutrient deficient households, livestock producers, farmers, ultra-poor households, youths, traditional birth attendants and health officials. For promoting the consumption of nutrient-rich foods the project will target households with pregnant and lactating women and households with children less than 24 months of age. The project will also address local community organizations and government line departments at district and UC levels for fostering effective linkages that will contribute to its interventions.	7000 HH of 40 villages in 2 Uc's Mithro charan and parno of tharparkar district.	HDDS, target value 3, IDDS target value 3, Pre KAP : 01 Post KAP 01	nutrition survey research(HDDS, IDDS) 3 times, baseline/end-line 1 time,	(Jan - March 2016, nutrition survey research, research + baseline/endline), (Jan-March 2017 nutrition survey research) , (Aug - Nov 2018 nutrition survey research + baseline/endline)	HDDS, IDDS reports , Pre and post KAP reports, project complition report , case studies , reflection workshop report	M&E coordinator and program manager of RDF	WHH PM&E , program manager sindh, and FNS team	tool development = RDF + WHH, data collection,- database development, data analysis = RDF, report writing = RDF + WHH

Outputs											
O-01	Households' and/or communities' access & use of safe water is improved.	By end of 2nd year of project implementation: • 5,600 HHs of targeted households in UCs Mithrio Charan and Parno have access to safe water (drinkable and for productive activities	Rehabilitation of rainwater conservation tanks at household level Rainwater conservation tanks (Tanka) are the basic infrastructure almost every household has for storing rain water for domestic use and sometimes for livestock purposes also. Its capacity is 1700 - 2000 l. A total of 75 rainwater conservation tanks will be rehabilitated in each village, in total 3400 tanks. 20 households will be selected for desalination of saline water. Selected households will be trained on installation of desalination device and its maintenance. Follow up working sessions will be arranged so that the effectiveness of the system can be assessed and, if needed, corrective measures can be made in order to end with a system producing the quantity of purified water a person requires per day. 20 communal level natural rainwater depression sites (Taraies) will be rehabilitated to increase the source of water for either human consumption or livestock. The rehabilitation involves de-siltation and improvement of the structure	5600 targeted HH, 1300 PLWs (from same 5600 targeted HHs), Installed 20 solar desliniation stills, rehabilitated 3400 rainwater conservation tanks, rehabilitated 20 natural rainwater depression sites, Installed 6 pilot solar energy pumps for extracting sweet water,	beneficiary interviews (close ended questionnaire), Pre / post KAP survey, field monitoring visits , sampling procedure , 35% schemes will be varified with ratio of 2 HH/ schemes . As per standard sample size of WHH, 110 survey form will be filled with 90 % CL, while 7.5% CI level.	monitoring visits (continue process), beneficiary interviews 1 time, Pre / Post KAP 1 time	beneficiary interviews One time (Nov-Dec 2017) Pre KAP (Jan- March 2016), Post KAP (Sept-Nov 2018)	benefeciary interview reprot, monitoring report , complition certificates, pictures , Pre & post KAP survey report , hygiene sessions record database	partne M&E & program team	WHH PM&E unit & program team	tool development = RDF + WHH, data collection,- database development, data analysis = RDF, report writing = RDF + WHH
		1,300 PLWs can demonstrate water treatment/boiling methods and indicate its health benefits	The targated HH (PLWs and child caregivers) have aquired knowledge on usage of safe water through hygiene awarness session and water treatment demos such as boiling . There will be a total of 160 awareness sessions at village level (4 events / village, and on average 40 participants per event),	hygiene sessions are 160.	hygeine sessions record (attendence sheet)	one time	after complition of activity		RDF PM and field team		
O-02	Households' capacity in livestock management & production is improved	• By the 1st quarter of 2nd year of the project, twenty (20) community livestock extension workers in UC Mithrio Charan and Parno trained; provided with tool kits and linked with local livestock extension department.	20 Community Livestock Extension Workers (CLEWs) will be trained so that communities will have access to basic livestock extension services during and after the project. A one-month training course will be organized in consultation with Sindh Agriculture University Tando Jam and Tharparkar district's Livestock Department	20 CLEWs tranied and received 20 tool kits,	Pre & post traning evaluation for each series of training, Training database, field monitoring. Sampling procedure : Carpet survey/monitoring for CLEWs (100 %)	Pre & post traning evaluation (1 time), Monitoring visits (continuoes process)	Oct 2017, Feb 2018	Pre & post traning evaluation report, monitoring reports, pictures, training report	partne M&E & program team		
		• During every year of project implementation, two (livestock vaccination and de-worming campaigns in UCs Mithrio Charan and Parno are timely carried out by livestock extension department	Livestock vaccination and de-worming campaigns will be carried out in partnership with District Livestock department and RDF's Climate Change Adaptation Project for disease prevention. The Line Department has the vaccine, but no access and resources to reach remote communities for vaccination. Training on livestock management, focusing on increasing feeding resources, livestock production & prevention of diseases	Campaigns will be undertaken twice a year in all 40 villages, totalling 6 campaigns, 4800 participants (2400 male, 2400 female) are trained	training database, pre and post training evaluation, 100% , monitoring visits	Pre & post traning evaluation (1 time), Monitoring visits (continuoes process)	subject to activity June 2016, March 2018	Pre & post traning evaluation report, campaign database, monitoring reports, pictures, traning report	partne M&E & program team		

		By completion of the 2nd year of project implementation, 200 HHs in UCs Mithrio Charan and Parno can demonstrate how to produce and storage at least one animal feed resource	,communites are facilitated & trained on production of fodder , trees and shrubs through increasing animal feeding resources, Communities will be provided with two-day training on silage making. Initially demo units will be established in two communities and a total of 100 persons will be trained , If it will be successful, it will be replicated in all 40 villages.Communities will be oriented on how haymaking using the local leaves of trees/grasses in order to meet fodder needs in drought periods. Two 2-day training events will be organized for 100 people	overall, 20,000 trees and shrubs are planted, 120 seed broadcast packages are distributed and used, 200 participants are tranied on silage and Hey making ,	pre and post traning evaluation, field monitoring,Training database, PDM will be conducted for broadcasted seed packages with ratio of 75% sample (90 benefeciaries will be interviwed). list of plants planted in 40 villages, physical random monitoring of plantation status at 25% (10 villages, 5 / Uc, checklist will be developed to record evident progress)	Pre & post traning evaluation (1 time), PDM (after each distribution) . Monitoring visits (continuoes process) , physical monitoring of sampling after distribution (1 time)	tree sampling survey Dec 2016, PDM in Oct 2016, traning evaluation subject to activity (Sept -Dec 2016)	pictures, PDM report, Pre & post raning evaluation report, monitoring reports,	partne M&E & program team	WHH PM&E unit & program	
O-3	Youths' skills are improved to facilitate their participation in income generation activities.	By the end of the 2nd year of project implementation, one hundred fifty (150) selected youth in UCs Mithrio Charan and Parno can demonstrate at least one acquired skill and have access to relevant toolkits	Provide market driven training to young women and men to improve their skills. These training courses may include, but are not limited, to garment stitching, heavy and light vehicle driving, embroidery designing, cooking, electrician training, etc. RDF will ensure that each training course is approved by the Sindh Technical Education and Vocation Training Authority (STEVTA). 150 youths will be trained. The list of trainees will also be shared with potential employers as well. Additionally, trained youths will also be motivated for self-employment in relevant income generation activities.	150 youth (men & women) will be tranied on skill development, 150 tool kits are also distributed among them	KII interviews, monitoring report, pre and post traning evaluation, sampling procedure: 50% will be validated/monitored at a sample of 55 KII survey questionnaire at 95% CL and 7.5% CI.	1 time	KII survey July 2017,	pictures, KII report, pre & post traning evaluation report, distri-bution data-base	partne M&E & program team	WHH PM&E unit & program	tool development = RDF + WHH, data collection,-database development, data analysis = RDF, report writing = RDF + WHH
0-4	Microenterprises and market linkages are established to increase household income	By the end of the 2nd year of project implementation: In the UCs Mithrio Charan and Parno are established 80 micro-enterprises for producing and marketing of nutrient rich foods.	New businesses or existing small businesses will be developed or strengthened through enterprise development training on business skills, with the aim of increasing the availability of nutrient-rich food at community level. 80 such small enterprises (two per village) will be supported with a grant/productive asset	80 microenterprises on "nutrient-rich food" are established with 80 male/female individuals after training.	Pre and post traning evaluation, KII interviews, sampling procedure: survey will be conducted at 75% with the sample 45 KII questionnaire including 95% CL and 7.5% CI.	1 time , once the actvity is completed	March 2017,	KII report, tranning database, pictures, micro-enterprise unit database	RDF PM and field team and M&E unit		

		In UCs Mithrio Charan and Parno 120 microen-ter-prises for mar-ket-ing non-food products (such as embroidery items, carpets & other products) are es-tablished and linked to the market directly or through middle-man.	microenterpises outlets will be established through market developemnt tran-ing skills, and non-food products microenterprises centres are established, Producers/artisans/micro-enterprises will be linked di-rectly with markets or through their own middle-man networks. The facilita-tion includes exposure visits to markets, joint meetings with relevant mar-ket players and participa-tion in fairs/exhibitions. Five exposure visits and three participations in ex-hibitions will be supported	120 non-food based mi-croen-terprises are established with 120 male/ fe-male after train-ing and 5 expo-sure visits and 3 exhibitions.	KII interviews , monitoring re-port, pre and post traning evaluation , sampling pro-ce-dure : survey will be conduct-ed at 70% will be validat-ed/mon-itored with the sample of 55 KII ques-tionnaires in-cluding 95% CL and 7.5% CI,	1 time, at the end of second year (when this activity is complet-ed)	Aug-17	KII report, tranning da-tabase, pic-tures, micro-en-terprise unit database	RDF PM and field team and M&E unit	WHH PM&E unit & pro-gram	
0-5	House-holds' capacity to produce nutri-ent-rich crop based foods is increased.	By the end of the 2nd year of project implementation:• Ten (10) pilot communal gar-dens in UCs Mithrio Charan and Parno are established for producing at least 2 nutrient rich vegetables crops and fruits, making use of efficient drip irrigation systems. • 400 pilot kitch-en gardens in UCs Mithrio Charan and Parno are established for producing at least two nutrient rich vegetables crops and fruits, making use of efficient drip irrigation systems as well as other alternative irrigation tech-niques (bottles, buckets, etc.).	10 demo plots though drip irrigation and nutrent rich crops and fruits will be established. 400 kitchen gardens are established using different approaches.	10 Demo plots for nutrient rich vegetables and fruits produc-tions are estab-lished. 400 Kitchen Gardens are es-tablished by using drip irrigation and other systems.	field monitoring, HDDS,	HDDS base-line and end-line, (1 time), field monitoing ongoing,		HDDS bse-line/endline report, field monitoring report	partner M&E		

0-6	Con-sump-tion of nutri-ent-rich foods is pro-mot-ed, espe-cially among PLWs and children under two	• 4,200 households in UCs Mithrio Charan and Parno consume at least two nutrient rich foods by end of project • 4,200 households in UCs Mithrio Charan and Parno can demon-strate at least 5 key messages related to hygiene, feed-ing and food prepara-tion prac-tices by end of project.	targeted HH nutritional intake will be improved through nutrient food and session based on 5 key messages related to hy-giene, feeding, food prepa-ra-tion practices,	4200 HH	HDDS, IDDS	once in pro-ject period		HDDS and IDDS report	partner M&E		
0-7	Commu-ni-ty based local nutri-tion and health services are im-proved	By the end of the 2nd year of pro-ject implementa-tion, 40 tradi-tional birth at-tendants (TBAs) in UCs Mithrio Charan and Parno have access to relevant infor-ma-tion packages and are linked with their local health depart-ment.	A fifteen-day training course will be organized for TBAs at a professional health training institution. Forty (40) TBAs will be trained and provided with a kit to enable them to use standardized equipment for administering the births. RDF and WHH will organize a two-day sensiti-zation/training on food and nutrition security and 1000-day window of op-portunity for Lady Health Visitors, Lady Health Work-ers, and male nurses from the District Health Depart-ment. 10 Heath Officials will participate in this event,	40 TBA's , 8 meetings with health dept., 2 days training on 1000 day win-dow of oppor-tunity where 10 health officials will par-ticipate,	pre and post training eval-ua-tion, KII , field monitoring , pre and post KAP survey sampling pro-ce-dure : survey will be carry out at 25%, where 10 KII question-naire , 5 / Uc will be filled with 95% CL and 5% CI.	1 time	Sep-17	training data-base, moni-toring report, KII report, pre/ post KAP survey report, pics	partner M&E		
		By the end of the project, 30% of children under two years of age in 40 villages of UCs Mithrio Charan and Parno have a birth regis-tration	RDF through COs will link communities with Na-tional Advanced Database Regis-tration Authority (NADRA) for CNICs and child regis-tration. Forty campaigns (one/village) will be facili-tated by the project in or-der to sensitize the target population on the need for child registration	30% of children under 2 from 40 Villages	field monitoring report ,	twice in pro-ject period	2nd and 3rd year of pro-ject	monitoring report, pics	partner M&E		

Annex 9:
Current Disasters in Pakistan and Dynamics

Major Disaster Type	Current Reason and Status in Pakistan
Floods	- Floods normally occur due to tropical monsoon depression systems that originate from the Bay of Bengal during the monsoon season from usually from July to September; - Indus River floods, broadly inundating flood plain along major rivers (Indus, Jhelum, Chenab, Ravi, Sutlej and Kabul); - Flash floods, seriously damaging cities and farmlands along the foot of mountains and hills; - Coastal flood, harming low-lying areas along coasts by cyclones, storm surges and local downpours;
Earthquake and Tsunami	- Such type of disasters may come in small in magnitude with occasional large earthquake. Pakistan geographically lies in seismic belt/zones. - Historically, these types of disasters occur only in small-scale earthquake and considerable damage is caused due to low quality and weak quake resilience of buildings.
Droughts	- Most serious drought has been occurred in Thar (Sindh) and Cholistan (Punjab) and drought affected areas of Balochistan since 2000; - Reason behind such of disasters are usually are less rain even less than 200-250mm.
Storms/Cyclone	- Such type of disasters usually causes coastal flood; - Normally hit Pakistan once every 4 to 5 years; - In particular, Sindh and Balochistan provinces are vulnerable;

Annex 10:
Members of the Food Security and Nutrition Sensitive Working Group

Organization	Name	Title	E-mail
ACTED	Mateen-ul-Hassan	Programme coordinator	Mateen.hassan@acted.org
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Concern Worldwide	Shafqat Ullah	Programme inclusion and agri-culture coordinator	Shafqat.Ullah@concern.net
DRR	Mr. Muhammad Razi	Deputy Director R&R	Ddrr@ndma.gov.pk
FAO	Dr. Noureen Nishtar	Food security and nutrition con-sultant	Noureen.aleemnishtar@fao.org
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OXFAM	Saima Nazish	Advisor	Snazish@oxfam.org
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UNICEF	Dr. Naureen Arshad	Nutrition consultant	Narshad@unicef.org
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WHH	Omer Bangash	Food and Nutrition Security Co-ordinator	Omer.Bangash@welthungerhilfe.de
WHO	Dr. Rozina khalid	Nutrition consultant	Khalidr@who.int

Annex 11:
Focus Group discussion participants and individual interviewees

A focus group was held with key stakeholders in Pakistan on 27th June 2016 to discuss "Interventions and challenges of Nutrition Integation into Food Security, Livelihood and Agriculture".

Focus group participants

Names	Organization	Designation
Dr. Noureen Nishtar (Moderator)	FAO	Food Security and Nutrition Consultant
Tahir Nawaz	WFP	Programme officer
Syed Saeed Qadir	UNICEF	Nutrition Coordinator
Mateen-ul-Hassan	ACTED	Programme Coordinator
Shafqat Ullah	Concern	Prog inclusion and Agriculture coordinator
Shakeela Ellahi	WFP	Cash and gender
Saima Nazish	OXFAM	Advisor
Nomeen Anis	FAO	Nutritionist and Gender focal person
Mehnaz Ajmal	FAO	IPC Coordinator
Tahira Azam	WHH	Coordinator
Dr Qudsia Uzma	Save the Children	Director P&Q
Ashok Kumar	Action Against Hunger	FSL Coordinator
Tauseef Abbas	Nutrition Manager	Nutrition manager
Anwar Zeb	Acted	Program Coordinator WASH & DRR

In-Depth Interviews were held between June 2016 and August 2016 with the following individuals:

Names	Organizations	Designation
Dr Lamia Mahmoud/ Rozina Khalid	WHO	Team leader Health & Nutrition/ Nutrition spe-cialist
Aslam Shaheen	Chief Nutritionist	Planning & Development Govt of Pakistan
Melanie Galvin	UNICEF	Chief Nutritionist UNICEF Pakistan
Saba Shuja	UNICEF	Nutritionist/expert
Arshad Jadoon	WFP	Policy officer
Qasim Shah	WFP	VAM Unit
Tahir Nawaz	WFP	Nutritionist
Shujaat Zaidi	AKU	Researcher
Shahid Fazal	ACF	DCD Programmes
Banaras Khan	FAO Pakistan	Resilience Officer

Annex 12:
Types of floods and flood prone districts

Table 3: Type of Floods and Flood Prone Districts

Provinces	Type of Flood- Districts		
	Riverine/ Flash Prone Districts	Riverine Flood Prone Districts	Flash Flood Prone Districts
AJK	Bagh, Neelum, Muzaffarabad		Bhimber and Poonch
Balochistan	Bolan, Jhal Magsi, Gwadar, Kharan and Kech		Chagai, Dalbadin, Jaffarabad, Khuzdar, Lasbela, Nasirabad, Nushki and Sibi
Gilgit/ Baltistan	Chilas, Diamer, Gilgit, Ghizer, Hunza, Ganche and Skardu.		Astore
Khyber Pakhtunkhwa / FATA	KPK (Kohistan, Shangla, Swat, Charsadda, Peshawar, Nowshera, D.I. Khan) FATA (North Waziristan, South Waziristan, Khyber, Kurram and Orakzai)		KPK (Mansehra, Buner, Swati, Chitral, Lower/Upper Dir, Malakand, Mardan, Tank, Lakki Marwat). FATA (Kurram Agency)
Punjab	Rawalpindi, Mianwali, Dera Ghazi Khan, Rajanpur, Khushab, Gujrat, Sialkot, Gujranwala, Narowal, and Sheikhupura.	Bakkar, Layyah, Muzaffargarh, R.Y Khan, Jhang	
Sindh	Larkana, Kamber-Shahdadkot, Dadu, Sanghar and Badin	Kashmore, Shikarpur, Jacobabad, Ghotki, Sukkar, Jamshoro, Khairpur and T. M Khan	Thatta and Karachi

Source: JICA 2009, compiled from sources from PMD, NDMA[84]

Poultry Restocking Intervention

POPULATION	Population depending on livestock (40%)	Livestock-based HHs for assistance	Cost of Inputs *(USD) Millions*	Cost of Operation *(USD) Millions*
100,000	40,000	5,700	0.4845	0.15
500,000	200,000	28,600	2.431	0.73
1,000,000	400,000	57,100	4.8535	1.46
2,000,000	800,000	114,300	9.7155	2.91
5,000,000	2,000,000	285,700	24.2845	7.29

Source: - FAO matrix for response for animal feed in emergency

Costing for poultry restocking - cost of poultry restocking comprising of 12 poultry birds (10 female+2 male), one wire mesh (8*2 meter), one manual drinker, one manual feeder, three eggs collections trays) will cost USD 111 per household.

Livestock Restocking – Small Ruminants

POPULATION	Population dependent on agriculture (60%)	Agri-based HHs for Assistance	Cost of Inputs *(USD) Million*	Cost of Operation *(USD) Million*
100,000	60,000	5,700	1.3908	0.42
500,000	200,000	28,600	6.9784	2.09
1,000,000	400,000	57,100	13.9324	4.18
2,000,000	800,000	114,300	27.8892	8.37
5,000,000	2,000,000	285,700	69.7108	20.91

Source: - FAO matrix for response for animal feed in emergency

**** Costing for livestock restocking–Small Ruminants cost of small animal restocking including 2 adult females and one adult male goats or sheep at the age of 3-5 months, 75 kg animal compound feed, one feeding trough and one water trough will cost USD 374 per household"

Livestock Restocking – Large Ruminants

POPULATION	Population dependent on agriculture (60%)	Agri-based HHs for Assistance	Cost of Inputs *(USD) Million*	Cost of Operation *(USD) Million*
100,000	40,000	5,700	4.3035	1.29
500,000	200,000	28,600	21.593	6.48
1,000,000	400,000	57,100	43.1105	12.93
2,000,000	800,000	114,300	86.2965	25.89
5,000,000	2,000,000	285,700	69.9965	21.00

Source: - FAO matrix for response for animal feed in emergency

***** Costing- livestock restocking – Large ruminants "Cost of small animal restocking including one adult female heifer at the age of 12-15 months, 60 kg animal compound feed, one feeding trough and one water trough will cost USD 982 per household".

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