



Investing in rural people

# Mapping Nutrition-Sensitive Interventions in East and Southern Africa (ESA)

Kenya, Mozambique and Zambia  
Main Report and Annexes  
Report No. 4440







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**Kenya, Mozambique and Zambia**

**Main Report and Annexes**

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## Abbreviations and acronyms

AFAP	Adaptation for Smallholder Agriculture Programme
ESA	East and Southern Africa
FAO	United Nation Food and Agriculture Organization
FHH	Female-headed household
FGD	Focus-group discussion
GNR	Global Nutrition Report
IFAD	International Fund for Agricultural Development
IGA	Income generation activities
KAP	Knowledge attitude and practice
KII	Key informant interview
HDDS	Household diet diversity score
HH	Household
ICN2	Second International Conference on Nutrition
ICO	IFAD country office
MCA	Multiple classification analysis
MDD-C	Minimum dietary diversity for children
MDD-W	Minimum dietary diversity for women
MDGs	Millennium Development Goals
MHH	Male-headed household
M&E	Monitoring and evaluation
NGO	Non-governmental organization
NRM	Natural resource management
PMU	Project Management Unit
PROMER	Rural Market Promotion Programme
PTA	Policy and Technical Advisory Division
RIMS	Results and Impact Management System
SAPP	Sustainable Agricultural Production Programme
SDCP	Smallholder Dairy Commercialization Programme
SKD	Strategy and Knowledge Department
S3P	Smallholder Productivity Promotion Programme
SD	Standard deviation
SGD	Sustainable Development Goal
SUN	Scaling up nutrition
SPSS	Statistical Package for Social Sciences
UN	United Nations
USD	United States dollar
USAID	United States Aid for International Development
UTaNRMP	Upper Tana Catchment Natural Resource Management Project

## Foreword

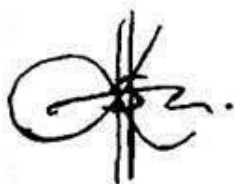
In the last few years, remarkable progress has been made towards the global elimination of hunger and malnutrition. However, developing countries – notably in sub-Saharan Africa and South Asia – are laggards and continue to display alarming levels of undernourishment and malnutrition. The current trend is increasingly for different forms of malnutrition to co-occur in the same country, including among rural communities and even within households. The 2016 report of the Global Panel on Agriculture and Food Systems for Nutrition provides insights into the role of diets and malnutrition. Globally 3 billion people have low-quality diets; and 45% of deaths among children under five years of age are linked to malnutrition. In sub-Saharan Africa, 58 million children are stunted, while overweight, obesity and diet-related non-communicable disease rates among African men now exceed the percentage who are underweight.

The international community continues to make multiple efforts and commitments to address these nutrition challenges. The 2030 Sustainable Development Agenda reaffirms the priority to eradicate hunger and to achieve food security, and to end all forms of malnutrition. At the same time, development partners display growing interest in prioritizing investment in agriculture and rural development for good nutrition. The Lancet series (2008) provided compelling evidence supporting multisectoral approaches and innovations in harnessing the potentials of agriculture for reducing malnutrition.

The Agreement establishing IFAD invokes “*the need to increase food production in the poorest food-deficit countries; and the importance of improving nutritional levels of the poorest populations in developing countries and the conditions of their lives.*” Nutrition plays an important role in improving rural people’s physical and intellectual capacities. IFAD’s Strategic Framework (2016-2025) situates nutrition at the pinnacle of the Fund’s overarching strategy for rural and agricultural development. This is promoted notably through IFAD’s Nutrition Action Plan to mainstream nutrition into investments through nutrition-sensitive agricultural interventions and policy engagement.

The challenge for IFAD and other development organizations, however, is to ensure that income-focused project designs achieve practical nutritional outcomes on the ground. This report represents a first, and timely, attempt to map IFAD nutrition-sensitive interventions. It provides an in-depth analysis of trends in implementing nutrition mainstreaming in the East and Southern Africa region (ESA). The report concludes that production and income alone do not necessarily translate into improved dietary intake, without planned and continuous nutrition interventions to elicit behavioural changes in consumption. It calls for context-specific integrated-impact pathways in a project, to attain positive nutrition outcomes. Most importantly, it highlights the positive influence of project interventions on dietary diversity; and it underscores the variation that exists among households and between individuals.

This report is founded on a desk-based stock-taking exercise undertaken by IFAD’s nutrition team in the five regions. The report has been extensively discussed and reviewed and was validated in a technical meeting with other development partners – Rome-based Agencies and Bioversity. We hope that the key findings and recommendations contained in this report will guide project teams in speeding up nutrition sensitivity in IFAD’s investment both in ESA and in other regions.



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## Executive Summary

### Introduction

1. Three billion people in the world's 193 countries suffer from low-quality diets and malnutrition in diverse forms. While some regions have reported remarkable progress on malnutrition and food security, progress in the sub-Saharan Africa region has been worryingly slow. The international community is making multiple efforts to mobilize resources and make commitments towards eliminating hunger and significantly reducing malnutrition. These include progressive momentum on multisectoral approaches and innovations to harness the potential of agriculture for good nutrition, commonly known as “*nutrition-sensitive agriculture*”.

2. IFAD is proactively fostering the nutrition-sensitive agriculture agenda, which is aligned with one of the principal objectives of the Fund's founding agreement, namely “*Improving the nutritional level of the poorest populations in developing countries*”. Strengthening the productive potential of rural people to enable them to move out of poverty and achieve food security and good nutrition requires improving their work capability and intellectual capacities. Within this context, IFAD investments are increasingly designed to be nutrition-sensitive.

### Objectives

3. The purpose of this study is to map nutrition-sensitive interventions in IFAD-funded projects in the ESA region, and to provide guidance for effective nutrition mainstreaming operations. The specific objectives are to: (1) map the various interventions used in delivering nutrition-sensitive activities; (2) identify pathways for nutrition outcomes; (3) evaluate the scale and scope of intervention implementation; (4) assess the effect of the project on beneficiaries; (5) identify and map areas of opportunities for scaling up; and (6) identify challenges, weaknesses and gaps.

### Methodology

4. This study began with a desk-review of 37 projects, followed by primary data collection using five projects as case studies in three countries, as follows: Kenya - Upper Tana Catchment Natural Resource Management Project (UTaNRMP) and Smallholder Dairy Commercialization Programme (SDCP); Mozambique - Rural Market Promotion Programme (PROMER); and Zambia - Smallholder Productivity Promotion Programme (S3P) and Smallholder Agribusiness Promotion Programme (SAPP). The data collection tools used to generate the required information included: (1) *Checklist on the selected projects*; (2) *Survey questionnaire for beneficiaries at the household level*; (3) *Interview Guide for key informants – ICO, project implementers, partners*; (4) *Interview Guide for key informants: community and local leaders*; and (5) *Guiding Questions for focus group discussions (FGDs)*. Data was collected from 402 beneficiary households, 161 focus group discussants and 34 key informants. The respondents for the in-depth interview and FGDs encompassed project implementers and key partners, including government representatives, farmer organizations, non-governmental organizations (NGOs), and community leaders. A purposive sampling method was adopted to select the countries and study projects, guided by a project investment focus; and the implementation status of interventions and projects was classified as ‘nutrition-sensitive’ (NS) or ‘non-nutrition-sensitive’ (NNS) according to IFAD's nutrition portfolio database.

### Main Findings

5. The study revealed that nearly all projects pursue similar goals and development objectives, i.e. improving income and household food security; and they use the reduction in chronic malnutrition / stunting as an impact indicator. Although the latter was the most commonly documented impact indicator for a large number of projects, only a few demonstrated a clear focus on nutritional status.

6. Overall, the project interventions in the ESA portfolio displayed substantial differences in terms of investment focus and, particularly, integrated nutrition actions. There is a wide range of investment areas, including natural resources (UTaNRMP); dairy commercialization (SDCP); rural marketing (PROMER); agribusiness / value chain (SAPP); climate-smart agriculture (Lesotho - Wool and Mohair Promotion Project); hydro-agricultural infrastructure and value-chain development (Burundi - Value-Chain Development Programme Phase II); cereal development (Kenya Cereal Enhancement Programme Climate Resilient Agricultural Livelihoods Window); fisheries (Eritrea -

Fisheries Development Project); rural finance (Zambia - Rural Finance Expansion Programme); food security and rural development (Burundi - National Programme for Food Security and Rural Development in Imbo and Moso); irrigation (Ethiopia - Participatory Small-scale Irrigation Development Programme II); livestock (Zambia - Smallholder Livestock Investment Project), and many more.

7. **Production / Diversification:** This study has shown that all ESA projects primarily targeted increasing productivity, and there was little focus on improving diet quality and dietary diversity. The project interventions change the supply of and demand for food commodities and reduce their cost, including nutritious foods, such as in dairy commercialization within the SDCP programme in Kenya. An assessment of individual projects revealed a variety of production activities, ranging from training to the provision of supplies and services such as labour- and energy-saving technologies. Production-focused training was the most commonly reported service received by a large majority of beneficiaries in all projects except for the SAPP. More than 80% of respondents reported having market access to inputs for their agrifood production and improved market access to sell their products.

8. **Market Access / Income:** Improving the incomes of poor rural households was among the goals of most ESA projects. Most respondents reported a positive influence of income growth on their households' ability to purchase and consume more nutritious foods, and / or to pay for more and better health care. A large proportion of the beneficiaries reported that the project had helped them create market access for their agrifood product. Most UTaNRMP beneficiaries (84.5%) and S3P beneficiaries (98.4%) use the marketing services for accessing inputs and supplies. In the case of PROMER, 82.4% of beneficiaries reported using market access to sell their products; 57.8% to increase income and saving, while fewer than 50% reported that market access was used for the provision of supplies and inputs (35.3%) and for access to credit (23.5%).

9. **Capacity-building:** Capacity-building, in terms of enhancing knowledge and skills, was a common element observed in the ESA projects and was perceived by all beneficiaries to contribute to enhancing income generation. The project beneficiaries specifically explained that their financial autonomy increased after receiving training or new skills, through the IFAD / ESA projects. Compared to other projects, a large proportion of the S3P and PROMER respondents received training in nutritional education (95% and 88%, respectively); food demonstration, cooking and recipe development (83.9% and 75.5%); kitchen garden (83.9% and 63.7%). The S3P beneficiaries reported the highest rates in all areas of capacity-building on nutrition. The main capacity building for SDCP involved training for income generation (81.1%).

10. **Women's empowerment:** Activities related to women's empowerment focused mainly on offering training to women's groups. Gender and women's empowerment is mandatory in all IFAD projects. Gender mainstreaming entails interventions that overcome barriers that prevent men and women from having equal access to the resources and services they need to improve their livelihoods. In the SDCP, some gender issues are addressed through the following activities: promotion of labour and time-saving technologies, e.g. roof-catchment water harvesting, biogas, improved stoves and provision of technical support to women's groups, which have helped reduce women's workload. Most of the respondents, especially women, said they were now able to contribute more meaningfully to their family's income, compared to their husbands.

11. **Nutrition-sensitive activities:** The incorporation of nutrition-focused activities was noted in most of the 37 project documents reviewed. The nutrition activities contained in S3P and PROMER include food demonstration and preparation; food processing, nutrition education; linkage with "Scaling up nutrition" (SUN) initiatives; bio fortification; women's empowerment; capacity building; demonstration kitchens; training for community leaders on the importance of a healthy and balanced diet; and nutrition education through community radio. However, substantial evidence from the field visits and the primary data collected indicate that these activities are not being implemented in all the projects' target locations.

12. **Influence of project interventions on the beneficiaries:** The perceived benefits from project interventions, as reported by FGDs and key informants, were grouped into two levels: output and outcome. The output level corresponds to the benefits derived from project activities, while the outcome level refers to the perceived influence on households as a result of those activities. Although the nutrition activities were poorly perceived at the output level, the respondents reported a positive

influence at the household level. For example, for UTaNRMP and SDCP, few or no nutrition-focused activities were reported at the output level; but more than 80% of respondents confirmed food and nutrition benefits at the outcome level – increased access to and availability of food for households and a reduction in malnutrition.

13. **Dietary diversity** was used to measure dietary profiles among households and between individuals. The dietary profile showed that the Household Dietary Diversity Score (HDDS) is generally better than the Minimum Dietary Diversity for Children (MDD-C) and Minimum Dietary Diversity for Women (MDD-W) indices. A smaller proportion of the respondents displayed poor dietary diversity (HDDS) at the household level. On the other hand, the prevalence of poor dietary diversity at individual level was high in all projects. Over 30% of women are in the poor MDD-W category (defined as a diet containing fewer than five food groups). The proportion is even worse among children (50% consumed fewer than four food groups).

14. **Determinants of dietary diversity:** The Multiple Classification Analysis (MCA) model was used to relate the key project interventions as variables explaining dietary diversity among project beneficiaries. Multivariate analysis revealed the following as likely determinants of dietary intake: *literacy status, household size and headship, wealth index, capacity-building activities, market linkage services and diversification of services* for improved livelihood. Diversification of services showed the greatest influence on dietary diversity among households. Among the women's group, household size and diversification were among the strongest factors influencing dietary diversity. For the children group, capacity-building activities had the greatest influence on MDD-C. This study also identified household size and the wealth index as determinants of the DDS-W and DDS-C indices, but not for the HDDS. This very interesting finding indicates the need for further research into how household size and gender issues affect nutrition.

15. **Challenges:** While the projects showed substantial promise for positive changes and improving household income, food security and nutrition, a number of challenges require attention. These include, but are not limited to, financial constraints, lack of clear nutrition objectives and activities, challenges related to target-group selection and participation, and other operational constraints that need to be addressed during implementation, especially in supervision and implementation support missions. One clearly identified challenge is the need for more technical expertise, such as a nutrition expert at the project level to speed up implementation and track progress on a regular basis.

### The way forward

16. **Nutrition impact pathways:** The primary quantitative and qualitative data collected from this study have made it possible to conceptualize simplified frameworks for the main pathways, adapted to the nutrition-sensitive investments in ESA, to maximize the impact in terms of nutritional outcomes.

17. Recommended **integrated pathways** can be adopted in any IFAD investment whose overarching goals include **improvement of food security and nutrition; improvement of income and poverty reduction; sustainable and resilient livelihoods**. The cross-cutting nature of mainstreaming nutrition, climate and gender in IFAD's work has great potential for integrating nutritional knowledge and women's empowerment activities, as critical positive **influencers** within production- and income-focused investments.

18. The routes from food production, higher income growth and diversification lead to food security, adequate food consumption and good nutritional status. For instance, the integration of nutritional knowledge activities (i.e. nutrition education), women's empowerment and climate-smart actions (e.g. labour and time-saving technologies) within a project investment, would target the underlying causes of malnutrition: **food insecurity, inadequate care practices and an unhealthy environment**. These have a critical influence on nutrition-sensitive interventions for **improved dietary intake** and **good health status**. Poor dietary intake and ill health are the direct causes of malnutrition. It is important to ensure that the goal of improved dietary intake is complemented by, or should leverage, synergies with interventions to enhance the environment, including access to health services, hygiene practices and safe water, to ensure adequate utilization of food consumption. This is very important because poor health status and poor sanitation undermine the optimal utilization of food nutrients; and **adequate food consumption / utilization** has a significant impact on **good nutritional status**.

19. **In conclusion**, there are several opportunities for making IFAD projects more nutrition-sensitive; but this study has shown that without planned and continuous nutrition interventions targeting positive changes in food consumption, increased production and income growth will not translate into improved dietary intake. Actions to support income growth, skill acquisition through capacity building and women's empowerment with a nutrition focus provide major opportunities for influencing diet diversification and improved dietary intake at both household and individual levels. The adoption of integrated pathways for nutrition outcomes is recommended, in conjunction with complementary steps, such as access to safe water, good health and environment. Implementation of the recommended integrated pathways could benefit from the customization of available and relevant tool kits. This would guide and ensure a detailed description of nutrition-impact pathways in project design documents for effective implementation. IFAD's nutrition-sensitive investments need systematic and structured guidance to speed up the operations of IFAD's Action Plan for Nutrition and efforts to blend its work on nutrition, gender and climate mainstreaming in project design.

## I. Introduction

1. Over the last two decades, poverty has declined significantly around the world; but this has not been matched by a reduction in global hunger or improved nutritional outcomes (World Bank, 2013). The world remains off track to reach the globally-agreed nutrition targets according to the report on agriculture development, food security and nutrition by the United Nations Standing Committee on Nutrition. Although substantial progress in reducing hunger and undernutrition has been achieved in the past 25 years, roughly three billion people across the world's 193 countries have low-quality diets and suffer from malnutrition in many forms: stunting, wasting, deficiencies in essential vitamins and minerals, and obesity (Global Panel on Agriculture and Food Systems for Nutrition, 2016).

2. While some regions have made remarkable progress towards food security and eradicating malnutrition, progress in combating hunger in the sub-Saharan Africa region has been worryingly slow; and that region has the highest prevalence of undernourishment (23.2%) (SOFI, 2015). A total of 156 million of the world's children are stunted, of whom 37% are in Africa; 42 million are overweight with a quarter (25%) in Africa; and 50 million are wasted with 28% living in Africa.<sup>1</sup>

3. The international community is making multiple efforts to address these global nutrition challenges. The last few years have witnessed tremendous efforts to implement global visions and strategies, to mobilize resources and commitments towards eliminating hunger and significantly reducing malnutrition. These include the adoption of 17 Sustainable Development Goals (SDGs); the World Health Assembly targets (2025), the Scaling Up Nutrition movement (SUN), the Zero Hunger vision, and the Second International Conference on Nutrition (ICN2).

4. The SDG commitment proposes to end poverty, protect the planet, and ensure prosperity for all, as a new 2030 Sustainable Development Agenda. The SDGs emphasize that ending rural poverty will require a determined effort to raise the incomes of small-scale producers, who also hold the key to sustainably feeding a growing global population. These ambitious goals will entail improving people's wellbeing through sustainable livelihoods: increasing smallholder incomes and productivity, and promoting decent rural employment (United Nations, 2015).

5. United Nations Secretary-General, Ban Ki-moon, launched two major campaigns: Every Woman, Every Child (2010) and the Zero Hunger Challenge (2012), which have a strong focus on reducing stunting. The Zero Hunger vision reflects five elements that are aligned with the SDGs and will be led by governments to end hunger, eliminate all forms of malnutrition, and build inclusive and sustainable food systems. Currently, a total of 58 countries are leading a global movement to end malnutrition in all its forms through the SUN movement, which was launched in 2010. This movement involves commitments from national authorities, a broad range of stakeholders from multiple sectors and a global coalition of partners to tackle stunting, focusing especially on the 1,000-day window of opportunity, from conception to a child's second birthday.

6. In 2012, the World Health Assembly (WHA) endorsed a comprehensive set of six global targets to improve maternal, child and infant nutrition by 2025. In 2014, FAO and the World Health Organization (WHO), in collaboration with other United Nations agencies, programmes and funds, organized ICN2. This conference anchored a collective commitment to ensure that development, including the global food system, is improving people's nutrition with a view to ending all forms of malnutrition in a sustainable way, particularly that of women and children. In 2016, the United Nations General Assembly proclaimed a United Nations Decade of Action on Nutrition for 2016–2025, in reaffirmation of the call to end all forms of malnutrition, based on ICN2 and the Sustainable Development Goals.

7. Other strategies, such as Agenda 2063 focus particularly on ending hunger and malnutrition in Africa. The Agenda predicts that African countries could be among the best performers in global quality-of-life measures, through strategies for inclusive growth, job creation, increasing agricultural production; investments in science, technology, research and innovation; gender equality, youth empowerment and the provision of basic services including health, nutrition, education, shelter, water

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<sup>1</sup> UNICEF / WHO / World Bank Group - Joint child malnutrition estimates 2016 edition: Levels and trends in child malnutrition.

and sanitation. These commitments have motivated the high-level attention paid to nutrition in all African countries.

8. Despite these commitments and efforts, multiple forms of malnutrition are increasingly found co-existing within the same country or household, or even in the same individual, because a person can suffer from more than one type of malnutrition. The Global Nutrition Report (GNR, 2016) highlights a rising trend in both undernutrition and adult overweight / obesity within a country. Two billion people are affected by one or more micronutrient deficiency; and, among the adult population of 5 billion, nearly 2 billion are overweight / obese. According to the Global Panel on Agriculture and Food Systems for Nutrition (2016), the prevalence of overweight and obesity is expected to double between 2005 by 2030, to reach a level of 17.5% in sub-Saharan Africa. There are now more African men suffering from overweight, obesity and diet-related non-communicable diseases than those who are underweight.

9. This trend has resulted in the progressive use of multisectoral approaches and innovations, harnessing the potentials of agriculture for good nutrition (USAID, 2011; FAO, 2012; Herforth, 2012). The international community is currently prioritizing investment in agriculture and rural development to 'maximize', 'unleash', 'leverage', 'reshape', 'realize' the enormous opportunities of agriculture and the food system to promote good nutrition (Webb, 2013). There is growing interest among development partner organizations, both national and international, in making the agriculture sector more nutrition-sensitive in response to the growing need to increase the volume of food production and reduce malnutrition (Arsenault et al, 2015; World Bank, 2013).

10. Agriculture-focused nutrition-sensitive interventions address the underlying determinants of nutritional status and development: (1) food security; (2) adequate care giving; (3) access to health services; (4) a safe and hygienic environment; and (5) actions influencing child and maternal nutrition. In 2008, the British medical journal (The Lancet) published a series on maternal and child undernutrition that provided compelling evidence and a clear analysis of the long-term consequences of undernutrition during the critical 1,000 days spanning a mother's pregnancy and up to her child's second birthday. Advocates for better nutrition were able to use the evidence to argue for a global response to the nutrition crisis. Since then, there has been growing political support and commitment to reducing malnutrition, along with progressive momentum on multisectoral approaches and innovations to harness the potentials of agriculture for good nutrition.

11. Ruel (2001) reported that agriculture-based projects that have a well-designed behavioural-change component were successful in increasing micronutrient intake. In another study, Berti et. al (2004) showed that agriculture-based projects which invested simultaneously in human, financial, social and other types of capital were more likely to bring about positive nutritional change than those that took a narrower approach. Thus, there is now considerable global momentum for bringing the agriculture, food security, and nutrition agendas closer together, so that investment in one will have positive impacts on the others (World Bank, 2013).

12. Nutrition-sensitive agriculture programmes can help protect poor populations from the negative consequences of global food security threats, and mitigate the effects of financial, weather-related, and man-made shocks (Ruel and Alderman, 2013). Nutrition-sensitive programmes are likely to affect nutrition through changes in food and non-food prices and income, and through women's empowerment (Ruel and Alderman, 2013). As there are often specific vulnerable groups of people (nutritionally at-risk groups) within local, national and regional communities that suffer from insufficient availability of, and access to, nutritious food, nutrition-sensitive agriculture adopts approaches that recognize the specific vulnerability of these groups (Detlef, 2013).



*IFAD Action Plan for Mainstreaming Nutrition-Sensitive Agriculture (2015)*

13. IFAD is actively promoting the nutrition-sensitive agriculture agenda, which is aligned with one of the principal objectives of the Fund's founding agreement, namely "improving the nutritional level of the poorest populations in developing countries". The IFAD Strategic Framework 2016-2025 enunciates its corporate commitment on nutrition; and its presence in all of the 57 countries that have

committed to Scaling Up Nutrition at the country level, puts the Fund in an advantageous position to dialogue with governments and relevant stakeholders to ensure that nutrition is integrated and mainstreamed in development investments. Strengthening the productive potential of rural people, to enable them to move out of poverty and achieve food security and good nutrition, entails improving their work capabilities and enhancing their intellectual capacities. Nutrition plays an important part in this regard, leading – through better health – to higher lifetime earnings and greater resilience among rural households. **Agricultural productivity growth alone is not sufficient to generate improved nutritional outcomes, however; so IFAD's investments are increasingly designed as nutrition-sensitive interventions.**

14. The Mainstreaming Nutrition-Sensitive Agriculture at IFAD action plan (IFAD, 2015) states that IFAD initiatives to make investments more nutrition-sensitive basically use two approaches: (i) integration of nutrition considerations and indicators into the existing elements of a project, to give it a nutrition-promoting aspect (e.g. a typical project component, such as enhancing production, will use a new technology or pursue a new goal, such as the use of a nutrient-dense food variety or species); or (ii) adding nutrition-promoting activities to the project itself (i.e. a complementary activity, such as nutrition education or behavioural change communication, will make the project more likely to promote improved dietary intake).

15. However, making agriculture and rural development projects nutrition-sensitive is relatively new and poses a number of challenges and displays gaps with respect to the general approach for effective interventions. The implementation of various interventions in a project seldom demonstrates sufficiently well-defined linkages and pathways to adequately track the impact of food security and nutrition-related activities on good nutritional outcomes. For instance, while investment in rural smallholder farmers empowers poor rural women and increases incomes, it also has the potential to worsen the malnutrition situation if care-giving time is compromised and maternal nutrition is neglected.

16. The main beneficiaries of IFAD investment projects and programmes include nutritionally-vulnerable rural farming households that rely mainly on agriculture as their primary livelihood source. In sub-Saharan Africa, and in East and Southern Africa particularly, these smallholder farmers tend to practise mono-cropping, which often influences their dietary intake and subsequently generates a high-burden of malnutrition.

17. Rural transformation also has the potential to influence food consumption patterns, shifting away from traditional foods towards fast food products and a monotonous dietary intake. Efforts to improve the rapidly changing dietary intake and food system offer IFAD opportunities to improve the livelihoods of smallholder farming households and ultimately enhance their diets and their broader nutritional outcomes.

18. In most ESA countries the malnutrition situation remains critical, particularly among poor rural communities. For instance, stunting, and iron- and vitamin-A-deficiency rates are of great concern in Burundi (57.5%; 44.6%; 27.9%, respectively); Madagascar (49.2%, 68.3% and 42.1%); Malawi (47.8%, 62.5% and 59.2%); Mozambique (43.1%, 68.7% and 68.8%); and Zambia (40.1%, 52.95% and 54.1%, respectively).<sup>2</sup>

19. Given the vital role played by agriculture for improving food security and nutrition, this mapping of nutrition-sensitive interventions in IFAD-funded projects in the ESA region is seen as essential for identifying gaps and opportunities for effective nutrition mainstreaming. The mapping exercise was based on the report of a desk-based stock-taking exercise undertaken for IFAD.

20. This study also makes an in-depth analysis of the operational trends of nutrition mainstreaming in the ESA portfolio, in which the following questions warrant a critical and in-depth investigation: (i) *What are the key interventions used in delivering nutrition-sensitive activities?* (ii) *What are the possible impact pathways for nutrition outcomes under each project's interventions?* (iii) *What are the main factors influencing dietary intake among the project-beneficiary households?* (iv) *What are the key challenges in implementing nutrition-sensitive actions within each individual project?*

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<sup>2</sup> The Global Nutrition Report (2016).

## II. Objective

21. The purpose of this study is to map nutrition-sensitive interventions in IFAD-funded projects in the ESA region, and to provide guidance for developing an effective nutrition-mainstreaming strategy. The specific objectives include:

- (a) Map the various interventions used in delivering nutrition-sensitive activities;
- (b) Identify pathways for nutrition outcomes;
- (c) Evaluate the scale and scope of intervention implementation;
- (d) Assess the patterns of the project's influence on beneficiaries;
- (e) Determine and map areas of opportunities for scaling up;
- (f) Identify challenges, weaknesses and gaps.

## III. Methodology

### Study design

22. This study began with a **desk review of 37 projects**: 33 approved from 2010 to 2015, along with four purposefully selected projects with approval dates between 2005 and 2009 (inclusion was based on their investment focus and implementation status). All 37 projects (see annex 1) were screened and validated using project documents such as the Country Strategic Opportunities Programmes (COSOPs), programme design reports, supervision reports, project completion reports, portfolio review reports, impact assessment reports and country programme evaluations. For the subsequent selection of projects for study, those approved in or after 2015 were not included, because they have not actively started implementation.

23. The study used a cross-sectional survey design; and a purposive sampling method was adopted to select the countries and projects for study. Selection was based on five major criteria, namely: intervention focus, project goals, development objectives, indicators and key nutrition activities. The selection also considered projects that were well advanced in the implementation of interventions and those classified as 'nutrition-sensitive' (NS)<sup>3</sup> and 'non-nutrition-sensitive' (NNS)<sup>4</sup> according to the IFAD Nutrition Portfolio Database.<sup>5</sup> The detailed mapping of all 37 projects for sample selection is presented in annex 2.

24. The presence of NS projects<sup>6</sup> in a country portfolio formed the basis for pre-selecting the country, from which seven projects were ultimately selected as shown in annex 3. The investment focus for the seven selected projects encompassed agribusiness / value-chain development; dairy production; fisheries; livestock; productivity promotion; rural finance; and natural resource management. However, time constraints and resource limitations meant that primary data collection in the three countries was completed for the following five projects only:

- (i) Kenya— Upper Tana Catchment Natural Resource Management Project (UTaNRMP);
- (ii) Kenya—Smallholder Dairy Commercialization Programme (SDCP);
- (iii) Mozambique—Rural Market Promotion Programme (PROMER);
- (iv) Zambia—Smallholder Productivity Promotion Programme (S3P);
- (v) Zambia—Smallholder Agribusiness Promotion Programme (SAPP)

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<sup>3</sup> **'Nutrition-sensitive' projects** are projects with an integrated range of nutrition-relevant actions, indicators and objectives, envisioning a clear impact pathway to contribute to nutrition outcomes.

<sup>4</sup> **'Non-nutrition-sensitive' projects** are projects with no consideration of nutrition, or projects with implicit consideration but lacking a clear and coordinated effort.

<sup>5</sup> Database obtained from a nutrition review of IFAD projects within the period 2010-2015 (IFAD 8 and IFAD 9).

<sup>6</sup> The database classified PROPECSA and S3P as nutrition-sensitive only after the initial project design, because the projects became nutrition-sensitive during implementation.



## Box 1

### Projects selected for the study



#### S3P (Zambia) : Duration- 2011-2018

- Project goal: To sustainably improve income levels and food and nutrition security among poor agricultural households in the programme area.

Investment focus: **Productivity promotion**

- IFAD Nutrition Portfolio Database: Nutrition-sensitive projects (category D).

#### SAPP (Zambia): 2009-2017

- Project goal: To increase the income levels of poor rural households involved in production, value addition and trade in agricultural commodities.

Investment focus: **Agribusiness / value-chain development**

- IFAD Nutrition Portfolio Database: n.a. (Approved before 2010)

#### UTaNRMP(Kenya): 2012-2020

- Project goal: To contribute to rural poverty reduction in the Upper Tana river catchment

Investment focus: **Natural Resources**

- IFAD Nutrition Portfolio Database: Not Nutrition-Sensitive (category B).

#### SDCP (Kenya): 2006-2019

- Project goal: To increase the incomes of poor rural households whose livelihoods depend substantially on the production of, and trade in, dairy products.

Investment focus: **Dairy Commercialization**

- IFAD Nutrition Portfolio Database: n.a. (Approved before 2010)

#### PROMER (Mozambique): 2009-2018

- Project goal: To improve the livelihoods of poor rural households by increasing their incomes from agricultural activities.

Investment focus: **Rural Marketing**

- IFAD Nutrition Portfolio Database: n.a. (Approved before 2010).

**Note:** Category A is a non-nutrition-sensitive project; Category B has minimal consideration of nutrition; Category C is nutrition-sensitive project; and Category D involves integrated nutrition mainstreaming.

### Data collection and analysis

25. Data were collected from a total of 402 beneficiary households, 34 key informants and 161 focus-group discussants. The process of selecting eligible households started with a random selection of representative villages / districts from each project area, followed by the selection of beneficiary households using simple random-sampling techniques. Details on the survey design and sample size calculation are provided in annex 8. However, the selection of respondents for the in-depth interview and focus-group discussion was based on purposeful sampling, and includes project implementers, key partners such as government representatives, farmer organizations, NGOs and community leaders. In order to produce a complete set of data for analysis and meet the stated objectives, a number of data collection tools were used:

- *Checklist on the seven selected projects (see annex 3)*
- *Survey questionnaire for beneficiaries at the household level (see annex 4)*
- *Interview guide for key informants: ICO, project implementers, partners (see annex 5)*
- *Interview guide for key informants: community and local leaders (see annex 6)*
- *Guiding questions for focus group discussions (see annex 7)*

26. Among other things, the analysis covered the beneficiaries' dietary profile, project pathways to nutrition outcomes, a mapping of existing nutrition-related interventions, integrated nutrition-sensitive activities, stakeholder perceptions, intervention gaps and challenges, best nutrition mainstreaming practices for scaling up, and recommendations on nutrition issues to be pursued, based on study findings.

27. The **Dietary Diversity Score (DDS)** was used to measure dietary profiles among households and between individual levels. This indicator calculates the number of different food groups consumed over a given period, as a measure of diet quality. Different food group lists are used to compute DDS at the household level (Household Dietary Diversity Score – HDDS); for women of reproductive age (Minimum Dietary Diversity for women – MDD-W); and for children (Minimum Dietary Diversity for Children – MDD-C). The MDD-W is used as a proxy measure for the nutritional quality of an individual's diet, while HDDS is used to represent the household's socioeconomic level. The differences in the list of food groups used to construct the HDDS, MDD-W and MDD-C indicators reflect these different objectives.

28. The HDDS index was computed using 12 food groups; and a good HDDS score means an intake of five or more groups, while an intake of four groups or less is classified as a poor HDDS. The MDD-W was computed with only 10 food groups, so an intake of at least five groups is rated good, while fewer than five is considered poor. For MDD-C, seven food groups were used, with an intake of four or more rated good, while fewer than four is considered poor. Examples of the food items contained in each group are illustrated in box 2.

**Box 2**

**Food groups used to compute the DDS for households, children and women**



Food groups	Household=12	Women=10	Children=7
 <b>Cereals</b>	✓		
 <b>Roots and white tubers</b>	✓	✓ All starchy staples	✓ All starchy staples
 <b>Beans and peas</b>		✓	
 <b>Nuts and seeds</b>	✓	✓	✓
 <b>All dairy products</b>	✓	✓	✓
 <b>Flesh foods</b> (meat, poultry, organ meats)	✓	✓	✓
 <b>Fish and seafood</b>	✓		
 <b>Eggs</b>	✓	✓	✓
 <b>Vitamin-A-rich</b> dark green leafy vegetables		✓	✓
 <b>Other Vitamin-A-rich</b> vegetables and fruits		✓	
 <b>Other fruits</b>	✓ And vitamin-A-rich fruits	✓	✓
 <b>Other vegetables</b>	✓ And vitamin-A-rich vegetables	✓	
 <b>Oils and fats</b>	✓		
 <b>Non-alcoholic beverages and sweets</b>	✓		
 <b>Miscellaneous:</b> Tea, coffee, spices, condiments	✓		

## IV. Findings and Discussion

### The respondents' characteristics

29. Table 1 presents the background characteristics of the 402 households involved in this study. The educational status data showed that the largest proportion of respondents in all the projects have completed at least primary education, while 25% of respondents from PROMER and SAPP reported less schooling.

30. A larger proportion of respondents was self-employed in UTaNRMP, SDCP and S3P (62.8, 74.4% and 77.8%, respectively). PROMER had the highest proportion of unemployed respondents (52%) followed by the UTaNRMP (30.8%) and SDCP (24.3%). Respondents reporting unemployment status claimed that they had no form of employment, although this could be associated with the respondents' indicated low level of education. Further analysis of the qualitative data suggested that some unemployed youth tended to migrate to the nearest urban areas to seek work and earn an income.

31. The distribution of the respondents by household size showed that over 90 percent of households in PROMER, S3P and SAPP were large (seven members or more); while the equivalent figures for UTaNRMP and SDCP were also quite high at 68 and 72 percent, respectively. The average household size in this study (between 3.5 to 6.22) is consistent with the national average household size (Kenya 4.4; Zambia 4.8; Mozambique 4.5). The slightly higher mean values for Mozambique and Zambia, as compared to Kenya, could be attributed to the larger family size reported for PROMER, S3P and SAPP. In fact, some households have up to 12 members; but there is the potential and a tendency for bias when respondents report household size during data collection, especially where there is an expectation of potential benefits from the project.

32. Larger landholdings per household (> 2 hectares) was reported among respondents from PROMER (46.1%) and S3P (54%), while a larger proportion of respondents from SAPP and UTaNRMP claimed to be landless (61% and 20%). The percentages of households with 1-2 hectares were greater for SDCP and UTaNRMP (73% and 69%, respectively).

33. The respondents' household headship distribution shows that fewer than 25% of households in each project were female-headed (FHH). The S3P project reporting the smallest proportion at just 10%. Household wealth status was computed from commonly available lists of household assets: electricity, radio, bicycle, sewing machine, cart, kerosene, cell phone and lamp (see annex 8). Respondents were further classified in terms of their wealth status as poor, medium and better-off, following Regassa and Stoecker (2011). The distribution reported in table 1 indicates that PROMER, S3P and SAPP have relatively larger proportions of poor households, at 60.8%, 52.4% and 34.1%, respectively, which is consistent with the low education levels and the unemployment rates among these groups of respondents.

**Table 1: Percentage distribution of respondents by sociodemographic characteristics and project types**  
N= 402\*

Variable	Project name				
	PROMER (n=102)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=63)	SAPP (n=85)
<b>Educational status</b>					
Elementary level (1-6)	51.5	6.4	10.8	20.6	16.5
Junior (7-8)	20.8	37.2	24.3	44.4	28.2
Secondary (9-12)	2.0	37.2	44.6	31.7	24.7
College	1.0	9.0	17.6	00	5.9
None**	24.8	10.3	2.7	3.2	24.7
<b>Employment status</b>					
Self-employed	12.7	62.8	74.4	77.8	00
Paid contract worker	1.0	6.4	00	00	00
Unemployed domestic worker	52.0	30.8	24.3	00	00
Unemployed	34.3	00	1.4	22.2	00
<b>Household size</b>					

Variable	Project name				
	PROMER (n=102)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=63)	SAPP (n=85)
<b>≤3 members</b>	1.0	15.4	8.1	00	<b>1.2</b>
<b>4-6 members</b>	3.9	16.7	20.3	3.2	<b>2.4</b>
<b>≥7 members</b>	95.1	67.9	71.6	96.8	<b>96.5</b>
<b>Land size</b>					
<b>Landless</b>	00	20.5	1.4	3.2	<b>61.2</b>
<b>&lt;1 hectare</b>	27.5	51.3	40.5	14.3	<b>9.4</b>
<b>1-2 hectare</b>	26.5	17.9	32.4	28.6	<b>10.6</b>
<b>&gt; 2 hectare</b>	46.1	10.3	25.7	54.0	<b>18.8</b>
<b>Household headship</b>					
<b>Female</b>	13.7	16.7	18.9	7.9	<b>17.6</b>
<b>Male</b>	86.3	83.3	81.1	92.1	<b>82.4</b>
<b>Wealth index***</b>					
<b>Poor (0-3 assets)</b>	60.8	3.8	4.1	52.4	<b>34.1</b>
<b>Better (4-6 assets)</b>	39.2	84.6	87.8	47.6	<b>63.5</b>
<b>Rich (≥7 assets)</b>	<b>00.0</b>	<b>11.5</b>	<b>8.1</b>	<b>00.0</b>	<b>2.4</b>

\* Number of households that provided responses.

\*\*No formal schooling and non-responses.

\*\*\* Wealth index based on nine different household assets.

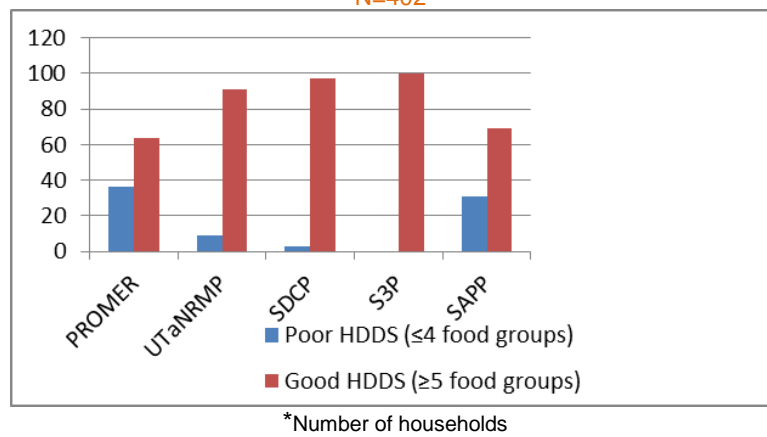
### Dietary profiles

34. The results shown in figures 1-3 represent dietary profiles at the household and individual (women and children) levels. Household data was collected from 402 respondents; and as all these households had female members of reproductive age (15-49 years), a total of 402 responses were also collected for MDD-W. The total number of respondent children for MDD-C was 227, distributed by projects as follows: PROMER=88; UTaNRMP=18; SDCP=22; S3P=46; SAPP=53.

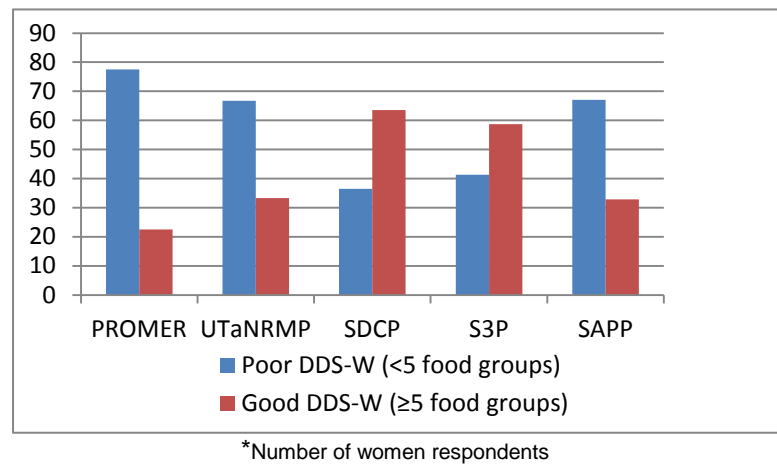
35. The HDDS figures are generally higher than MDD-C and MDD-W. A smaller proportion of respondents reported poor dietary diversity at the household level; UTaNRMP, SDCP and S3P showed proportions of 9.0%, 2.7% and 0%, respectively. In contrast, the proportion of individual respondents with poor dietary diversity was large in all projects. Over 30% of women in all projects are in the poor MDD-W category. The situation is even worse for children across all projects (50% consumed fewer than four food groups). The SAPP and UTaNRMP showed higher proportions of poor MDD-C (at 98% and 87%, respectively). These findings are consistent with national reports on poor child feeding practices. According to the Kenya Demographic and Health Survey (2014), consumption of a minimum acceptable diet among children aged 6-23 months dropped from 39% (2008-2009) to 21% (2014).

36. This study is not an impact evaluation, however, and the respondents' dietary profiles could be reflecting factors unrelated to the project actions. Thus, these reported findings on dietary profile only suggest the likelihood and potential effect of project intervention on the beneficiaries' dietary intake.

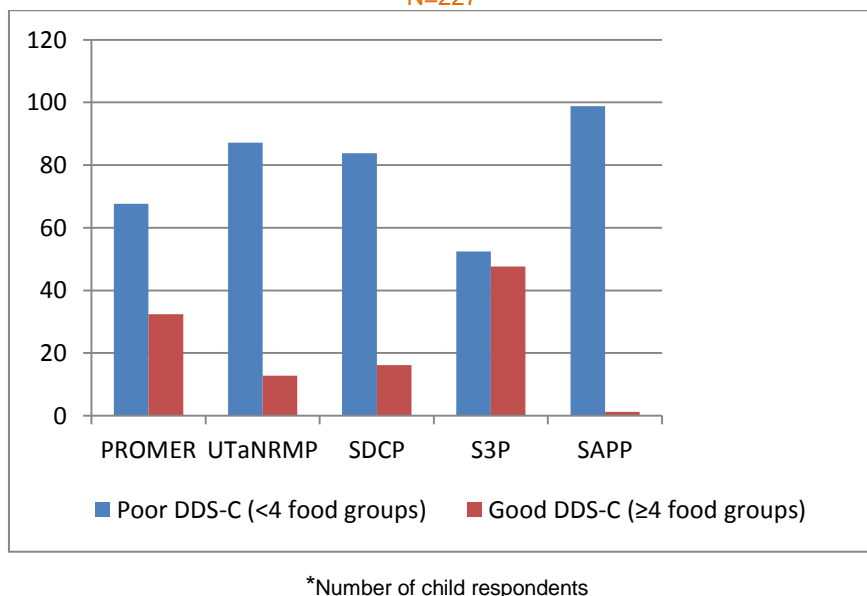
**Figure 1: Household Diet Diversity Score (HDDS)**  
N=402\*



**Figure 2: Women's Diet Diversity Score (DDS-W)**  
N=402\*



**Figure 3: Children's Diet Diversity Score (DDS-C)**  
N=227\*



37. The S3P showed the widest disparity in the proportion of poor dietary diversity at the household level among women and children, where the percentage ranges from 0 for HDDS to 41.3% for MDD-W and 52.4% for MDD-C. This study indicates that women and children are more disadvantaged, with a smaller proportion attaining an acceptable score for food groups (at least five food groups for MDD-W and four or more for MDD-C), as compared to the overall household.

38. The implications of this finding are twofold. First, it reaffirms that there are intra-household differences in food access. Recent studies in African communities have reported substantial differences in intra-household food distribution (Tsegaye et al, 2015), which means some household members have better access to specific food items than others. Cultural determinants of children's and women's' diet can exclude foods that are available in the home and that other family members eat (Pachón et al, 2002). In most cases, especially in many poor rural farming communities, children and their mothers do not have the same meal composition (Amugsi, 2015; Skafida, 2013). Secondly, it may also imply that poor dietary diversity in the long run may result in more complex nutritional outcomes, especially during pregnancy and lactation.

### Project interventions – awareness and participation

39. Data were collected on the beneficiaries' knowledge of the projects and their level of participation in the various interventions, notably **nutrition activities**. Table 2 shows that nearly all the respondents who are aware of PROMER, UtaNRMP, SDCP and S3P claimed active participation in the respective project activities. However, 76.5% of respondents claimed to be unaware of SAPP interventions. Among the 23.5% who responded affirmatively, only 10.6% reported active participation. As this study used purposive sampling to select households in project locations, the high rate (89.4%) of non-awareness of SAPP could only be associated with the challenges encountered during data collection. The enumerators reported a lack of interest and cooperation from SAPP respondents, which undermines sample representativeness.

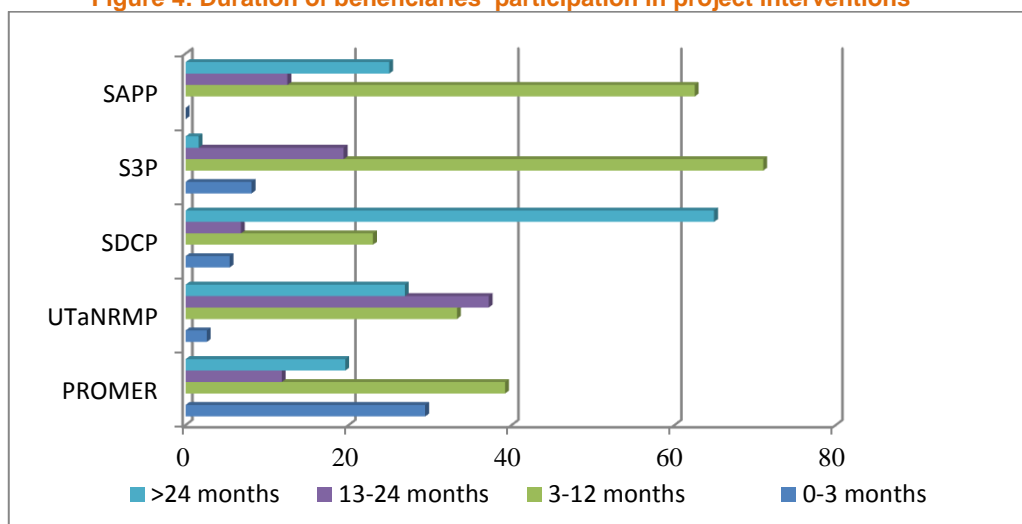
**Table 2: Level of household participation in IFAD project interventions by project type**  
N= 402\*

Level of participation	Project name				
	PROMER (n=102)	UtaNRMP (n=78)	SDCP (n=74)	S3P (n=63)	SAPP (n=85)
<b>Awareness of the project</b>					
<b>Aware</b>	99.0	100.0	100.0	98.4	23.5
<b>Unaware</b>	1.0	-	-	1.6	76.5
<b>Active beneficiary (N=335) **</b>	<b>n=101</b>	<b>n=78</b>	<b>n=74</b>	<b>n=62</b>	<b>n=20</b>
<b>Active participation</b>					
<b>Yes</b>	90.2	100.0	100.0	98.4	10.6
<b>No</b>	9.8	-	-	1.6	89.4

\*Total number of households who are aware and unaware of projects

\*\*Households reporting awareness, participation and / or direct benefit from the project interventions

40. Respondents who claimed they were participating in, and / or benefitting from, project interventions participated for different lengths of time, ranging from three to over 24 months depending on the lifetime of the project (Fig. 4).

**Figure 4: Duration of beneficiaries' participation in project interventions**

### Project activities and perceived changes

41. Data were also collected on the various activities delivered by each project to its beneficiaries, many of which are livelihood diversification, production, capacity-building and income-related activities with a potential effect on nutrition and dietary intake. There are also some integrated nutrition-focused activities, such as nutrition education and home garden, which are listed in tables 3-6 below. Only the respondents who confirmed an awareness of the projects' actions were included in the collection of data on project activities.

### Production

42. All of the projects provide a range of production-related activities and services, as indicated in table 3. These include training, input provision, supplies, and energy-saving technologies. All S3P beneficiaries (100%) reported having access to inputs such as fertilizers and improved seeds, followed by UTaNRMP (55.1%) and PROMER (38%), whereas very few SDCP beneficiaries (13.5%) reported having this service. Creating market access is reported by 83.9% of S3P respondents and by 52.7% in the case of SDCP. Production-focused training was the most commonly reported service received by a large majority of beneficiaries, in all the projects except for the SAPP (only 37.5%).

43. Diversifying farm production is often seen as a promising strategy for improving dietary quality and diversity. Several recent development actions have promoted support to smallholder farmers on production diversification, by introducing additional crop and livestock species with the aim of improving household dietary diversity and nutritional status (Burlingame and Dernini, 2012). A cross-sectional survey of farm households in Indonesia, Kenya, Ethiopia, and Malawi found that more diverse farm production contributes significantly to dietary diversity in situations where food security is a prime concern (Kibrom et al, 2015).

**Table 3: Percentage distribution of households by reported activities / services received in diversification of production N= 335\***

Type of services	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
<b>Training on diversifying food / crop / livestock production</b>	80.4	100.0	95.9	93.5	37.5
<b>Provision of inputs (such as fertilizers and seeds)</b>	38.2	55.1	13.5	100.0	25.0
<b>Creation of market access</b>	36.3	26.9	52.7	83.9	00
<b>Supplies (such as labour and energy-saving technologies)</b>	44.1	51.3	25.7	40.3	00

\*Total number of respondents / households



**Box 3****Testimonial from a dairy farmer, SDCP, Kenya**

Mr. Konton has been an SDCP beneficiary for six years. He believes the project has provided life-changing activities in terms of improving food security and increasing household income. He reported that his household can now buy enough food to eat and access a variety of food which was out of reach before joining the project. He said his household was engaged in livestock production, intensification practices, intercropping and rotating a wide range of crops, such as maize, sorghum, beans and wheat. He also notes an increasing number of women in leadership positions in the mushrooming women's cooperatives. He said "the project faces several challenges, including lack of skilled personnel in specific production areas, lack of transport and difficulty in accessing officials for consultation. I believe that more nutrition campaigns are needed to further improve food quality and access. But I'm happy with what has been done by the project thus far".

**Income / Access to market**

44. Creating market linkages appears to be one of the most important post-production activities of all the projects surveyed. Large proportions of the beneficiaries in each project reported that the project helped them create market access for their product. With the exception of the SAPP (at 25%), over 80 percent of respondents that were beneficiaries in the other four projects reported having market access for inputs / outputs. Most UTaNRMP and S3P beneficiaries (84.5% and 98.4%, respectively) use the marketing for accessing inputs and supplies. Most PROMER beneficiaries use market access for selling their products (82.4%) and for increasing income and saving (57.8%); and a smaller proportion for the provision of supplies and inputs (35.3%) and to access credit (23.5%). Most UTaNRMP beneficiaries use the market to obtain supplies and inputs (85%) and for increased savings (74.4%).

45. This finding is associated with the growing number of value-chain development programmes in IFAD investments. About 75% of IFAD's new investments each year include a value-chain development component with an explicit mechanism to promote public-private-producer partnerships (4Ps). This is an opportunity for engaging with the private sector to improve nutrition through value-chain development. Previous studies suggest that improving small farmers' access to markets is a more effective strategy for improving nutrition than promoting production diversity on subsistence farms (Kibrom et al, 2015; Jones et al, 2014). Given the fast-moving development landscape and rapidly changing food-consumption pattern in rural areas, there is a need to strengthen production systems and promote diversity. These efforts could complement greater market access, influence on the food environment and more nutrition-sensitive food systems.

**Table 4: Percentage distribution of households by reported activities / services received in creating market linkages and income**

N= 335\*

Type of services	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
<b>Created access to income / market linkage</b>	79.4	85.9	83.8	90.3	25.0
<b>Market linkages helped production through provision of input and supplies</b>	35.3	84.6	33.8	98.4	12.5
<b>Market linkages helped market for products</b>	82.4	28.2	52.7	95.2	00
<b>Market linkages helped savings</b>	57.8	74.4	71.6	62.9	12.5

Type of services	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
<b>Market linkages enabled the household to access credit</b>	23.5	51.3	28.4	56.5	00

\*Total number of respondents / households

### Capacity building

46. Table 5 presents the capacity-building activities that beneficiaries received from their respective projects. These include training on nutrition education, income generation, production, climate change, hygiene, water and health issues. A larger proportion of the respondents in S3P and PROMER reported receiving nutrition education training (95% and 88%, respectively), food demonstration, cooking and recipe development (83.9% and 75.5%), and kitchen garden (83.9% and 63.7%) than in other projects. The S3P beneficiaries reported the highest rates in all areas of capacity-building on nutrition (table 5). The main SDCP capacity-building activity involved training in income generation (81.1%).

**Table 5: Percentage distribution of households by reported capacity-building services received in the three months prior to the survey**

N= 335\*

Type of services	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
<b>Nutrition education</b>	88.2	73.1	21.6	95.2	12.5
<b>Income generating training</b>	65.7	80.8	81.1	96.8	25.0
<b>Marketing and sales training</b>	72.5	61.5	59.5	90.3	12.5
<b>Production and diversification training</b>	74.5	79.5	77.0	85.5	12.5
<b>Training on personal hygiene, water and health issues</b>	72.5	43.6	32.4	82.3	00
<b>Food demonstration, cooking and recipe development</b>	75.5	32.1	9.5	83.9	12.5
<b>Food safety and preparation</b>	72.5	38.5	27.0	87.1	00
<b>kitchen garden training</b>	63.7	28.2	20.3	83.9	12.5
<b>Training on production and productivity</b>	47.1	39.7	23.0	77.4	00
<b>Climate change, drought and land management</b>	46.1	48.7	44.6	83.9	00

\*Total number of respondents / households

### Box 4

#### Testimonial from a community leader, UNaNRMP, Kenya



Mrs. Matinbe is a farmer and a community leader who has been a UTaNRMP beneficiary for the last 12 months. She believes the project enabled her and her household to produce surplus milk and manure from goats, and to achieve good diet diversity. She said “I’m lucky to have a bank account of my own for the first time in my life, which has enabled me to control my savings and the income I generate from milk sales. I still believe that the project can support more and more people if it overcomes its financial challenges”. She recommended more capacity-building and training on nutrition and production.

## Women’s Empowerment

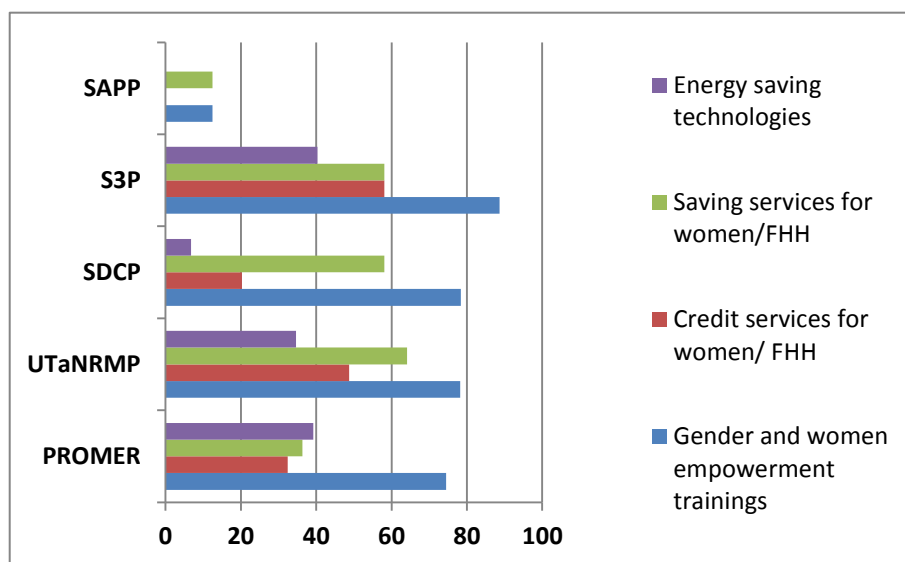
47. This study indicates that women’s empowerment activities usually involve offering training to women groups (figure 5); and this was also confirmed by the responses of key community informants and FGDs. For example, according to the SDCP Project Management Coordinator, many SDCP activities are being implemented by women, and little can be achieved without support from their spouses. Gender mainstreaming facilitates access to critical resources such as finance, inheritance and land rights, which are crucial for implementing programme activities. Some of the gender issues are addressed through the following activities in the SDCP: promotion of labour and time-saving technologies (e.g. roof catchment water-harvesting, biogas, improved stoves), and the provision of technical support to women’s groups which have helped to reduce women’s workload.

48. With the exception of S3P, where 58 percent gave affirmative responses, activities related to credit services for women were very sparse. While most women indicated their need for the services, few are actually made available, either due to lack of resources or because of cultural attitudes that still prioritize lending to men. Nonetheless, many key community informants and beneficiaries were aware of the great benefits such services could bring to boost household income and ensure household food security.

49. For IFAD, gender mainstreaming means interventions to overcome barriers that prevent men and women from having equal access to the resources and services they need to improve their livelihoods. Empowerment is about people taking control over their lives, pursuing their own goals, living according to their own values, developing self-reliance, and being able to make choices and decisions that affect their lives (IFAD Gender Glossary).

50. Mainstreaming gender issues in project interventions means identifying such issues and taking them into account in the design, implementation, monitoring and evaluation of all activities, while factoring in the differentiated needs and priorities of rural women and men. For instance, interventions that promote economic empowerment should be complemented by efforts to reduce the workload of rural women and give them a greater voice in decision-making, which could be related to family diets and care giving.

Figure 5: Women’s empowerment activities / services received in the three months prior to the study



## Nutrition-sensitive activities

51. Table 6 shows the nutrition-sensitive interventions in the projects, which refer to the interdependent relationships that connect project activities and nutrition at the household and individual levels. This study showed that integrated nutrition-focused activities, as well as the key project investment activities, were reported as having indirect effects on nutrition outcomes, such as production diversification, women’s empowerment, commercialization and good markets. Although some of the

projects were just beginning to implement these activities, an attempt was made to collect data on the beneficiaries' perception of the changes brought about by the projects.

**Table 6: Nutrition-sensitive interventions and households' perception of benefits since project implementation N= 335\***

Changes influenced by project	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
<b>Production and diversification</b>	83.3	97.4	90.5	96.8	12.5
<b>Commercialization and marketing</b>	78.4	53.8	62.2	93.5	00
<b>Household food security profile</b>	66.7	91.0	93.2	88.7	12.5
<b>Maternal and child nutritional status</b>	71.6	53.8	24.3	83.9	00
<b>Women's empowerment</b>	58.8	50.0	71.6	88.7	12.5
<b>Saving practice and income generation</b>	64.7	83.3	87.8	90.3	12.5
<b>Knowledge on health and nutrition</b>	71.6	50.0	17.6	85.5	12.5
<b>Training events on food preparation and recipe development</b>	61.8	30.8	20.3	82.3	00

\*Total number of respondents / households

52. The degree to which project interventions are perceived as nutrition-sensitive is shown in table 7, which summarizes responses from key informants during interviews and focus-group discussions.

53. Most of the 37 projects in this study have incorporated a good number of nutrition activities in their documents (PDR, supervision reports, progress reports, midterm review) but their regularity and depth of implementation could not be ascertained from the primary data collected. For example, one of the PROMER outputs is "Better knowledge among women about basic nutrition", but there is no list of activities pursued on a regular basis; and this is compounded by the lack of baseline data for monitoring the activity.

54. It was also noted that some of the projects have huge potential to mainstream nutrition activities within their existing framework and objectives. For instance, UTaNRMP has the potential to establish kitchen gardens and improve household access to safe drinking water; as well as a number of natural resource management activities with the potential to impact nutrition through soil fertility enhancement and improved crop varieties. Others, such as ProPESCA and PROMER, already have several nutrition-related activities embedded in their project documents, and they only need to implement and track the progress of these activities on a regular basis. ProPESCA has a list of nutrition activities, including installation of demonstration gardens, demonstration kitchens, food preparation and cooking, nutrition education, training for community leaders on the importance of a healthy and balanced diet; and nutrition education through community radio. Nonetheless, these activities are yet to be implemented in all the project target locations.

55. Similarly, the PROMER project document places emphasis on nutrition education for members of farmer organizations and youth in schools, to promote better dietary intake by increasing knowledge on food groups, the recognition and use of nutritious foods, food preparation; and vegetable gardening. Also, the S3P, which is classified as nutrition-sensitive in the IFAD nutrition portfolio database, has far more promising nutrition actions in the project document, such as food demonstration; food processing, nutrition education; linkage with SUN initiatives; bio-fortification.

56. The SDCP nutrition actions have focused exclusively on the empowerment of dairy producers, thereby providing community benefits through greater access to milk and dairy products. The SAPP is already classified as engaging in nutrition-sensitive activities, as shown in the checklist (annex 3), because of its listed activities involving nutrition education, food demonstration, and food processing. However, substantial evidence obtained from the field visits and the primary data collected shows that these activities are not being implemented.

**Table 7: Responses on the nutrition-sensitive activities provided by projects**

Project name	Activities with direct effect on nutrition outcomes	Activities with indirect effects on nutrition outcomes
<b>PROMER</b>	<ul style="list-style-type: none"> <li>Food preparation and nutrition education**</li> <li>Food demonstration and feeding practices**</li> </ul>	<ul style="list-style-type: none"> <li>Increasing food production***</li> </ul>
<b>UTaNRMP</b>	<ul style="list-style-type: none"> <li>Improving women's empowerment through saving, priority funding for women's training***</li> <li>Nutrition education on balanced diet and food preparation***</li> <li>Educate community members on hygiene and water management**</li> <li>Awareness creation on food safety***</li> <li>Promotion of animal production for home consumption***</li> </ul>	<ul style="list-style-type: none"> <li>Support for improved livestock production***</li> <li>Training for individual farmers on chicken, goats and milk production***</li> <li>Training for farmers / producers on financial management.***</li> <li>Local poultry breeding***</li> </ul>
<b>SDCP</b>	<ul style="list-style-type: none"> <li>Formation of women's groups for saving and credit, income generation***</li> <li>Bringing 1/3 of women to leadership***</li> <li>Increased milk production which improved income and purchasing power (maize) and improved diet***</li> <li>Household saving improved due to improved income***</li> </ul>	<ul style="list-style-type: none"> <li>Increased livestock rearing for improved milk production***</li> <li>Milk marketing (groups formed) ***</li> <li>Intercropping and agricultural intensification***</li> </ul>
<b>S3P</b>	<ul style="list-style-type: none"> <li>Training for people on farming and nutrition**</li> <li>Management of family resources**</li> <li>Food and nutrition situation analysis**</li> <li>Conducting nutrition campaigns**</li> </ul>	<ul style="list-style-type: none"> <li>Provision of farming input***</li> </ul>
<b>SAPP</b>	<ul style="list-style-type: none"> <li>Some cooking, family and home life*</li> </ul>	

**Note:** \*\*\* Reported by nearly all key Informants and FGD participants (≥80%)  
 \*\* Reported by significant proportion of key informants and FGD participants (=50-80%)  
 \* Reported by a smaller proportion of respondents (≤50%)

57. Table 8 summarizes the perceived benefits of project interventions, as reported by FGDs and key informants. The benefits are grouped in two levels: output and outcome. The output level corresponds to the benefits derived from project activities / inputs, while the outcome level refers to the perceived influence on households as a result of the project's activities. Although the nutrition activities were poorly perceived at the output level, the respondents reported a positive influence among households. The PROMER interventions on two key nutrition-focused activities at the output level – *Food preparation* and *Adult education* – were reported by fewer than 50% of respondents. In UTaNRMP and SDCP, few or no nutrition-focused activities were reported at the output level; but over 80% of respondents confirmed food and nutrition benefits as outcomes – increased food access and availability for households and a reduction in malnutrition. Also, gender empowerment activities, such as women's decision-making, were more frequently reported. In the case of S3P, the nutritional benefits were perceived at both the output and the outcome levels.

**Table 8: Summary of major benefits perceived from the project's interventions**

Project name	Summarized feedbacks	
	Reported benefits (outputs)	Reported benefits (outcomes)
<b>PROMER</b>	<ul style="list-style-type: none"> <li>Food preparation*</li> <li>Market access to horticultural crops created**</li> <li>Adult education, nutrition education *</li> <li>Conservation agriculture**</li> <li>Access to credit and saving services ensured**</li> </ul>	<ul style="list-style-type: none"> <li>Significantly improved food production and food security**</li> <li>Significantly higher income - affordability and access to food **</li> </ul>
<b>UTaNRMP</b>	<ul style="list-style-type: none"> <li>Manure from goats made easily accessible***</li> <li>Training to use farm products for diet**</li> <li>Enhanced access for women to financial management such as having bank account***</li> <li>Increased milk production***</li> </ul>	<ul style="list-style-type: none"> <li>Increased food production, access and availability of food***</li> <li>Increased food availability for households and reduced malnutrition***</li> <li>Better human and animal health**</li> <li>Improved women's economic status and decision making***</li> </ul>
<b>SDCP</b>	<ul style="list-style-type: none"> <li>Increased livestock rearing for improved milk production***</li> <li>Milk marketing (groups formed) ***</li> <li>Formation of women's groups, for saving and</li> </ul>	<ul style="list-style-type: none"> <li>Significant improvement in food security***</li> <li>Huge changes in women's empowerment and decision</li> </ul>

Project name	Summarized feedbacks	
	Reported benefits (outputs)	Reported benefits (outcomes)
	credit, income generation*** <ul style="list-style-type: none"> <li>▪ Bringing 1/3 of women to leadership***</li> <li>▪ Intercropping and agricultural intensification***</li> <li>▪ Increased milk production which improved income and purchasing power (maize) and improved diet***</li> <li>▪ Household saving improved due to higher income***</li> </ul>	making*** <ul style="list-style-type: none"> <li>▪ Increased household income – affordability and access to food***</li> </ul>
<b>S3P</b>	<ul style="list-style-type: none"> <li>▪ Education on health diet**</li> <li>▪ Awareness creation campaigns on importance of healthy eating ***</li> <li>▪ Women's involvement in income generation increased**</li> </ul>	<ul style="list-style-type: none"> <li>▪ Food production increased, access and availability of food***</li> <li>▪ Household food availability increased***</li> <li>▪ Smaller proportion of children suffering from malnutrition***</li> </ul>
<b>SAPP</b>	<ul style="list-style-type: none"> <li>▪ Just starting, too early to trace impacts***</li> </ul>	Just starting, too soon to trace impacts***

**Note:\*\*\*** Reported by nearly all key Informants and FGD participants (≥80%)

\*\* Reported by significant proportion of key informants and FGD participants (50-80%)

\* Reported by a smaller proportion of respondents (≤50%)

58. The findings on the benefits derived from the various project interventions are consistent with the purpose of this study - *to map nutrition-sensitive interventions and explore the opportunities for developing an effective nutrition mainstreaming strategy*. Dietary diversity is considered a key outcome of nutrition-sensitive agriculture; and it was evaluated in this study to gauge the potential influence of project interventions on nutrition outcomes among project beneficiaries. Changes / improvements in dietary diversity can easily be measured among individuals (women of reproductive age and children) and at the household level. The World Bank's 2013 report indicated that the disconnect between food production and nutritional outcomes may partly be due to the persistent practice of defining and measuring food in terms of calories, rather than focusing on the diversity of food needed for a healthy and active life.

59. This study found that nearly all the projects surveyed pursue similar goals / development objectives: improving income and household food security and reducing chronic child malnutrition-stunting. The reduction in child stunting is the most frequently documented impact indicator for many projects; but only a few have clear nutritional activities and output indicators to link the contribution to nutritional status. This finding is consistent with the recent report on agriculture-nutrition projects (Herforth and Ballard, 2016). In their report, 72% of the impact indicator related to anthropometric measures (e.g. stunting), and the projects had little statistical power to observe the level of impact on stunting. The report suggested that the focus of agriculture-nutrition projects needs to move away from nutritional status and towards potential outcomes, such as project pathways to improved dietary intake. The theory of change in dietary intake is based on the assumption that, through different nutrition-sensitive interventions and pathways, the project will influence access to, and the consumption of, diverse and nutritious foods.

### Determinants of dietary diversity

60. The determinants of dietary diversity for households, women and children were evaluated through multivariate analysis. The study included eight factors (household size, literacy status, headship, women's empowerment, asset / wealth index, capacity building, market linkages and diversification services) as the perceived determinants of the Dietary Diversity Score (DDS) for each of the three groups – households, women and children. The adjusted mean and beta in the multivariate analysis show the net effects of each variable individually, by controlling for confounding factors (dietary diversity) in the data. Thus, heterogeneity within the data is controlled, but other possible factors existing outside the data cannot be controlled in this study. Details of the multivariate analysis in the form of MCA are presented in Annex 9 (tables 1-3).

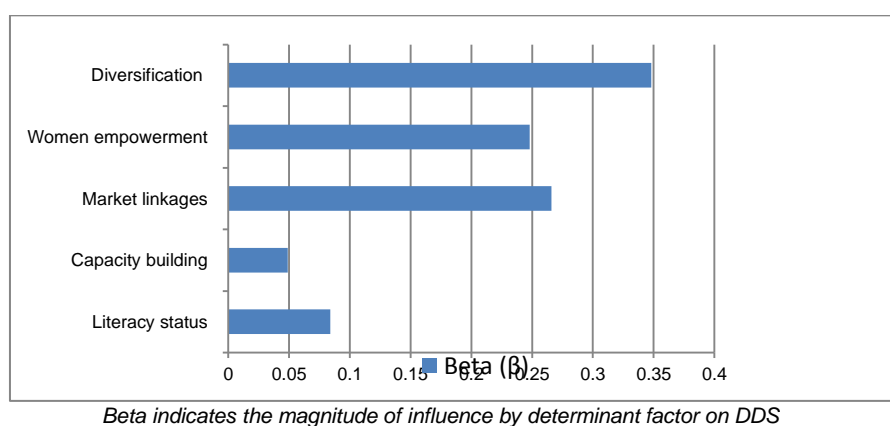
61. The simple trickle-down approach was assumed in this analysis, through the perception of mutual relationships between nutrition and agriculture at the household and individual levels. The MCA model was used to relate the key project interventions as variables explaining dietary diversity (DD) among project beneficiaries. According to Chung (2012), an increase in agricultural output will elicit changes in a household's nutritional status, since agricultural activity largely determines the

amount, type, stability, control and distribution of income. A review of the effects of rural agricultural involvement by rural Malawian households adopted a similar simplified trickle-down approach and reported increased food consumption and greater dietary diversity with agricultural involvement (IFAD, 2016).

62. The MCA results showed that the diversification of services had the greatest absolute influence on dietary diversity among households. The HDDS obtained for households reporting a larger number of diversification services was 9.15, compared to 6.21 for households with few such services.

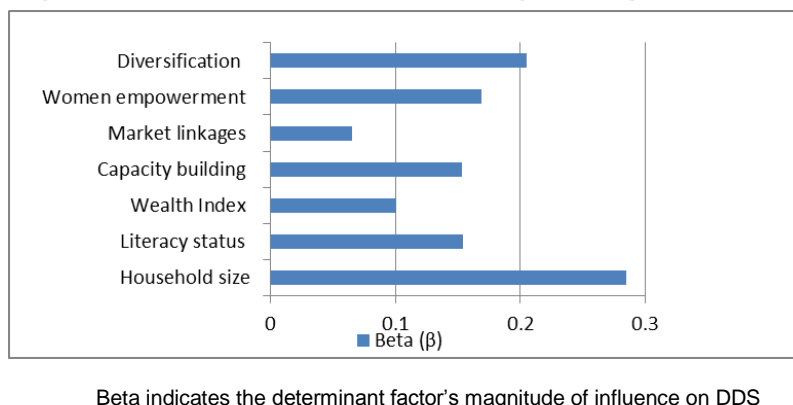
63. The HDDS also varied significantly according to market linkages, women’s empowerment, capacity building and literacy status. A household head of literate status had a significantly higher HDDS (7.35) than one who was illiterate (6.77). It was also found that households receiving a larger number of capacity-building services have better HDDSs than those with fewer services. Higher HDDSs were ALSO found among households reporting very good market linkage services than those without such services (8.11 and 6.14, respectively). This finding is consistent with the reported low unemployment and educational status among PROMER and SAPP respondents and their relatively greater prevalence of poor dietary diversity at the household level (36% and 31%, respectively).

**Figure 6: Determinants of HDDS according to their strength of influence**



64. Among the women, household size, women’s empowerment and diversification were found to be the strongest factors influencing dietary diversity. Other significant factors include the wealth index, capacity building, market linkage and literacy. Larger households (seven or more members) have significantly higher MDD-Ws (4.95) than medium-sized and small households (1.67 and 1.08, respectively). Those with illiterate household heads had significantly lower MDD-Ws (3.4) than other households (4.9).

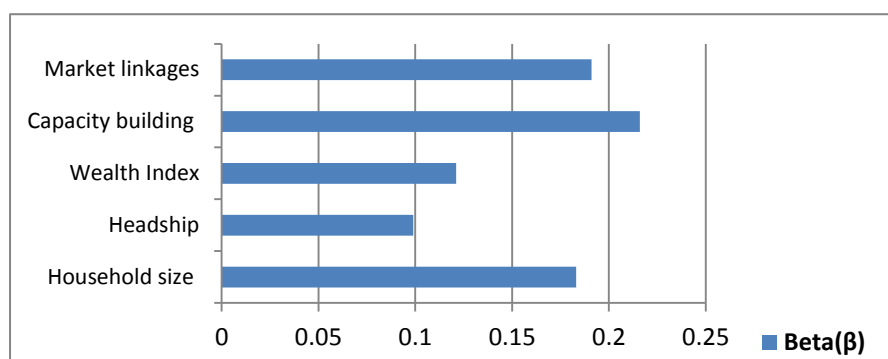
**Figure 7: Determinants of DDS-Ws according to strength of influence**



65. Among children, capacity-building activities had the strongest influence on dietary diversity. Other significant factors influencing dietary diversity among children include household size, wealth index, and market linkages. Larger household size reported better DDSs, where those with seven or more members had MDD-Cs of 2.0, compared to medium-sized (0.90) and small households (0.64).

This study also revealed household size and the wealth index as determinants for DDS-W and DDS-C, but not for HDDS. This very interesting finding calls for further research into how household size and gender issues affect nutrition.

**Figure 8: Determinants of DDS-C according to degree of influence**



*Beta indicates the magnitude of influence by determinant factor on DDS*

66. The multivariate analysis for HDDS, MDD-W and MDD-C showed that DDS is a function of a number of household sociodemographic and project intervention factors, such as literacy status, household size, headship, wealth index, capacity-building activities, market linkage services and diversification. A positive relationship between farm production diversity and dietary diversity is plausible, since much of what smallholder farmers produce they also consume. Previous studies conducted in developing societies also reported that diversifying production on smallholder farms is often seen as a useful approach for improving dietary diversity and nutrition (Jones et al, 2014; Pellegrini, Tasciotti, 2014).

67. The literature has reported various pathways for improving dietary diversity. Examples include: the notion that better market access as a result of shorter distance could contribute to greater dietary diversity; more commercialized farms that produce cash crops for the market on average have more diverse diets than subsistence farms; and households with higher cash incomes tend to buy a wider variety of foods from the market (Kibrom et.al, 2015; Jones et al, 2014).

68. However, in the current study, the wealth index appeared as a determinant of DDS-W and DDS-C, but not of HDDS, thereby suggesting that poverty exerts more pressure on the two vulnerable groups (women and children) than on other family members. Several studies in low-income societies have documented inverse relations between wealth and dietary diversity (Muzi et al, 2016; Melgar et al, 2006). Notably, women's empowerment is seen to be an important determinant of HDDS and MDD-W, which implies that interventions that enhance women's empowerment contribute to better nutrition among children as well as to their own well-being.

69. The results of this study and other available evidence show that **focusing exclusively on agricultural production can only guarantee increased household income, but has very limited scope for improving nutritional profiles among women, children and households**. This study thus strongly highlights the importance of integrating clear nutritional objectives and activities in project interventions.

### Opportunities for scaling up best practices

70. Various interventions in the projects, including production, income generation and market intervention, nutrition and health education, were recommended for scaling up. The respondents reported that the projects had changed their livelihoods by enhancing their income and food security.

71. The increased access to, and availability of, nutrient-dense foods was also noted as a result of project interventions. In the case of dairy projects, the surplus production of nutritious food (milk and milk products) has seen quantitative changes in demand-supply and, consequently, a lower market price of milk, which in turn boosts household purchasing power. This finding suggests that this type of project effect on purchasing power and prices could be an opportunity for influencing the food environment in the market, given the large scale of IFAD's investments.



72. The growing value-chain approach and mechanism to promote public-private-producer partnerships (4Ps) in IFAD investments is also an opportunity for engaging with the private sector, particularly the SUN-Business partners for improved nutrition. It is imperative to note that quite a large proportion of the beneficiaries seem to be satisfied with what they experience, especially in terms of income growth; and they suggested scaling up most of these projects' activities.

73. Activities to support income growth, skill acquisition, capacity building and women's empowerment provide major opportunities to leverage diet diversification and improved diet. For instance, actions relating to dairy goats, targeting vulnerable groups and resource-poor women, is a nutrition activity in the SDCP. This intervention recorded improved milk production, higher income from milk sales and improved household milk consumption and better health (e.g. HIV / AIDs status). According to Jones et al (2014) an increase in farm diversity, under a combined crop and livestock measure, was associated with significantly greater dietary diversity in FHHs compared to male-headed households.

### Box 5

#### Testimonial from a woman farmer, S3P, Zambia



Mrs. Xantonnon spoke about the opportunities and potentials of the S3P. As a farmer and active beneficiary of the project, she believes her life has been changed significantly since its launch. She said “at the start of the project life cycle, we had an unstable market where the food prices were high and unstable, but now we can see more production and market stability thanks to the project.” I and other community members can boldly speak about changes in our diet and the reduction of hunger in our households.” She believes that the project still has untapped potential for influencing millions of other people if funds are made available.

### Challenges

74. The implementation of nutrition-relevant activities faced several challenges, which are summarized in a list of four main areas of concern. Most of the challenges mentioned by the beneficiaries at the household level (table 12) were also supported by information collected from key informants and FGDs (table 13).

75. **Financial constraint** was most often reported by the beneficiaries and implementers in all the projects surveyed. This was more pronounced among beneficiaries of the UTaNRMP (80%), SDCP (93%) and S3P (81%). There was greater consistency in reporting financial limitations among key informants and FGDs in all of the five projects surveyed. SAPP beneficiaries were very precise in mentioning the project budget, since it was affected by the depreciation of Zambia's national currency, the kwacha. Consistent reports of financial constraints could be attributed to the challenges of nutrition retrofitting in these projects. Budgets and resources are key challenges for implementing nutrition activities in projects designed without clear nutritional objectives.

76. **Lack of clear nutritional objectives and nutrition activities:** Nutrition-sensitive activities with clear objectives and detailed pathways for impacting nutritional outcomes were not given much attention in the project documentation and implementation. The projects had not explicitly focused on improving nutrition and food security at the design stage, so it is no surprise that most had no explicit nutrition indicators. Given the cross-cutting nature of nutrition mainstreaming in IFAD investments, the tracking and documentation of project impacts on nutrition outcomes is identified as a challenge. There is a need for more technical expertise, e.g. a nutrition expert at project level to speed up implementation and track progress on a regular basis.

77. **Target group selection and participation:** The findings reported above clearly show that beneficiary households were generally selected on the basis of their economic vulnerability or food insecurity, with little attention given to the most vulnerable population groups – the “nutritionally at risk” – including women and children. This was further confirmed by the fact that the projects achieved much higher dietary diversity scores at the household level than among individuals (children and women). In most of the projects (SDCP, S3P and SAPP), it was reported that youth were given less attention, since most of them kept moving from rural areas to urban centers in search of employment. Youth found it hard to implement the skills learnt, because of a lack of resources such as land and capital. While the participation rate of beneficiaries in each project was high, the qualitative data revealed pronounced communication gaps and governance issues that need examining.

78. **Management- and implementation-related constraints** included, but were not limited to, a lack of well-designed evaluations to track and measure the impact of the available nutrition activities; the limited scope of implementation; lack of involvement by nutrition experts and other relevant sectors (UTaNRMP and SDCP); lack of a good market for their surplus production (SDCP); lack of raw materials to make dairy meal; and the high cost of transportation (SDCP); delays in input delivery (S3P, SAPP); shortage of initial start-up capital for poor farmers to buy animals, compounded by livestock disease (S3P); and lack of commitment among the project implementation staff (UTaNRMP and SAPP). These issues should be investigated and addressed during implementation, especially in the supervision and implementation support missions.

79. The qualitative data obtained from the IFAD country offices, project management units, government staff and project implementers (annex 5) provided insights into nutrition mainstreaming operations at the project level. The findings revealed that training or other relevant events on nutrition were not given much attention, and coordination / involvement with multisectoral technical groups on nutrition was poor. Ongoing nutrition actions were mainly implemented through NGO partners and the government. The need for specific objectives with guidance and capacity building on nutrition-related interventions were noted as key challenges and shortcomings.

**Table 9: Major challenges reported in the implementation of nutrition-sensitive activities by household n= 335\***

Type of challenge	Project name				
	PROMER (n=101)	UTaNRMP (n=78)	SDCP (n=74)	S3P (n=62)	SAPP (n=20)
Limited finance	55.9	76.9	93.2	80.6	37.5
Lack of continuity and consistency in the interventions	42.2	29.5	32.4	30.6	25.0
Lack of commitment among project staff / agents / extension workers	47.1	10.3	16.2	24.2	50.0
Limited capacity of project staff	64.7	14.1	27.0	30.6	25.0
Limited scope of intervention components	39.2	35.9	60.8	38.7	25.0

\*Total number of respondents / households

**Table 10: Challenges in the implementation of nutrition-sensitive activities as summarized by key informants and FGDs**

Project name	Summarized feedback	
	Key informants	Focus group participants
<b>UTaNRMP</b>	<p><b>Personal:</b> Lack of finance to attend meetings: lack of hygiene products***</p> <p><b>Resource:</b> Limited finance***</p> <p><b>Management:</b> Discouragement from members of the group; poor capacity building; poor time management; high mortality rate among birds***</p> <p><b>Programme / policy:</b> Little attention given to nutrition programme implementation***</p> <p><b>Beneficiary:</b> Lack of office; lack of awareness and education.</p>	<ul style="list-style-type: none"> <li>▪ Limited finances***</li> <li>▪ Lack of clear nutrition objectives***</li> <li>▪ Poor education and awareness among community members***</li> </ul>
<b>SDCP</b>	<p><b>Personal:</b> Limited time and transport access affected movements. Public health and nutritionist not involved.***</p> <p><b>Resource:</b> Limited personal skills and specific knowledge, water shortages, no diversity of production (only milk).***</p> <p><b>Management:</b> Lengthy procedures to access the national officials: No coordination and communication on nutritional objectives: Gender imbalance***</p> <p><b>Beneficiary:</b> No nutrition awareness and education: little awareness of the family member of projects: poor emphasis to youth groups***</p>	<ul style="list-style-type: none"> <li>▪ Lack market for their excess milk production***</li> <li>▪ Lack of raw materials to make dairy meal.***</li> <li>▪ High transport cost works against them***</li> <li>▪ Poor nutritional awareness and lack of nutrition objectives***</li> <li>▪ Lack of involvement of nutrition experts along with agricultural extension agents***</li> </ul>
<b>S3P</b>	<p><b>Management:</b> The management is doing very well and there is little delay in input delivery, which heavily affected the germinated crops.***</p> <p><b>Beneficiary:</b> Some beneficiaries are selfish; do not give room for others**</p>	<ul style="list-style-type: none"> <li>▪ Livestock diseases***</li> <li>▪ Lack of capital to buy livestock***</li> <li>▪ Vegetable pests***</li> </ul>
<b>SAPP</b>	<p><b>Personal:</b> Lack of awareness of the project.</p> <p><b>Resource:</b> The project's budget was compromised by the kwacha depreciation .</p> <p><b>Management:</b> Goats are affected by diseases; poor management: agricultural agents are never seen working on the project.</p> <p><b>Programme / policy:</b> Little attention paid to implementation.</p> <p><b>Beneficiary:</b> Lack of awareness and education</p>	<ul style="list-style-type: none"> <li>▪ Youth are not fully participating***</li> <li>▪ The project is running at a very slow rate***</li> </ul> <p>People wanted to do many things, but the project could not make funds available**</p>

Note:\*\*\* Reported by nearly all key Informants and FGD participants (≥80%)

\*\* Reported by a significant proportion of the key informants and FGD participants (=50-80%)

\* Reported by a smaller proportion of the respondents (≤50%)

### Pathways for nutrition-sensitive interventions in ESA

80. The primary quantitative and qualitative data collected from this study has made it possible to conceptualize **simplified frameworks<sup>7</sup> for the main pathways, adapted to nutrition-sensitive investments in ESA**, to maximize impact on nutritional outcomes. The existing nutrition framework in ESA investments lacks several components. First, clearer nutrition objectives are essential. Second, gender-disaggregated baseline data should be considered to obtain nutrition-related information. Third, although nearly all ESA projects implement some nutrition-sensitive activities, these are not tracked and documented, mainly owing to a lack of nutrition indicators within the projects' monitoring and evaluation (M&E) frameworks, compounded by weak capacity.

### Production focus investments

81. This study has shown that all ESA projects focused primarily on increasing productivity (see tables 4-6), with little concern for enhancing dietary quality and diversity. The project interventions work by changing the supply / demand pattern and reducing the cost of food commodities – including nutritious foods, as reflected for example in dairy commercialization within the SDCP in Kenya.

<sup>7</sup> This framework is based on the UNICEF Framework of Malnutrition (1990).

82. The production-focused investments describe projects with two practical options for interventions on **agricultural production**. These are: an increase in food production and / or diversification of food commodities and products, including different food varieties and species. These options have a direct influence on the three underlying causes of malnutrition: (i) household food security, including food access, availability, and quality; (ii) care practices, including child feeding and maternal nutrition; and (iii) a safe and healthy environment, including safe water, sanitation and hygiene practices. However, to ensure that these options have the desired positive results, it is essential to integrate nutrition knowledge, climate-change issues and women's empowerment as critical positive **influencers**. These would facilitate improved dietary intake and health status for adequate food consumption at the individual level, and ultimately good nutritional status.

83. Production-focused investments can easily be understood with the SDCP's experience. The focus group discussants (the Victoria Women's Dairy Group - SDCP) in Rangai sub-county, Kenya, reported that milk production had increased greatly as a result of better animal nutrition, husbandry, and an improved genetic make-up of the dairy animals, together with numerous training sessions and field visits by SDCP extension agents. This women's group reported that the training received enabled them to keep the dairy animals in a zero-grazing system, which had resulted in better manure collection methods and subsequently increased crop production. This had resulted in more food-secure homes and, through the sale of the excess produce, households had become more financially stable to buy more food, which otherwise would have been unaffordable.

84. It is also important to note that production-focused investment has a positive influence on increasing incomes. For example, SDCP beneficiaries reported that milk production (perceived as surplus at the household level) resulted in additional sales, thus augmenting the households' purchasing power.

#### **Income-focused investment**

85. Income-focused investments are projects with actions aimed at improving incomes in poor rural households, as stated in most ESA project goals. This framework is based on the assumption that **higher household incomes have the potential to improve nutritional outcomes**. Most respondents reported that income growth influences their households' ability to purchase and consume more nutritious foods and / or to pay for more and better health care.

86. Income-focused investment brings **capacity building** to the forefront, as the entry-point for achieving good nutritional status in projects that focus mainly on value-chain development, agribusiness and rural finance. Capacity building, in terms of enhancing knowledge and skills, was a common element in ESA projects and was perceived by all beneficiaries as contributing to income growth. The project beneficiaries specifically explained that they had become more financially independent after receiving training or acquiring new skills through the IFAD / ESA projects. Most of the respondents, especially women, said they were now able to contribute more meaningfully to their family's income, compared to their husbands.

#### **Nutrition knowledge-focused investment**

87. Promoting investments in food consumption and nutrition knowledge in IFAD projects is based on the assumption that acquiring such knowledge, together behavioural changes in terms of food consumption, will influence nutrition outcomes. Given the mainstreaming of nutrition in IFAD's work, **there is potential for integrating nutrition-knowledge activities within production- and income-focused investments in project interventions**.

88. The common and effective entry point for mainstreaming these nutrition activities is training and capacity building. This study found that the mean HDDS varied significantly according to literacy status in all projects. Households receiving a larger number of nutrition-related capacity-building services also showed a higher mean HDDS than those with fewer services. Furthermore, with the integration of nutrition education in production interventions targeting nutrient-dense foods, there is evidence of improving household dietary intake and better micronutrient status. Households that consume from their own food production can directly influence family diets and help improve the nutritional status of their members.

89. A country-specific example that confirms this study's findings is the Zambia SAPP project food survey (2015), which reported that, despite increased household food production, there was inadequate consumption of nutritious foods amongst the farmers, as well as poor dietary diversity amongst 54% of women of reproductive age (15-49 years old). This was mainly due to the household members' poor knowledge of the nutritional and health values of food, compounded by poor food attitudes.

90. The integration of nutrition knowledge and consumption in IFAD projects is also relevant for addressing the key determinants of malnutrition (such as intra-household food distribution, care giving, child-feeding practices, maternal nutrition, women's time and workload), since increases in food and income do not automatically guarantee good nutrition.

## Box 6

### Nutrition-sensitive activities in S3P, Zambia



Nutrition activities in S3P are implemented by service providers such as COMACO, Total Land Care (TLC), CIMMYT and the nutrition officers in the Ministry of Agriculture. Farmer groups are the key entry point for implementing these activities. A baseline survey was conducted on 1,800 households to gauge the vulnerability of the targeted households to nutrition-related challenges. COMACO is supporting households with orange sweet potato vines (rich in vitamin A) and improved cassava cuttings, to mitigate drought-related food crop losses and enhance food security. A total of 6,200 households received vitamin-fortified sweet potato vines for the production of orange sweet potatoes, and the yield results will be shared to other households after the post-harvest survey. TLC and CIMMYT are promoting the adoption of processing, preparation, cooking and consumption of nutritious foods through the development of information and education communication materials, recipe books, training on infant and young child feeding, improved cooking stoves. The activities of the nutrition officers include food surveys, nutrition demonstrations on the use and preparation of nutritious recipes of cassava, groundnuts, beans and rice at the household level for diversified diets. The coordination of these nutrition activities, in the framework of consumption pathways, will ensure that efforts to promote nutritious foods result in adequate dietary intake.

### Women's-empowerment-focused investment

91. Gender and women's empowerment are mandatory in all IFAD projects, so the integration of women's empowerment activities within production- and income-focused investments is a key route to nutritional outcomes. One of the advantages of the **outcomes of women's empowerment for nutrition is that the corresponding activities provide strong entry points for nutrition mainstreaming**. Specifically, women's empowerment activities will influence decision-making, household income management and time-energy expenditure on the production intervention for positive contributions to food security, healthy environment, caring capacity and practices.

92. This nexus basically assumes that **income managed by women has a much greater positive effect on nutrition and household food security than income managed by men**. There is strong empirical evidence that empowering women improves nutrition for mothers, their children, and other household members; and that there is a direct link to reducing child stunting and improving maternal nutrition.

93. Re-targeting investment on women's empowerment through improved access to income; access to credit and saving services; labour and time-saving climate-smart technologies; and the provision of agricultural inputs, are the key pillars of the proposed framework. Investment in women's empowerment with a nutrition focus will incorporate nutrition education for both women and men in order to improve the consumption and nutrition outcomes of the interventions. Such efforts clearly require gender disaggregated data starting from the project design stage, obtained through gender-responsive M&E that captures the intra-household allocation of income / food or other household resources for both men and women.

## Box 7

### Testimonial from a female-headed household, PROPESCA, Mozambique



Dona Eulália Battista is a PROPESCA beneficiary in Inhambane province, one of the target areas of the project where nutrition activities had not yet been implemented at the time of this study. Dona Eulália, over 50 years of age, is the head of her household (8 members) and a fish trader. She is a member of a credit and saving group (PCR) supported by PROPESCA. Her direct benefit from this project is access to finance through the credit and saving group. Female-headed households are usually among the priorities in project gender strategies and targeting. As a member of this group, Dona Eulália receives a total of Mt 20,000 (20,000 meticaís) annually, she uses a sum of Mt 7,000 for her fish business, to buy fish (and ice) and she is obliged to contribute 500 MZT per week. Out of the Mt 7,000 she declared a profit of about Mt 3,000 and claimed to use this profit for her weekly contribution to the savings group. Then the balance of Mt 2,500 is used for housekeeping such as food, schools supply for the kids while the capital of 7,000 is solely used in sustaining her fish trading. She has a small garden in the backyard of her house where she grows vegetables such as lettuce and onions, etc. Dona Eulália says she prepares and eats vegetables with fish, which is regularly included in the family meals.

### Integrated pathways to nutrition outcomes

94. These key areas of focus – production, income, women's empowerment, climate change and nutrition knowledge – are certainly not mutually exclusive; and they can form integrated pathways for achieving good nutritional status. In fact, integrated pathways can be adopted within any IFAD investment whose overarching goals include **improving food security and nutrition; improving income and reducing poverty; sustainable and resilient livelihoods**. It is well known that agricultural productivity growth alone is not sufficient to improve nutritional outcomes. Therefore, to ensure a positive pathway from increased agricultural production to higher income to good nutrition, IFAD projects should speed up the development of nutritional knowledge for adequate dietary intake. Projects should also focus on empowering women, given their unique roles in food production, preparation and care giving, which are directly linked to good nutritional outcomes.

95. An integrated pathways approach is illustrated in Figure 9 to give an overview of how IFAD investments can be linked to nutrition. The routes from food production, income growth and diversification provide links to food security, adequate food consumption and good nutritional status. For instance the integration of nutrition-knowledge activities (i.e. nutrition education), women's empowerment and climate-smart actions (e.g. labour- and time-saving technologies) within a project investment, would seek to influence the underlying causes of malnutrition: **food insecurity, inadequate care practices and unhealthy environments**. These are critical influencers on nutrition-sensitive interventions for **improved dietary intake** and **good health status**. Poor dietary intake and health status are the direct causes of malnutrition. It is important to ensure that the goal of improving dietary intake is complemented, or should leverage, synergies with interventions for a good

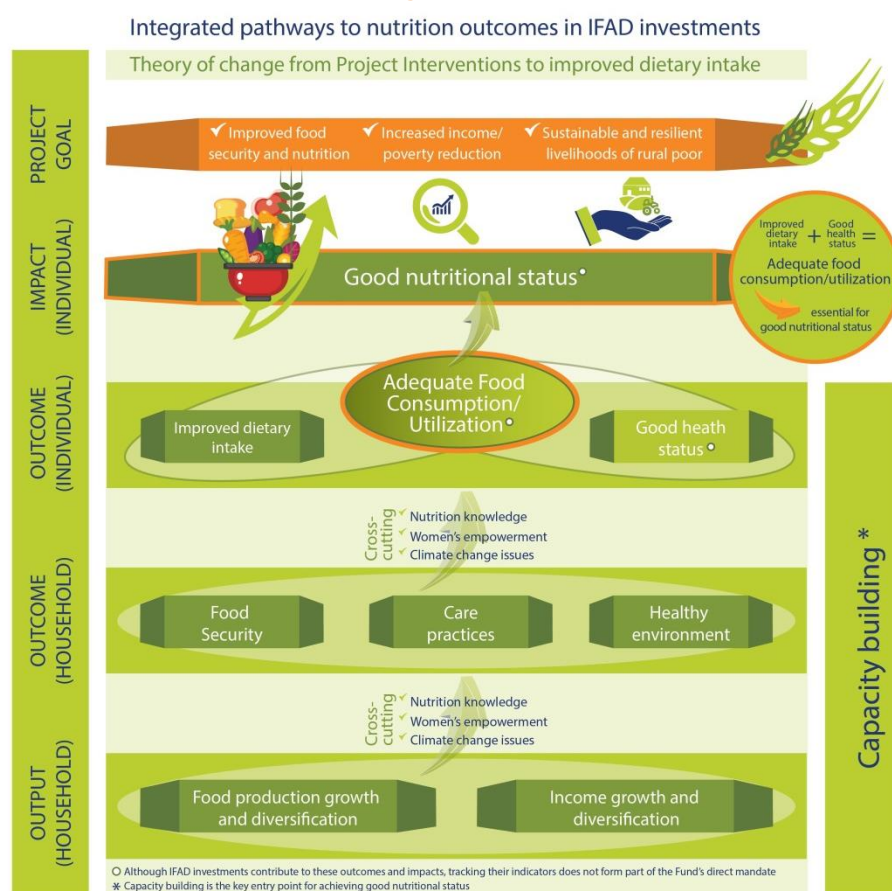
environment, including access to health services, hygiene practices and safe water to ensure adequate utilization of food consumption. This is highly relevant since poor health status and poor sanitation undermine optimal utilization of food nutrients; and **adequate food consumption / utilization** has a significant impact on **good nutritional status**.

Adequate food consumption / utilization = Improved dietary intake + *Good health status*  
 Adequate food consumption / utilization is essential for good nutritional status

96. The nutritional outcomes of IFAD investments can easily be tracked and monitored by evaluating dietary intake at the household and individual levels. In this study, the analysis of dietary diversity amongst project beneficiaries revealed a significant difference in mean HDDS between those with very good market linkage services (mean HDDS of 8.11) and those without such services (mean HDDS of 6.14). Similarly, households that received more diversification services had a higher mean HDDS (9.15) than those with a very poor (6.21), mild (7.10), or moderate (8.18) supply of such services.

97. Figure 9 provides a schematic outline of how IFAD investments can be linked to nutritional outcomes. The operationalization of the integrated pathways at project level should be context-specific; and this could benefit further from a practical and visual tool with a sketched step-by-step guide, and details including the linkages required for integrating nutrition from project interventions to the outcome level.

Figure 9:



98. This integrated pathway for good nutritional status is aligned with IFAD's overarching development goal of investing in rural people, to enable them to overcome poverty and achieve food security and good nutrition. These pathways are also consistent with the three closely interlinked and mutually reinforcing IFAD Strategic Objectives: (1) Increase rural people's productive capacities; (2) Increase rural people's benefits from market participation; and (3) Strengthen the environmental sustainability and climate resilience of rural people's economic activities (IFAD Strategic Framework, 2016-2025).

99. In this context, **this study recommends adoption of the integrated pathways**, which can help to effectively address intermediate nutrition outcomes. Research has demonstrated that integrated nutrition-sensitive agriculture projects, with interventions that include gender considerations and nutritional education components, work better than those that ignore such considerations. According to FAO, a US\$10 increase in women's income achieves the same improvements in children's nutrition and health as a US\$110 increase in a man's income (FAO, 2014). This is because empowering women and improving nutritional knowledge and practices are essential for the sustained success of any nutrition programme, regardless of sector or context (United Nations 2014).

## Box 8

### Field experience with integrated pathways, SDCP, Kenya



The SDCP activities represented relatively successful integrated pathways, but with some limitations. Through activities on empowerment, farmer-exchange tours, training and capacity building on dairy production, Rose Ondieki, a member of a self-help group whose dairy enterprise profit has risen from Ksh 1,200 to Ksh 6,000 per month, adopted labour-saving technologies and environmental conservation. This beneficiary used her income to purchase additional dairy cows, dairy goats, motorized chaff cutters, construction of water harvesting, zero-grazing units and biogas. Roof-catchment water-harvesting ensures clean water and a shorter distance to water points; the chaff cutters reduced her labour and time on dairy feeding; biogas adoption reduces expenses on cooking fuel, less cooking time, available fuel for meal preparation, abatement of kitchen pollution (smoke) and conservation of environments by reducing firewood use. When asked about dietary intake, she reported regular and increased milk consumption; but she had relatively poor dietary diversity. This confirmed the importance of integrated nutrition education activities supporting the path from increased milk production, milk consumption and income growth in project interventions to improved dietary intake and the contribution to good nutrition.

### Collaboration and partnership

100. Overall, the project interventions in the ESA portfolio showed substantial differences in terms of investment focus and, particularly, integrated nutrition actions. There is a wide range of investment areas, including natural resources (UTaNRMP); dairy commercialization (SDCP); rural marketing (PROMER); agribusiness / value chain (SAPP); climate-smart agriculture (Lesotho – Wool and Mohair Promotion Project); hydro-agricultural infrastructure and value-chain development (Burundi – Value-chain development Programme Phase II); cereal development (Kenya – Cereal Enhancement Programme Climate Resilient Agricultural Livelihoods Window); fisheries (Eritrea – Fisheries Development Project); rural finance (Zambia – Rural Finance Expansion Programme); food security and rural development (Burundi – National Programme for Food Security and Rural Development in Imbo and Moso); irrigation (Ethiopia – Participatory Small-scale Irrigation Development Programme II); livestock (Zambia – Smallholder Livestock Investment Project), and many more.

101. Despite the diverse investment focus of the projects, only a few partnerships were reported beyond the Ministry of Agriculture, Fisheries and Livestock. A small number of partnerships with private and non-governmental organizations were shown in this study. The information collected from most of the key informants and FGDs reveals that the projects have strong partnerships with government institutions. This is not surprising because IFAD is a trusted partner of governments around the world. A close review of the project documents (see annex 3) suggests that most projects



are implemented in partnership with the Ministry of Agriculture, Fisheries and Livestock; and only the UTaNRMP seems to have established strong horizontal ties with other development partners such as USAID. While there are several encouraging partnerships with private actors (UTaNRMP, SDCP and S3P), particularly aimed at facilitating market linkages, there is still huge potential for strengthening the business capacity of the rural poor and their organizations by working with rural microentrepreneurs, small-scale agricultural traders and similar economic units.

102. To maximize the achievement of nutrition outcomes by project interventions, IFAD projects are expected to engage with relevant stakeholders and multiple sectors. The multidimensional phenomenon of malnutrition, driven by various determinants, requires new collaboration to be forged on health, safe water, sanitation and hygiene, going beyond IFAD's direct mandate and scope of action. In order to leverage synergies in adoption of the recommended integrated pathways for nutrition outcomes, IFAD should explore collaboration with relevant partners, including organizations working on health, water, sanitation and hygiene practice issues.

103. Research validates the view that unsafe drinking water, poor sanitation and inadequate hygiene significantly increase the risk of undernutrition, particularly during the first 1,000 days, the most critical period in a person's development — spanning a mother's pregnancy and her child's second birthday.

104. IFAD's partnership strategy document (IFAD, 2012) clearly stresses the importance of forming useful bottom-up partnerships taking account of resource availability and its comparative advantage (if and only if such partnerships benefit the rural poor). Greater promotion of public-private-producer partnerships (4Ps) in IFAD investments provides an opportunity to leverage private-sector engagement for improved nutrition among rural poor farming households.

### **Limitation of the study**

105. This study is not without its limitations. Although seven projects were chosen for the field research, only five were visited during the household data-collection phase. For instance ProPESCA in Mozambique could not be accessed because of its distance from Maputo and financial constraints. Although PROMER and ProPESCA are located in the northern region of Mozambique, they are very far apart. They can only be accessed by a combination of air and road travel from Maputo. The funds allocated for the Mozambique study were not sufficient to cover the transport cost to both project sites, so it was decided to focus on one project site for the household survey part of the field work. Interviews were held with the ProPESCA project staff, implementers and partners located in Maputo. These generated information that corroborated the findings of the project documents reviewed as indicated in this report.

106. The present study is also mainly based on data collected from 402 beneficiary households; but only 335 respondents claimed awareness and participation in the various interventions in five projects located in three countries, which may make it less generalizable to projects in other ESA countries. There might also be some self-selection bias, as well as errors of omission and commission during data collection.

107. Ideally, the sample sizes per study group (project and country) would have been larger, to increase precision and to factor-in a potential lack of homogeneity between the study groups. Funding and time constraints made this infeasible; and the best compromise was sought to allow for reasonable study results while keeping within the study's agreed budget and timeframe. This limitation is especially valid for Kenya and Zambia, as the sample size was divided in two study groups, whereas in Mozambique only one population group was included.

108. These limitations need to be considered when interpreting and generalizing statistical results; and the very poor representation of the SAPP is a particular concern.

## **V. Conclusions and the way forward**

109. This nutrition mapping exercise examined the current status of five projects in three countries, in terms of how the projects can make a significant contribution towards positive nutrition outcomes among children, women and entire households; or simply how agricultural development investment trickles down through nutrition-sensitive activities to influence food security and nutrition among individuals and households.

110. It was noted that most of the projects have brought about a number of quantitative changes in the lives of the beneficiaries, in terms of increasing and diversifying agricultural production and household income. The outcome of project interventions was also seen in increased access to, and availability of, nutrient-dense food (e.g. dairy products). The study noted that this effect from the project could be an opportunity for influencing the nutritious foods market. Although data from both primary and secondary sources were limited, it is important to underscore the potential of IFAD nutrition-sensitive projects for influencing food systems more generally, and the food market environment and national policy on nutrition, given the large scale of IFAD investments.

111. While there are many opportunities for making IFAD projects more nutrition-sensitive, this study showed that the impacts of production and income alone do not necessarily translate into improvements in diets or nutrition, without planned and continuous nutrition interventions targeting behavioural changes in consumption. Activities to support income growth, the acquisition of skills through capacity building, and women's empowerment with a nutrition focus provide major opportunities to influence dietary diversification and improve dietary intake at both the household and the individual levels.

112. The adoption of the recommended integrated pathways for mainstreaming nutrition in each project requires a series of steps, including: (i) incorporation of nutritionally vulnerable groups among the primary and secondary target populations; (ii) baseline data collection on nutritional profiles, a food survey on knowledge, attitude and practices, child care and feeding practices – these are useful data for planning, monitoring and evaluating progress; (iii) setting explicit nutrition objectives and focus during project design which should be directly linked to output and outcome indicators and budgeted activities; and (iv) development of a detailed operational plan for tracking and documenting the progress of activities, as a regular task to be coordinated by a nutrition expert / focal point at the project level.

113. Other project-level recommendations include: measuring the impact on nutrition through programme M&E; targeting women, children and poor / food-insecure households, improving good governance for nutrition through well-developed national strategies and action plans, multisectoral partnership including private sectors; increasing or re-allocating budgets for nutrition-sensitive activities, and regular capacity building for the project team and agricultural agents (i.e. extension workers, frontline staff).

114. Attention should be given to addressing the main challenges reported by the beneficiaries. The financial constraints, which were more pronounced among UTaNRMP, SDCP and S3P beneficiaries, should receive proper attention from funding and implementing partners. In addition to governance issues, regular awareness-raising during implementation would close some of the communication gaps reported in this study and enhance project performance.

115. This study has shown that most of the projects are working well with government entities such as the Ministries of Agriculture, Livestock and Fisheries. The multiple underlying causes of malnutrition require new collaborative efforts in relevant sectors beyond agriculture, to leverage synergies for nutritional outcomes. The adoption of integrated pathways for nutritional outcomes is recommended, in conjunction with complementary efforts, such as access to safe water, good health and environment, climate-smart agriculture, agronomic interventions, production of nutrient-enriched food varieties, and improvements in soil health to effectively increase the nutrient-density of crops.

116. Little engagement with the private sector was observed in this study. Individual projects should attract more relevant rural private-sector actors (such as input suppliers or agro-processors) and other relevant non-governmental organizations, because they are becoming increasingly important components of sustainable rural development programmes. The increasing promotion of public-private-producer partnerships (4Ps) in IFAD investments provides an opportunity to leverage private-sector engagement, particularly with the business partners of SUN for improved nutrition. This type of partnership is highly instrumental for implementing the proposed pathways and thereby achieving the nutrition-related objectives of IFAD projects.

## The Way Forward

117. As shown in table 11, the various investment focuses of the 37 projects reviewed in the ESA portfolio can influence nutrition through the adoption of integrated nutrition pathways. The menu of activities presented in table 11 identifies potential options for nutrition mainstreaming. There are also indicators for tracking progress on nutritional outcomes during project implementation.

118. The analysis of information collected in this study showed that the nutrition education and capacity-building activities related to nutrition are not regular and lack continuous follow-up. Studies have also shown that nutrition education actions can only make significant contributions to improved dietary behaviour when integrated with appropriate tools and resources (Negash et al, 2014; Mulualem et al, 2016). Therefore, the use of multiple learning modalities, such as recipe development and food demonstration, behavioural change communications, and follow-up visits, are effective approaches for improving knowledge, attitude and good practices for positive nutrition outcomes.

119. The nutritional education activities can also be conducted in conjunction with women's empowerment training. Training on basic nutrition with a focus on women has been associated with children's nutritional outcomes in various settings, including Ethiopia (Negash et al, 2015; Yimer, 2000); and it reduces the burden of malnutrition among rural households in poor rural economies (World Bank, 2013). Nonetheless, with the gender mainstreaming interface, project interventions would aim to address barriers preventing men and women from having equal access to the resources and services they need to improve their livelihoods.

120. The adoption of these recommended integrated pathways is already being reflected in the newly designed projects / programmes in the ESA portfolio. The theory of change for nutrition-sensitive interventions in agriculture and rural development programmes is increasingly being integrated, and is now found in most of the new investment programmes for the ESA region. For instance, the September, 2016 Executive Board approved just two programmes in ESA and they both had explicit nutrition objectives with a range of integrated nutrition-sensitive activities: (1) Participatory Small-scale Irrigation Development Programme Phase II (PASIDP II – Ethiopia), an irrigation investment designed with a nutrition-sensitive value chain intervention; and (2) Rwanda Dairy Development Project (RDDP –Rwanda), designed with an integrated theory of change on influencing nutritional outcomes through dairy investment.

121. To pursue the nutrition objective, these two programmes have a designated budget for nutrition-sensitive investments, including nutrition education, home garden, nutrition awareness-raising, and the training of extension workers on nutrition. The nutrition-gender-climate nexus is also well reflected in the design documents. Gender mainstreaming includes empowering women to develop skills in household nutrition; and climate-smart interventions will support agronomic practices in the production of nutrient-dense food. The targeting strategy in these programmes made a proactive effort to reach the most vulnerable groups. The RDDP project management staff will include a nutrition expert. The indicators for tracking outcomes include growth in consumption of nutritious foods and the dietary diversity score.

122. Nonetheless, there were still some operational issues within the designs of these new projects that were cited as good practices in this report. Although the integrated pathways should be made operational in a specific project context, there is a lack of structure and consistency which could benefit from further adaptation of a visual guidance tool. Tools to accelerate the nutrition operations exist and are available, such as the Compendium of Indicators for Nutrition-Sensitive Agriculture (FAO, 2016), and the Integrated Household Food Production Toolkit (IFAD, 2015).

123. The operation of these proposed integrated pathways could thus benefit from the customization of available and relevant tool kits, to guide and ensure a detailed description of nutrition impact pathways in project design documents and for effective implementation. IFAD's nutrition-sensitive investments need systematic and structured guidance to speed up the operations of IFAD's Action Plan for Nutrition and efforts to blend its work on nutrition, gender and climate mainstreaming in project design.

## Key recommendations

124. The findings of the mapping exercise described in this report provide very useful insights for proposing the following recommendations to guide nutrition mainstreaming in IFAD investments. These are in line with FAO's (2015) Key Recommendations<sup>8</sup> for Improving Nutrition through Agriculture and Food Systems.

- (i) Integrate clear nutrition objectives and activities in project interventions and prioritize the diet quality indicator (i.e. dietary diversity) in the logframes of nutrition-sensitive projects. The objectives should be guided by the nutrition gaps identified at country level or in project location areas, such as the burden of vitamin deficiency, lack of protein-rich food sources, inadequate food preparation, food losses (quality and quantity). The theory of change for the dietary intake is based on the assumption that, through integrated impact pathways, the project will influence access to, and the consumption of, diverse, nutritious and quality food. The indicator should go beyond the household level to reach individuals (i.e. women and children).
- (ii) Adopt the integrated impact pathways approach in project design and implementation, to help sharpen the focus of nutrition-sensitive interventions on the overarching goals of IFAD investments. This approach will maximize gender, climate and nutrition education, as critical influencers for improved food security, nutrition, income, poverty reduction and promotion of sustainable and resilient livelihoods. Fostering the nutrition, gender and climate nexus during implementation support missions would facilitate their respective roles as the main underlying causes of malnutrition: food insecurity, inadequate care practices and an unhealthy environment.
- (iii) Customize and optimize the use of available and relevant tools for integrated pathways, operating in a context-specific manner. For instance, the customization of the Compendium of Indicators for Nutrition-Sensitive Agriculture (FAO, 2016) with a step-by-step guide for a thematically focused investment context at the project level. This practical tool would outline the linkages required to integrate nutrition from the project interventions to the outcome level; these actions should be aligned with capacity building at different levels guided by specific needs assessment, e.g. training for project management units, ICOs, government staff, project implementers, and IFAD staff.
- (iv) Ensure regular monitoring and consistent tracking of progress on nutrition mainstreaming, for evidence-based impact on nutrition, contribution to nutrition policy and nutrition governance. The supervision and implementation mission should endeavour to document feedback from beneficiaries on nutrition-sensitive actions.
- (v) Recruit a nutrition facilitator at the project level. This could be a nutrition expert or nutrition focal point. The constraints associated with nutrition focal points should be taken into consideration in the terms of reference. Project staff who are designated as nutrition focal points should have at least 50% of their time dedicated on nutrition.
- (vi) Identify and engage with the private sector in the food and nutrition market, with a particular focus on relevant partners in the SUN-Business Network. These partners are increasingly demonstrating promising partnerships and initiatives for ensuring food safety, quality of products, technology and practices that meet the nutritional needs of vulnerable populations. IFAD should consider these business models in its value-chain development for improved nutrition.
- (vii) Provide space for nutrition in the design and implementation of core income-focused investments such as the Rural Finance and Value Chain projects. This study has revealed the substantial promise of IFAD investments in influencing food systems, food market and dietary intake. For example, in the UTaNRMP and SDCP, very few or no

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<sup>8</sup> <http://www.fao.org/3/a-i4922e.pdf>

nutrition-focused activities were reported at the output level; but over 80% of respondents reported a positive influence at the household level.

- (viii) Consider further analysis on IFAD's nutrition-sensitive interventions on the food environment, which involves the physical, economic, policy and sociocultural surroundings, opportunities and conditions influencing people's food and nutritional status. It also determines availability, affordability, convenience, and food preference with an ultimate impact on dietary intake. This area is particularly relevant for IFAD, considering the large scale of its investments and the net influence of income growth on dietary intake.
- (ix) Consider repeating a similar study in the other IFAD regions. This would generate valuable lessons and provide opportunities to address some of the key issues and challenges which could not be addressed in this current study. Further research is also needed on how household size and gender issues affect nutrition.

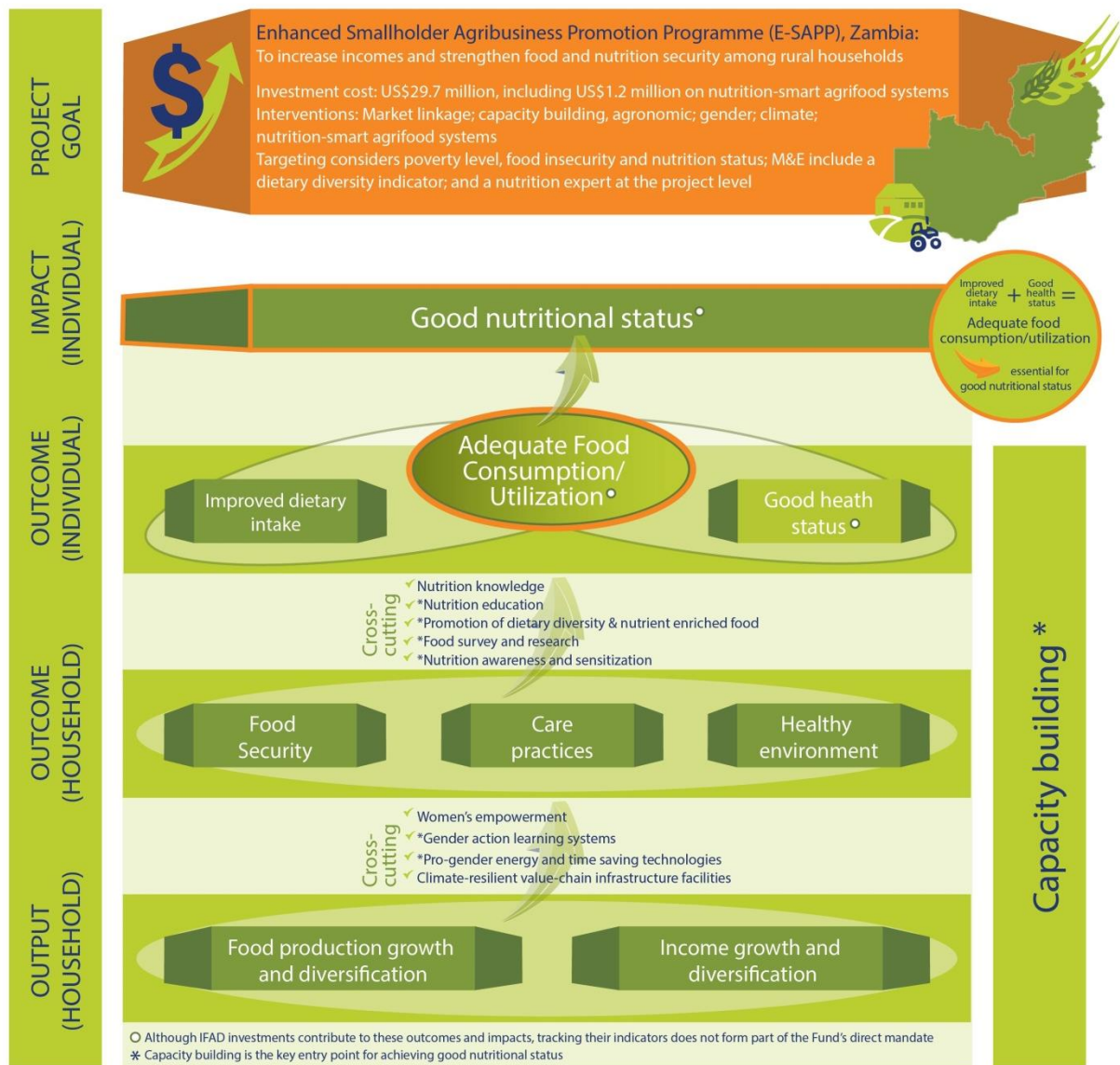
**Table 11: Elements for linking project interventions to nutrition outcomes<sup>9</sup>**

Project Goal(s)	Investment focus	Menu of activities	Menu of indicators
<b>Better food security and nutrition</b>  <b>Higher incomes / poverty reduction</b>  <b>Sustainable and resilient livelihoods among the rural poor</b>	<ul style="list-style-type: none"> <li>• Productivity promotion</li> <li>• Dairy development</li> <li>• Fishery development</li> <li>• Livestock development</li> <li>• Cereal development / cash-crop investments</li> <li>• Agricultural services (technologies, mechanization, extension services, research and advisory)</li> <li>• Good agricultural practices</li> <li>• Post-harvest management</li> <li>• Food security and livelihood diversification</li> <li>• Natural resources and water management</li> <li>• Irrigation</li> <li>• Climate-smart agriculture</li> <li>• Gender mainstreaming</li> <li>• Rural poverty alleviation / community-driven development</li> <li>• Infrastructure development</li> <li>• Rural marketing / market linkage / rural microfinance development</li> <li>• Agribusiness / value-chain development</li> </ul>	<ul style="list-style-type: none"> <li>• Nutrition education: training events on basic nutrition; the use of farm produce for diet; food demonstration; recipe development</li> <li>• Behavioural change communication; nutrition sensitization and awareness raising</li> <li>• Labour-saving technologies (e.g. improved cooking stoves and water harvesting technologies)</li> <li>• Gardens-kitchen / home / vegetable / demonstration</li> <li>• Integrated homestead food production</li> <li>• Training on basic hygiene practices: WASH – water, sanitation and hygiene</li> <li>• Nutrition training and sensitization of extension workers, farmer groups i.e. farmer field schools, water user association</li> <li>• Technologies on post-harvest handling; food safety quality and value-added products</li> </ul>	<ul style="list-style-type: none"> <li>• Dietary diversity (HDDS; MDD-W; MDD-C)</li> <li>• Intake of specific foods (i.e. fish, milk, vegetables, fruits; traditional nutrient-dense food, neglected and underutilized species-NUS)</li> <li>• Household food security (FIES- Food Insecurity Experience Scale; seasonality, coping strategies)</li> <li>• Food Consumption Score (FCS)</li> <li>• Level soil fertility- nutrient density</li> <li>• Food production diversity</li> <li>• Food knowledge, attitude and practices (KAP)</li> <li>• Decision-making, i.e. intra-household food distribution</li> </ul>
	❖ <b>Training and capacity building</b> is a possibility for all project investments to influence nutrition outcomes, but only when there is an explicit nutritional focus in design and implementation.	❖ The priority nutrition activity is specific to the project context and would be determined by the project components and interventions as described in the design document. The available project interventions with potential for nutrition mainstreaming would guide the selection of nutrition activities from the above menu.	

<sup>9</sup> Source: FAO (2016) Compendium of indicators for nutrition-sensitive agriculture - Matrix of investments types and entry points for nutrition (adapted)

Figure 10:

Example of an IFAD Nutrition-sensitive Investment



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## Mapping Nutrition-Sensitive Interventions in East and Southern Africa (ESA)

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### Kenya, Mozambique and Zambia

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**Annex 1: The 37 study projects: IFAD-funded projects in ESA countries**

<b>No</b>	<b>Year of approval</b>	<b>Project</b>	<b>Country</b>
1	2010	Programme de développement des filières (PRODEFI)	Burundi
2	2010	Fisheries Development Project (FDP)	Eritrea
3	2010	Vegetable Oil Development Project, PHASE 2 (VODP 2)	Uganda
4	2010	Programme for Rural Outreach of Financial Innovations and Technologies (PROFIT)	Kenya
5	2010	Agricultural Technology and Agribusiness Advisory Services Project – ATAAS	Uganda
6	2010	Agricultural Services Support Project – ASSP	Botswana
7	2010	Artisanal Fisheries Promotion Project – ProPesca (Projeto de Promoção da Pesca Artesanal)	Mozambique
8	2010	Marketing Infrastructure, Value Addition and Rural Finance Support Programme – MIVARF	Tanzania
9	2011	Rural Financial Programme II	Ethiopia
10	2011	Project for Rural Income through Exports – PRICE	Rwanda
11	2011	Smallholder Productivity Promotion Programme – S3P	Zambia
12	2011	Smallholder Agriculture Development Project – SADP	Lesotho
13	2011	Sustainable Agricultural Production Programme – SAPP	Malawi
14	2012	Upper Tana Catchment Natural Resource Management Project – UTaNRMP	Kenya
15	2012	Vocational Training and Agricultural Productivity Improvement Programme – FORMAPROD	Madagascar
16	2012	Pro-poor Value-chain development Project in the Maputo and Limpopo Corridors – PROSUL	Mozambique
17	2012	National Agriculture Project – NAP	Eritrea
18	2013	Competitive Local Innovations for Small – Scale Agriculture Project (CLISSA)	Seychelles
19	2013	Project for Financial Inclusion in Rural Areas (PROFIRA)	Uganda
20	2013	Pastoral Community Development Project III – PCDP III	Ethiopia
21	2013	Climate Resilient Post – Harvest and Agribusiness Support Project (PASP) including blended Adaptation for Smallholder Agriculture Programme Grant (ASAP)	Rwanda
22	2013	Rural Finance Expansion Programme – RUFEP	Zambia
23	2014	Enhanced Smallholder Livestock Investment Programme – E-SLIP	Zambia
24	2014	National Programme for Food Security and Rural Development in Imbo and Moso – PNSADR-IM	Burundi
25	2014	Wool and Mohair Promotion Project – WAMPP	Lesotho
26	2014	Programme for the Restoration of Livelihoods in the Northern Region – PRELNOR	Uganda
27	2015	Artisanal Fisheries and Aquaculture Project – AFAP	Angola
28	2015	Kenya Cereal Enhancement Programme (KCEP – CRAL)	Kenya
29	2015	Smallholder Market – led Project – SMLP	Swaziland
30	2015	Programme de Développement des Filières – Deuxième Phase – PRODEFI Phase II	Burundi
31	2015	Projet d'appui au développement de Menabe et Melaky Phase II – AD2M Phase II	Madagascar
32	2015	Programme for Rural Irrigation Development – PRIDE	Malawi
33	2015	Bagamoyo Sugar Infrastructure and Sustainable Community Development Programme – BASIC	Tanzania
34	2006	Smallholder Dairy Commercialization Programme (SDCP)	Kenya
35	2005	Smallholder Livestock Investment Project (SLIP)	Zambia
36	2009	Smallholder Agribusiness Promotion Programme (SAPP)	Zambia
37	2009	Rural Market Promotion Programme (PROMER)	Mozambique

**Annex 2: Selection criteria for study projects<sup>10</sup>**

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
<b>UTaNRMP - Kenya</b> (Upper Tana Catchment Natural Resource Management Project: 2012)	Natural Resources	Contribute to rural poverty reduction in the Upper Tana river catchment area	Increased sustainable food production and higher incomes for poor rural households in the project area; and sustainable management of natural resources.	Reduction in child malnutrition	* Kitchen gardens, improving HH access to safe drinking water, women's empowerment and a number of NRM activities with potential impact on nutrition: soil fertility enhancement, improved crop varieties.	Classified as non-nutrition-sensitive by the portfolio database (Classification B)
<b>SDCP - Kenya</b> (Smallholder Dairy Commercialization Programme: 2006)	Dairy Commercialization	Increase the income of poor rural households whose livelihoods depend substantially on the production and trade of dairy products.	Higher financial returns in market-oriented production and trade activities by small operators, and increased productivity, cost reduction, value-added, and more reliable trade relations	Reduction in child malnutrition	*Empowerment through dairy farming, influencing community benefits by increasing access to milk and dairy products	Not included in the portfolio database
<b>ProPresca – Mozambique:</b> (Artisanal Fisheries Promotion Project: 2010)	Fisheries	Improve incomes and livelihoods of poor households involved in artisanal fisheries in the selected growth poles	Higher returns from fish sales for artisanal fishers and small-scale operators on a sustainable basis	Reduction in the prevalence of child malnutrition and proportion of households with food insecurity	*Installation of demonstration gardens, demonstration kitchens, nutrition education for fisher communities through community radio, promotion of dietary intake and also training on basic hygiene practices	Classified as nutrition-sensitive by the portfolio database (Classification C)

<sup>10</sup> The study projects to be included in the mapping exercise will only consider those approved from 2010 to 2014, plus another four approved between 2005 and 2009.

<sup>11</sup> The Nutrition Portfolio Database classification is based on project design documents. Some of these projects had no nutrition focus at the design stage, but nutrition-sensitive activities have been mainstreamed during implementation.

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
<b>PROMER- (Mozambique)</b>  (Rural Market Promotion Programme: 2009)	Rural marketing	To improve the livelihoods of poor rural households by enabling small-scale farmers to increase their incomes from agricultural activities by marketing their surpluses more profitably.	To enable smallholder farmers to improve their livelihoods through increased agricultural incomes.	Outcome: Improved nutritional status of vulnerable groups.  Output: women and children with improved knowledge on basic nutrition hygiene and health	*Nutrition education for members of farmer organizations and youth in schools to promote dietary intake improvement through better knowledge of food groups, recognition and use of nutritious foods, food preparation; vegetable gardening.	Not included in the Nutrition Portfolio Database
<b>S3P (Zambia)</b>  (Smallholder Productivity Promotion Programme -2011)	Productivity promotion	To sustainably improve the income levels, food and nutrition security of poor agricultural household in the programme area.	Sustainably increase production, productivity and sales of smallholder farmers in the programme area.	Reduction in prevalence of child malnutrition.	* Food demonstration; food processing, nutrition education; linkage with SUN initiatives; biofortification	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification D)
<b>SAPP (Zambia)</b>  (Smallholder Livestock Investment Project: 2005)	Agribusiness	To increase the income levels of poor rural households involved in production, value-added and trade of agricultural commodities.	To increase the volume and value of agribusiness of small-scale producers.	Nutrition was retrofitted during implementation	*Nutrition education; food demonstration; food processing	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification D)
<b>SLIP (Zambia)</b> (Smallholder Agribusiness Promotion Programme 2009)	Livestock	To increase household incomes and food security among poor smallholder farmers by restoring access to Animal Draught Power.	To improve the sustainable and efficient production, productivity and diversification of livestock.	Child malnutrition indicator at impact level.	** Interventions on disease control activities to increase milk availability and quality	Not included in the Nutrition Portfolio Database
<b>PROSUL (Mozambique)</b>  (Pro-poor Value-chain	Value-chain development	To establish improved and climate-resilient livelihoods among	To achieve sustainably higher returns to smallholder farmers from increased	Reduced child malnutrition (RIMS)	** Project interventions on gender issues; actions to increase production of	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
development project in the Maputo and Limpopo Corridors 2012)		small farmers in selected districts of the Maputo and Limpopo corridors	production volumes and better quality in the targeted value chains, improved market linkages, efficient farmer organization and higher farmers' share of final value-added		vegetable, cassava, small-scale cattle and household income.	
<b>ASSAP (Botswana)</b> Agricultural Services Support Project, 2010)	Agricultural services, Mechanization and extension services	"Contribute to economic diversification, reduction of rural poverty and food insecurity, and improved livelihoods of rural communities".	The development objective is "to achieve a viable and sustainable smallholder agricultural sector based on farming as a business, which is not reliant on subsidies or welfare measures".	Stunting indicator	** Project primary target group consists of farming households experiencing household food insecurity	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>ATAAS (Uganda)</b> (Agricultural Technology and Agribusiness Advisory Services Project, 2010)	Agricultural technologies, research and advisory services	To enhance agricultural productivity, diversification and value addition, and promote PPPs in service delivery and agribusiness development and strengthen the institutional capacity through research, partnership and national advisory services.	To increase agricultural productivity and incomes of participating households by improving the performance of agricultural research and advisory service systems in the Republic of Uganda.	None	** Increase in average agricultural yields and agricultural incomes of participating households; indicator disaggregated by gender	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>PRICE (Rwanda)</b> (Project for Rural Income through Exports, 2011)	Agricultural marketing of horticultural crops (tea and coffee)	Sustainably higher returns to farmers from key export-driven agricultural value chains through increased	Sustainably higher returns to farmers from key export-driven agricultural value chains through increased	Reduced child malnutrition	** The project aims to improve household income by enhancing the production and marketing horticultural	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)



Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
		volumes and better quality of production, improved marketing and effective farmer organisations	volumes and better quality of production, improved marketing and effective farmer organizations		crops.	
<b>E-SLIP (Zambia)</b> (Enhanced Smallholder Livestock Investment Programme, 2014)	Livestock development	Sustainably higher incomes of rural poor households in targeted provinces and districts in Zambia,	The production and productivity of key livestock systems, of targeted female and male smallholder producers in all provinces of Zambia are sustainably improved	Reduction in the prevalence of child malnutrition rate	*Increased and diversified production, increases in HH incomes, training on household nutrition included in the stocking and restocking activity; gender issues	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>FDP (Eritrea)</b> (Fisheries Development Project, 2010)	Fishery development	Improvement of food security and alleviation of rural poverty	To raise production, and productivity of artisanal fishers while conserving marine resources	Reduction in the prevalence of child malnutrition	* Capacity building and increase production and productivity of artisans fishing; Nutrition education and awareness on fish consumption	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>MIVARF (Tanzania, United Republic of)</b> (Marketing Infrastructure, Value Addition and Rural Finance Support Programme, 2010)	Rural finance and market infrastructure development.	To enhance incomes and food security in the target group on a sustainable basis	Sustainable and profitable linkage to markets	Reduction in prevalence of child malnutrition	* Increased productivity; enhanced food safety; reduced post-harvest losses; improved production and quality	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>SAPP (Malawi)</b> (Sustainable Agricultural Production Programme < 2011)	Good agricultural practices.	Contribute to poverty reduction of and improved food security among the rural population	A viable and sustainable smallholder agricultural sector employing good agricultural practices (GAPs)	Reduction in the prevalence of child malnutrition; dietary diversity	* GAP research, nutrition training for farmers and extension workers, diversifying food production, integrated homestead food production	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification D)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
<b>NAP (Eritrea)</b> (National Agriculture Project, 2012)	Rural poverty alleviation (broader intervention area)	To positively contribute to rural household and national food security and rural poverty alleviation.	To sustainably raise smallholder agricultural production and productivity	Reduction in prevalence of child malnutrition; Households with higher income and improved food security	*Diversified food production; nutrition training	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>PASP (Rwanda)</b> (Climate Resilient Post-Harvest and Agribusiness Support Project, 2013)	Post-harvest climate-resilient agribusiness investment and management support	To alleviate poverty, increase rural income and contribute to the overall economic development of Rwanda	Increased smallholder and rural worker incomes (including women, youth and vulnerable groups) from CIP crop and dairy PHHS-related businesses.	Prevalence of child malnutrition	* Project focus on women, youth and vulnerable groups is an opportunity to integrate nutrition and health education.	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>PCDP III (Ethiopia)</b> (Pastoral Community Development Project III, 2013)	Community development and service provision (broad // inclusive intervention areas)	Provision of basic social services to underserved pastoral and agro-pastoral communities.	To improve access to community demand-driven social and economic services, for pastoralists and agro-pastoralists of Ethiopia	Project development indicator is "People with access to a basic package of health, nutrition, or reproductive health services"	* Innovative practices / new technologies to strengthen livestock production – cattle, goats, sheep and camels	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)
<b>PRELNOR (Uganda)</b> (Programme for the Restoration of Livelihoods in the Northern Region, 2014)	Livelihood, market linkage and infrastructure	Higher income, improved food security and reduced vulnerability of poor rural households in the project area (Northern region).	Increased sustainable production, productivity and climate resilience of smallholder farmers with increased and profitable access to domestic and export markets.	Reduced food security and child malnutrition	** Interventions to improve Rural Livelihoods	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>PROFIRA (Uganda)</b> (Project for Financial Inclusion in Rural Areas, 2013)	Rural Finance	Higher income, improved food security and reduced vulnerability in rural areas.	Sustainably increase access to, and the use of, financial services by the rural poor.	Improvements in food security and reduction in the prevalence of child malnutrition	** Interventions to increase food security and income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>PROFIT (Kenya)</b> (Programme for Rural	Rural Finance and technologies.	Contribute to sustainable poverty reduction in rural Kenya.	Higher incomes among the target group as a result of improved production and	Percentage reduction in the prevalence of child malnutrition	** Interventions to increase income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
Outreach of Financial Innovations and Technologies, 2010)			productivity in the rural smallholder and off-farm sectors.			
<b>RUFEP (Zambia)</b>  (Rural Finance Expansion Programme, 2013)	Rural finance	Improve livelihoods among the rural poor through sustainable economic growth	To increase access to and use of sustainable financial services by poor rural men, women and youth.	Improvement in household food security and reduction of child malnutrition	** Interventions to increase income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>RFP II (Ethiopia)</b>  (Rural Financial Programme II, 2011)	Rural Microfinance development	To contribute to the reduction of poverty in rural Ethiopia	Increased access to a range of financial services by rural households sustained	Reduction in chronic malnutrition amongst children under 5	** Interventions to increase income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>CLISSA (The Republic of Seychelles)</b>  (Competitive Local Innovations for Small-Scale Agriculture Project, 2013)	Agriculture and fishery sector development. (broader and inclusive intervention areas)	To contribute to sustainable pro-poor economic growth and employment and strengthen resilience to external shocks and trends.	Promote modern and sustainable agricultural and fishery practices to increase and diversify market access for the target group.	Reduction of incidence of child malnutrition	** Interventions on fisheries; increase income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>VODP - PHASE 2 (Uganda)</b>  (VEGETABLE OIL DEVELOPMENT PROJECT, PHASE 2, 2010)	Vegetable oil development (very narrow intervention focus)	Contribute to sustainable poverty reduction in the project area	Increase the domestic production of vegetable oil and its by-products, thus raising rural incomes for smallholder producers and ensuring the supply of affordable vegetable oil products to Ugandan consumers and neighbouring regional markets	Reduction in the prevalence of child malnutrition	** Interventions to raise rural incomes	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>WAMPP (Lesotho)</b>	Climate-smart agriculture (Wool and Mohair	To boost the economic and climate resilience of	(i) To enable smallholder livestock producers to generate	Reduction in the prevalence of child malnutrition; reduction	** Interventions to raise rural incomes and sustainable	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
(Wool and Mohair Promotion Project, 2014)	Promotion)	poor, smallholder wool and mohair producers to adverse effects of climate change in the mountain and foothill regions of Lesotho	higher incomes and more sustainable livelihoods and (ii) to increase their ability to cope with and recover from natural shocks.	in hunger period	livelihoods	(Classification A)
<b>SADP (Lesotho)</b>  (Smallholder Agriculture Development Project, 2011)	Production and productivity	Reduce rural poverty and enhance rural economic growth on a sustainable basis	Increase productivity, improve produce quality and increase marketed output among programme beneficiaries in Lesotho's smallholder agriculture sector	Reduction in child malnutrition rate; increase number of households with improved food security	**Interventions to increase production and income generation	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>FORMAPROD (Madagascar)</b> (Vocational Training and Agricultural Productivity Improvement Programme, 2012)	Rural youth training and agriculture	To contribute to an increase in the income of smallholder farmers through professional and vocational training (especially for young rural people), leading to an improvement in productivity and agricultural products marketing	The quality of training is enhanced and monitored; resource use under SNFAR is optimized; and partnerships for the production and dissemination of knowledge products are operational	Reduction in child malnutrition	** Training of youth and interventions to raise incomes	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)
<b>PRODEFI II (Burundi)</b>  (Programme de développement des filières, 2010)	Hydro-agricultural infrastructure and value-chain development	To promote income growth and improvements in food security for poor households in the programme area.	Increase physical productive capital by building the resilience of production systems to climate change; intensify crop and livestock farming to improve nutritional	Combating chronic malnutrition.	* (i) Training in the home nutritional learning (FAN) method for preventing chronic malnutrition; (ii) setting up 350 FAN; (iii) awareness-raising for	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
			status and, ultimately, structure the milk and rice value chains, inter alia, to promote youth employment and strengthen capacity of participants.		community leaders, including 200 rural development actors; and (iv) implementation of 350 micro projects in livestock (pigs, chickens, rabbits, goats) and market gardening (kitchen gardens).	
<b>PNSADR-IM (Burundi)</b>  (National Programme for Food Security and Rural Development in Imbo and Moso, 2014)	Hydro agricultural infrastructure and value-chain development	Strengthen food security and rural development in the natural regions of Imbo and Moso.	Reinforce hydro-agricultural infrastructure in marshland and plains; and open up access to production areas; and develop the rice and dairy value chains.	Reduction in child malnutrition; Improvement in nutritional status at household level	*Diversification of food production, BCC, school gardens, linkages between the milk value chain and the WFP school feeding programme	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)
<b>KCEP-CRAL (Kenya)</b>  (Kenya Cereal Enhancement Programme, 2015)	Cereal development	Reduce rural poverty and food insecurity among smallholders in Kenya's ASALs by developing their economic potential, while improving their natural resource management capacity and resilience to climate change in an increasingly fragile ecosystem.	Graduation of farmers to climate resilient and commercial farming Empowerment of county governments / communities for sustainable NRM and resilience to climate change	Reduction in child malnutrition; smallholder farmers become food secure with improved nutritional status	*Promotion of a balanced diet: kitchen gardens; Preparation of household food utilization, food storage and preservation, food safety, and hygiene; Labour-saving technologies: access to water and energy-saving devices for cooking and water harvesting	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)
<b>AFAP (Angola)</b>  (Artisanal Fisheries and Aquaculture)	Fishery development	Increase food security and alleviate poverty through fishery development	Improved food security and nutrition among artisanal inland fishing and fish-farming households.	Reduction in the prevalence of chronic malnutrition; improvement in dietary diversity	*Improved fish production techniques; improved fish processing, storage and hygiene; cooking	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
Project, 2015)					demonstrations; studies on food consumption patterns, practices and local cooking preferences	
<b>SMLP (Swaziland)</b>  (Smallholder Market-led Project, 2015)	Food security and livelihood diversification.	To contribute to food and nutrition security	To enhance food and nutrition security and incomes from diversified agricultural production and market-linkages.	Output: extension messages and packages delivered to food deficit poor households  Outcome: Food deficit poor households enhanced production for household consumption. Impact: reduction in child malnutrition	*Homestead garden, Demonstrations and support packages. Gender empowerment: Rainwater harvesting to reduce women's time and labour use in fetching water. Project intervention focus on food deficit HH (specially on HIV / AIDS affected HH).	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification B)
<b>PRODEFI - Phase II (Burundi)</b>  (Programme de Développement des Filières-Deuxième, Phase, 2015)	Value-chain development	To reduce poverty and improve food security in rural areas by developing agricultural value chains in which small farmers in the targeted areas play a central role and achieve maximum value-added in their production and, thus improve their incomes	Partnerships to promote two priority chains (rice and milk); capacity building for poor small farmers to enable them to protect their productive assets, increase their rice and milk production, and raise their incomes in a sustainable manner through better market access	Reduction in child malnutrition; improvement of food security	* Behavioural change communication, food production, income growth, promotion of milk consumption, production of fortified flour	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)
<b>AD2M - Phase II: (Madagascar)</b>  (Projet d'appui au	Rural Finance and Marketing	To sustainably improve incomes and food security in the productive	To scale up effective and climate-change-resilient family farming systems;	Reduction in child malnutrition	*Establishment of nutrition education sites and family vegetable gardens,	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification C)

Project Name / Approval date	Intervention focus	Project Goal	Project objective	Nutrition Indicators	Nutrition Action / Nutrition-related Action	Remarks (based on IFAD Nutrition portfolio database) <sup>11</sup>
développement de Menabe et Melaky Phase II, 2015)		areas of Menabe and Melaky.	and enhance producers' access to remunerative markets in priority value chains.		cooking demonstrations targeting vulnerable farming families with children under 5 years of age to access a more balanced diet"	
<b>PRIDE (Malawi)</b>  (Programme for Rural Irrigation Development – PRIDE: 2015)	Rural irrigation development.	To enhance the resilience of rural communities to food insecurity, the effects of climate change and economic shocks.	Smallholder farmer households increase their income and improve their nutrition through sustainable agricultural production	Output: Women trained in preparation of nutritious meals in 2 seasons Outcome: Reduce incidence of hunger for Smallholder households and increase diet diversity. Impact: Reduction in child malnutrition	*Nutrition perspective in all GAPs; promoting diversified and improved nutritional production and consumption; integrated homestead food production and improved cooking stoves combined with nutrition education; extension training on nutrition	Classified as nutrition-sensitive by the Nutrition Portfolio Database (Classification D)
<b>BASIC (Tanzania, United Republic of)</b>  Bagamoyo Sugar Infrastructure and Sustainable Community Development Programme, 2015	Sugar infrastructure and community development.	Contribute to growth in the Bagamoyo District, by empowering villages to respond to opportunities generated by the sugar investment, thus raising income, improving livelihoods and sustainably transforming the rural economy	Enable programme villages to achieve higher stable yields using a private-sector driven approach, underpinned by land tenure security improved infrastructure and access to modern, climate-smart production technologies	Improvement in child malnutrition and decrease in the length of the hungry season	** Access to clean water; improved sanitation and waste disposal at both the village and household levels; reduced workload for women and youth	Classified as non-nutrition-sensitive by the Nutrition Portfolio Database (Classification A)

Note: \* These are projects with integrated nutrition activities / actions in place; but further potential for nutrition mainstreaming in project interventions with explicit pathways within the existing framework can still be harnessed.

\*\* These projects have potential for including nutrition-sensitive activities because they have inclusive intervention areas and pathways.

**Annex 3: Checklist for nutrition mapping in selected projects**

Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Year of approval	2011	2009	2005	2012	2006	2009	2010
Implementation Status	Ongoing	Ongoing	Completed	Ongoing	Ongoing / Additional Financing	Ongoing	Ongoing
Completion date	2018	2017	2014	2020	2019	2018	2018
Project Goals	To sustainably improve the income levels, food and nutrition security of poor agricultural households in the programme area.	To increase the income level of poor rural households involved in production, value adding and trade of agricultural commodities.	To increase household incomes and food security among poor smallholder farmers by restoring their access to Animal Draught Power.	To contribute to reduction of rural poverty in the Upper Tana river catchment area.	To increase the income of poor rural households that depend substantially on production and trade of dairy products for their livelihood.	To improve the livelihoods of poor rural households by enabling small-scale farmers to increase their incomes from agricultural activities by marketing their surpluses more profitably.	Improve incomes and livelihoods of poor households involved in artisanal fisheries in the selected growth poles.
Development Objective (PDO)	Sustainably increase production, productivity and sales of smallholder farmers in the programme area	To increase the volume and value of agribusiness of small-scale producers.	To improve the sustainable and efficient production, productivity and diversification of livestock.	Increase sustainable food production and incomes for poor rural households in the project area; and sustainable management of natural resources for provision of environmental services.	Improve the financial returns of market-oriented production and trade activities by small operators, and increased productivity, cost reduction, value added, and more reliable trade relations.	To enable smallholder farmers to improve their livelihoods through higher agricultural incomes.	Increase the returns from fish sales for artisanal fishers and small-scale operators on a sustainable basis.
Nutrition beneficiaries (Number of households)	45,000	Not Specific	Not Specific	Not Specific	Not specific (project target 24,000 households)	3,000 beneficiaries (members and non-members of FOs).	Not specific



Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Year of approval	2011	2009	2005	2012	2006	2009	2010
Implementation Status	Ongoing	Ongoing	completed	Ongoing	Ongoing / extended	Ongoing	Ongoing
Completion date	2018	2017	2014	2020	2020	2018	2018
Target groups	Productive small-scale / smallholder rural farmers organized in groups and / or cooperatives; 60,000 HH including women farmers, female-headed households and HIV / AIDS farmers	30,000 poor rural households involved in production, value-added and trade in agricultural commodities	Poor households having no ownership of and limited access to Animal Draught Power (ADP)	205,000 poor rural households living in the targeted river basins whose livelihoods revolve around the use of the natural resources in the Upper Tana catchment area.	24,000 resource-poor dairy households; part time dairy farmers, small-scale intensive dairy farmers; crop-oriented dairy farmers with dairy cows, small-scale milk bars and shop operators and mobile milk traders	22,100 households	Poor men and women involved in fishing (number not specified)
Project coverage (districts or regions)	Three (3) provinces and 24 districts	Five districts (Kasama, Luwingu, Mbala, Mpulungu, Mporokoso)	27 districts in eastern, southern, western, northern, Muchinga and north-western Provinces	Covers six of Kenya's 47 counties. It includes the Upper Tana catchment zone which covers an area of 17,420 km <sup>2</sup> and includes 24 river basins.	Nine counties, namely; Nakuru, Bungoma, Bomet, Kisii, Kakamega, Nandi, Nyamira, Trans Nzoia and Uasin Gishu	Cabo Delgado Province 5 districts	26 growth poles that stretch along the coastline from the Tanzanian border to South Africa.
Partners / stakeholders	Ministry of Agriculture and Livestock; district administrations, local authorities; COMACO; Total Land Care; CIMMYT	Ministry of Agriculture and Livestock	Ministry of Agriculture and Livestock	USAID value chain initiatives and other IFAD-supported projects including SHoMAP, PROFIT, PRESA and GWC.	Ministry of Agriculture, Livestock and Fisheries; Kenya Dairy Board (KDB), Kenya Agriculture and Livestock Research (KALRO), Dairy Processors, Kenya National Farmers Federation (KENAFF) and other locally important stakeholders.	National Directorate for Rural Development (DNDR), EU grant / MDG1c; Farmer Organizations; ONG SEPPA // MD working in Cabo Delgado	National Fisheries Administration (ADNAP); Institute for Fisheries Research (IIP17); National Institute for Fisheries Inspection (INIP); Fisheries Development Fund (FFP) and Fisheries School (EP).
Intervention focus	Productivity promotion	Agribusiness / value-chain development	Livestock	Natural resources	Dairy commercialization	Rural marketing	Fishery

Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Project components	(1) Sustainable smallholder productivity growth; (2) Enabling environment for productivity growth.	(1) More efficient value chain; (2) Enabling environment for agribusiness development M&E and local coordination.	Component (1) animal disease control component (2) Smallholder animal production and sustainable Access to ADP component (3) project management	(1) Community empowerment (2) Sustainable rural livelihoods (3) Sustainable water and natural resource management (4) Project management and coordination	(1) Organization and enterprise skills, (2) Technical support to smallholder dairy producers (3) Development of the milk marketing chain, (4) Support to policy and institutions (5) Programme management and coordination	(1) Development of more dynamic market intermediaries, (2) Enterprise-led value chain initiative (3) Improve the market environment (4) Policy / Institutional support and programme management (5) Nutritional education (6) Institutional support to the Department of International Cooperation (DIC).	(1) Supporting development of higher value fish; (2) Improving economic infrastructure; (3) Developing financial services; (4) Institutional strengthening, policy initiatives and project management.
Nutrition Focus	Reduction in food security and prevalence of child malnutrition	(Nutrition was retrofitted during project implementation)	Nil	The objective of the component 1 (Community empowerment) is to empower rural communities to sustainably manage natural resources while also improving their livelihoods, food security and nutrition.	To empowered dairy community increasingly accessing benefits from their milk and dairy products	Nutrition education for members of farmer organizations and youth in schools to promote dietary intake improvement through increased knowledge of food groups, recognition and use of nutritious foods, food preparation	Nutrition education for fisher communities and youth in schools to promote dietary intake improvement through increased knowledge of food groups, recognition and use of nutritious foods, food preparation (i.e. cooking demonstrations and garden demonstration) and also basic hygiene practices

Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Diversity of food production: crop, livestock and fisheries	Crop yields of cassava, rice, mixed beans and groundnuts	Production of diversified food crops and livestock for home consumption: livestock, aquaculture, bean and groundnut, and rice value chains.	Nil	Nutrition activities / Nutrition-related actions		Nutrition Activities / nutrition-related actions	Focus on fishery only
Good agricultural practices / increase productivity	Conservation agriculture activities into the farming systems	Improved varieties and certified seed	Disease control and livestock productivity	Nil	Quantity and quality of milk production: adoption of technologies; milk handling, technical skills, value addition, hay production, appropriate feed strategies	Training in food transformation / conservation; garden demonstration	Focuses on increasing production of high value fishes.
Access to income / linkage to market	No activity on market linkage, but addresses income improvement.	Increased price of food commodities due to value-addition; farmers benefiting from improved access to markets; market groups formed	N / A	Sustainable agricultural packages: on-farm trials and demonstrations; soil fertility enhancement; and seed multiplication and distribution	Linkage with service providers and marketing promoted	Training in food transformation / conservation	Addresses fish handling and marketing.
Gender equality and women's empowerment	Women's empowerment and participation	45% participation of women farmers; Women's empowerment	Poor focus	Matching grant scheme to farmers aims to support income generation capacity while contributing to the conservation of natural resources, either on their own farm or on hotspots threatened on the sloping, hilltop or hillside surrounding his community.	Capacity building in visioning and household methodologies. Above 50% female participation in project intervention; Training sessions at a convenient time for women	Market intermediaries; increased options for selling crops thereby increase income of poor households. (component 1)	Has gender mainstreaming and targeting strategies, (pays attention to female headed households and women in poorer households).

Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Capacity building	Training sessions for staff, associations, federations, farmers	Messages on nutrition are incorporated in the different capacity building training events; farmers, agribusiness actors, value chain operators.	Capacity building on disease control and livestock productivity	FDACs had been trained on gender and HIV across Meru, Nyeri, and Kirinyaga and Embu counties.	Capacity building for milk marketing groups;  Training events on milk handling and value addition	Target of 60% female participation in credit and savings groups, leadership and other project activities. Mothers group; adolescent groups at schools	Includes staff training and increased institutional capacity; training of fisheries and other groups.
Climate-smart initiatives	Good climate-resilient agricultural practices	Pest Management Plan and Environmental and Social Management Plan	Nil	Training on school environmental education (Output 1)	Climate-smart technologies that are gender friendly such as biogas systems and energy saving stoves and other energy, labour and time saving technologies such as small farm equipment and water harvesting facilities	Sessions at school (training of teachers and sessions given directly to students) on nutrition, hygiene and health	Nil
Social protection measures	Nil	Nil	Nil	Sustainable water resource management, ecosystem and agriculture (Outputs under component 3)	Training on environmental sustainability	n.a.	Nil
Labour and energy-saving technologies	Farmers and their families adopting labour saving equipment	n.a.	n.a.	Nil	Biogas; chaff cutters; small feed mixer	Nil	Has included market-related infrastructure and investment to ensure good quality fish handling
Clean and safe water / Sanitation and hygiene	n.a.	n.a.	n.a.	Access to safe water (Output indicator)	Biogas; chaff cutters; small feed mixer	Nil	n.a.
Nutrition education / behavioural change communications / cooking demonstration / home or kitchen garden	Nutrition demos; adoption of food processing, preparation, cooking and consumption of nutritious foods; food demonstration	Nutrition education; Food demonstration; food processing	Nil		Improved disposal of animal waste and waste milk at farm level; school milk programme	Nutrition awareness on improved diet and hygiene through radio; cooking demonstrations	Demonstration gardens; demonstration kitchens; nutrition education for fisher communities through community radio; training on basic hygiene practices

Name of Projects	S3P	SAPP	SLIP	UTaNRMP	SDCP	PROMER	ProPesca
Country	Zambia	Zambia	Zambia	Kenya	Kenya	Mozambique	Mozambique
Nutrition mainstreaming through extension services	Extension partners liaise with the Scaling Up Nutrition (SUN) initiative, and work in districts / blocks / camps where SUN is not present	Food demonstration	Nil	Kitchen garden, poultry	Goat milk production	Demonstration garden	Community radio
Bio fortification / production of nutrient-dense foods	COMACO distributed orange fleshed sweet potato; interventions on improved cassava, beans varieties	n.a.	n.a.	Nil	Nil	Nil	Nil
Nutrition-sensitive projects as per IFAD Nutrition portfolio database <sup>12</sup>	Nutrition-sensitive (Category D)	NA (Approved before 2010)	NA (Approved before 2010)	Not nutrition-sensitive (Category B)	NA (Approved before 2010)	NA (Approved before 2010)	Nutrition-sensitive (Category C)

<sup>12</sup> According to the IFAD Nutrition Portfolio Database, Category A is a non-nutrition-sensitive project; Category B has minimal consideration of nutrition; Category C is a nutrition-sensitive project and Category D has an integrated approach to mainstreaming nutrition.

### Annex 4: Household / Beneficiary survey questionnaire

#### Consent

The main objective of this survey is to map the intervention used to deliver nutrition-sensitive activities and identify pathways for nutrition-sensitive interventions for the selected projects. As a project beneficiary, your participation in this study is very important. The data will be used for research purposes only, and IFAD will use the results to closely track the impacts of these nutrition-related activities to strengthen nutrition-sensitive agriculture. All of your answers will be kept confidential and will not be passed to a third party without your knowledge and consent. May I continue the interview?

IDENTIFICATION
Country -----
District -----
Project Name -----
Name and signature of the interviewer
Name and signature of the supervisor-----
Date of data collection-----

**SECTION I. Respondent's Background information**

	Questions	Coding	Skip to
101.	How old were you on your last birthday? (Compare and correct with date of birth)	Age in completed years	
102	Can you read and write?	Yes ----- 1 No ----- 2	106
103	Have you attended formal school?	Yes ----- 1 No ----- 2	105
104	What is the highest grade you completed?	Elementary (1-6) ----- 1 Junior secondary (7-8) ----- 2 Secondary (9-12) ----- 3 College diploma ----- 4 College degree ----- 5 Others (specify) ----- 6	
105	What is your employment status?	Self Employed / Own business..... 1 Employed, but unpaid..... 2 Paid contract worker..... 3 Unemployed domestic worker..... 4 Others (Specify) ..... 5	
106	How many children aged under five are living in this household?		
107	What is your current marital status	Married ..... 1 Single..... 2 Divorced ..... 3 Widowed..... 4	
108	Who is the head of this household?	1. Female..... 1 2. Male..... 2	

**SECTION II. Household Profile: wealth, food and nutrition security**

	Questions	Coding	Skip to
201.	Interviewer: Please list the names of all persons who usually live in this household and guests of the household who stayed here last night. (household size)		
201 b	Relationship to household head?	Head..... 1 Spouse..... 2 Own child..... 3 Niece / nephew..... 4 Cousin..... 5 Sister / brother..... 6 Mother / father..... 7 Uncle / / aunt..... 8 Grandchild..... 9 Grandfather / mother... 10 Other..... 11	
202.	Does the household possess any of the following?	<b>Yes</b> <b>NO</b> Electricity    1      2 Radio        1      2 Bicycle       1      2 Sewing machine 1      2 Cart (bullock) 1      2 Kerosene lamp 1      2 Corrugated roof 1      2 Mobile phone 1      2 Flash light    1      2	
203	Does the household own agricultural land?	Yes -----1 No -----2	
204	What is the size (in hectares) of the land owned by		

	Questions	Coding	Skip to																																
	the household?																																		
<b>205</b>	What is the major source of drinking water for members of your household?	Piped into residence----- 1 Public tap 2 Table well 3 Unprotected well 4 River canal 5 Spring water 6 Rain water 7 Other (specify) 8																																	
<b>206</b>	Does this household own any cattle or poultry?	<table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Num.</th> </tr> </thead> <tbody> <tr> <td>Bullock</td> <td>1</td> <td>2</td> <td>—</td> </tr> <tr> <td>Cow</td> <td>1</td> <td>2</td> <td>—</td> </tr> <tr> <td>Goat</td> <td>1</td> <td>2</td> <td>—</td> </tr> <tr> <td>Donkey</td> <td></td> <td>1</td> <td>2</td> </tr> <tr> <td>Sheep</td> <td></td> <td>1</td> <td>2</td> </tr> <tr> <td>Horse / mule</td> <td></td> <td>1</td> <td>2</td> </tr> <tr> <td>Chicken</td> <td></td> <td>1</td> <td>2</td> </tr> </tbody> </table>		Yes	No	Num.	Bullock	1	2	—	Cow	1	2	—	Goat	1	2	—	Donkey		1	2	Sheep		1	2	Horse / mule		1	2	Chicken		1	2	
	Yes	No	Num.																																
Bullock	1	2	—																																
Cow	1	2	—																																
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Donkey		1	2																																
Sheep		1	2																																
Horse / mule		1	2																																
Chicken		1	2																																



**SECTION III: Food Consumption Practices**

<p><b>Dietary recall (24-hour)</b>                  The following questions examine your household's food composition pattern in the past 24 hours. Please describe the foods (meals and snacks) that you or any member of your household ate or drank yesterday during the day and night. Identify foods consumed outside the home i.e. those purchased. Start with the first food eaten in the morning. When composite dishes are mentioned, ask for ingredients. Probe for meals and snacks not mentioned. Complete the food group column after the interview.</p>				
	<p><b>TYPE OF FOOD OR BEVERAGE</b>                  List all foods and beverages including water, coffee, tea and any vitamins and mineral supplements taken</p>	<p><b>Household Dietary Diversity</b>                  (Name of main dish and accompanying ingredients in form eaten)</p>	<p><b>Dietary Diversity for Women (15-49 yrs)</b>                  (Name of main dish and accompanying ingredients in form eaten)</p>	<p><b>Dietary Diversity for children (6-23 months)</b>                  (Name of main dish and accompanying ingredients in form eaten)</p>
	3011. Breakfast:			
	302. Mid-morning snack:			
	303. Lunch:			
	304. Afternoon snack:			
	305. Dinner			
	306. Evening snack			
	307. Which meals were skipped during the 24 hr period? (Multiple responses are possible) Breakfast=1; Lunch=2 Dinner=3; Snack=4	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]

**Dietary diversity**  
 Use the information provided above to complete the following food groups. For any food group not mentioned above, probe further by asking the respondent if any of the examples in the group was not consumed.

Food groups	Examples of food items	Food groups consumed Yes=1; No=2		
		Household	Women 15-49 yrs	Children 6-23 months

Food groups	Examples of food items	Food groups consumed Yes=1; No=2		
		Household	Women 15-49 yrs	Children 6-23 months
308. All starchy staples a. Cereals b. Roots and tubers	<ul style="list-style-type: none"> <li>Maize, nsima, bread, rice, millet, sorghum (mapira)</li> <li>Potatoes, sweet potatoes, yams, cassava, wheat, foods made from these food items</li> </ul>	<input type="checkbox"/>		
309. Beans and peas	Beans, soybeans, cowpea, pigeon pea, ground beans, groundnuts, peas, lentils, foods made from these	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
310. Nuts and seeds	Sunflower seed, cashew nut, pumpkin seed, macadamia nuts, foods made from these	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
311. All dairy	Milk, cheese, sour milk (chambiko), yogurt or other milk products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
312. Flesh foods and fish a. Meat, poultry, offal b. Fish, sea food	Beef, goat, pork, sheep, bush meat, termites, caterpillar, mice, rabbit, chicken, duck, other birds, liver, kidney, heart, other offal or blood-based foods, fresh or dry fish	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
313. Eggs	Eggs e.g. hen, duck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
314. Vitamin-A-rich dark green leafy vegetables	Dark green leafy vegetable both wild vegetables and locally available; spinach, bonongwe ( <i>amaranthus</i> ), cassava leaves, beans leaves, cowpea leaves, pumpkin leaves, chilli pepper leaves, sweet potato leaves, rape, black jack (chisoso)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
315. Other Vitamin-A-rich vegetables and fruits	Orange / yellow-flesh sweet potatoes, paw-paw, pumpkin, carrots, ripe mangoes, sweet pepper, tomatoes, watermelon, orange mushroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
316. Other fruits	Orange, banana, guava, grape, lemon, tangerine, pineapple, mango	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
317. Other vegetables	Onions, cucumber, cabbage, ckra (ladies' fingers), green peas, Chinese cabbage, mustard (mpiru), mushroom, chamwamba (moringa)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
318. Oils and fats	Coconut, oil, fats or butter added to food or used for cooking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
319. Non-alcoholic beverages and sweets	Sugar, honey, sweetened soda or sugary food such as chocolates, sweets or candies, sugar cane, sweet beer (thobwa).	<input type="checkbox"/>	-	-
320. Spices, condiments, beverages	Tea, coffee, alcoholic beverages	<input type="checkbox"/>	-	-
<b>Total number of food groups</b>				

**SECTION IV. Project-related questions**

**(Participation, nutrition components // actions, perceived changes, challenges, best practices)**

	Questions	Coding			
401	Are you aware of this project? Interviewer: please state project name.	Yes .....1 No .....2			
402	Are you an active beneficiary of this project? (Please state project name)	Yes .....1 No .....2			
403	If yes, number of months involved in the project?				
			<b>Yes</b>	<b>No</b>	
404	What were the main services provided by the project to diversify the household's food / crop / livestock production?	Training Provision of inputs such as fertilizer and seeds. Market access Provision of supplies such as labour and energy-saving technologies Other (specify):	1 1 1 1	2 2 2 2	
405	Did the project help your household gain access to income / linkage to market?		1	2	
406	If your answer for Q 405 is Yes, how did it help you?	Support production by providing supplies and inputs Creating markets for your products Saving your money Providing credit services Other (specify):	1 1 1 1	2 2 2 2	
407	In the <b>last three months</b> , what were the main services you or your household received from the project to ensure gender equality / women's empowerment?	Training Credit for women Saving Labour and energy-saving technologies Other (specify):	1 1 1 1	2 2 2 2	
408	Which of the following capacity building / awareness campaign / training activities were provided through the project in the <b>last three months</b> ?	Nutrition education Income generation training Marketing and commercialization Production and diversifications Personal hygiene, water and health issues Cooking and nutritious recipes Food safety and preparation issues Home or kitchen garden / homestead food production Climate change, drought Land management issues	1 1 1 1 1 1 1 1 1	2 2 2 2 2 2 2 2	
409	Which of the nutrition actions you experienced need scaling up to a larger number of households in neighboring or other communities?	Support for increased production Support in income generation and access to market Support in accessing credit and saving Nutrition and health education Training on cooking and recipe development Training of personal hygiene and food safety Provision of energy saving technologies Women's empowerment Other (specify):	1 1 1 1 1 1 1	2 2 2 2 2 2	

	Questions	Coding			
<b>410</b>	Compared to your household's situation before joining the project, did you see any change as a result of your participation in the project?	Productivity, diversification commercializing and marketing Household food security Maternal and child nutritional status Women's empowerment Household saving and income generation Knowledge in health and nutrition Skills in food preparation and recipe development Other (specify):	1 1 1 1 1 1 1	2 2 2 2 2 2	
<b>411</b>	What were / are the main challenges in implementing the project's nutrition intervention activities?	Lack of finance Lack of continuity and consistency of the interventions Lack of commitment among the project staff / agents / extension workers Limited capacity of the project staff Limited scope of the intervention components. Other (specify):	1 1 1 1 1	2 2 2 2	
<b>412</b>	Which nutrition activity needs improvement and change in the future? Why?	<hr/> <hr/> <hr/>			

**Annex 5: Interview Guide for Key informants / In-depth interview: (for ICO, project implementers and partners)**

**Consent**

The main objective of this in-depth interview schedule is to map the intervention used for delivery of nutrition-sensitive activities and identify the pathways for nutrition-sensitive interventions for the selected projects. Your participation in this study is very important. The data will be used for research purpose only, and IFAD will use the results to closely track the impacts of these nutrition-related activities to strengthen nutrition-sensitive agriculture. All of your answers will be kept confidential and will not be passed to a third party without your knowledge and consent. May I continue the interview?

**IDENTIFICATION**

Country -----  
 District -----  
 Project Name -----  
 Name and signature of the interviewer  
 Name and signature of supervisor-----  
 Date of data collection-----

**I. Background Information**

	Questions	Coding	Skip to
01.	Are you aware of this project?	Yes No	
02	Number of months involved in the project		
03	Education level of respondents.	Elementary (1-6) ----- 1 Junior Secondary (7-8) ----- 2 Secondary (9-12) ----- 3 College diploma ----- 4 College degree ----- 5 Other (specify) ----- 6	
04	What is your area of specialization?	Public health // nutrition..... 1 Agriculture..... 2 Social sciences..... 3 Business and economics ..... 4 Education ..... 5 Other fields _____	
05	Sex of the respondent?	Male..... 1 Female..... 2	
06	What is your role in the project?	IFAD country office (ICO) ..... 1 Project Management Unit (PMU) staff () 2 NGOs..... 3 Government staff..... 4 CSOs..... 5 Community worker / extension worker ..... 6 Farmer group..... 7 Other stakeholders (specify)	
07	How often do you participate in the implementation of nutrition interventions?	Regular duty..... 1 Sometimes..... 2	

	Questions	Coding	Skip to
		Never..... 3	
08	How often do you receive or organize training / events on nutrition-related activities?	Regularly (at least once in three months). 1 Sometimes (once in a year) ..... 2 Never..... 3 Provide details of the event _____	
09	In which of the nutrition activities are you involved?	Appraisal of the project document..... 1 Capacity building of farmers. .... 2 Organization of farmers groups..... 3 Supervision of nutrition intervention activities 4 Monitoring and evaluation ..... 5 Targeting ..... 6 Others (specify) _____	
10	Do you have access to sufficient resources to implement the nutrition interventions?	Yes..... 1 No..... 2 Don't know..... 3	

**II. Participation and familiarity with project activities**

Item #	Questions	Responses
1	Do you believe that nutrition intervention is represented in this project?	
1a	(If yes) specify the nutrition interventions you are aware of.	
2	Do you believe the project beneficiaries are receiving nutrition interventions?	
2a	If yes, please give reasons	
2b	If No, please give reasons	
3	To what extent do you involve the beneficiaries in the intervention activities? <i>Possible prompts:</i> Part of situation analysis? Part of planning / design? Part of budgeting? Part of implementation? Part of evaluation?	

**III. Major Nutrition Activities**

Item #	Questions	Responses
1	What are the specific activities you conduct with regard to:	
1a	Increasing food production / diversity	
1b	Improving household food security (food availability and access)	
1c	Nutritional security of children	
1d	Nutritional security of mothers	

Item #	Questions	Responses
1e	Women's empowerment	
1f	Household saving and income generation	
1g	Food processing and safety (post-harvest handling)	
1h	Access to safe water, sanitation and hygiene	
1i	Nutrition awareness	
2	How are the nutrition intervention activities mentioned above connected? Please explain	

#### IV. Partnership

Item #	Questions	Responses
1	Who are the <b>key partners</b> in the nutrition intervention components of the programme?	
2	What is the role of each partner in the nutrition intervention activities (provide examples). <i>Possible prompts:</i> Coordination of activities with stakeholders and portfolio? Monitoring activities? Integrated supervision of activities? Integrated budgets?	
3	How are the collaborations managed? Is there any multisectoral technical group working on linkages issues?	

#### V. Key approaches used in nutrition interventions

Item #	Questions	Responses
1	What are the <b>main approaches</b> used to address nutrition and food security at the household level?	
1a	Specific approaches for reducing household food security	
1b	Specific approaches for reducing child malnutrition	
1c	Approaches for improving maternal malnutrition.	
1d	Approaches for increasing saving and income	
1e	Approaches in place to ensure women's empowerment at household and community level	

#### VI. Best practices and scaling up

Item #	Questions	Responses
1	Were there best practices during the implementation of nutrition interventions?	
1a	If yes, please specify evidence-based best practices for the following components: <ul style="list-style-type: none"> <li>• Food production</li> <li>• Household food security</li> <li>• Nutrition security among the most vulnerable groups</li> <li>• Household saving and income generation</li> </ul>	

	<ul style="list-style-type: none"> <li>Women's empowerment</li> </ul>	
2	Were there any opportunities for scaling-up best practices?	
2a	If yes, what are the components proposed for scaling up? Please specify with examples.	

### VII. Impacts // Changes

Item #	Questions	Responses
1	Do you believe that the nutrition activities brought added value to project progress since its implementation?	
2	What is your evaluation of the project's influence with regard to: <ol style="list-style-type: none"> <li>Food production</li> <li>Household food security</li> <li>Nutrition security</li> <li>Women's empowerment,</li> <li>Household saving and income generation</li> </ol>	

### VIII. Main challenges and gaps

Item #	Questions	Responses
1	What were / are the main challenges in implementing the project's nutrition intervention activities?	
1a	Target-related challenges	
1b	Resource-related challenges (financial, relevant capacity and skill)	
1c	Management-related challenges	
1d	Programme- and policy-related challenges	
2	What are the main gaps in implementing the nutrition interventions?	

### IX. Risks and mitigation measures

Item #	Questions	Responses
1	What are your experiences or thoughts about the risks in implementing the intervention activities?  <i>Possible prompts:</i> At the project management level (such as poor management) At the beneficiary level (such as selection, poor participation) At the policy level	
2	Do you suggest any mitigation measures in connection with mainstreaming nutrition activities?	

### X. Sustainability and community ownership

Item #	Questions	Responses
1	Did you take steps to ensure the sustainability and community ownership of the activities?	
1a	If yes, please provide practical experiences /	



	examples.	
2	To what extent did you involve the beneficiaries in such endeavour?	

**XI. Recommendations**

Item #	Questions	Responses
1	What are your recommendations for improving nutrition interventions to improve their impact?	

**Annex 6: Interview Schedule for Key Informants / In-depth interview: (for community and local leaders)**

**Consent**

The main objective of this in-depth interview schedule is to map the intervention used to deliver nutrition-sensitive activities and identify the pathways for nutrition-sensitive interventions for the selected projects. Your participation in this study is very important. The data will be used for research purpose only and IFAD will use the results to closely track the impacts of these nutrition-related activities to strengthen nutrition-sensitive agriculture. All of your answers will be kept confidential and will not be passed to a third party without your knowledge and consent. May I continue the interview?

**IDENTIFICATION**

Country -----  
 District -----  
 Project Name -----  
 Name and signature of the interviewer  
 Name and signature of supervisor-----  
 Date of data collection-----

**I Background Information**

	Questions	Coding	Skip to
<b>01.</b>	Are you aware of project XX?	Yes ..... 1 No ..... 2	
<b>02</b>	Number of months directly or indirectly involved in the project		
<b>03</b>	Education level of respondents.	Elementary (1-6) ..... 1 Junior Secondary (7-8) ..... 2 Secondary (9-12) ..... 3 College diploma ..... 4 College degree ..... 5 Other (specify): ..... 6	
<b>04</b>	What is your occupation?	Farmer..... 1 Extension agent..... 2 Religious leader..... 3 Local administrator..... 4 Other (specify):	
<b>05</b>	Sex of the respondent?	Male..... 1 Female..... 2	
<b>06</b>	Are you beneficiary of the project?	Yes..... 1 No..... 2	
<b>07</b>	How often do you participate in the nutrition programme?	Regular beneficiary..... 1 Secondary beneficiary ..... 2 Non-beneficiary ..... 3	

**II. Participation and familiarity with project activities**

Item #	Questions	Responses
<b>1</b>	Are you familiar with the nutrition interventions of this project?	
<b>1a</b>	If Yes, specify the nutrition interventions you are aware of.	
<b>2</b>	Do you believe the project beneficiaries are receiving adequate nutrition interventions?	
<b>2a</b>	If Yes, please give reasons	

<b>2b</b>	If No, please give reasons	
<b>2c</b>	If Yes, to what extent are you involved in the intervention activities? <i>Possible prompts:</i> Part of situation analysis? Part of planning / project design? Part of budgeting? Part of implementation? Part of evaluation?	

### III. Perceived Changes

Item #	Questions	Responses
<b>1</b>	Do you believe the project activities have had a positive influence on food security and good nutrition outcomes since its implementation?	
<b>2</b>	What is your evaluation of the project's <b>influence</b> with regard to: 1. Food production 2. Household food security 3. Nutrition security 4. Nutrition awareness 5. Women's empowerment, 6. Household saving and income generation	

### IV. Best practices and scaling up

Item #	Questions	Responses
<b>1</b>	Were there best practices during the implementation of nutrition interventions?	
<b>1a</b>	If yes, please specify evidence-based best practices for the following components: <ul style="list-style-type: none"> <li>• Food production</li> <li>• Household food security</li> <li>• Nutrition security among the most vulnerable groups</li> <li>• Household saving and income generation</li> <li>• Women's empowerment</li> <li>• Nutrition campaign and behavioural change communication</li> <li>• Food demonstration and feeding practices</li> </ul>	
<b>2</b>	Were there any opportunities for scaling-up best practices?	
<b>2a</b>	If Yes, what are the components proposed for scaling up? Please specify with examples.	

### V. Main challenges and gaps

Item #	Questions	Responses
<b>1</b>	What were / are the main challenges in implementing the project's nutrition	

	intervention activities?	
<b>1a</b>	Target related challenges	
<b>1b</b>	Resource-related challenges (financial, relevant capacity and skill)	
<b>1c</b>	Management-related challenges	
<b>1d</b>	Programme- and policy-related challenges	
<b>2</b>	What are the main gaps in implementing the nutrition interventions?	

**VI. Risks and mitigation measures**

Item #	Questions	Responses
<b>1</b>	<p>What are your experiences or thoughts about the risks in implementing the intervention activities?</p> <p><i>Possible prompts:</i>                      At the project management level (such as poor management.)                      At the beneficiary level (such as poor participation.)                      At the local level (such as policy barriers....)</p>	
<b>2</b>	Do you suggest any mitigation measures in connection with mainstreaming nutrition activities?	

**VII. Recommendations**

Item #	Questions	Responses
<b>1</b>	What are your recommendations for improving nutrition interventions to enhance their impact?	

**Annex 7: Guidance questions for Focus Group Discussions**

**Consent**

The main objective of this discussion is to gather data on the nutrition-sensitive intervention activities implemented by the project. Your participation in this study is very important. The data will be used for research purpose only and IFAD will use the results to closely track the impacts of nutrition related activities to strengthen nutrition-sensitive agriculture. All of your answers will be kept confidential and will not be passed to a third party without your knowledge and consent. May I continue the interview?  
 Yes [ ] No [ ]

**Participants' profile**

Name of country.....			
Project name.....			
No	Name	Sex	Position

**Instruction for facilitators**

- Start the discussion by briefly introducing yourself and explaining the purpose of the study.
- Invite group members to introduce each other.
- Ask permission to take notes and obtain their verbal consent to participate in the discussion.
- Facilitate the discussion (listen carefully, react neutrally, build rapport with participants, use the guidance questions shown below, probe questions and summarize, and close the discussion).

**Guiding Questions**

1. How familiar are you with this project?
2. How do you see the project's significance in terms of improving food production (list names of crops / livestock / fisheries), household food security, nutrition, women's empowerment, and household wellbeing? (Please probe on each one).
3. How is the project helping to address household nutrition and food security needs? Probe evidence-based impacts over the project implementation period.
4. What is the role of women and youth in implementing the nutrition interventions, and what would be expected in terms of gender equality and household wellbeing in similar contexts?
5. What are the best practices, and can these practices be implemented in other cities / districts?
6. Can you identify any local champions? If so, please describe their actions in relation to nutrition promotion and implementation?
7. What are the main challenges and opportunities in implementing the project's nutrition intervention activities?
8. What practical experiences does the project use to ensure sustainability and community ownership of the nutrition intervention activities? Probe on evidence-based sustainability measures put in place since the start of the project implementation).
9. What additions or changes can be made to include nutrition issues in the project? Would this change or influence project implementation ?

## Annex 8: Details on Methodology

## Proportionate sample size estimation (per project)

Name of the country	Project selected	Total b households	Nutrition beneficiaries	Estimated Sample size $n_i =$
Kenya	UTaNRMP (2012 / Ongoing)	NA	205,000 Rural HHs	87
	SDCP (2006 / Completed)	24,180	120,006 includes direct (indirect) beneficiaries	51
Mozambique	PROMER (2009 / Ongoing)	22,100	76, 000	117
	ProPesca (2010 / Ongoing)	40,000	13,620 (34%)	21
Zambia	S3P (2013 / Ongoing)	45,000	45,000 (100%)	46
	SLIP (2005 / Ongoing)	-	-	46
	SAPP (2009 / Ongoing)	-	-	46
	<b>Total sample</b>	-	-	<b>414</b>

**Note:** Each country's total sample size (138) is proportionally distributed over the number of projects in that country.

Alternatively, disproportionate sampling can also be used, in which the 414 total sample size is distributed EQUALLY among all projects independently of their number of beneficiaries.

**Sampling techniques**

For the household survey, the sample size is determined by a population-based formula given by Cochran (1977):

Where

$n_0$  = the required sample size when the population is greater than 10,000

$n$  = the adjusted sample size when the population is smaller than 10,000

$z$  = 95 percent confidence limit, i.e. 1.96

$p$  = 0.1 (desired proportions): 10%

$q$  = 1 - 0.1, i.e. (0.9)

$d$  = margin of error, 0.05 or 5%

$N$  = total population size

The above formula was computed for each country and yields 150 households (including contingency) for each one – Kenya, Zambia and Mozambique (annex 7). Then, disproportionate (equal) sampling was used to allocate the estimated size across the projects, which helps to control for differences in the number of beneficiaries in each individual project. The procedure for selecting the eligible households started with a random selection of representative villages / districts from each project area, followed by the selection of beneficiary households using simple random sampling techniques.

In contrast, the selection of respondents for the in-depth interview and focus-group discussion was based on purposeful sampling, and includes project implementers, key partners such as government organizations, NGOs, community leaders.

### **Data collection**

1. To produce a complete data set for analysis and fulfil the stated objectives, a number of data collection tools were used to generate the required information: -
  - Checklist for nutrition mapping in the selected projects
  - Survey questionnaire / Interview schedules for beneficiaries at the household level in-depth interview schedule for KII (Key Informants Interview)
  - Guidance Questions for Focus Group Discussions (FGD)
2. Checklist for nutrition mapping: The simple data collection checklist for individual projects was generated through the desk review exercise. A document review complemented by consultative discussion during the field visits provided the overview information on study projects. This checklist provides a snapshot of the projects' components and interventions, including the nutrition activities, indicators and other related information to determine the context of nutrition mainstreaming in the project. It served as a tool to rapidly assess whether a project has potential for nutritional outcomes.
3. Survey questionnaire: a beneficiary household survey tool was developed to collect information on the background characteristics of the households, the nutrition and food security status of the women and children, the household members' perception of impacts, women's empowerment, production, household income, household wealth, savings and marketing, care giving, time spent on agricultural activities, feeding practices etc.
4. Key informant interviews: The purpose of conducting in-depth interviews with key informants was to generate detailed information on the level of participation in the nutrition interventions, partnership and collaborations, the multidimensional nutrition impact, challenges and gaps, best practices and scaling up. The selection of Key Informant Interviews (KII) was done at three levels: (i) IFAD country office (ICO) level; (ii) project management unit (PMU) level; and (iii) those working on mainstreaming nutrition (implementers), government and other stakeholders. The actual number and the procedure for selecting these informants were worked out in consultation with the field staff.
5. Focus-Group Discussion: A focus-group discussion was held under each project with different groups, including project managers and implementers, women, men and youth groups, local and community leaders, partner organizations. The composition of the groups took account of age, gender and experiences with the project work. The questions listed in annex 6 were used as guide to the discussion.
6. The aforementioned tools underwent intensive review and pre-testing, and the fieldwork took a total of 27 days (July 25 to August 23, 2016). This activity was carried out through team work involving IFAD staff in SKD, PTA-nutrition desk and ESA professional staff. In addition, consultants were recruited with the required evaluation and survey skills in agriculture, food and nutrition research; one international consultant assisted the nutrition adviser in the planning and implementation of the exercise. Three national facilitators and a team of enumerators were engaged in each of the three countries studied to support data collection in the field.

### **Data analysis**

7. Once the required data were collected, the quantitative data were entered into a computer programme (SPSS). The analysis began by extracting information from the desk review followed by an analysis of the quantitative and qualitative data based on issues stipulated in the terms of reference (ToRs). The analysis employed a range of tools including descriptive and inferential statistics.

**The wealth index** for each household was generated on the basis of household assets (ownership of radio, television, mobile phone, bicycle, animal drawn cart, motorcycle, handheld torch, land and oxen / livestock). Each household was assigned a score 1 or 0, based on its ownership of each asset. Following the Regassa and Stoecker (2011) methodology, the households were grouped into three categories of wealth index: materially poor, medium and rich, based on nine household assets. Different weights were tested for each of the nine assets, each weight being the inverse of respondents who reported yes. For example, ownership of a corrugated roof which is not generally affordable, was assigned a simple weight of 0.48 (or adding 0.48 to those who already reported yes

(1). But as there was no significant change with the mean weight, this study kept the raw score. The poor category is 0-3 assets; medium 4-6 assets; and the better category 7 assets and above. The overall mean for all 402 respondents was 4.408. The SD was used only to establish the lowest category - the poor. This is the simplest and most suitable way of computing the wealth index, as there is no other information from the collected data.

**8. Multiple Classification Analysis (MCA)** was used to examine the patterns / determinants of DDS for households, women and children. The MCA is a multivariate data analysis technique commonly used to examine the contribution of each category of the predetermined predictor variables before and after adjusting for the control variables.

The predictors in an MCA can be measured in either ordinal or cardinal scale. In this case, the dependent variable is DDS with values ranging from 1 to 12. The HDDS, MDD-W and MDD-C were used as dependent variables in the analysis, while about eight predictors were included in the model. The regression analysis was used basically to identify the extent to which key project activities (such as women's empowerment activities, market linkage services, capacity-building activities and other covariates) determined dietary diversity.



### Annex 9: Influence of nutrition-sensitive interventions on beneficiaries

1. The patterns and determinants of dietary diversity for households, women and children were evaluated using multivariate analysis. The multivariate analysis in the form of Multiple Classification Analysis (MCA) presented in tables 1-3 below provide estimates of the “unadjusted” and “adjusted” effects of eight independent variables on the response variable (DDS). The unadjusted effect (deviation) of a particular category of A ( $A_1$  for example) is equal to the mean value of Y among those belonging to category 1 of A, minus the overall mean of Y values of 1. This simply illustrates the extent to which values among women / households in the first category of A differ from the overall mean value of Y. This does not reflect the effect since the distribution of women by their levels in other predictors may be different for women belonging to category 1 of A.

2. The MCA table also reports Eta ( $\eta$ ) which indicates the ability of a predictor, using the categories given, to explain variations in the dependent variable: Eta squared ( $\eta^2$ ) which is the correlation ratio indicating the proportion of the total sum of squares explainable by the predictor: Beta and Beta squared ( $\beta$  and  $\beta^2$ ) which are directly analogous to the Eta statistics, but are based on the adjusted means rather than the raw means, and measure the ability of the predictor to explain variations in the dependent variable after adjusting for the effects of all other predictors: multiple correlation coefficient squared (unadjusted for degrees of freedom), which indicates the proportion of the variance explained by the whole model; and multiple correlation coefficient squared ( $R^2$  adjusted for degree of freedom) indicating the proportion of the variance in the dependent variable explained by all predictors. The study included the eight best fitting predictors for each of the three groups (household, women and children) based on a literature review.

3. In general, the Beta indicates a factor’s magnitude of influence if the variable has become significant ( $p < 0.05$ ). The three models / tables generally indicate the same, but those already labeled non-significant should not be taken into account.

4. The use of the MCA model in the report may clarify our understanding of how the key project variables (women’s empowerment index, market access index, capacity building index, diversification index) impacted the outcome variable (DDS). Each index is formed by combining a set of questions (see the questionnaire). The analyses are very important for showing the leverage of project activities on DDS, which we now know explain more than 20% of the impacts. In the model, Eta is simply r (correlations) between any two variables. So the Eta column shows the correlations between each factor / independent variable and the dependent / study variable (i.e. DDS). The Beta values indicate the net effects of a single variable by controlling for the effects of all other variables, Beta values are simple r values after adjusting for the combined effects of other variables in the model (i.e. keeping other variables constant), and they give the net effect of a variable.

5. The table clearly shows that the proportion of the variation in HDDS explained by the predictors as well as the covariates was 23 percent ( $R^2 = 0.23$ ), and the grand mean household dietary diversity score for the sample households was computed as 7.21. The values of  $R^2$  for MDD-W and MDD-C are also quite similar; but the grand mean dietary diversity score is much less than the HDDS (4.52 and 2.17).  $R^2 = 0.23$  indicates the model’s adequacy and means that 23 percent of the variation in HDDS (the dependent variable) is attributable to, or explained by, the eight factors listed in the table. OR, in plain language: the eight variables included in the regression model explain / determine the nature /behaviour /magnitude / of the HDDS among the study population. OR, the project-related variables used in the model are responsible for changes in HDDS in the population while the remaining 77% of variation can be explained by other factors. Any  $R^2$  above 20 is usually considered good for a model of this kind.

6. Table 1 below shows that some of the predictors have significant effects on HDDS, such as literacy status ( $p = 0.000$ ), capacity-building activities ( $p = 0.000$ ), market linkages provided ( $p = 0.000$ ), and diversification support services (0.000). The beta ( $\beta$ ) coefficients shown in the last column of the table indicate the level of importance or the magnitude of the contribution of the individual predictor, i.e. the larger the value of beta ( $\beta$ ), the greater will be its effect on HDDS.

7. It is apparent from the table above that the mean HDDS varied significantly according to literacy status. The deviation of the adjusted mean from the grand mean is greater for household heads who cannot read or write. A household head with literate status scored, on an average, a DDS

of 7.35 compared to a mean of 6.77 in the case of household heads who are unable to read or write. Female-headed households have slightly lower mean DDSs than male-headed households (7.13 and 7.22, respectively). Households receiving a higher number of nutrition-related capacity-building services have better mean DDSs than those with fewer of these services. There is a very significant difference in household mean DDS between those having very good market linkage services and those without such services (mean DDS of 8.11 and 6.14 respectively). Similarly, households that received more diversification services had a higher mean DDS (9.15) compared to those with very poor (6.21), mild (7.10), and moderate (8.18).

**Table 1: Results of Multiple Classification Analysis (MCA) for the key determinants of the Household Dietary Diversity Score (HDDS) by selected predictors and covariates, N = 398**

Variable	n	Mean DDS				
		Unadjusted mean	Eta ( $\eta$ )	Adjusted mean	Beta ( $\beta$ )	Sig
<b>Household size</b>						
0-3 member	16	6.25	.067	5.77	.099	<b>.329</b>
4-6 members	36	7.36		7.19		
7 and above members	346	7.24		7.28		
<b>Literacy status of respondents</b>			.158		.084	<b>.000***</b>
Literate	300	7.48		7.35		
Illiterate	98	6.39		6.77		
<b>Headship</b>			.099		.011	<b>.055</b>
Female	57	6.49		7.13		
Male	341	7.33		7.22		
<b>Wealth Index (Asset-based)</b>			.100		.072	<b>.615</b>
Poor	30	6.30		6.62		
Medium	39	6.85		6.86		
Better	329	7.33		7.30		
<b>Capacity-building activities</b>			.290		.049	<b>.000***</b>
Low	137	6.17		7.17		
Medium	108	7.15		7.02		
High	153	8.18		7.38		
<b>Market linkages services provided</b>			.362		.266	<b>.000***</b>
Low market linkages	123	5.76		6.14		
Good Market linkages	144	7.33		7.30		
Very good market linkages	131	8.44		8.11		
<b>Women's empowerment services</b>			.169		.248	<b>.050*</b>
Very poor	212	6.78		7.82		
Mild	79	7.33		6.93		
Moderate	45	8.02		6.72		
High	62	7.92		5.82		
<b>Diversification services</b>			.392		.348	<b>.000***</b>
Very poor	159	5.99		6.21		
Mild	116	7.27		7.10		
Moderate	70	8.37		8.18		
High	53	9.19		9.15		

R=0.48; R<sup>2</sup>=0.23 Grand mean=7.21; Number of cases=398 \*Significant at  $\alpha$ .05  
 \*\* Significant at  $\alpha$ .01 \*\*\*Significant at  $\alpha$ .001

8. In the MDD-W table (table 2 below), there are far more predictors affecting DDS, including household size ( $p=0.000$ ), literacy status ( $p=0.000$ ), wealth index ( $p=0.040$ ), capacity-building activities ( $p=0.052$ ), market linkages provided ( $p=0.003$ ) and women's empowerment services (0.011), and diversification support services (0.001). Taking the beta ( $\beta$ ) coefficients as indicators, literacy status and household size are the strongest predictors, compared to the other five predictors included in the model. Larger household size (7 or more members) reports a significantly higher (4.95) mean DDS than medium-sized and small households (1.67 and 1.08 respectively), while the means for literate/illiterate household heads are 4.9 and 3.4 respectively. In terms of the asset-based wealth index, wealthier households had an adjusted mean DDS score of 4.69 whereas the poor households' mean score was 3.49. Households receiving better of nutrition-related capacity-building services had a higher mean DDS compared to those with lower service. Those with very good market linkage services had a mean DDS of 4.86 compared to those with poorer services. Similarly, those

households which received more diversification services had higher mean DDS (5.93) compared to those with very poor (4.83), weak (4.28), and moderate (3.03).

**Table 2: Results of Multiple Classification Analysis (MCA) for the key determinants of Women's Dietary Diversity Score (MDD-W) by selected predictors and covariates, N=398**

Variable	Mean DDS					
	N	Unadjusted mean	Eta ( $\eta$ )	Adjusted mean	Beta ( $\beta$ )	Sig
<b>Household size</b>			.275		.285	<b>.000***</b>
0-3 member	16	.8750		1.08		
4-6 members	36	1.9444		1.67		
7 and above members	346	4.9335		4.95		
<b>Literacy status of respondents</b>			.170		.154	<b>.000***</b>
Literate	300	4.9000		4.86		
Illiterate	98	3.2755		3.39		
<b>Headship</b>			.065		.027	<b>.527</b>
Female	57	3.8421		4.22		
Male	341	4.6100		4.55		
<b>Wealth Index (Asset-based)</b>			.136		.101	<b>.040*</b>
Poor	30	2.9667		3.49		
Medium	39	3.5641		3.67		
Better	329	4.7508		4.69		
<b>Capacity-building activities</b>			.116		.153	<b>.052*</b>
Low	137	5.1168		3.94		
Medium	108	3.9259		4.21		
High	153	4.3529		5.35		
<b>Market linkages services</b>			.185		.065	<b>.003**</b>
Low market linkages	123	4.9919		4.43		
Good Market linkages	144	3.4931		4.23		
Very good market linkages	131	5.1450		4.86		
<b>Women's empowerment services</b>			.158		.169	<b>.011*</b>
Very poor	212	4.3208		4.06		
Weak	79	3.6582		4.14		
Moderate	45	5.6889		5.86		
High	62	5.3226		5.47		
<b>Diversification services</b>			.265		.205	<b>.001**</b>
Very poor	159	4.9371		4.83		
Mild	116	3.8017		4.28		
Moderate	70	3.0571		3.03		
High	53	6.6226		5.93		
<b>Constant</b>						<b>.000</b>

R = 0.47; R<sup>2</sup>=0.22 Grand mean=4,52; Number of cases=398 \* Significant at  $\alpha$ .05  
\*\* Significant at  $\alpha$ .01 \*\*\*Significant at  $\alpha$ .001

9. As noted above, the mean MDD-C scores are generally very low across all variables (see table 11). Five variables seem to predict the dependent variable of interest (i.e. MDD-C). namely household size ( $p=0.000$ ), headship ( $p=0.029$ ), wealth index ( $p=0.024$ ), capacity-building activities ( $p=0.000$ ) and market linkages provided ( $p=0.003$ ). A larger household still predicts a higher mean DDS, since those with 7 or more members had an adjusted mean score of 2.0 compared to medium (0.90) and small (0.64) households. The adjusted mean score for female-headed households is 0.99, while the computed mean for male-headed households is 1.89. Similarly, households with better women's empowerment and market linkage services have higher adjusted mean score than those receiving weaker services (table 3).

**Table 3. Results of Multiple Classification Analysis (MCA) for the key determinants of Children's Dietary Diversity Score (MDD-C) by selected predictors and covariates, N=398**

Variable	Mean DDS					
	n	Unadjusted mean	Eta ( $\eta$ )	Adjusted mean	Beta ( $\beta$ )	Sig
<b>Household size</b>			.213		.183	<b>.000***</b>
0-3 member	20	.00		.64		
4-6 members	36	.028		.90		
7 and above members	346	2.04		2.00		
<b>Literacy status of respondents</b>			.024		.031	<b>.372</b>
Literate	304	1.81		1.82		
Illiterate	98	1.62		1.58		
<b>Headship</b>			.134		.099	<b>.029*</b>
Female	61	.72		.99		
Male	341	1.95		1.89		
<b>Wealth Index (Asset-based)</b>			.128		.121	<b>.024*</b>
Poor	130	2.33		2.29		
Medium	255	1.54		1.56		
Better	17	.76		2.47		
<b>Capacity-building activities</b>			.325		.216	<b>.000***</b>
Low	138	.62		.88		
Medium	109	1.37		1.76		
High	155	3.06		2.54		
<b>Market linkages services provided</b>			.280		.191	<b>.003**</b>
Low market linkages	124	.73		1.06		
Good Market linkages	145	1.51		1.59		
Very good market linkages	133	2.99		2.60		
<b>Women's empowerment services</b>			.244		.105	<b>.127</b>
Very poor	213	1.23		1.81		
Mild	80	1.38		1.18		
Moderate	46	3.02		2.41		
High	63	3.11		1.86		
<b>Diversification services</b>			.255		.097	<b>.382</b>
Very poor	161	1.12		2.04		
Mild	117	1.44		1.46		
Moderate	71	2.38		1.37		
High	53	3.58		2.10		

R=0.45; R<sup>2</sup>=0.20 Grand mean=2.17 \*Significant at  $\alpha$ .05 \*\* Significant at  $\alpha$ .01 \*\*\*Significant at  $\alpha$ .001

## Annex 10: Data collection – Experiences and Challenges

### Meeting in IFAD HQ (Rome)

1. Under the supervision of the Nutrition Adviser in ESA, consultative meetings were held in Rome to finalize the developed research tools for data collection (household survey questionnaires for project beneficiaries; questions for ICOs, project implementers and partners in the three countries; and guideline questions for focus-group discussion). The research tools were shared with the IFAD team members for comments. Soft copies of questionnaires were forwarded to colleagues in ESA (Shirley Chinien, Bernadette Mukonyora, Elizabeth Ssendiwala and Stephen Twomlow); SKD (Rui Manuel Dos Santos Benfica); PTA (Garrett James) and ICOs (Country directors and country programme managers in Kenya, Mozambique and Zambia). The invaluable contributions and feedback received from colleagues to the proposed study and data collection tools were incorporated into the final research documents.

### Field work

2. The fieldwork was done in three countries: Zambia, Kenya and Mozambique. Fruitful consultative meetings were held with the Zambia-ICO team members (Abla Benhammouche, Shahzad Waseem); Mozambique-ICO (Mutandi, Robson, Mucavel Custodio) and at Kenya-ICO (Hani Abdelkader Elsadani, Joseph Nganga and Elizabeth Ssendiwala).

### Zambia

3. The mission in Zambia lasted for nine days (July 23-31). It was supported by Mofu Musonda, who was hired as the national facilitator for the data collection at project locations and the international consultant under the supervision of the nutrition adviser, ESA. A consultative meeting was held with the country director, Abla Benhammouche and staff of the IFAD Country Office (ICO) to provide guidance on the for data-collection instruments. During the meeting, the director suggested adding RUFEP to the list of projects in the exercise, given its focus on household consumer goods alongside projects for the market.

4. Another meeting was held with Derrick Sikombe, Chief Agricultural Economist, Policy and Planning Department in the Ministry of Agriculture and Livestock, who is involved with IFAD-funded projects in Zambia (S3P and SAPP). At the end of the brief meeting, the survey tool was presented to him for completion by the relevant government officials. In the afternoon of the first day, meetings were held with the staff of the S3P and SAPP projects in Lusaka. Martin Liywalii, the project manager for S3P, briefed the mission on the project and provided information on the background of projects partners: COMACO, CIMMYT and TLC (Total Land Care). At the end of the meetings, questionnaires for stakeholders were distributed for completion to those in attendance and sent by email to those who were absent.

5. Lastly, on day 1, the mission met with RUFEP staff; the financial controller, Ezra Chibwe; KM and communication specialist, Cephias Moonga and the M&E officer, Womba Phiri. These staff were briefed on the objectives of the IFAD mapping exercise; and questionnaires (both soft and hard copies) were given to project managers and project implementers to be completed and returned by email. A request was made to use the RUFEP conference hall for the training of the enumerators the next day.

6. Day 2 started with a follow-up meeting involving staff of S3P and SAPP. Expected activities and objectives of the mapping exercise were discussed. The project managers, respectively took turns in describing the nutrition activities of their respective projects.

7. Following the meeting, the mission started the training of enumerators at RUFEP office. Eight enumerators, with minimum of a diploma in agriculture, were trained to use the survey tool, of which three of the enumerators had previous experience in household food surveys and FGD. At the end of the training, which lasted for two hours, the enumerators were paired up and asked to conduct a pilot test of the survey instrument / tools. This went on for another hour and half, after which they reported back to the training facilitators about their experience with the pilot test. Seven of the eight enumerators understood the survey process very well, while the eighth enumerator struggled a bit before feeling comfortable with the process. At the end of the training session, the enumerators were

divided into two groups of four, with one group sent to the Mpika District in the north and the other group sent to Mazabuka District in the south with 75 questions per group. Two vehicles were rented for travel purposes. The national facilitator monitored the movement of the enumerators and the administration of the surveys in collaboration with the district officers in the districts. Each of the groups spent a total of four days in the field before returning to Lusaka with 150 completed survey questionnaires. In addition, a total of eight FGDs were carried out, and four key knowledge informants were interviewed. Only four of the ICOs questionnaires have been received while awaiting the submission of others.

8. During the field visit, the mission met with Richard Mumba, manager of COMACO, an NGO. The outcome of the meeting highlighted COMACO's roles as an NGO such as: provision of support to small-scale farmers in skills development, capacity-building, leadership, and managing welfare of farms; conserving the ecosystem of the environment; wildlife management; natural resource management; sustainable agriculture integrated with agroforestry; honey production; marketing and value addition; peanut butter production; and rice, soya, maize (yummy-say) production. With specific regard to S3P, COMACO's role includes providing training in capacity building to farmers, leadership, conservation farming, and farming as a business.

In Zambia, both quantitative and qualitative data were generated from two projects (SAPP and S3P). S3P provided ample opportunity for interviews with ICOs, project partners, project implementers and beneficiaries. Data was collected from 150 beneficiary households in both the northern project site (Mpika district) and the southern project site (Mazabuka district) over a four-day period. The third pre-selected study project (SLIP) did not yield the expected results. SLIP is a completed project and unfortunately the project coordinator was unavailable during the field visits for data collection. Thus, the enumerators encountered difficulties in reaching the SLIP beneficiaries.

## Kenya

9. In Kenya, data collection went very well as the project sites were easy to access. The mission lasted 10 days (July 31-August 10, 2016). Accompanied by Stephen Tirop (National Facilitator), the mission visited the Ministries of Agriculture and Environment, and the Ministry of Livestock and Fisheries and met with various government officials involved with the two selected projects for the mapping exercise in Kenya: Upper Tana Catchment Natural Resource Management Project (UTaNRMP) and Smallholder Dairy Commercialization Programme (SDCP). The UTaNRMP's focus is on boosting natural resources for increased sustainable food production and higher incomes for poor rural households in the project area, and the sustainable natural resource management. The UTaNRMP Project Coordinator, Faith Muthoni, reiterated that the project was important in the production area, which it supports through seed and root-crop distribution including leguminous crops – peas, beans, sweet potatoes – and rice (upland and paddy) distribution. It promotes women's equality as both men and women can inherit land.

10. The SDCP's focus is on dairy commercialization for the purpose of improving the income of poor rural households that depend substantially on production and trade of dairy products for their livelihood. SDCP originally had a completion date of September 2019. Moses Kembe informed the Mission that SDCP, in addition to its dairy commercialization programme, was involved in policy making, biogas production, capacity building, training of farmers in production skills and women's empowerment. These were all done in partnership with the Ministry of Agriculture, the Kenya Dairy Board (KDB), the Kenya Agriculture and Livestock Research (KALRO), Dairy Processors, the Kenya National Farmers Federation (KENAFF) and other relevant local stakeholders.

## Mozambique

11. In Mozambique, the mission lasted nine days (August 10-19, 2016). Firstly, a meeting was held with the National Facilitator, Afonse Sitole to cross-check the activities for the duration in Mozambique and translation of the survey tool from English into Portuguese, which is the language of communication in Mozambique. A copy of the household survey questionnaire, which had previously been mailed to the National Facilitator, was also translated into Portuguese for use in the field since the enumerators and interviewees were not English speakers.

12. The mission met with the ICO team and during discussion, it was ascertained that the distance to both project sites (PROMER and ProPesca) were over 3,000 km and would take three

days to reach by road. This entailed flying from Maputo to Cabo Delgado and then traveling by road for another four hours to get to any of the project sites. Given the limited resources earmarked for data collection, a decision was made to focus on one project only.

13. The mission met with ProPesca Programme coordinator, Rui M. Falcão, PROMER programme coordinator, Carla Homowana and PROMER nutrition focal point, Alexandre Malice, who provided information on the activities of their respective projects. Another meeting was held with Augusto Mugenge, of MD Limited, who is a partner of PROMER and is responsible for all logistical matters for the project. His company has a team of five members – a provincial coordinator, a nutritionist, an agro-processing specialist, a small garden specialist and an administrative assistant. His company also has a memorandum of understanding with local government in districts for five part-time extension workers who provide services as needed. He helps in the implementation of the project and engages in skill development, capacity building, training and other services. Mr. Mugenge said he had had a good working relationship with PROMER since 2014, but highlighted some challenges that he had confronted over the years. Among them were the limited amount of materials used for training, conflicting messages received from different groups that he works with in the districts where the project is implemented, limited funding for hiring qualified people to do work, need to co-finance the installation of food mills and processor to add value to farm produce, the need to multiply materials for dissemination. The interview was very insightful and highly useful; and at the end, partners and project implementers were given the questionnaire to fill out and return.

#### DEFINITION OF TERMS

**Food security:** Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (CFS, 2012). Food security is founded on four pillars: availability, access, utilization, stability.

**Availability** refers to the physical presence of food, from markets, domestic food production, food imports, food aid, domestic food stocks and sufficient quantities of food consistently available.

**Access** refers to both physical and economic ability to access food, having sufficient resources to obtain appropriate foods for a nutritious diet.

**Utilization** refers to appropriate use of knowledge on basic nutrition and care for the adequate biological use of food in the body and the provision of required nutrients for a healthy life.

**Stability** refers to sustainability in food availability, access and utilization. This include the dimension of vulnerability, “the likelihood of experiencing future food insecurity”, and resilience “the ability to recover from any episode of food security shocks”.

**Nutrition security** exists when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care (FAO, 2012).

**Food and nutrition security** exists when all people at all times have physical, social and economic access to food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care (FAO, 2011).

**Food security and nutrition** is another term that combines the concepts of food security and nutrition. It emphasis the complementary actions needed to achieve both food security and nutrition, as well as the precondition of food security to good nutrition; food availability, and the access and stability dimensions (CFS, 2009).

**Malnutrition** is a broad term that refers to all forms of food insecurity and poor nutrition, including nutrient deficiencies, excesses or imbalances . Malnutrition may also be related to non-food factors, such as inadequate care practices for children, insufficient health services and an unhealthy environment.

**Undernourishment** exists when food energy intake is below the minimum dietary energy requirement for light activity and a minimum acceptable weight for attained height. The terms “undernourishment” and “hunger” are used interchangeably in the measure of food consumption. Hunger is referred to as food deprivation, while under-nutrition refers to a state of insufficient food intake and, possibly, repeated infections that could influence the nutrient utilization. Undernourishment manifests itself in the form of excessively low weight, stunting, wasting and micronutrient deficiency (hidden hunger).

**Nutrition-sensitive project:** A nutrition-sensitive project has explicit nutrition objectives, activities and indicators. Such a project will identify clear pathways through which it can maximize its contribution to improving nutrition. It should also make sure that changes in food consumption patterns connect and coordinate with interventions from other sectors (IFAD, 2015 Action Plan for Mainstreaming Nutrition-Sensitive Agriculture).

*CFS, 2012: Coming to terms with terminology.* The Committee on World on Food Security (CFS); Thirty-ninth Session CFS 2012/39 /4: <http://www.fao.org/docrep/meeting/026/MD776E.pdf>



**Annex 11: Timeframe and work plan**

Phases and Activities	July	August	September	October	November	December
<b>Phase I</b>						
<b>Preparatory</b>	X					
Contract signing and briefings on the work						
<b>Desk work</b>	X					
- Screening and validating of ESA projects						
- Document and literature review						
- Drafting of data collection tools						
Selection of the study sites and projects						
<b>Fieldwork</b>	X	X				
- Follow up consultation with ICO team						
- Meetings with key project stakeholders						
- Orient / train the field team / enumerators on the tool						
- Pre-testing, revision and duplication of the tools						
Data collection from the three selected countries.						
<b>Phase II</b>						
<b>Data processing and analysis</b>			X	X		
• Data organization, entry and cleaning						
• Extraction of information from qualitative data (KII and FGDs) and desk review						
• Data analysis and draft report						
• <b>Virtual review of draft report</b>				X	X	
• Reviewer Panel: FAO, WFP, Bioversity, IFAD (SKD, PTA, OPE)						
• <b>Development of strategic approach on nutrition mainstreaming in ESA</b>					X	X
• <b>Initiation of scientific publication</b>						
• <b>Technical meeting</b>						X
• <b>Report finalization</b>						

## Annex 12: Terms of Reference for National Facilitators and Enumerators

**SUBJECT:** Terms of Reference: To collect survey data in the field

### Context

1. IFAD is sharpening its focus on nutrition mainstreaming as enunciated in its Strategic Framework 2016-25. IFAD-funded projects are increasingly designed with nutrition-sensitive activities. Despite the inclusion of nutrition at the design stage of the project, the various intervention approaches during project implementation do not currently have well-defined linkages and pathways to adequately track the effective impact of nutrition-related activities. In the East and Southern Africa region (ESA), smallholder farmers are associated with the practice of mono-cropping, monotonous dietary intake and a subsequent high-burden of malnutrition.
2. In view of the above, it is essential to **map nutrition in IFAD-funded projects in the ESA region** to identify gaps in project interventions and opportunities for scaling up. This mapping exercise will support and complement IFAD's desk-based stock-taking exercise, currently being finalized by the Policy and Technical Advisory (PTA) nutrition team.

### Objective

3. The objective of this assignment is to generate a road map on nutrition-sensitive agriculture. Specifically, it will:
  - (i) Map the interventions used to deliver nutrition-sensitive activities;
  - (ii) Identify the pathways for nutrition-sensitive interventions;
  - (iii) Evaluate the scale and scope of implementation of these interventions;
  - (iv) Assess the pattern of project interventions on the beneficiaries;
  - (v) Map areas of opportunities for scaling up; and,
  - (vi) Identify challenges, weaknesses and gaps.

### Scope of work

4. National facilitators under the supervision of the International Consultant (Prof. Patience Idemudia Elabour) will be responsible for the following:
  - (a). **Identification and recruitment of experienced enumerators:** they will be involved in the survey and consideration will be given to ensuring gender balance. The minimum education requirement for the enumerator is a High School Diploma with relevant field experience.
  - (b). **Data collection:** prepare a timetable for the duration of field activity (9-day period). Under the guidance of the international consultant, he / she will finalize the listing form for sampling; and facilitate and supervise data collection processes. These activities will include a one-day intensive training event for the enumerators, focusing on both the theoretical and the practical aspects of survey tools and field exercise. He / she will also organize orientation sessions with project implementing units and key partners; contact relevant stakeholders of the selected projects (government, NGOs, private organizations and local administrations) in consultation with project leaders, and arrange scheduled meetings.
  - (c). **Pre-testing of the data collection tools:** coordinate piloting of the survey tools developed. This should be followed by the revision and translation of survey tools where necessary.
  - (d). **Logistics:** arrange suitable transportation for survey team members and necessary supplies / equipment related to field work.
  - (e). **Data screening and data entry:** assist the international consultant in the screening and verification of collected data to ensure good quality data.

### Outputs / Deliverables:

- Final listing form for sampling
- Completed household questionnaires for all households interviewed

- Completed in-depth interview schedule
- Consent forms signed by each respondent

**PROPERTY OWNERSHIP**

- All documents, including the raw field data, soft copy data, data collection tools, and all other materials developed or collected for this study, are the intellectual property of IFAD. It should therefore be kept strictly confidential and in no way transferred to a third party without prior written instruction from IFAD.

**Tentative work schedule**

<b>Date</b>	<b>Activity</b>	<b>No. of calendar days</b>
22 – 31 July (Zambia)	Preparation of sampling list and project sites	1
31-10 August (Kenya)	Identification and training of enumerators	2
10-19 August (Mozambique)		
	Data collection	6
<b>Total days</b>		<b>9</b>

## Annex 13: List of participants for all projects surveyed

<b>List of FGD participants (Mozambique, Zambia and Kenya)</b>			
<b>Characteristics</b>			
<b>Name</b>	<b>Sex</b>	<b>Position</b>	<b>County / Sub-county</b>
<b>PROMER</b>			
Rosa Antonio (Group 1)	F	Assoc. president	Ancuabe
Syzona Aufigile	F	Member	Ancuabe
Rokma Elias	F	Member	Ancuabe
Mamzedo Salimo	M	Focus point person	Ancuabe
Costantino Alheto	M	Secretary	Ancuabe
Maria Muluala (Group 2)	F	Assoc. president	Ancuabe
Abawa Aluwasse	F	Member	Ancuabe
Esteva Diamalto	M	Local leader	Ancuabe
Benjamin Saphie	M	Member	Ancuabe
Bernard Lino (Group 3)	M	Volunteer	Ancuabe
Dobo Joihe	M	Volunteer	Ancuabe
Assane Rachid	M	Secretary	Ancuabe
Arminda Yeriano	F	Chief of mothers	Ancuabe
Joanito Pedro	M	Chief of fathers	Ancuabe
Ohar Ahedde	M	Finance chief	Ancuabe
Victor Pedro	M	Assoc. president	Ancuabe
Zambo Mohade	F	Member	Ancuabe
Anastacia Suhoil	F	Assoc. chief.	Ancuabe
Ernesto Jose	M	Member	Ancuabe
Alfredo Joaquihi	M	Member	Ancuabe
Filomena Marla	F	Member	Ancuabe
Madalema Felix	F	Chief model mother	Ancuabe
Armando Asuba	M	Member	Ancuabe
Josefina Xavica	F	Savings chief	Ancuabe
Rosha Sohane	F	Member	Ancuabe
Zakarias Bernr (Group 4)	M	Assoc. president	Ancuabe
Rita Xavie	F	Assoc. vice president	Ancuabe
Bernardo Lopuaulca	M	Locality chief	Ancuabe
Regina Mussa	F	Assoc. president	Ancuabe
Laurinda Malario	F	Assoc. manager	Ancuabe
Deolinda Blante	F	Assoc. president.	Ancuabe
Elestino Blante	M	Community chief	Ancuabe
<b>UTaNRMP</b>			
Lucia Multoni (Group 1)	F	Chairperson	Embu
Monica Mbas	F	Secretary	Embu
Jesina Nzisa	F	Member	Embu
Flesho Mathoni	F	Member	Embu
Teresia Syombua	F	Member	Embu
Rfdmta Wauwa	F	Member	Embu
Rosalia Kabehe	F	Member	Embu
Sabeth Muthoni	F	Member	Embu
Monic Njeri	F	Member	Embu
Mary Wanjiru (Group 2)	F	Chairperson	Embu
Margret Githinji	F	Treasurer	Embu
Suzan Wambul	F	Secretary	Embu
Beatrice Karinga	F	Member	Embu
Jecinta Mwea	F	Member	Embu
Susan Waweru	F	Member	Embu
Antony Gitari	M	Member	Embu
Sfia Marigu (Group 3)	F	Chairperson	Embu
Alice Mwaniki	F	Secretary	Embu
Liberata Muthoni	F	Treasurer	Embu
Catherine Njeri	F	Member	Embu
Mary Kariuki	F	Member	Embu
Beatrice Marigu	F	Member	Embu
Elizabeth Sande	F	Member	Embu

<b>List of FGD participants (Mozambique, Zambia and Kenya)</b>			
<b>Characteristics</b>			
<b>Name</b>	<b>Sex</b>	<b>Position</b>	<b>County / Sub-county</b>
Dionisia Muthoni	F	Member	Embu
Teresia Wanjoui	F	Member	Embu
Abisagi Wambeti	F	Member	Embu
Esther Ruguru	F	Member	Embu
Mary Mjue	F	Member	Embu
Teresa Muthoni (group 4)	F	Chairperson	Embu
Jane Njeri	F	Member	Embu
Margaret Wargani	F	Member	Embu
Lyadiah Wanuku	F	Member	Embu
<b>SDCP</b>			
Esther Mulusa (Group 1)	F	Farmer	Njoro
Leah Kimayu	F	Farmer	Njoro
Judy Muhunja	F	Farmer	Njoro
Nitravena Rybina	F	Farmer	Njoro
Alfred Oyiko (Group 2)	M	Farmer	Njoro
Pauline Mugambi	F	Farmer	Njoro
Morah Mwango	F	Farmer	Njoro
Pennel Omundi	M	Farmer	Njoro
Margaret Mambui	F	Farmer	Njoro
Joseph Karonja (Group 3)	M	Member of Victoria Dairy Group	Rongai
Irene Ngufer	F	Assist. Secretary of Victoria Dairy Group	Rongai
Joyce Kimani	F	Treasurer of Victoria Dairy Group	Rongai
Jane Ngige	F	Member of Victoria Dairy Group	Rongai
Martha Munyaka	F	Member of Victoria Dairy Group	Rongai
Stephen Keronchi (Group 4)	M	Member of Suka Dairy Group	Kabai
Margaret Wonjilu	F	Member of Suka Dairy Group	Kabai
Jenimah Gugu	F	Member of Suka Dairy Group	Kabai
Grace Nyandria	F	Member of Suka Dairy Group	Kabai
Simon Mwongi	M	Member of Suka Dairy Group	Kabai
Maina Charless	M	Member of Suka Dairy Group	Kabai
James Kannu	M	Secretary of Suka Dairy Group	Kabai
Samuel Kimani	M	Member of Suka Dairy Group	Kabai
John Kinan	M	Member of Suka Dairy Group	Kabai
Winnie Munene	F	Member of Suka Dairy Group	Kabai
Joseph Macharia	M	Chair of Suka Dairy Group	Kabai
Mary Njarage (Group 5)	F	Chair of Mango-Tomato Dairy Group	Rongai
Solomon Wamba	M	Secretary of Mango-Tomato Dairy Group	Rongai
Bernard Nuchiri	M	Member of Mango-Tomato Dairy Group	Rongai
Sarah Njoki	F	Member of Mango-Tomato Dairy Group	Rongai
Racheal Kotoye	F	Member of Mango-Tomato Dairy Group	Rongai
Rosmary Njenga	F	Member of Mango-Tomato Dairy Group	Rongai
Marry Wainana	F	Member of Mango-Tomato Dairy Group	Rongai
<b>S3P</b>			
Mailda Makaliki (Group1)	F	Com. Group member	Kashaita
Chibulu Loveness	F	Com. Group member	Kashaita
Maltidah Chali	F	Com. Group member	Kashaita
Bwali William	M	Com. Group member	Kashaita
Regineh Kabwe	F	Com. Group member	Kashaita
Chola Memoy	F	Com. Group member	Kashaita
Chola Lilian	F	Com. Group member	Kashaita
Getude Chanta	F	Com. Group member	Kashaita
Mable Mwansa	F	Com. Group member	Kashaita
Hitt Bwalya	F	Com. Group member	Kashaita

<b>List of FGD participants (Mozambique, Zambia and Kenya)</b>			
<b>Characteristics</b>			
<b>Name</b>	<b>Sex</b>	<b>Position</b>	<b>County / Sub-county</b>
Bwalya Chota	M	Com. Group member	Kashaita
Clubole Tarwell	M	Com. Group member	Kashaita
Katuaa Alfred	M	Com. Group member	Kashaita
Chewe Mercy	F	Com. Group member	Kashaita
Mutupa Maggie	F	Com. Group member	Kashaita
Chanda Lewis	M	Com. Group member	Kashaita
Bwalya Charles	M	Com. Group member	Kashaita
Chola Emelda	F	Com. Group member	Kashaita
Npurda Emanuel	M	Com. Group member	Kashaita
Chewe Obet	M	Com. Group member	Kashaita
Chola Daniel (Group 2)	M	Com. Group member	Chishala
Chande Felie	M	Com. Group member	Chishala
Mgulube Peter	M	Com. Group member	Chishala
Mwawe Watson	M	Com. Group member	Chishala
Sikanga Evans	M	Com. Group member	Chishala
Kobswe Richard	M	Com. Group member	Chishala
Mulenga Dolis	M	Com. Group member	Chishala
Katona Royd	M	Com. Group member	Chishala
Mutupe Prince	M	Com. Group member	Chishala
Mulenga Belite	F	Com. Group member	Chishala
Mulenga Mang	F	Com. Group member	Chishala
Judith Kaoma	F	Com. Group member	Mwatoshi
Memory Ndowneni	F	Com. Group member	Mwatoshi
Christine Mitale	F	Com. Group member	Mwatoshi
Mauren Chewe	F	Com. Group member	Mwatoshi
Joyce Mulenga	F	Com. Group member	Mwatoshi
Champang Patrice	M	Com. Group member	Mwatoshi
Mumbi Sebwe	M	Com. Group member	Mwatoshi
Dommi Samba	M	Com. Group member	Mwatoshi
Mathewos Muhwe	M	Com. Group member	Mwatoshi
<b>SAPP</b>			
Pharess Malambo (Group 1)	F	Vice Chairperson	Mazambuka
Mary Laiti	F	Member	Mazambuka
Josephine Mupende	F	Member	Mazambuka
Wellstone Hamalengwe	M	Member	Mazambuka
Lifasi Ireen	F	Member	Mazambuka
Loueness Muzouu	F	Member	Mazambuka
Telesa Katongo	F	Member	Mazambuka
Kiborn Choonga	M	Member	Mazambuka
Aick Mukumpa	M	Member	Mazambuka
Rosomary Mwanza	F	Secretary	Mazambuka
Rebbecc Chuuba	F	Member	Mazambuka
Fanwell Mwanza	M	Member	Mazambuka
Mainza Mauluka	M	Member	Mazambuka
Ruth Kaongo (Group 2)	F	Chairperson	South
Sara Shanangombe	F	Treasurer	South
Moses Mupende	M	Secretary	South
Clue Musole	M	Member	South
Charity Mukombwe	F	Trust member	South
Philimon Cheelo	M	Member	South
Margarety Mushabati	F	Member	South
Belita Mazulu	F	Member	South
Given Mweemba	M	Member	South
Matildah Musole	F	Member	South
Barbra Samboko	F	Member	South
Estella Mulwanda	F	Secretary	South

**Annex14: Photo during focus-group discussion (Mozambique)**



**Annex 15: Photo during household survey (Mozambique)**







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