PREPARATORY SURVEY FOR THE INITIATIVE FOR FOOD AND NUTRITION SECURITY IN AFRICA (IFNA):

HARNESSING MULTI-SECTORAL SYNERGIES FOR NUTRITION IMPROVEMENT

FINAL REPORT

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

GLOBAL LINK MANAGEMENT INC.

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Executive Summary

Introduction: Malnutrition exists in every country on the planet, affecting people's lives and causing significant economic loss of 11% of Gross Domestic Products (GDP) per year in Africa and Asia. Combatting malnutrition is increasingly recognized as one of the most cost-effective development strategies of the current world. Recognizing the need to accelerate multi-sectoral approaches to nutrition, the Japan International Cooperation Agency (JICA) played a lead role in formulating the Initiative for Food and Nutrition Security in Africa (IFNA), which was launched in August 2016 as a multi-partner,[1] continental initiative with the secretariat set up within the African Union (AU)/New Partnership for Africa's Development (NEPAD). JICA, on behalf of the IFNA Secretariat, commissioned the consultant team to conduct the Preparatory Survey to map out ongoing policy and programme efforts, identify critical gaps and potential areas for linkage, and make recommendations on how IFNA should proceed with the formulation of the country-level strategies, named the IFNA Country Strategy for Actions (ICSA). This report presents the findings of the country preparatory surveys conducted in the ten IFNA target countries[2], the key outcomes of the ICSA Consultative Workshop held in Senegal, in April 2018 as well as the recommendations for ICSA development.

In the midst of various global and regional initiatives being established, IFNA, with its five principles (people-centred, inclusive, synergistic, evidence-oriented, and sustainable), is designed to bring the following opportunities/added values: Re-engaging agriculture platforms for nutrition improvements; Re-orienting agriculture/food security to benefit the nutritionally vulnerable; Bridging for synergistic effects; Filling gaps at action level to yield collective results on the ground; and Providing a mutual learning platform.

Landscape of Multi-Sectoral Nutrition Actions: With focus on agriculture-nutrition linkages, there are key actors playing strategic roles, including, among others: norm-setting/ conceptualization (IFPRI, FAO, USAID-SPRING, etc.); taking actions on the ground (World Bank, IFAD, USAID, GIZ, GAIN, and more); research/evidence-generation (CGIAR, including IFPRI, Tufts University, etc.); and coordination/linkages (EU, UNICEF, etc.). IFNA could possibly maximize its potential by filling gaps and creating effective agriculture-nutrition linkages, further linked with the strengthening of local coordination and evidence-generation. IFNA should also seek strategic collaboration with financing organizations/networks, such as the Global Agriculture & Food Security Program (GAFSP) and the Children's Investment Fund Foundation (CIFF) as well as research networks, such as the Agriculture for Nutrition and Health (A4NH) by IFPRI/CGIAR.

[1] The partners include AU/NEPAD, World Bank, FAO, WFP, UNICEF, WHO, IFAD, African Development Bank, JICA and Japan International Research Center for Agricultural Sciences (JIRCAS). (https://www.jica.go.jp/activities/issues/nutrition/ku57pq00001p9zjx-att/IFNA_Declaration.pdf)

[2] The IFNA target countries are Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Senegal and Sudan. The preparatory survey was conducted in each of the ten countries between May and October 2017.

Alignment with regional and continental initiatives on agriculture, food security and nutrition, such as the Malabo Declaration and the New Alliance for Food Security and Nutrition, would also be key to developing a common vision towards better nutrition for all.

Preparatory Country Survey Results:

Nutrition and Food Security Status: Most of the IFNA target countries have demonstrated significant reduction in the child stunting prevalence over time with a few countries going below the WHO-defined 40% cut-off level for "very high prevalence" for the first time in the past five years. Disaggregation of child stunting by household wealth and maternal education clearly shows that the more disadvantaged the children's socio-economic conditions are, the more likely they experience stunted growth. Along the inter-generational cycle of malnutrition, the prevalence of underweight in female adolescents (15-19 years old) is much greater than the average of the reproductive aged women (15-49 years), indicating the nutritional vulnerability of this particular group, presumably exacerbated by early-age pregnancy compromising their own physical growth. With regard to childhood anemia, most of the IFNA target countries are still above the WHO-defined 40% cut-off level, having a very serious problem, with several countries either being stagnant or going up and down. In terms of disparities in women's anemia by socio-economic status, even the best-off group tends to have very high prevalence. The Infant and Young Child Feeding (IYCF) practice indicators show that the proportions of children meeting the "minimum acceptable diet" standard (i.e. meeting both the minimum meal frequency and minimum dietary diversity criteria) go even below 10% in half of the IFNA target countries. Most of the IFNA target countries have improved the Global Hunger Index scores over the past two decades, although in terms of the Global Food Security Index, which could be disaggregated to different dimensions of food security, the affordability dimension is still a great concern even in a few countries that have improved the overall situation.

Causes of Malnutrition: With regard to the causes of malnutrition, the Global Nutrition Report (GNR) 2016 assessed the country situations based on a set of indicators reflecting major underlying drivers associated with stunting and found that all IFNA target countries have vulnerability in almost all six areas (except for Ghana with one indicator above the threshold), underscoring the need to address these underlying determinants beyond the health sector. In recent years, some countries/partners have begun making more efforts to carry out causal analysis on child undernutrition using statistical methods. Such rigorous causal analyses could provide deeper insights and contributions to project/program designing and policy direction on multi-sectoral nutrition.

Policy Framework and Coordination: Most of the IFNA target countries already have a national nutrition policy/strategy in place that is explicitly designed to address multi-sectorality of

nutrition, although three had a policy/strategy alone without a consolidated multi-sectoral action plan at the time of the survey. One of the common issues found was that even with the multi-sectoral nutrition polices/strategies and/or action plans, roles and responsibilities of each relevant sector/actor were still not clearly defined. Out of eight countries with a national-level multi-sectoral coordination body, five are placed under the President's or Prime Minister's Office. At the sub-national level, while the majority of the countries established or are establishing a structure, the functionality and capacity of those structures tend to be weak or unknown. At the community level, there are cases where the implementation of nutrition programmes is coordinated by a sub-/national coordination body or a village/community council. In other cases, frontline workers coordinate/ collaborate with each other without proper institutionalization.

Preparatory Survey Country Workshop: The country-level stakeholder workshop was a learning-by-doing exercise, providing a number of important lessons. For example, the original objectives of the workshop were to agree on the critical gaps and list up potential packages of actions under IFNA, but it was decided to spend more time on bottleneck analysis because it was a great opportunity to prompt an active dialogue and create a common understanding of the agriculture-nutrition linkage pathways among the participants from different sectors.

The key results and lessons learned from the workshops are summarized below:

- Multi-sectoral coordination, especially at the local level, came out as an urgent issue.
- Participants appreciated the opportunity where actors from different sectors jointly analyzed bottlenecks and possible solutions in the entire agriculture-nutrition pathways.
- In one country, anemia prevention was considered too medical by non-health sectors, implying a lack of understanding that each sector has a role to play in nutrition.
- Use of a case story (of a typical rural farming family under food insecurity and nutritional vulnerability) helped each sector to recognize nutrition problems of their own target population.
- More area-/context-specific bottleneck analyses and intervention listing, supported by data and peer review process, are needed.

The ICSA Consultative Workshop in Senegal 2018: The consultative workshop held in Dakar in April 2018 yielded the following outcomes:

- Reaffirmed the need to mobilize a high-level political will/commitment to putting nutrition as a center of the national development agenda in each country.
- Reminded that the existence of inter-ministerial committees does not automatically solve the issues with regards to multi-sectorality in nutrition.
- Prompted active sharing of and dialogues on good practices, resulting in a strong desire to create IFNA Community of Practice.

- Helped create a common ground between the governments and donors/partners by putting country representatives as the main interlocutor throughout the workshop.

Overall Preparatory Survey Findings: The overall findings from the Preparatory Survey were synthesized in the table below. They are not meant to be the activities that IFNA has committed to support, but rather a summary of relevant findings/lessons that may be worth being considered by any actors engaged in multi-sectoral nutrition actions, especially in the effort to effectively link agriculture-based strategies to nutrition outcomes.

Key Findings	Recommended Approaches
Importance of context-specific analyses and action designing	▪ Analyzing by agro-ecological zone and farming typology ▪ Taking into consideration of seasonality
Need to set appropriate nutrition objectives and developing tools for effective actions	▪ Setting appropriate and specific nutrition objectives and indicators ▪ Re-defining "diversification" and "nutritious foods" for concrete nutrition outcomes ▪ Addressing gender and behavioral change aspects as foundation for all nutrition improvement efforts ▪ Using simple analytical tool for context-specific gap/bottleneck analysis ▪ Converting gap-bottleneck tree to intervention (solution) tree ▪ Identifying linkages at project, activity and modality levels
Realization of policy and strategic objectives into local actions	▪ Translating policy/strategy into concrete action plans ▪ Strengthening local coordination for effective action
Overcoming structural challenges in agriculture-based multi-sectoral nutrition programming	▪ Advocating for strong political commitment and leadership to sustain multi-sectoral approach to nutrition ▪ Addressing data gaps for context-specific analysis and planning ▪ Generating evidence and assessing feasibility/scalability through operational research ▪ Filling in inter-sectoral communication gaps

Way Forward for IFNA: IFNA is not a project/programme, but a continental initiative to establish a framework of collaboration with African governments for accelerating and scaling up multi-sectoral nutrition actions with a special focus on the optimal utilization of agricultural platforms. It aims to play a catalytic role in translating the existing national policy/strategy into effective actions on the ground. IFNA further supports mutual learning across the target countries and eventually with other countries in Africa.

In light of the key survey findings and IFNA's aim to play a catalytic role, the following is the recommended strategic direction for IFNA:

Recommended Strategic Direction for IFNA

Translating Policies into Actions by Directly Addressing Implementation and Coordination Needs at the Sub-National Level

According to the IFNA Secretariat, IFNA's catalytic process will be guided by the IFNA Country Strategy for Actions (ICSA) to be developed by each government through consultative process with stakeholders. Based on the understanding of what IFNA will support and how ICSA plans to guide the IFNA process (proposed steps are listed below in bold letters), the survey team synthesized the following recommended actions.

- **Setting Priority Nutrition Issues and Geographical Targets:**
  - Set the primary criteria for targeting based on the severity of the nutrition problem.
  - Assure the objectivity of geographical targeting with available nutrition outcome data.
  - Assess disaggregated data by sex, age and other variables for specific considerations.
  - Consider application of the secondary criteria (e.g. population size, ongoing programmes) for scaling up of nutrition-sensitive agriculture and other interventions.
  - Keep in mind IFNA's phased approach, starting from the creation of realistic linkage models in selected geographical areas with plans for later expansion/scale-up.
- **Gap/Bottleneck Analysis and Listing of Potential Interventions:**
  - Select potential commodity groups to tackle the priority problem.
  - Use the agriculture-nutrition linkage pathways for gap analysis by looking at agricultural production, food consumption and nutrient intake as a continuum.
  - Develop problem trees to identify more specific bottlenecks behind the gaps.
  - Convert the problem trees into solution trees to come up with specific actions and visualize each sector's responsibilities as well as potential areas for synergy.
- **Stakeholder/Resource Mapping and Matching:**
  - Facilitate mapping exercise to find gaps and missing links in the agriculture-nutrition pathways.
  - Promote dialogue to create practical linkages and align resources for better outcomes.
- **Action Designing through Agriculture-Nutrition Pathways:**
  - Adopt the agriculture-nutrition linkage pathways into local contexts as an action designing tool.
- **Monitoring & Evaluation and Mutual Learning:**
  - Strengthen the M&E system to feed back into local governance by measuring progress against the minimum set of indicators reflecting key bottlenecks in the agriculture-nutrition linkage pathways and by supporting capacity building on data collection/analysis/feedback processes.
  - Facilitate mutual learning at different levels through dissemination of M&E findings/results and lessons learned at different levels.
  - Explore possible contribution to evidence generation activities to fill the most critical information/evidence gaps.

Map of Africa

Source: United Nations, November 2011 (http://www.un.org/Depts/Cartographic/map/profile/africa.pdf - last accessed on June 2018).

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Final boundary between the Republic of the Sudan and the Republic of South Sudan has not yet been determined.

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Abbreviations

A4NH	Agriculture for Nutrition and Health
ADB	Asian Development Bank
AfDB	African Development Bank
AIM	Amsterdam Initiative Against Malnutrition
AU	African Union
AUC	African Union Commission
BMGF	Bill & Melinda Gates Foundation
BMI	Body Mass Index
CAADP	Comprehensive African Agriculture Development Programme
CGIAR	Consultative Group on International Agricultural Research
CIFF	Children's Investment Fund Foundation
CIMMYT	International Maize and Wheat Development Center
CIP	International Potato Center
CLM	Cell Against Malnutrition (Senegal)
CNCN	National Council for Nutrition Coordination (Burkina Faso)
CNN	National Nutrition Council (Madagascar)
CNSA	National Council of Food Security (Burkina Faso)
DfID	UK Department for International Development
DHS	Demographic and Health Survey
DNHA	Department of Nutrition and HIV/AIDS (Malawi)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FNSMSP	Food and Nutrition Security Multi-Sector Platform (Kenya)
FSTS	Food Security Technical Secretariat (Sudan)
GAIN	Global Alliance for Improved Nutrition
GFF	Global Financing Facility in Support of Every Woman Every Child
GFSI	Global Food Security Index
GHI	Global Hunger Index
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German agency for international development)
GNR	Global Nutrition Report
HKI	Helen Keller International
ICSA	IFNA Country Strategy for Actions
IFAD	International Fund for Agricultural Development
IFNA	Initiative for Food and Nutrition Security in Africa
IFPRI	International Food Policy Research Institute
IMMANA	Innovative Methods and Metrics for Agriculture and Nutrition Actions
IYCF	Infant and Young Child Feeding
JICA	Japan International Cooperation Agency
JIRCAS	Japan International Research Center for Agricultural Sciences
LCIRAH	Leverhulme Centre for Integrative Research on Agriculture and Health
MDG	Millennium Development Goal
MAD	Minimum Acceptable Diet
MDD	Minimum Dietary Diversity

MMF	Minimum Meal Frequency
MoA	Ministry of Agriculture
MoH	Ministry of Health
NCFN	National Committee on Food and Nutrition (Nigeria)
NCN	National Council on Nutrition (Nigeria)
NDPC	National Development Planning Committee (Ghana)
NEPAD	New Partnership for Africa's Development
NFNSC	National Food and Nutrition Security Council (Kenya)
NFNSP-IF	National Food and Nutrition Security Policy Implementation Framework (Kenya)
NGO	Non-Governmental Organization
NICC	National Interagency Coordinating Committee (Kenya)
NNCB	National Nutrition Coordination Body (Ethiopia)
NNP	National Nutrition Policy (Burkina Faso); National Nutrition Programme (Ethiopia)
ONN	National Office of Nutrition (Madagascar)
ORN	Regional Office of Nutrition (Madagascar)
PAMRDC	Multisectoral Action Plan for the Reduction of Chronic Undernutrition (Mozambique)
RCCN	Regional Consultation Council on Nutrition (Burkina Faso)
SBCC	Social and Behavior Change Communication
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goal
SETSAN	Technical Secretariat for Food and Nutrition Security (Mozambique)
SPRING	Strengthening Partnerships, Results, and Innovations in Nutrition Globally
SUN	Scaling-Up Nutrition
UK	The United Kingdom
UNICEF	United Nations Children's Fund
UNOPS	United Nations Office for Project Service
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WB	World Bank
WFP	United Nations World Food Programme
WHA	World Health Assembly
WHO	World Health Organization

1. Introduction

1.1 Background

Malnutrition exists in every country on the planet, affecting people's lives and causing significant economic loss of 11% of Gross Domestic Products (GDP) per year in Africa and Asia[3]. Poverty and undernutrition in particular creates a vicious cycle of increased mortality, poor health, compromized cognitive development, slow physical growth, diminished learning capacity, inferior performance, and ultimately lower work performance, productivity and earnings as adults. Undernutrition is disproportionately a heavy burden in Africa and Asia[4] where 59 million and 84 million children under five years old are stunted, respectively, out of 151 million in the world[5].

Combatting malnutrition is increasingly recognized as one of the most cost-effective development strategies of the current world[6]. For the past decade, there have been multiple international and national efforts towards ending malnutrition, in which one of the most highlighted issues is the need to accelerate multi-sectoral approaches to nutrition because of the multi-dimensional nature of malnutrition problems. In other words, the world has recognized the need for combating malnutrition from across different sectors, including agriculture, health, education, water, sanitation and hygiene (WASH) and social protection.

In line with the international and national movements towards nutrition improvement, the Japan International Cooperation Agency (JICA) has recognized a great need for stepping up its contributions to nutrition issues in the world. Under this philosophy, JICA played a lead role in formulating the Initiative for Food and Nutrition Security in Africa (IFNA) in collaboration with the New Partnership for Africa's Development (NEPAD). IFNA was launched in August 2016 as a multi-partner,[7] continental initiative with the secretariat set up within the African Union (AU)/ NEPAD.

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3 IFPRI. 2016. GNR 2016.
4 Regions defined by UN.
5 UNICEF, World Bank, WHO. Joint Malnutrition Estimates (http://www.who.int/nutgrowthdb/2018-jme-brochure.pdf?ua=1).
6 http://www.copenhagenconsensus.com/publication/third-copenhagen-consensus-hunger-and-malnutrition-assessment-hoddinott-rosegrant-torero
7 The partners include AU/NEPAD, World Bank, FAO, WFP, UNICEF, WHO, IFAD, African Development Bank, JICA and Japan International Research Center for Agricultural Sciences (JIRCAS). (https://www.jica.go.jp/activities/issues/nutrition/ku57pq00001p9zjx-att/IFNA_Declaration.pdf)

1.2 IFNA Principles

IFNA is a continental initiative with an objective to "establish a framework for collaboration with African governments in order to accelerate the implementation of their food and nutrition security policies on the ground with a view to contributing to a comprehensive improvement in the nutritional status of the African continent, in line with the second Sustainable Development Goal (SDG) and the Malabo Declaration."[8]

IFNA sets out the following five principles as also shown in Figure 1: (1) people-centred; (2) inclusive; (3) synergistic; (4) evidence-oriented; and (5) sustainable.

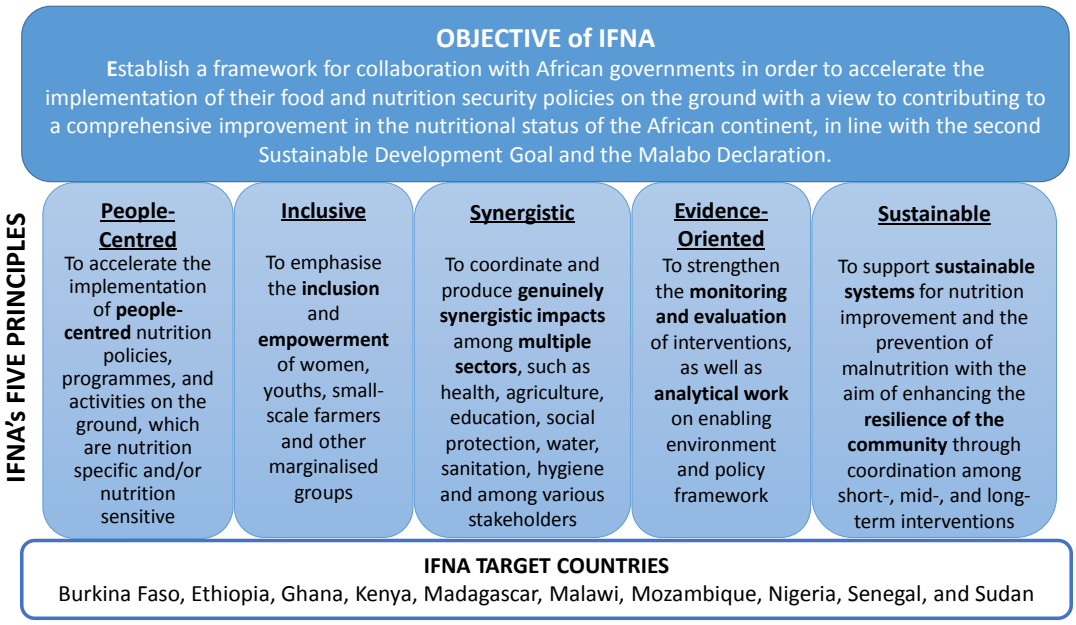


Figure 1: Outline of IFNA

1.3 Why IFNA?

While IFNA's official objectives and principles are explained above, it is also important for stakeholders to understand why IFNA was formed and what added values/opportunities IFNA could bring in. The following is the list of key added values/opportunities that the survey team thought IFNA could provide (please note that this is not an officially recognized list).

[8] Draft Management and Operational Guidelines of Initiative for Food and Nutrition Security in Africa (IFNA), provided by JICA in April 2017.

Re-Engaging Agricultural Platforms for Nutrition Improvements

The multi-sectoral nutrition approach has regained a high momentum partly based on the international discourse that nutrition-specific interventions (such as breastfeeding promotion, vitamin A supplementation, etc.) alone would not solve all nutrition problems even though they are proven to have high impacts. In this regard, agriculture/food-based approaches obviously have strong linkages with and a great potential to contribute to nutrition improvement. Therefore, **IFNA aims to engage agricultural platforms more effectively in nutrition programming.**

Re-Orienting Agriculture/Food Security to Benefit the Nutritionally Vulnerable

IFNA's principles stemmed from the recognition that economic development/production-oriented agriculture and food security interventions normally aim at improving people's/farmers' income. However, it does not necessarily trickle down to influence the well-being of the most vulnerable people, especially in consideration of their health and nutritional status. **IFNA promotes re-orientation of agricultural/food security interventions to improve the well-being of the nutritionally vulnerable population groups**.

Bridging for Synergistic Effects – One Step Beyond Multi-Sectoral Coordination

The "multi-sectoral approach" is easier to be said than done. Nonetheless, there already is established knowledge that the nutritional status of people improves when not only one but multiple causes of nutrition are addressed. Therefore, **IFNA places a special emphasis on pursuing genuinely synergistic effects** through bridging different sectoral efforts on the ground – supporting countries to take one step beyond mobilization of multiple sectors.

Filling Gaps at the Action Level to Yield Collective Results on the Ground

A number of countries have already developed multi-sectoral nutrition policies/ strategies/plans. To operationalize such frameworks, coordination bodies have been established at the national level while sub-national level coordination mechanisms are yet to be established or sufficiently functional. Therefore, in many countries, actions on the ground may not be effectively linked with or supported by such policy frameworks and coordination mechanisms. **IFNA aspires to facilitate the process to fill the gaps at the action level with an aim to yield collective results on the ground.**

Providing a Mutual Learning Platform

Food and nutrition security is not new in the development arena, but the need for more effective multi-sectoral nutrition programming and the generation of more

concrete evidence base has only regained a global attention in recent years. Therefore, **IFNA, as a multi-partner, continental initiative, could play a role in providing a mutual learning platform among African countries**, with a particular focus on agriculture-based nutrition interventions.

1.4 Purpose and Scope of the IFNA Preparatory Survey

As a contribution towards the development of country-specific strategic actions under the IFNA framework, JICA, on behalf of the IFNA Secretariat, has commissioned the consultant team to conduct the Preparatory Survey that covers the ten IFNA target countries to map out ongoing policy and programme efforts, identify critical gaps and potential areas for linkages/convergence, and draw up future directions with a particular focus on how to leverage multi-sectoral synergies that could accelerate the impact on the nutritional status of the people in need. The consultant team was also expected to make recommendations on how IFNA should proceed with the formulation of the country-level strategies, named the IFNA Country Strategy for Actions (ICSA). This report presents the findings of the country preparatory surveys conducted in the ten IFNA target countries, the key outcomes of the ICSA Consultative Workshop held in Senegal, in April 2018, as well as the recommendations for the ICSA development process. IFNA as well as the Preparatory Survey are by no means intended to reinvent the wheels, but rather are building upon the ongoing efforts in each country, learning from the lessons and experiences, and further promoting dialogues to harness multi-sectoral synergies for nutrition.

1.4.1 Survey Scope and Design

To fulfill the purpose mentioned above across the ten countries in a limited timeframe, the survey scope was defined as follows:

Table 1: Scope and Design of IFNA Preparatory Survey in Ten IFNA Target Countries

Primary Purpose of the Preparatory Survey
To understand the current situation and approaches on food security and nutrition-related issues in the target countries and, taking the country-specific contexts into account, propose strategic directions under the IFNA framework with a special emphasis on harnessing genuinely synergistic effects of multi-sectoral approaches to improve the nutritional status of the people.
Specific Aims of the Preparatory Survey
DO NOT DUPLICATE: Contribute to building effective partnerships with national and international stakeholders through dialogues, while avoiding duplications with their existing efforts and activities **BUILD ON**: Optimize the outcomes and lessons learned from preceding and ongoing programmes, especially existing experiences related to multi-sectoral cooperation among agriculture, health, education, social protection and WASH sectors, and apply the knowledge in the country-specific contexts **CONTRIBUTE TO STRATEGIC DIALOGUE**: Build a broad information base and propose a potential list of strategic actions to further draw up country-specific strategies in the future
Preparatory Country Survey Outputs
▪ List of potentially effective packages of actions/linkages in each country ▪ List of critical gaps and key next steps to make multi-sectoral nutrition programming more effective and synergistic
Preparatory Country Survey Process
▪ Desk review of existing nutrition-related reports, policies, strategies, journal publications, etc. ▪ Stakeholder interviews ▪ A stakeholder workshop to jointly review gaps/bottlenecks and identify a potential list of actions in creating synergistic effects in linking agricultural inputs and nutrition outcomes ▪ Feedback and reflection with key government officials ▪ Report writing

1.4.2 Analytical Frameworks

Overall Assessment Framework:

To produce these outputs through a desk review and stakeholder dialogues, an assessment framework was constructed (Figure 2) by adopting and building onto the Nutrition Conceptual Framework (Figure 3). To maximize the depth of stakeholder dialogues and produce clear strategic directions in a limited time, the survey focused on stunting and/or anemia as the primary nutrition outcomes because they are the globally monitored/prioritized indicators and

the areas that require further acceleration of multi-sectoral cooperation in many of the IFNA target countries.

The assessment process was designed in a way that it starts with the review of relevant multi-sectoral nutrition policies/strategies, programmes and coordination frameworks, followed by the assessment of gaps/bottlenecks that lie in the agriculture-nutrition pathways and finally the assessment/identification of possible linkage points to make multi-sectoral nutrition programming more effective and synergistic.

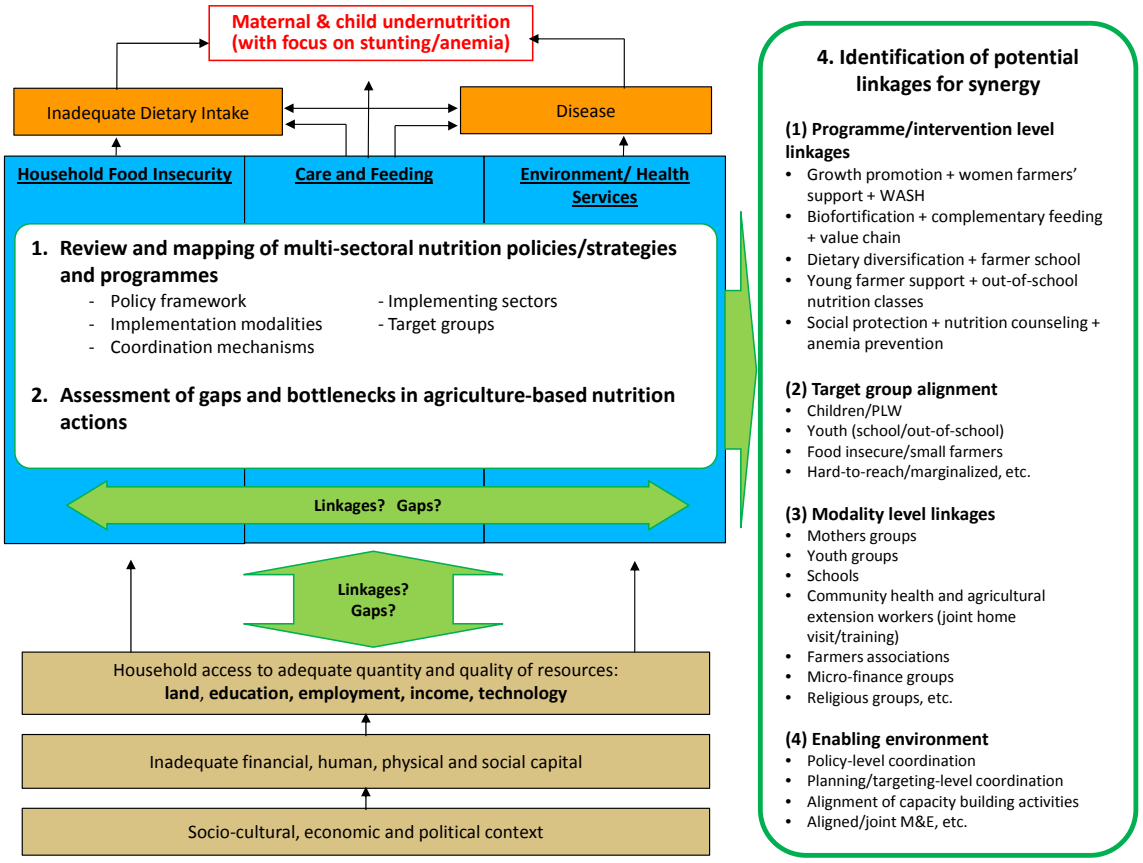


Figure 2: Overall Assessment Framework

Analytical Frameworks:

I. Nutrition Conceptual Framework:

To understand the complex and multi-sectoral nature of malnutrition, the international community commonly refers to the Nutrition Conceptual Framework (Figure 3) [9], which illustrates what causes malnutrition problems at different levels and dimensions, and how they inter-relate to each other. Some of the major factors identified represent "immediate

[9] UNICEF. 2015. UNICEF's approach to scaling up nutrition for mothers and their children. Discussion paper.

causes" (inadequate dietary intake and diseases), while others can be categorized as "underlying causes" (household food insecurity, inadequate care and feeding practices, and poor access to health services and environmental hygiene/sanitation) and "basic causes."

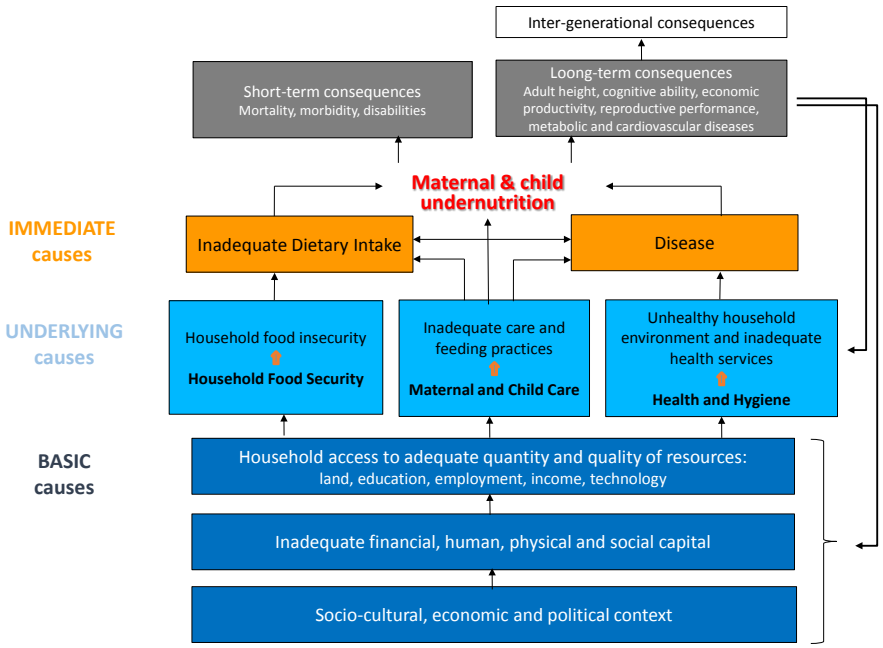


Figure 3: Nutrition Conceptual Framework

II. Revisiting Nutrition-Sensitive Agriculture and Food-Based Approaches in the Nutrition Conceptual Framework

In recent years, a great attention has been drawn among the aid community to understand how to tackle "household food insecurity" for improved nutrition; in other words, how to make "nutrition-sensitive agriculture" more effective. Various international expert groups developed analytical frameworks.[10] Although these frameworks tend to be complex, reflecting the complex nature of the agriculture-nutrition linkages, the survey team tried to simplify the structure with a focus on **"production diversification,"** linking to **"consumption diversification"** in order to achieve the intended **"nutrition outcomes."**

First of all, the team has referred to the Nutrition Conceptual Framework to highlight where the nutrition-sensitive agriculture/food-based approaches are placed, as presented

[10] For example, the nutrition-sensitive agriculture pathways developed by the International Food Policy Research Institute (IFPRI) and the United States Agency for International Development's (USAID) Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) involve multiple dimensions of potential support promoting "nutrition-sensitive agriculture."

in Figure 4. To further develop a basic understanding of how different types of nutrition-sensitive agriculture/food-based approaches affect nutrition outcomes, the key actions are presented under the underlying causes by grouping them into the four dimensions of food security, namely "availability", "accessibility", "utilization" and "stability."

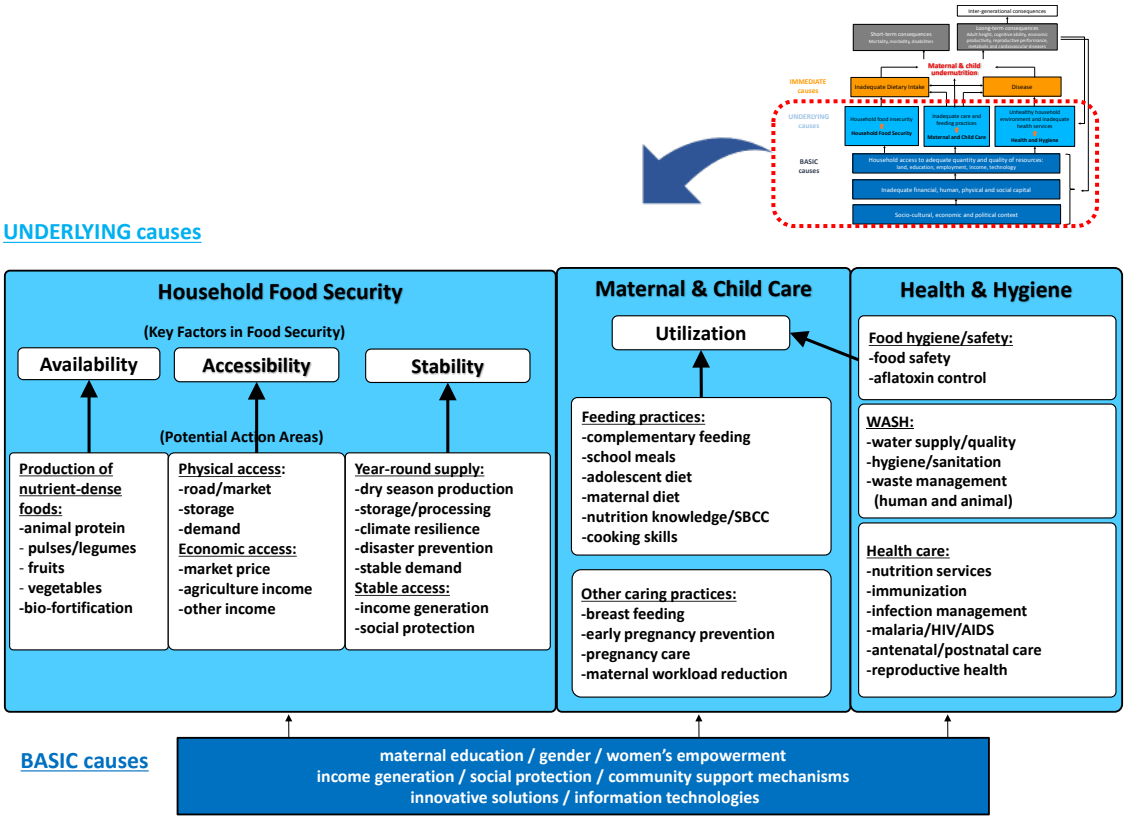


Figure 4: Nutrition-Sensitive Agriculture and Food-Based Approaches in the Nutrition Conceptual Framework

Based on this illustration, the Agriculture-Nutrition Linkage Pathways chart was developed with an intention of clarifying the sequence of factors to link agricultural inputs (the left-hand side) to nutrition outcomes (the right-hand side) – in other words, conditions to be met in order to move from **"diversification of production"** to **"diversification of consumption** (at household and individual levels)," and then to **"nutrition outcomes"** (Figure 5). To distinguish different sets of demand and supply conditions, two pathways were considered, namely the **"self-consumption pathway"** and the **"market/income pathway.**" Table 2 describes the conditions that need to be met for the pathways to ultimately contribute to nutrition improvement. Since the pathway chart helps identify key problems/issues that lie in the agriculture-nutrition linkage, it was also used in the causal analysis chapter of each target

country's preparatory survey report as well as in the gap/bottleneck analysis session of the preparatory survey country stakeholder workshop conducted in each country.

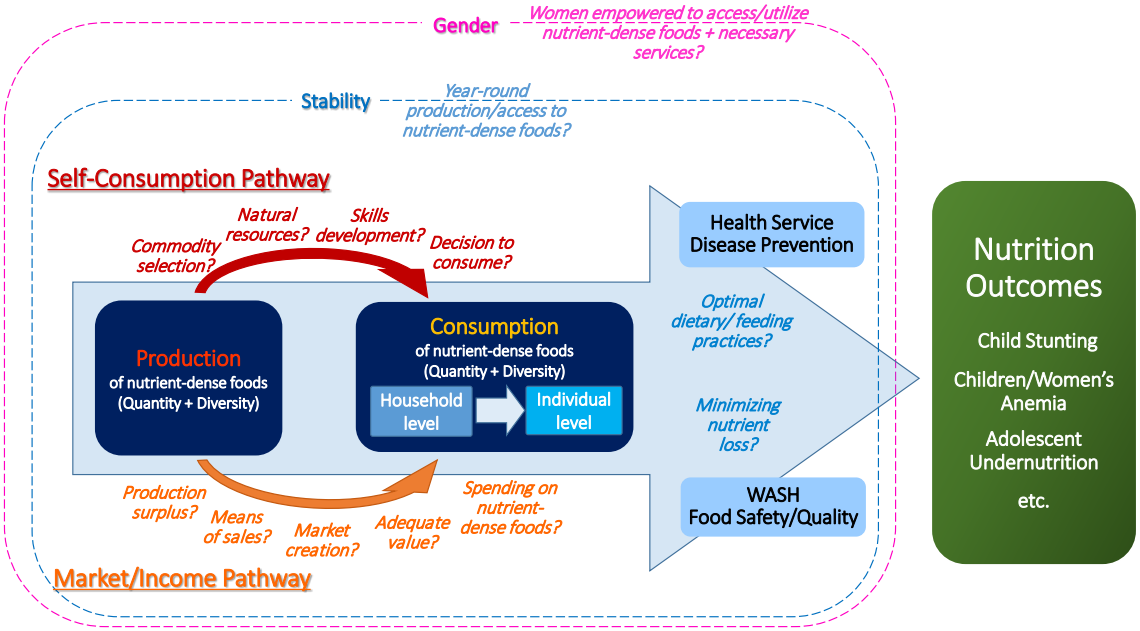


Figure 5: Agriculture-Nutrition Linkage Pathways to Nutrition Improvement

Table 2: Conditions for Self-Consumption and Market/Income Pathways

Self-Consumption Pathway	Market/Income Pathway		
Diversification of PRODUCTION		STABILITY Year-round production of and access to nutrient-dense foods: "If" appropriate measures are developed/taken to address seasonal volatility and climate change and to ensure access to nutrient-dense foods all year round (especially in hunger season)	GENDER Women empowered to access/utilize nutrient-dense foods & necessary services: "If" women are empowered and appropriately supported (with care and labor/time saving methodologies /skills) to access nutrient-dense foods and necessary services (e.g. health, WASH)
• **Commodity selection**: "If" nutritionally and culturally appropriate crops are selected and produced successfully • **Natural resources/skills development**: "If" women are supported with skills development and access to natural resources to sustainably grow nutrient-dense foods in home gardens • **Decision to consume nutrient-dense foods**: "If" home-grown crops are consumed by family members (instead of feeding animals etc.)	• **Production surplus**: "If" enough amounts of nutrient-dense foods are produced to consume at home and bring to market • **Means of sales**: "If" the produce physically reaches market • **Market creation**: "If" demand for nutrient-dense foods are created • **Market price**: "If" appropriate price is paid for the nutrient-dense foods to generate income and keep farmers' motivation • **Adequate value**: "If" proper processing is done to add value, at least to an extent enough income can be gained • **Expenditure on nutrient-dense foods**: "If" the generated income is spent on sufficient amounts of nutrient-dense foods		
Diversification of CONSUMPTION – Household Level			
Household dietary consumption/diversity: "If" households are consuming adequate amount and quality/diversity of foods			
Diversification of CONSUMPTION – Individual Level			
• **Individual dietary intakes/diversity (intra-household distribution)**: "If" households are consuming adequate amount and quality/diversity of foods food distribution within household			
• **Optimal dietary/feeding practices**: If" optimal dietary intakes are ensured (including adequate frequency/density, proper cooking, avoidance of harmful practices, e.g. taboos, etc.), reflecting the nutrient needs of each household member, especially children, pregnant/lactating and adolescent women • **Minimum nutrient loss**: "If" the nutrients taken from the diversified diet are NOT lost from the body (mainly due to infections, including intestinal worms, problems with food safety/hygiene, tea/tobacco consumption, etc.)			
Nutritional Improvement			

2. Global Landscape of Multi-Sectoral Nutrition Actions

2.1 Historical Context of Multi-Sectoral Nutrition Actions

2.1.1 Historical Development

Is nutrition a health issue or a food security issue? The answer is both. Causes of malnutrition are multi-faceted, and thus nutrition interventions lie across different sectors, not only health, but also education, water/sanitation, agriculture and social protection, among others. This was precisely illustrated in the Nutrition Conceptual Framework (Figure 3) developed by the United Nations Children's Fund (UNICEF) originally in 1990 and has since been widely used and further elaborated as a common framework[11]. Until recently, however, nutrition interventions have mainly been implemented within the health sector, while people do not perceive most of the nutrition problems as an "illness." Although UNICEF called for an urgent attention to nutrition problems as a "silent emergency" in 1998[12], nutrition interventions were often less prioritized among the health services. On the other hand, the Millennium Development Goals (MDGs), which guided development agendas until 2015, included nutrition as one of the indicators of the "hunger" target (which is one of the three targets) of Goal 1: Eradicate extreme poverty and hunger. Such ambivalent positioning of nutrition within the development arena might have contributed to the situation where nutrition became one of the areas left behind in achieving the MDG targets.

In order to mobilize more consolidated efforts, a series of landmark reports were published between 2005 and 2015 that analytically clarified what needs to be done and how much needs to be invested to make substantial progress on nutrition. The World Bank published "Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action" in 2006, followed by "Scaling Up Nutrition: What Will It Cost" in 2010. Both reports pointed out that nutrition improvement could be a driving force for faster economic growth with high benefit-cost ratios.[13] In the meantime, the first Lancet series on maternal and child undernutrition published in 2008 examined what specifically needs to be done to reduce the prevalence of stunting as a major undernutrition indicator. The list of the interventions that showed high impact on child stunting included promotion of breastfeeding, adequate complementary feeding and vitamin A supplementation. It was further refined and defined as proven high-impact nutrition interventions in the second Lancet Nutrition Series of 2013, which constituted a core set of "nutrition-specific" interventions. The 2013 Lancet Series also highlighted the importance of investment into other interventions, grouped as "nutrition-sensitive" interventions, which include "nutrition-sensitive

[11] UNICEF. 2015. UNICEF's approach to scaling up nutrition for mothers and their children. Discussion paper.
[12] UNICEF. 1998. The State of the World's Children 1998.
[13] World Bank. 2006. Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action.

agriculture" as described in the following sections.

2.1.2 Definitions of Key Nutrition-Related Terms Relevant for IFNA

Nutrition-Specific and Nutrition-Sensitive Interventions

Nutrition-specific and nutrition-sensitive interventions are each defined as follows[14]:

Nutrition-Specific Interventions:

Interventions or programmes that address the immediate determinants of fetal and child nutrition and development—adequate food and nutrient intake, feeding, caregiving and parenting practices, and low burden of infectious diseases.

Examples of Nutrition-Specific Interventions

- Adolescent/preconception/maternal health & nutrition
- Maternal dietary or micronutrient supplementation
- Promotion of optimum breastfeeding
- Complementary feeding and responsive feeding practices and stimulation
- Dietary supplementation
- Diversification and micronutrient supplementation or fortification for children
- Treatment of severe acute malnutrition
- Disease prevention and management
- Nutrition in emergencies

Nutrition-Sensitive Interventions:

Interventions or programmes that address the underlying determinants of fetal and child nutrition and development—food security; adequate caregiving resources at the maternal, household and community levels; and access to health services and a safe and hygienic environment—and incorporate specific nutrition goals and actions. Nutrition-sensitive programmes can serve as delivery platforms for nutrition-specific interventions, potentially increasing their scale, coverage, and effectiveness.

Examples of Nutrition-Sensitive Interventions

- Agriculture and food security
- Social safety nets
- Early child development
- Maternal mental health
- Women's empowerment
- Child protection
- Schooling
- Water, sanitation, and hygiene
- Health and family planning services

Nutrition-Sensitive Agriculture

"Nutrition-sensitive agriculture" is a relatively new terminology that has been explained in slightly different ways by different stakeholders (Table 3) partly because its impact pathways (i.e. how agricultural interventions could make impacts on nutrition) are complex and the empirical evidence is scant.[15]

[14] Ruel, et al. Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *Lancet* 2013; 382: 536–51.

[15] Ruel, et al. Nutrition-Sensitive Agriculture: What Have We Learned and Where Do We Go from Here? IFPRI Discussion Paper. 2017.

Table 3: Major Definitions/Conceptualization of Nutrition-Sensitive Agriculture

IFPRI (Ruel and Alderman, 2013)	Identified **six pathways** through which agricultural interventions can impact nutrition: **1)** Food access from own-production; **2)** Income from the sales of commodities produced; **3)** Food prices from changes in supply and demand; **4)** Women's social status and empowerment through increased access to and control over resources; **5)** Women's time through participation in agriculture, which can be either positive or negative for their own nutrition and that of their children; and **6)** Women's health and nutrition through engagement in agriculture, which also can have either positive or negative impacts, depending on exposure to toxic agents and the balance between energy intake and expenditure.
USAID-SPRING	Identified three main pathways to create impact on people's nutritional status: **1)** **Food Production Pathway**, affecting the food available for household consumption as well the price of diverse food; **2)** **Agricultural Income Pathway** for expenditure on food and non-food items; and **3)** **Women's Empowerment**, which affects income, caring capacity and practices, and female energy expenditure.[16]
FAO	Nutrition-sensitive agriculture is defined as "a food-based approach to agricultural development that puts nutritionally rich foods, dietary diversity, and food fortification at the heart of overcoming malnutrition and micronutrient deficiencies."[17] FAO recommends three main implementation areas under nutrition-sensitive agriculture: **1)** Making food more available and accessible by **increasing agricultural production and income**, which in turn has a sizeable effect on reducing malnutrition; **2)** Making food more diverse and production more sustainable by **making a wider variety of crops available at the local level** in a sustainable manner; and **3)** **Making food itself more nutritious** through fortification, food processing, plant breeding and improved soil fertility.

Sources: Extracted from Ruel, et al. 2013; Herforth, et al. 2014; FAO's homepage.
Notes: IFPRI=International Food Policy Research Institute; USAID-SPRING=US Agency for International Development-Strengthening Partnerships, Results, and Innovations in Nutrition Globally; FAO=Food and Agriculture Organization of the UN.

In all cases, there is an important assumption that increasing food production and agricultural income for farmers would not automatically improve their diet and nutritional status. It requires availability/accessibility of nutritious and diverse foods in local markets, or in the case of limited accessibility to nutritious foods in markets, self-production may be recommended and supported. To make such products available and affordable in the markets, consumer demands need to be created. Moreover, empowerment of women, which is known to be effective in raising motivation and promoting behavior change toward better dietary practices and nutrition improvement, is central to the nutrition-sensitive agriculture pathways to function.

Furthermore, the need for a strong link between "availability/accessibility" of agricultural products to "utilization" is emphasized. In other words, while the "availability/accessibility" is normally a part of the agriculture sector, "utilization", defined as the way the body makes the

[16] Herforth, Anna, and Jody Harris. 2014. Understanding and Applying Primary Pathways and Principles. Brief #1. Improving Nutrition through Agriculture Technical Brief Series. USAID/SPRING Project.
[17] http://www.fao.org/3/a-as601e.pdf

most of various nutrients in the food[18], cannot be adequate without nutritious and safe diets, an adequate biological and social environment, and a proper health care to avoid diseases, all of which go beyond what the agriculture sector has traditionally addressed. IFNA will focus on the agriculture sector as a platform, at least at its initial stage, and ensure its contribution to nutrition improvement by promoting "agriculture-nutrition linkages" as actions beyond what agriculture alone would normally do. The terminology "agriculture-nutrition linkages" used in this report refers to agriculture-based actions that have strong linkages with necessary nutrition-specific and other interventions that are required to achieve desired nutrition outcomes.

2.2 Current Landscape of Multi-Sectoral Nutrition Actions

2.2.1 Global Movements on Multi-Sectoral Nutrition

For the past several decades, global strategic development in the area of nutrition were mainly led by organizations working in the health sector, such as the World Health Organizations (WHO) (as a norm-setting agency) and UNICEF (as an implementation lead) together with other bilateral agencies/research institutions. For the past decade, there have been multiple international and national efforts towards ending malnutrition, such as the multi-stakeholder Scaling Up Nutrition (SUN) Movement started in 2010, the Zero Hunger Challenge launched in 2012[19], the Nutrition for Growth Summits in London in 2013 and in Rio de Janeiro in 2016, and the Sustainable Development Goals (SDGs) unanimously adopted by UN member states in 2015. One of the highlighted issues in the global dialogues is the need to accelerate multi-sectoral approaches to nutrition; in other words, the world has recognized the need for combating malnutrition from across different sectors.

2.2.2 Strategic Roles Played by Key Actors in Agriculture-Nutrition Linkages

There are numerous development organizations, networks and initiatives that are working in the area of nutrition. Due to the multi-sectoral nature of nutrition and nutrition programming that has become more integrated in recent years, it would be a great challenge to classify these organizations/initiatives by sector or other criteria, such as the level of nutrition-sensitivity. Instead, this section tries to illustrate strategic roles having been played by some key stakeholders that came out of our desk review and stakeholder interviews (Figure 6). Specific strategies of these stakeholders are summarized in Appendix 4.

[18] FAO. 2008. Food Security Information for Action - Practical Guides: An Introduction to the Basic Concepts of Food Security (http://www.fao.org/docrep/013/al936e/al936e00.pdf).

[19] The Zero Hunger Challenge launched by the former United Nations Secretary-General Ban Ki-moon in 2012 reflects five elements from within the SDGs, which taken together, can end hunger, eliminate all forms of malnutrition, and build inclusive and sustainable food systems

Norm-Setting/Conceptualization: For example, the International Food Policy Research Institute (IFPRI), the Food and Agriculture Organization of the UN (FAO) and the United States Agency for International Development (USAID) have published a number of reports or guidance notes to clarify definitions, review existing evidence and conceptualize strategies at the global level. At the national level, FAO often takes a lead in developing policies/strategies on food security and nutrition-sensitive agriculture.

Taking Actions on the Ground: There are a number of organizations involved in the actual implementation in many different ways. Among them, bilateral agencies, such as USAID and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), appear to work in a highly integrated manner by crossing the border between the agriculture and health sectors within a project. On the other hand, multi-lateral institutions seem to require special efforts to bridge between the sectors. For example, FAO, the International Fund for Agricultural Development (IFAD), the UN World Food Programme (WFP) and the World Bank (agriculture projects) work from the agriculture/food security side, while there are UNICEF and the World Bank (health projects) working more from the health side. Their programmes are in some cases linked but often not. NGOs' operations tend to depend on their financial partners' strategy, but there are a few, such as the Helen Keller International (HKI), that have accumulated experiences in integrated nutrition programming on the ground.

Research/Evidence-Generation: In the area of research and evidence-generation, IFPRI under the Consultative Group on International Agricultural Research (CGIAR) has taken a lead in a number of countries, and other CGIAR agencies and programmes, such as the HarvestPlus, the International Potato Center (CIP) and the International Maize and Wheat Development Center (CIMMYT) have contributed to different research elements. There are more and more academic institutions, such as universities in donor countries (e.g. Tufts University in the United States, Wageningen University in the Netherlands, etc.) that work on research and development as well as programme evaluation in the area of nutrition-sensitive agriculture, sometimes in partnership with national universities.

Coordination/Critical Linkages: Multi-sectoral nutrition programming could further advance when coordination efforts are functional and critical linkages are created. In many countries, UNICEF, the European Union (EU) and the United Kingdom Department for International Development (DfID) have played a lead role in coordinating stakeholders working in the area of nutrition. UNICEF also has a unique role in creating effective linkages on the ground because it has been technically leading nutrition programme implementation with a strong focus on social and behavioral change

communication, which is an essential component of all nutrition-sensitive interventions.

Recognizing that there are already key stakeholders that have taken a leading role in different areas of specialties, IFNA, as a multi-partner, country-led initiative, could possibly maximize its potential by supporting agriculture-based nutrition actions on the ground, with emphasis on filling gaps and creating effective linkages between the agriculture and health/nutrition programmes. IFNA should not only focus on such action-oriented support at the implementation level, but also link it with the strengthening of coordination at sub-national levels – close to where actual actions are taking place. Furthermore, such support should be designed in a systematic way so that it could also contribute to evidence generation using implementation platforms and coordination mechanisms.

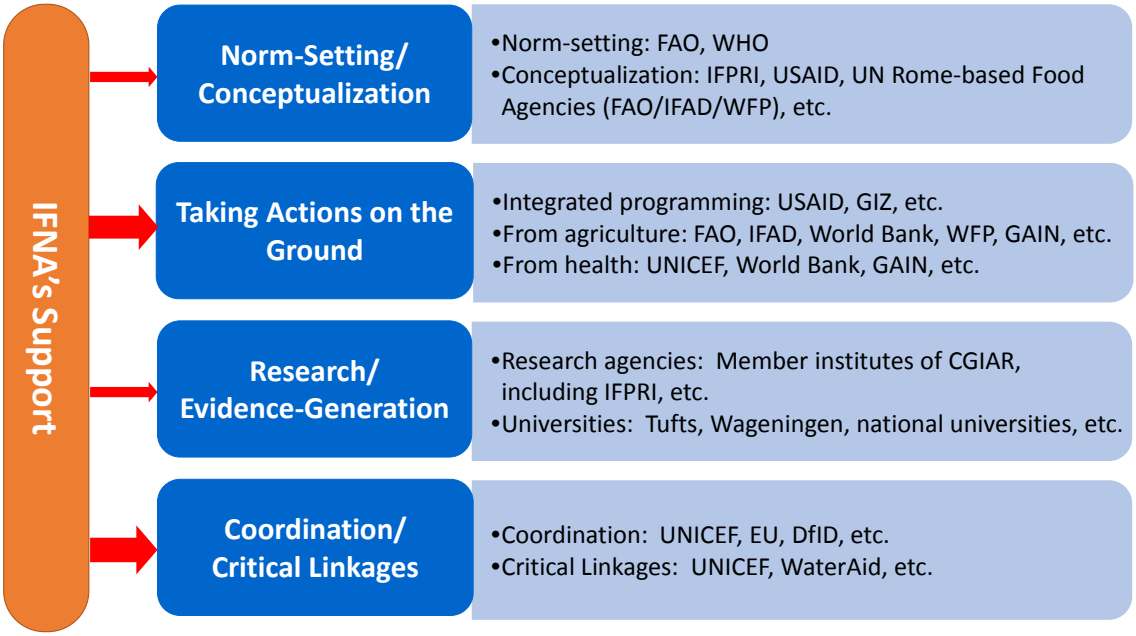


Figure 6: Strategic Roles Played by Key Nutrition Stakeholders

2.2.3 Financial Partners

One of the approaches that IFNA needs to consider and strategize is to collaborate with other international/regional funding networks and initiatives. Major funding networks and initiatives related to nutrition, among others, are shown below.

Table 4: Major Funding Networks/Initiatives on Nutrition

Initiative/ Organization	Main Funder/ Organizer	Main Focus/Features	Potential Collaboration Points with IFNA
Non-Research Oriented			
Amsterdam Initiative Against Malnutrition (AIM)	Fund: The Netherlands; AIM partners Management: GAIN.	▪ Matching fund between the Dutch Ministry of Foreign Affairs, supporting market-based approach/ innovative social business models/PPP, working at multiple levels of value chains. [https://www.gainhealth.org/knowledge-centre/project/amsterdam-initiative-against-malnutrition/]	▪ Focus is on value chains and market-based approach
Children's Investment Fund Foundation (CIFF)	An independent philanthropic organization based in UK.	▪ Aiming to improve children's lives. ▪ The priority areas of work are: Survive and Thrive (including nutrition), Child Protection and Climate Change. [https://ciff.org/]	▪ Stunting is one of the priorities for nutrition ▪ Currently Ethiopia, Kenya, Malawi and Nigeria receive funds for nutrition (Kenya works on nutrition solutions for smallholder farmer families).
Global Agriculture & Food Security Program (GAFSP)	WB, ADB, AfDB, IDB, IFAD, WFP, BMGF	▪ Implementing the G20 pledge in 2009 to improve/boost agriculture productivity. ▪ Financial intermediary fund, managed by WB as a Trustee, including both a public and private sector financing window. [http://www.gafspfund.org/content/about-gafsp]	▪ Majority of funding for nutrition (2/3) is on nutrition-sensitive agriculture ▪ Most of the IFNA target countries receive funds.
Global Financing Facility in Support of Every Woman Every Child (GFF)	WB, Canada, Japan, BMGF	▪ Aiming to improve health and quality of life of women and children through synergistic financing to support national priorities (established GFF Trust Fund to bring more resources from domestic governments and IDA/IBRD and align with external finances and private sector investments). ▪ Drawing on the other sectors that influence health/nutrition outcomes, such as education, WASH, and social protection. [https://www.globalfinancingfacility.org/introduction]	▪ Alignment with external financers is part of the GFF's strategy. ▪ Focus is on the health system/financing with flexibility in investing in multiple sectors. ▪ Recipient countries include Burkina Faso, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Nigeria
The Power of Nutrition	CIFF, UBS Optimus Foundation, DfID, UNICEF, WB	▪ Investing in basic nutrition supplements, education and services for children, using an innovative funding mechanism which multiplies new investor's contribution by four times through matching funds provided by The Power of Nutrition and implementing partners in the recipient country. ▪ The first recipient – Tanzania. [http://www.powerofnutrition.org/]	▪ It can multiply available contributions. ▪ Focus is more on nutrition-specific actions.

Initiative/ Organization	Main Funder/ Organizer	Main Focus/Features	Potential Collaboration Points with IFNA
SUN Movement Multi-Partner Trust Fund (MPTF)	Contributors: DfID, Irish Aid, SDC Participating organizations: UNOPS, WFP, WHO, UN REACH	▪ Supporting the initial SUN actions at country level and the mobilization of civil society towards the goals of the SUN Movement in addition to the global SUN strategic efforts. [http://scalingupnutrition.org/sun-supporters/sun-movement-multi-partner-trust-fund/]	▪ One of the biggest global nutrition networks. ▪ Country recipients include Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria and Senegal.
Research Oriented			
Agriculture, Nutrition & Health (ANH) Academy	BMGF/ DfID with LCIRAH, IMMANA, A4NH (IFPRI /CGIAR)	▪ A global research network in agriculture and food systems for improved nutrition/health as a platform for learning and sharing. ▪ Aiming to foster a community of researchers and users of research working at the intersection of agriculture, nutrition and health. ▪ Annual conference 2018 scheduled in June 2018 in Accra, Ghana [http://anh-academy.org/]	▪ Sharing/learning platform mainly targeting researchers.
CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)	Funded by: CGIAR Donors, Australia, Ireland, The Netherlands, Switzerland, UK and others. Managed by: IFPRI/CGIAR	▪ Aiming to develop better synergies between agriculture and nutrition/health to maximize the benefits and minimize the risks of agricultural actions on human nutrition and health by reshaping actions of agricultural researchers, value chain actors, program implementers and policymakers to better contribute to nutrition and health outcomes/impacts. ▪ The current Phase II (2017-2022) will continue research on biofortification, integrated agriculture-nutrition programs and policies, and food safety. [http://a4nh.cgiar.org/]	▪ Similarity to IFNA in pursuing synergies between agriculture and nutrition/health. ▪ Target countries (22 in 2017) include two IFNA countries – Ethiopia and Nigeria.
Feed the Future Innovation Labs	USAID	▪ Collaboration with US universities and developing country research and educational institutions to tackle the world's greatest challenges in agriculture, food security, and nutrition in Africa and Asia through 24 different topic-based labs set up. ▪ Innovation Lab for Nutrition led by Tufts University is to discover how integrated interventions of agriculture, nutrition and health can achieve large-scale improvements in maternal and child nutrition and enhance institutional and human research capacity through graduate level training and support for short courses and conferences.	▪ There are also other labs focusing on specific agricultural development topics (such as climate resilient chick-pea, livestock systems). ▪ Target countries (12) include five IFNA countries – Kenya, Ethiopia, Senegal, Ghana, and Nigeria.

Notes: GAIN=Global Alliance for Improved Nutrition; WB= The World Bank; ADB=Asian Development Bank; AfDB=African Development Bank; IDB=Inter-American Development Bank; BMGF=Bill & Melinda Gates Foundation; IDA/IBRD=International Development Association/International Bank for Reconstruction and Development (The World Bank Group); CIFF=Children's Investment Fund Foundation; SDC=Swiss Agency for Development and Cooperation; UNOPS=United Nations Office for Project Services; LCIRAH= Leverhulme Centre for Integrative Research on Agriculture and Health (LCIRAH); IMMANA=Innovative Methods and Metrics for Agriculture and Nutrition Actions; A4NH=Agriculture for Nutrition and Health.

2.2.4 Regional/Continental Initiatives and Coalition for Nutrition

IFNA should also continue the dialogues with regional and continental initiatives on agriculture, food security and nutrition to develop a common vision towards better nutrition for all and align specific strategies and activities under the leadership of IFNA target country governments. The following is the list of initiatives that explicitly includes nutrition elements.

Table 5: List of Regional/Continental Initiatives and Coalitions Related to Nutrition in Africa

Malabo Declaration by AU	AU Heads of State and Government adopted the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods during the Ordinary Session of the AU Assembly in Malabo, Equatorial Guinea, in June 2014. The Malabo Declaration reiterates the AU's resolve to ending hunger and improving nutrition consistent with their 2013 Decision on Renewed Partnership for a Unified Approach to End Hunger in Africa by 2025 under the Comprehensive African Agriculture Development Programme (CAADP) Framework which was launched at the AU Summit in 2003. [https://au.int/sites/default/files/documents/31006-doc-malabo_declaration_2014_11_26-.pdf]
New Alliance for Food Security and Nutrition by AU Commission (AUC)	Launched in 2012, the New Alliance is a partnership in which stakeholders commit to specific policy reforms and investments that accelerate implementation of African countries' food security strategies. The commitment areas are outlined in its Cooperation Frameworks which includes nutrition. Currently there are ten partner countries, of which seven are also IFNA target countries (underlined): Benin, Burkina Faso, Cote D'Ivoire, Ethiopia, Ghana, Malawi, Mozambique, Nigeria, Senegal and Tanzania. The country-level activities are supported by EU, G8 donor governments and various private sector entities. [https://www.growafrica.com/organizations/new-alliance-food-security-and-nutrition]
Grow Africa co-convened by AUC, NEPAD Agency and the World Economic Forum	Grow Africa is a partnership platform to accelerate responsible and inclusive investment into African agriculture in support of the CAADP. Grow Africa is mandated to support private sector engagement in the context of the New Alliance and the Malabo Declaration. [https://www.growafrica.com/]
Economic Community of West African States (ECOWAS)	ECOWAS holds nutrition forums every year. In 2017, the 15th ECOWAS Nutrition Forum was hosted by the Government of Guinea-Bissau with supports from WFP, UNICEF, WHO, FAO and West African Health Organization (WAHO). The theme of the forum was "Nutrition surveillance: Towards improved planning and evidence-based decision making on food and nutrition security in West Africa." [www.wahooas.org/IMG/pdf/affiches/Banner_Nutrition_15e_Forum_Bissau_English.pdf]
Southern African Development Community (SADC)	The SADC Health Policy plans to raise the regional standard of health for all citizens to an acceptable level by promoting, coordinating, and supporting efforts of the member states to improve access to high-impact health interventions. In the policy, Nutrition and Food Safety is included in their ten priority areas. [http://www.sadc.int/themes/health/]

Note: No relevant information about nutrition-related strategies was found in the websites of the Economic Community of Central African States (ECCAS) and Common Market for Eastern and Southern Africa (COMESA).

3. Preparatory Country Survey Results

The IFNA Preparatory Survey was conducted in the ten target countries, namely Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Senegal and Sudan, from May to October 2017. This chapter summarizes the key findings/results of the preparatory country surveys. This report only contains limited cross-country analyses because IFNA's development process will rather focus on the context-specific actions in each country, which will subsequently be shared and synthesized for mutual learning.

3.1 Nutrition and Food Security Situations[20]

The following sections present the nutrition and food security situations in the ten IFNA target countries. The indicators shown below are selected because some are globally monitored (e.g. the child stunting, wasting and women's anemia as part of the Global Nutrition Targets adopted in the World Health Assembly in 2012[21]), and others reflect the key nutrition issues highlighted in the preparatory country surveys.

3.1.1 Chronic and Acute Undernutrition in Children

Child stunting is the condition when a child is too short for his/her age based on the WHO Child Growth Standards (based on the global data of healthy children aged under five years who are supposed to show normal growth regardless of the ethnicity/genetic differences, etc.). Stunting occurs overtime due to multiple causes such as poor nutrition, repeated infection, and inadequate psychosocial stimulation that the child faces in everyday life and thus is also called chronic undernutrition. There is another condition that represents acute undernutrition, also called wasting, defined as being too thin for the standard height. Child stunting and wasting are both used as indicators of the Global Nutrition Targets.

The prevalence of child stunting has been used as the principal indicator to track progress on preventing undernutrition because it is the outcome of the day-to-day nutritional care and practices, the services needed to maintain their health, and the environment where the child lives[22]. Most of the international and national policies and strategies aim to reduce child stunting as the major nutrition target because it is proven to be associated with long-term socio-economic consequences, for example, the reduced productivity of an adult who was

[20] Only used the data in the published Demographic and Health Survey (DHS) reports that are nationally representative. For Sudan where DHS is not available, the data from the Multiple Indicator Cluster Survey (MICS) were used.

[21] The six targets include child stunting, child wasting, low birth-weight, anaemia in women of reproductive age, exclusive breastfeeding and child overweight.

[22] Acute undernutrition/wasting is normally used to assess the presence of acute external shocks, such as a draught and acute food shortage, a cholera outbreak, or a sudden displacement by a conflict/disaster.

stunted in his/her childhood. As shown in Figure 7 below, most of the ten IFNA target countries have demonstrated significant reduction in the national stunting prevalence, reaching the cut-off level of 40% above which is defined as the "very high prevalence" by WHO. Some of them, such as Ethiopia, Malawi and Nigeria, have gone below this cut-off level for the first time within the past five years.

On the other hand, the national-level aggregated average tends to obscure the disparities that still exist within each country. As depicted in Figures 8 and 9, disaggregation of child stunting prevalence by socio-economic status, such as household wealth and maternal education, clearly shows that the more disadvantaged the children's socio-economic conditions are, the more likely they experience stunted growth. In some countries, disparities are so large that the best-off group has 10-20% stunted children while the worst-off close to or above 50%. While it tends to spread out from the best-off to the worst-off group on the education parameter, it appears that the three to four lowest economic quintile groups tend to overlap on the economic parameter (e.g. Burkina Faso, Ethiopia and Mozambique), implying that only the minority best-off groups enjoy the improved nutritional status.

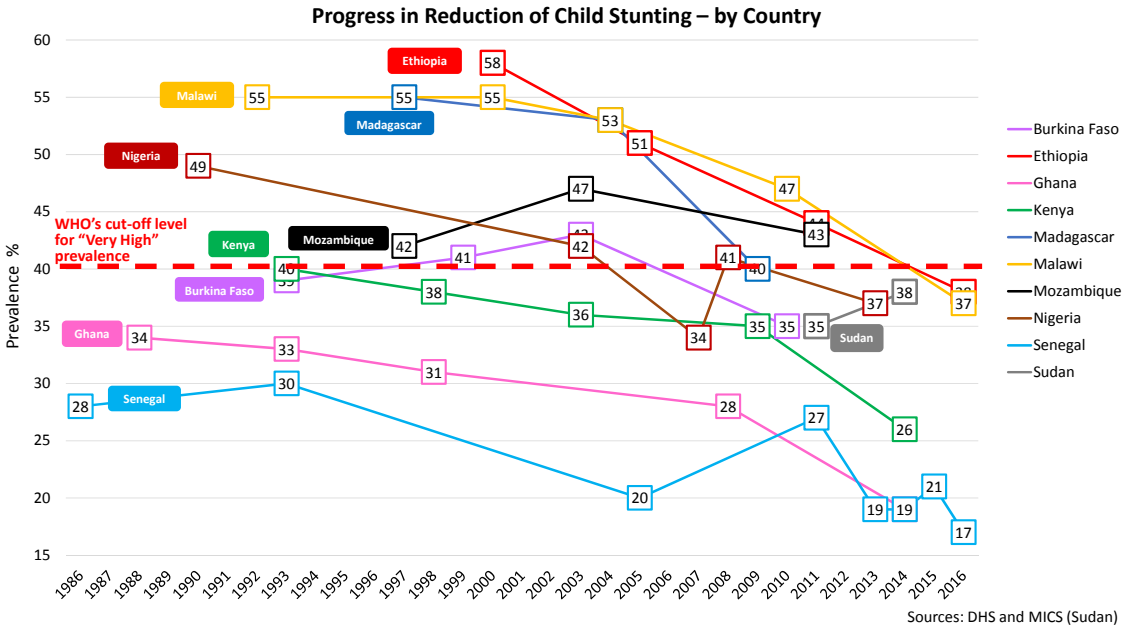


Figure 7: Trends in Child Stunting – IFNA Target Countries

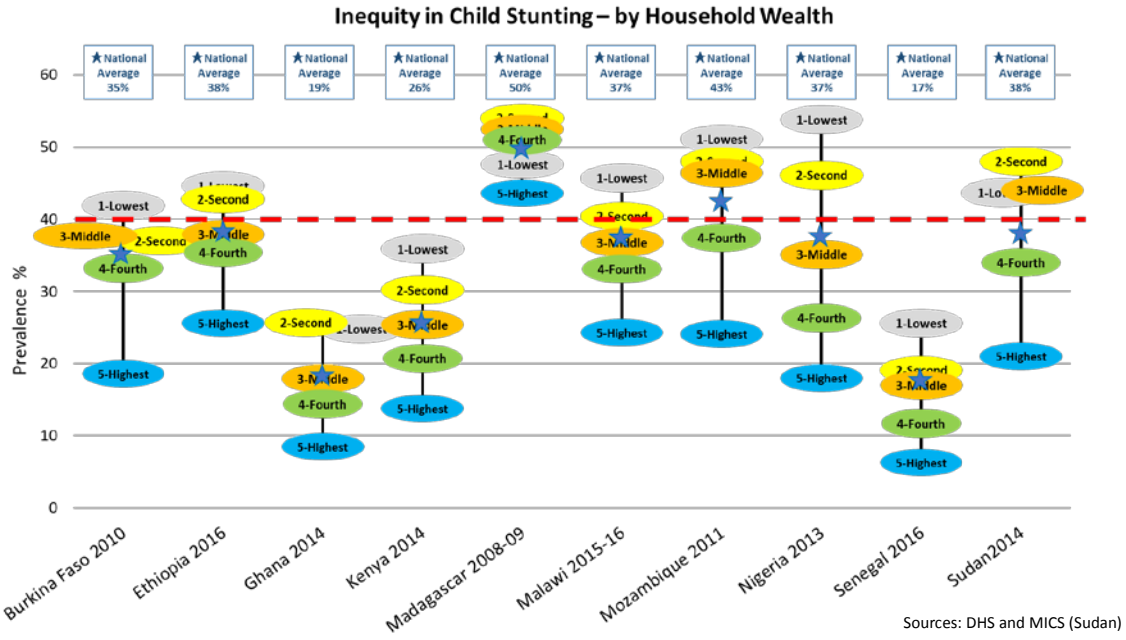


Figure 8: Disparities in Child Stunting by Household Wealth – IFNA Target Countries

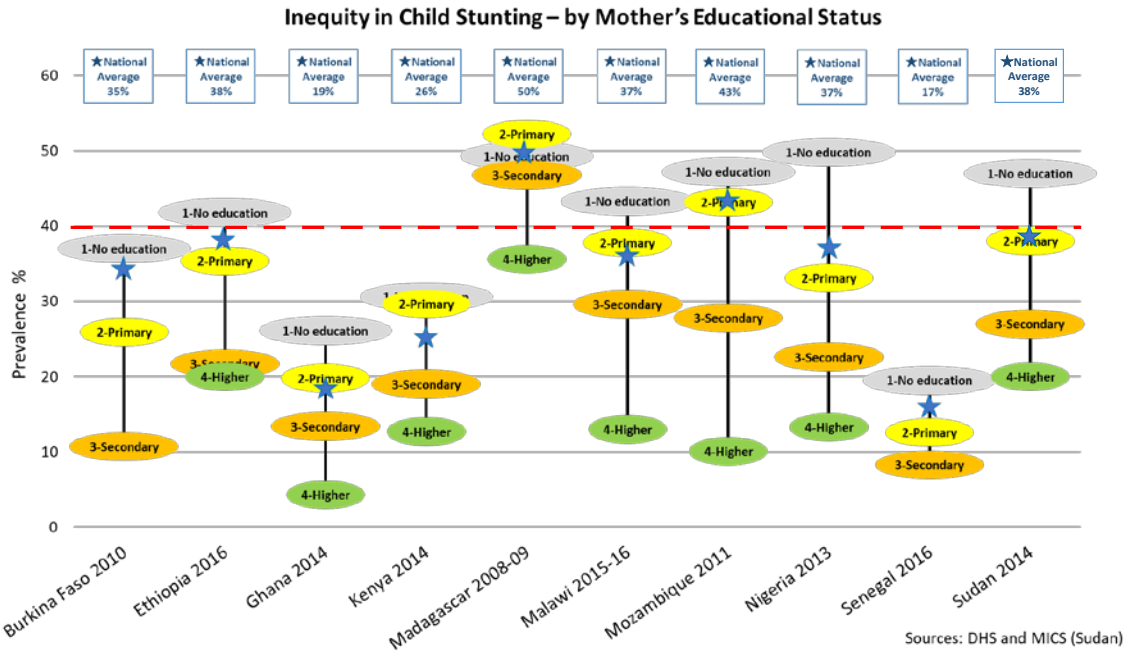


Figure 9: Disparities in Child Stunting by Maternal Education – IFNA Target Countries

3.1.2 Undernutrition in Women of Reproductive Age and Female Adolescents

Child undernutrition starts from the mother. It is well-known that the nutritional status of the mother during pregnancy is an important determinant of fetal growth, which continues to affect the growth of the child after birth. Maternal undernutrition is often closely related to the problem of adolescent undernutrition, especially in places where early-age pregnancy is common. As the data in many developing countries show, the prevalence of underweight (defined as the Body Mass Index below 18.5kg/m^2) in female adolescents of 15-19 years old is much greater than the average of the reproductive-aged women of 15-49 years (e.g. Ghana, Nigeria and Senegal among the IFNA target countries; see Figure 10), indicating the nutritional vulnerability of this particular group, presumably exacerbated by early-age pregnancy which puts a heavy burden on them as their body still has high nutrient requirements for their own physical growth.

WHO defines women's underweight rates between 20-39% as "high prevalence (serious situation)" and above 40% as "very high prevalence (critical situation)"[23].

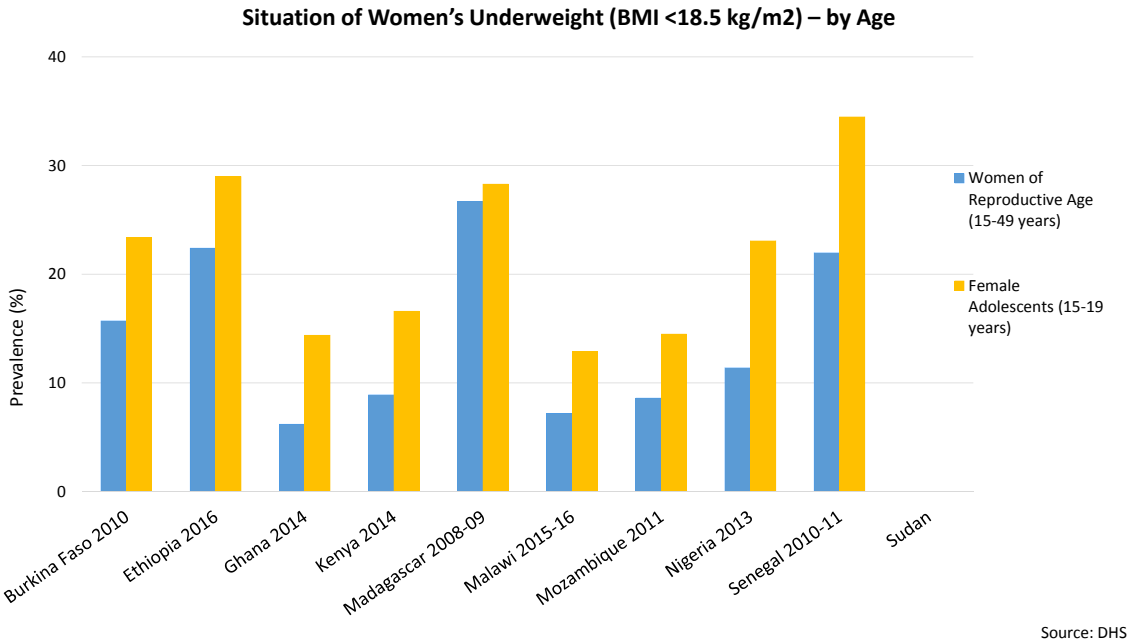


Figure 10: Underweight in Reproductive-Aged Women and Female Adolescents – IFNA Target Countries

[23] WHO classifies the population prevalence of women's underweight into the following categories, based on its public health significance: 5-9%, "low prevalence (warning sign, monitoring required)"; 10–19%, "medium prevalence (poor situation)"; 20–39%, "high prevalence (serious situation)"; ≥40%, "very high prevalence (critical situation)" (http://www.who.int/nutrition/nlis_interpretation_guide.pdf)

3.1.3 Anemia in Children, Women of Reproductive Age and Female Adolescents

Anemia in children and women have also been a public health issue in many developing countries, including the ones that have successfully reduced child stunting. According to WHO's classification of anemia prevalence from a public health significance point of view, over 40% is considered as a "severe public health problem", and 20-39% a "moderate public health problem." From Figure 11, it is apparent that most of the IFNA target countries are still above the 40% cut-off level, having a very serious problem. It also shows that trends in child anemia are more diverse, compared to those in child stunting. While a few countries have reduced the rates steadily, the others are either being stagnant, only reducing at a minimal pace or going up and down (e.g. Burkina Faso, Malawi, Ethiopia, etc.).

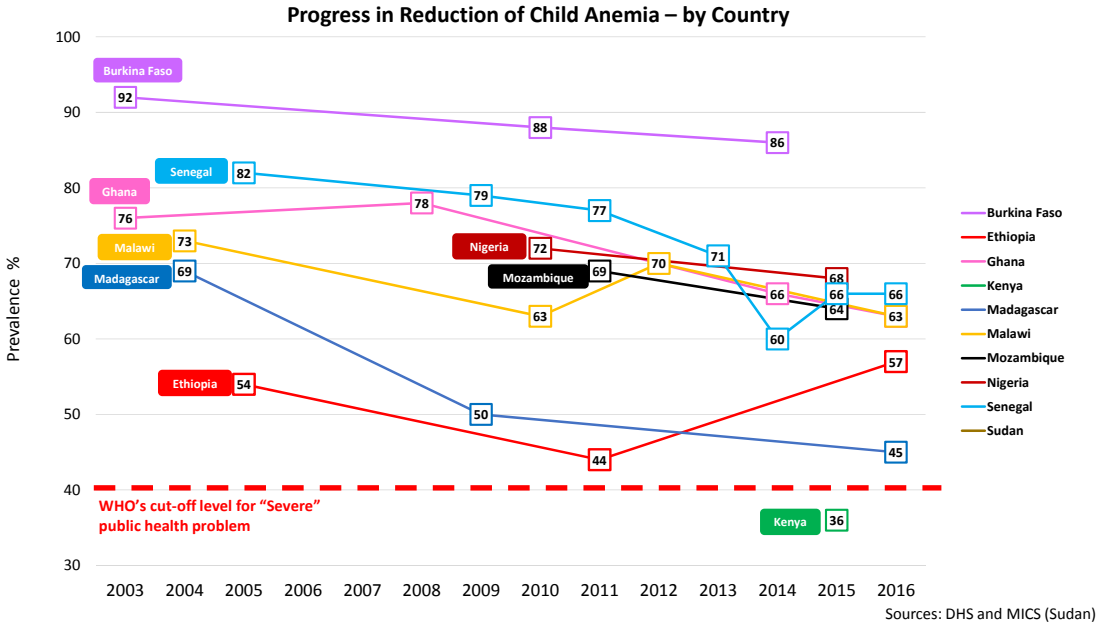


Figure 11: Trends in Child Anemia – IFNA Target Countries

In terms of disparities, there appears to be a similar pattern that the lower the socio-economic status is, the more likely the children are anemic. On the other hand, the magnitude of the disparity seems to be smaller than that of stunting, as all the groups tend to be clustered together. However, it is noteworthy that in most countries, even the best-off group has very high prevalence, of which three countries have the best-off group above the 40% cut-off level.

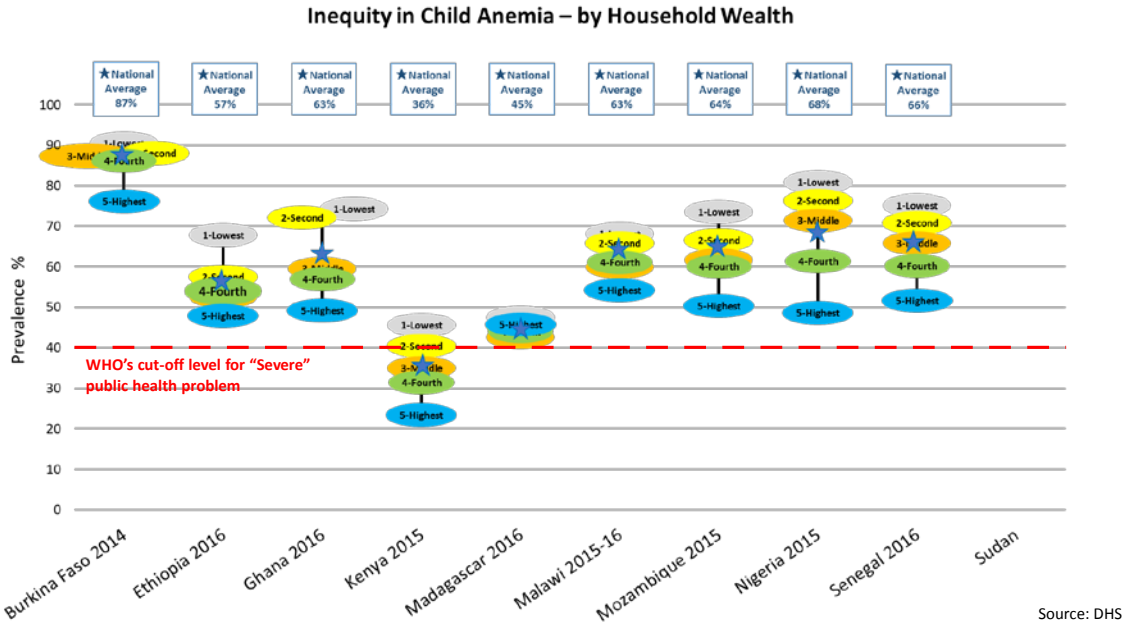
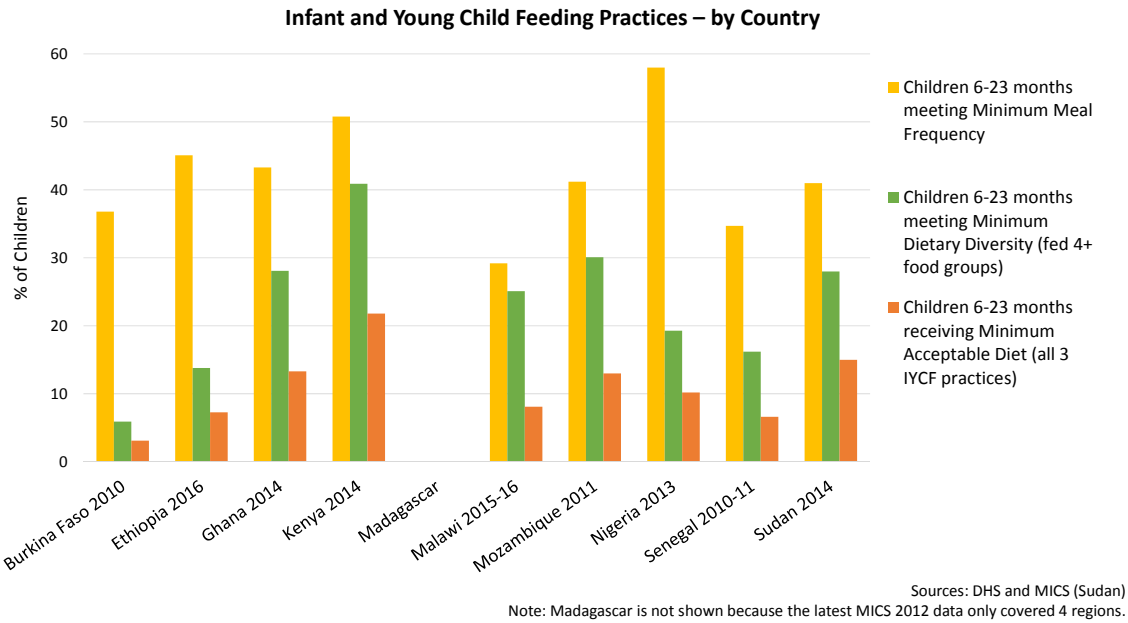


Figure 12: Disparities in Child Anemia by Household Wealth – IFNA Target Countries

Anemia prevalence in women of reproductive age is set as another WHA Global Nutrition Target. Among the ten IFNA target countries, about half of them have the rates above the WHO-defined 40% cut-off level (see Appendix 5).

3.1.4 Infant and Young Child Feeding Practices

Key behavior indicators that reflect the situation of complementary feeding are called the Infant and Young Child Feeding (IYCF) practice indicators, which consists of the proportion of children aged 6-23 months who met the minimum meal frequency (MMF), those who met the minimum dietary diversity (MMD), and those who received the minimum acceptable diet that meets both frequency and diversity criteria (MAD) in addition to breastfeeding or appropriate milk feeding. The indicators are increasingly used in assessing the situation of complementary feeding of young children in association with a stunting outcome. The breakdown of the composite index shows that even when 30-60% of the children meet the "minimum meal frequency" criterion, much less meet the "minimum dietary diversity". Therefore, the proportions of children being able to meet both criteria (i.e. those receiving the "minimum acceptable diet") go even below 10% in as many as five countries (Figure 13).



Sources: DHS and MICS (Sudan)
Note: Madagascar is not shown because the latest MICS 2012 data only covered 4 regions.

Figure 13: Infant and Young Child Feeding Practices – IFNA Target Countries

3.1.5 Food Security

There is no single indicator that is known to represent the overall or even the major part of food security situation. To see changes over time across different countries, the Global Hunger Index (GHI) may be used because the measurement is done periodically for the past two decades in a globally standardized manner[24]. Hunger is usually understood to refer to the distress associated with lack of sufficient calories. "Hunger" in the GHI context is based on the four component indicators (i.e. undernourishment, child stunting, child wasting and child mortality) reflecting deficiencies in calories as well as in micronutrients.

On the other hand, the Global Food Security Index (GFSI) looks more into the determinants that may influence food security[25]. Though it is a composite index constructed from 28 unique indicators, it can also be broken down to different dimensions, such as "affordability", "availability", and "quality/safety". Recently, a new dimension, "natural resources and resilience", has been added to assess a country's exposure to the impacts of a changing climate; its susceptibility to natural resource risks; and how the country is adapting to these

[24] The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at the global, regional, and national levels by IFPRI. To capture the multi-dimensional nature of hunger, GHI scores are based on four indicators: undernourishment (% whose caloric intake is insufficient); child wasting (% under-five children who are wasted); child stunting (% under-five children who are stunted); and child mortality (under-five mortality rate) (http://www.globalhungerindex.org/about/).

[25] IFPRI. 2013. Rethinking the measurement of undernutrition in a broader health context: Should we look at possible causes or actual effects, by Stein, AJ (IFPRI Discussion Paper 01298).

risks[26].

Figure 14 shows the trends of the ten IFNA target countries in terms of the GHI scores. Most of the countries have made a progress over the past two decades, and the eight out of ten countries have now left the "alarming" category although six of them are still classified as "serious".

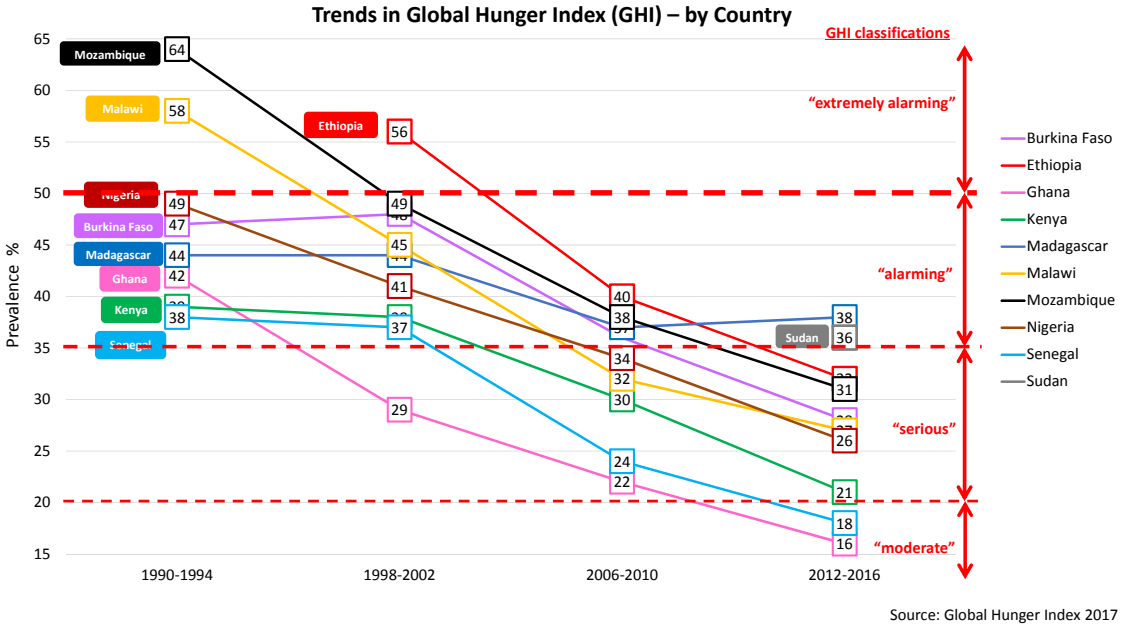
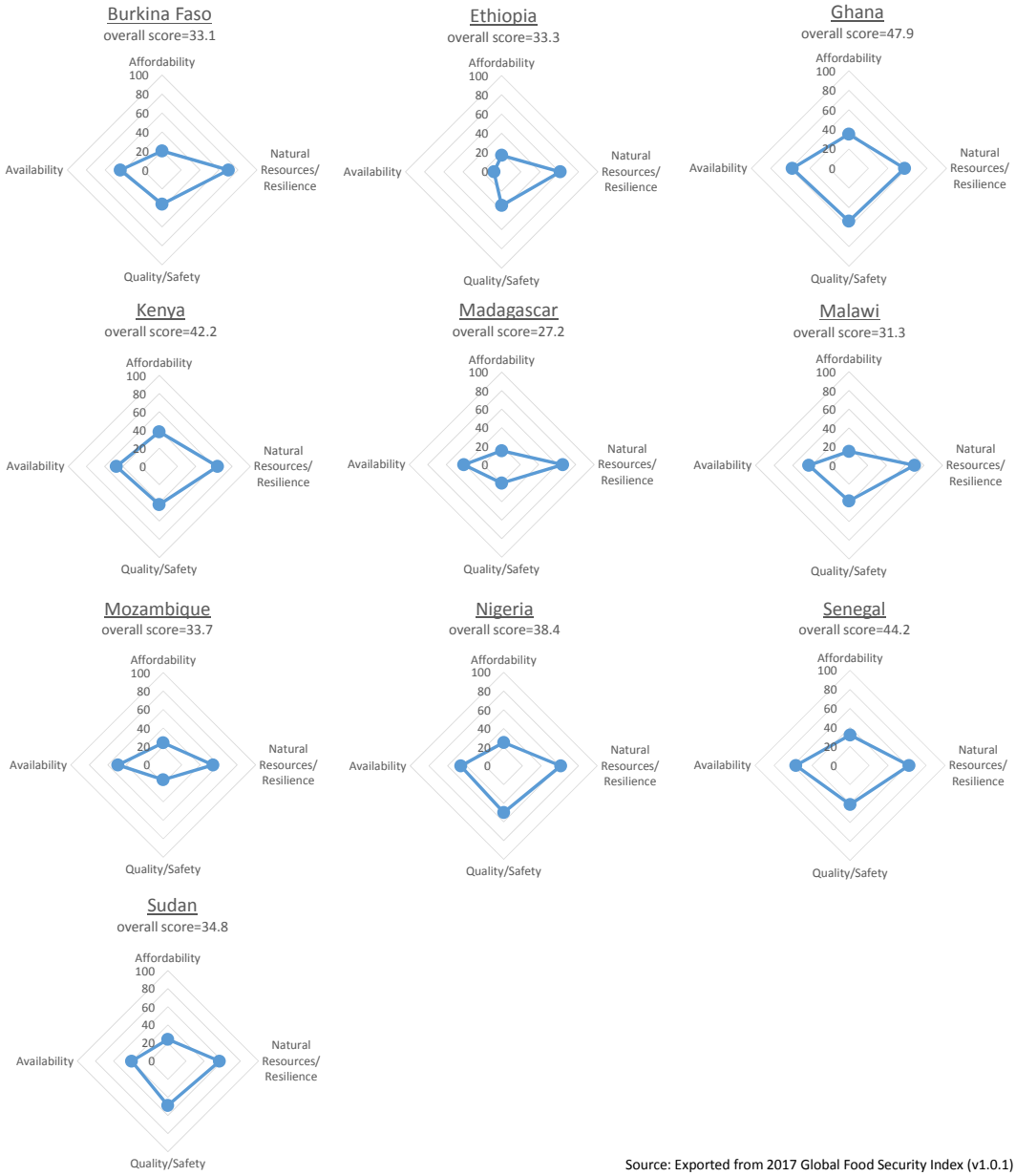


Figure 14: Trends in the Global Hunger Index – IFNA Target Countries

Figure 15, on the other hand, shows the latest GFSI scores (2017) disaggregated by its four core dimensions, namely, "Affordability", "Availability", "Quality/Safety" and "Natural Resources/Resilience", for each of the ten IFNA target countries. It appears that Burkina Faso, Ethiopia, Madagascar, Malawi and Mozambique follow a similar pattern which is characterized by a flatter shape with a relatively high score for the natural resource/resilience dimension but medium to low scores for the other three. Ghana, Kenya and Senegal show a more balanced diamond shape, although the affordability dimension is still a problem.

[26] http://foodsecurityindex.eiu.com/



Source: Exported from 2017 Global Food Security Index (v1.0.1)

Figure 15: Latest Global Food Security Index (2017) – IFNA Target Countries

3.2 Causal Factors of Undernutrition

3.2.1 Major Causal Factors of Undernutrition – Global Evidence

To achieve the global nutrition targets, improving the status of major underlying drivers of nutrition has been recognized as an important dimension of nutrition programming. The Global Nutrition Report (GNR) 2016 assessed the country situations based on a set of indicators reflecting major underlying drivers associated with stunting outcomes, such as total

calories in food supply (quantity of diet), % of calories from non-staples (quality of diet), access to WASH, female secondary school enrolment ratio (maternal education), and female-to-male ratio in life expectancy (women's empowerment). The Report estimated global threshold values for each of these underlying drivers (see the third row of Table 5). Exceeding these threshold values means that a country is likely to have a stunting rate of 15% or below. If the countries show underlying determinant levels lower than the thresholds, it can be said that they have a vulnerability to stunting in this underlying area. The Report selected 15% as the cutoff line, as it is approximately what the WHA's global target would have been for 2015 (see GNR 2016 for the detailed estimation method).

Table 6: Underlying Drivers of Nutrition Against Threshold Values for Achieving Stunting <15% by IFNA Target Country

Variables	Nutrition Outcome	Dietary Quantity	Dietary Quality	Water Access	Sanitation	Maternal Education	Women's Empower-ment
	Stunting (%)	Total calories in food supply (kilocalories per day per capita)	Calories from non-staples (%)	Access to piped water (%)	Access to improved sanitation (%)	Female secondary school enrollment rate (%)	Ratio of female-to-male life expectancy
Threshold values for achieving a stunting rate < 15%	**15**	2,850	51	69	76	81	1.072
Burkina Faso	**33**	2,630	34	8	20	25.98	1.02
Ethiopia	**40**	2,240	23	12	28	22.30	1.05
Ghana	**19**	3,220	35	19	15	64.94	1.03
Kenya	**26**	2,180	44	22	30	64.50	1.06
Madagascar	**47**	2,160	21	7	12	37.65	1.05
Malawi	**42**	2,380	29	8	41	34.86	1.00
Mozambique	**43**	2,180	27	9	21	24.85	1.03
Nigeria	**33**	2,740	35	2	29	41.17	1.01
Senegal	**19**	2,320	40	53	48	39.11	1.05
Sudan	**38**	2,336	n/a	42	33	41	1.05

Source: GNR 2016 (except for Sudan[27]).

As shown in Table 6, most of the IFNA target countries have vulnerability in all six areas (except for Ghana with the dietary quantity indicator above the threshold), underscoring the need to address these underlying determinants across the related sectors beyond health.

[27] Sources for Sudan: "Stunting" MICS (2014); "Total calories in food supply" FAOSTAT (2015); "Access to piped water" and "Improved sanitation" MICS (2014); "Female secondary school enrollment rate" UNESCO Institute for Statistics (2015); "Ratio of female-to-male life expectancy" World Bank (2016).

3.2.2 Causal Analyses of the Ten IFNA Target Countries

In recent years, some countries have begun making more efforts to carry out causal analysis on child undernutrition using statistical methods. Some examples of the causal analysis done in the IFNA target countries are shown in the table below.

Table 7: Examples of Rigorous Nutrition Causal Analysis

Ethiopia	A causal analysis study on child stunting was done by the Federal Ministry of Health/UNICEF/EU in 2016 with technical assistance by Tulane University. It looked at three underlying causal areas such as inadequate care and feeding, unhealthy environment and inadequate health services, as well as maternal education and poverty. Maternal education, for example, was found to be a strong effect modifier in several causal links analyzed. In this study, however, food security variables were not included for the statistical model as there was no comparable food security indicator.
Ghana	A research study done in Northern Ghana showed findings that household resources in the form of food consumption are positively associated with food intake and nutrition outcomes. Data for this study were derived from the baseline survey of the Livelihood Empowerment Against Poverty (LEAP) 1,000 impact evaluation and Ghana Demographic and Health Survey (GDHS). A limitation of this study is the narrow regional scope and the smaller sample size of the poverty status.
Nigeria	The research using DHS data by IFPRI examined patterns and trends of inequalities in child and maternal nutritional status in Nigeria. The evidence showed that child and maternal malnutrition have strong association with the least educated households, the rural population, the northern region, and those who drink water from public wells. One of its limitations is lack of an income or expenditure variable, which is generally regarded as an important measure of welfare.

Source: Survey team, referring to (1) FMOH/UNICEF/EU. 2016. Situation Analysis of the Nutrition Sector in Ethiopia 2000-2015: Main Findings and Recommendations. Ethiopian Federal Ministry of Health, UNICEF and European Commission Delegation; (2) UNICEF, Child Malnutrition, Consumption Growth, Maternal Care and Prices Shocks: New Evidence from Northern Ghana, 2017; and (3) IFPRI, Patterns and Trends of Child and Maternal Nutrition Inequalities in Nigeria, 2010.

There are causal analysis studies done in other countries that only put together causes of undernutrition based on qualitative assessments without using rigorous statistical measures. Such analyses often result in a long list of causes, providing an overview of what constitutes the nutrition conceptual framework. However, the downside of the long list is that it may not help policy-makers/planners put a sufficient emphasis on some critical causes of undernutrition. For example, maternal education and gender may be perceived to have an indirect influence on the nutritional status and thus may not be given a priority, even though statistical analyses often find them as one of the influential determinants. More rigorous causal analyses, as shown above, could provide deeper insights and contributions to project/program designing and policy direction on genuinely multi-sectoral nutrition improvement. Even though such causal analyses may face certain degrees of limitations, including missing data and variables, narrow representativeness, and/or small sample sizes, it would be of great importance to continue such efforts and generate more rigorous evidence on factors affecting undernutrition.

3.3 Multi-Sectoral Nutrition Policies, Strategies and Coordination Mechanisms

Towards the end of the MDG era, many countries realized that they had not made sufficient progress on nutrition, which led to global recognition that stronger political will and resources were needed to comprehensively address the issue of malnutrition. Nutrition governance was therefore highlighted as a key to promoting multi-sector/-actor coordination, incorporating nutrition concerns into national strategies and plans and ensuring budgetary commitments/allocations.[28]

What constitutes good nutrition governance is still being explored in different contexts. WHO's Landscape Analysis looked at such areas as national nutrition policies and strategies/plans, budget allocation, inter-sectoral mechanisms to address nutrition and nutrition information systems.[29] More recent analyses incorporated additional dynamics such as the strength of horizontal and vertical linkages, civil society's influence, etc.[30] This Preparatory Survey did not aim to assess nutrition governance in a comprehensive manner, but rather tried to understand basic institutional setups in each country by looking at its nutrition policy frameworks (including both policy/strategy level documents and accompanied action plans/investment frameworks) and existing coordination mechanisms with an emphasis on multi-sectorality.

3.3.1 Multi-Sectoral Nutrition Policies, Strategies and Action Plans

Most of the IFNA target counties already have a national nutrition policy/strategy in place that is explicitly designed to address multi-sectorality of nutrition.[31] On the other hand, only six out of ten had both a policy/strategy and an action plan/investment framework (with a result matrix including costing information) to implement the policy/strategy, and three had a policy/strategy alone without a consolidated multi-sectoral action plan at the time of the preparatory country surveys (see Table 8).

Table 8: Existence of a Multi-Sectoral Nutrition Policy/Strategy and Action Plan

Countries with both Policy/Strategy and Action Plan	Burkina Faso, Ethiopia, Kenya, Madagascar, Mozambique, Senegal
Countries with Policy/Strategy Only	Ghana, Nigeria, Malawi

Source: Survey Team (extracted from each Preparatory Country Survey Report). Only included the countries with the policy/strategy already approved.

[28] Acosta et al. 2012. Fighting Maternal and Child Malnutrition: Analysing the political and institutional determinants of delivering a national multisectoral response in six countries - A synthesis paper (prepared for DfID by IDS).
[29] UNSCN. 2009. Landscape Analysis on Countries' Readiness to Accelerate Action on Nutrition. SCN News. No.37.
[30] Acosta et al. 2012.
[31] Sudan has a draft policy document, but it has not been finalized since 2015. Thus, Sudan is not considered as a county with policy documents.

While the survey team put together "policy" and "strategy" together as an overarching guidance document, some countries have a policy that is legally endorsed as a proclamation/directive, and others have a policy/strategic document that serves as a technical guidance, regardless of whether they are titled "policy" or "strategy." It is possible that a country has a policy both as a legal framework and a technical strategy (see the example of Ethiopia below).

To understand if the current official documents were endorsed in a multi-sectoral manner, Table 9 shows whether these multi-sectoral nutrition-related documents were officially signed by multiples sectors or only signed by a single sector.

Table 9: Multi-Sectoral Nutrition Policy/Strategy and Action Plan Signed by Multiple Sectors or a Single Sector by Country

	Policy/Strategy	Action Plan
Signed by multi-sector actors	Burkina Faso Ethiopia Kenya Madagascar Senegal Nigeria	Burkina Faso Ethiopia Kenya Madagascar Senegal Mozambique
Signed by a single sector	Mozambique (MoA) Malawi (MoH) Ghana (MoH)	

Source: Survey Team (extracted from each Preparatory Country Survey Report). Only included the countries with the policy/strategy already approved.

Five countries that had both a policy/strategy and an action plan ensured these documents were all signed by multiple sectors. On the other hand, three countries had policy documents signed by a single sector only, such as the Ministry of Health (MoH) or Ministry of Agriculture (MoA). Nevertheless, these countries also reported that they were making some progress in bringing multi-sector cooperation on board by working with other sectoral actors.

Looking at the country cases, Burkina Faso seems to follow good steps for policy development with multi-sectoral approach. The National Nutrition Policy (NNP 2017-2020) was first developed in 2017 as a guiding document for both nutrition-sensitive and -specific interventions under various sectors. While the main owner of the NNP is the MoH, other relevant Ministries such as Agriculture, WASH, Education and Social Protection also play important roles as signers. Followed by the development of the NNP, the Multi-Sectoral Strategic Plan for Nutrition (MSPN 2017-2020) was drafted by multiple sectors and is currently at the stage of endorsement. Furthermore, both the NNP and MSPN share the same vision and strategic objectives. Based on the MSPN, each ministry is expected to develop their own sectoral implementation plan.

A few other countries such as Madagascar also follow the similar process to develop multi-sector nutrition-related policy documents.

Ethiopia is undergoing a unique development process in which the National Nutrition Strategy was first developed under the MoH's leadership, together with the National Nutrition Programme I (NNP I 2008-2015) as its implementation plan. While the NNP II (2016-2020) is currently being implemented to mainstream nutrition and develop legal frameworks under the government leadership, actors have realized that they needed an overarching nutrition policy document for the country. The National Food and Nutrition Policy was therefore developed as a proclamation, and the final draft is currently waiting for approval.

One of the common issues found in the IFNA target countries was that even though multi-sectoral nutrition polices/strategies and/or action plans have been developed, roles and responsibilities of each relevant sector/actor were still not clearly defined.[32]

3.3.2 Coordination Mechanisms

(1) National Level

Multi-sectoral coordination mechanisms on nutrition at the national level are summarized below. Most of the IFNA target countries have officially formed or designated national multi-sectoral coordination mechanisms on nutrition, although some of them had not started functioning at the time of the preparatory country surveys.

[32] From key informant interviews.

Table 10: Multi-Sectoral Coordination Mechanisms at the National Level

Country	Leading Agency/Office	Authorized Ministry/Office	Coordination Platform	Remarks
Burkina Faso	National Council for Nutrition Coordination (CNCN)	MoH	CNCN	Parallel programmes run by two agencies
	National Council of Food Security (CNSA)	Prime Minister's Office	CNSA	
Ethiopia	National Nutrition Coordination Body (NNCB)	MoH	National Nutrition Technical Committee	NNCB is proposed to be relocated to Prime Minister's Office
Ghana	National Development Planning Commission (NDPC)	President's Office	Nutrition Cross-sectoral Planning Group	-
Kenya	Agri-Nutrition Sub-Division	Ministry of Agriculture, Livestock and Fisheries	Food and Nutrition Linkages Technical Working Group	National Food and Nutrition Security Council (NFNSC) will be established as an overarching body in the President's Office.
	Nutrition Division	MoH	National Interagency Coordinating Committee (NICC)	
Madagascar	National Office of Nutrition (ONN)	Prime Minister's Office	National Nutrition Council (CNN)	-
Malawi	Department of Nutrition and HIV/AIDS (DNHA)	MoH	Principal Secretaries' Committee on Nutrition, HIV and AIDS	Controlling/ coordinating office for government sectors
			Multi-sectoral Technical Nutrition Committee	Including non-governmental partners
Mozambique	Technical Secretariat for Food and Nutrition Security (SETSAN)	Ministry of Agriculture and Food Security	Technical Working Group for PAMRDC (GT-PAMRDC)	SETSAN is proposed to be shifted to the Prime Minister's Office
Nigeria	National Council on Nutrition (NCN)	President's Office	-	Decision-making body, not yet officially initiated
	Ministry of Budget and National Planning	National Committee on Food and Nutrition (NCFN)	NCFN	Policy planning and coordination
Senegal	Cell against malnutrition (CLM)	Prime Minister's Office	CLM	-
Sudan	Higher Council for Food Security and Nutrition	Vice President's Office	Technical Committee of Food Security and Nutrition	Decision making body, not yet officially initiated
	Food Security Technical Secretariat (FSTS)			Policy planning and coordination

Source: Survey Team (extracted from each Preparatory Country Survey Report)

The survey team learned that a few countries currently have parallel bodies under different ministries, which seemed to be creating confusion about who coordinates what. However, they have already proposed or are under discussion to address the confusion by establishing a single overarching body.

Out of eight countries with multi-sectoral coordination mechanisms, five are under the President's or Prime Minister's Office, whereas two are under the MoH and one under the MoA. There is a tendency/direction towards placing the coordination mechanism under a sector-neutral ministry (e.g. finance/budget/planning ministry) or a supra-ministerial entity (e.g. President's/Prime Minister's Office). On the other hand, where the coordination capacity of such an inter-/supra-ministerial body is considered insufficient, the individual ministry appears to be proceeding with its own nutrition policy.

When coordination platforms are institutionalized, they tend to be inclusive of relevant government sectors, development partners and civil society and conduct regular meetings.

(2) Sub-National Levels

Coordination mechanisms at the sub-national levels are summarized below.

Table 11: Multi-Sectoral Coordination Mechanisms at the Sub-National Levels

	Sub-National Mechanisms
Burkina Faso	Regional Consultation Councils on Nutrition (RCCN) are functional. RCCN will be further decentralized to the district level.
Ethiopia	Regional and District Nutrition Coordination Bodies and Regional and District Nutrition Technical Committees are established as the same structure as the national mechanism.
Ghana	Coordination is made through the existing Regional and District Planning Coordinating Units.
Kenya	Once the national level mechanism (with the committee and secretariat) is officially established, the same structure will be replicated at the county level.
Madagascar	The Regional Office of Nutrition (ORN) is formed as an extension of the National Office of Nutrition (ONN) for the regional coordination. In close collaboration with the ORN, the establishment of the Monitoring & Evaluation Group (GRSE) lead by the regional authorities, brought together partners to promote the implementation of the policies in collaboration with the NGOs and other executing agencies.
Malawi	District Nutrition Coordination Committees work closely with Area and Village Development Committees for coordination, technical guidance, monitoring & evaluation, etc.
Mozambique	SETSAN provincial focal points are assigned for coordination with provincial GT-PAMRDC. The same structure is being established at the district level.
Nigeria	State and Local Government Area[33] Committees on Food and Nutrition are established for coordination.
Senegal	The Regional Executive Bureau is in charge of coordination, monitoring & evaluation, mobilization of NGOs, etc.
Sudan	The State Food Security Technical Secretariat (FSTS) are formed in four states (Red Sea, Kassala, Blue Nile, and Gedaref states).

Source: Survey Team (extracted from each Preparatory Country Survey Report)

At the sub-national level, while the majority of the countries established or are in the process of establishing the same structure as the national multi-sectoral coordination

[33] Local Government Area is an administrative unit under the State.

mechanism, it appears that the functionality and capacity of those agencies tend to be weak or unknown.

At the community level, there are cases where the national or sub-national multi-sectoral coordination agency coordinates and monitors the implementation of nutrition programmes through NGOs/local agencies, or a village/community council brings together the representatives of relevant sectors to coordinate their activities. In other cases, the frontline workers of each ministry (e.g. community health workers under MoH or agricultural extension workers under MoA) work within their own structure but intend to coordinate/collaborate with each other even without an official mechanism. In Madagascar, community nutrition workers are created under the national nutrition programme and promote multi-sectoral activities at the community level in collaboration with community health workers or other community-level stakeholders, such as teachers.

A few country cases are featured below:

Case 1: Ethiopia

Policy/Strategy/Coordination Mechanisms Established, but Need to Make Them Functional

Ethiopia developed its National Nutrition Strategy in 2008 and implementation plan named the National Nutrition Programme (covering 2008-2015 as the first phase), both led by the MoH. While the NNP I focused more on the integration and coordination of nutrition-specific interventions, NNP II has set its overall goal to provide a framework for coordinated implementation of nutrition-specific and -sensitive interventions. Additionally, recognizing the need for an overarching legal framework for genuinely multi-sectoral nutrition efforts, Ethiopia has recently gone through a participatory consultative process to draft the National Food and Nutrition Policy which is soon to be endorsed. To implement these policy/strategy frameworks effectively, Ethiopia has institutionalized the multi-sectoral coordination mechanisms at the national and regional levels. The same is being done at the *woreda* (district) level, although their functionality is often pointed out as an issue. The in-country workshop participants strongly pointed out that bottleneck assessments are needed to understand what actually hinders the functionality of the local level coordination so that effective measures can be taken.

Case 2: Kenya

Local Nutrition Governance Established and Led by County Stakeholders

Kenya has embarked on the devolution process with the county system under the Constitution of Kenya 2010. Thus, counties play an important role in policy implementation. In the National Food and Nutrition Security Policy Implementation Framework (NFNSP-IF), the national coordination committees are expected to work closely with the county coordination committees.

For instance, Turkana County recently initiated the Food and Nutrition Security Multi-Sector Platform (FNSMSP) chaired by the Office of County Governor. There is a nutrition advisor attached to the Governor, apart from the nutrition coordinator in each sector, who can provide technical advice in a neutral (inter-sectoral) position. Thus far, FNSMSP members identified nutrition-sensitive strategies and developed a common results framework for food and nutrition security interventions by examining plans and strategies from different sectors including agriculture, health, education, resilience, social welfare, and empowerment. The next step is to ensure that these interventions in the common results framework are incorporated into the Turkana County Integrated Action Plan for budget allocation.

Case 3: Madagascar

Multi-Sectoral Synergy Takes Place on the Ground, but Needs to be Institutionalized

In Madagascar, a multi-sectoral policy framework on nutrition has been well established. In terms of the coordination mechanism, national and regional offices of nutrition play a role in promoting multi-sectoral policy implementation. There are community nutrition workers and frontline workers designated for nutrition activities at the community level under the National Program of Community Nutrition funded by the World Bank. There are reportedly several positive effects on multi-sectoral nutrition-sensitive activities on the ground initiated by the community nutrition workers. One of the promoting factors is that since they are paid workers with activity budget, they could utilize their resources to facilitate the collaboration with other actors, such as community health workers or teachers who often lack financial resources for nutrition activities. On the other hand, the participants of the preparatory country survey stakeholder workshop reported that there is no formalized coordination structure below the district level, and that no local government bodies and their service delivery structures are involved in the coordination efforts, indicating the need for institutionalizing the support and governance for community nutrition workers' efforts to work with other sectors.

3.4 Preparatory Country Survey Workshop Summary

3.4.1 Preparatory Country Survey Workshop - Process

In each country, the survey team organized a stakeholder workshop, inviting key government officials and partner organizations working on nutrition issues or (to be) involved in multi-sectoral nutrition dialogues (a typical workshop program is provided in Appendix 3). Due to the time limitation and desire to reach concrete results, the workshop took a focused approach, instead of starting from a broad and inclusive dialogue. For example, although the workshop meant to facilitate multi-sectoral dialogues, it was decided that IFNA would initially focus on linkages between health/nutrition and agriculture as a main platform, in which cooperation with other sectoral activities should also be discussed/promoted wherever necessary.

These workshops turned out to be a learning-by-doing exercise and provided a number of important lessons, which the survey team tried to reflect as much as possible throughout the survey period. Therefore, the survey team ended up customizing the workshop flow, content of each session and use of participatory tools for each country.

For example, at the beginning, the main objectives of the workshop were to share preliminary results of the desk review and stakeholder interviews conducted by the survey team, discuss and agree on the critical gaps and key steps to be taken for multi-sectoral synergy, and list up potential packages of actions under the principles of IFNA. After the first country, the team realized that one of the important benefits that this workshop could bring was to prompt an active dialogue and create a common understanding of the agriculture-nutrition pathways

among the workshop participants coming from different sectors. The realization encouraged the survey team to spend more time on the analytical part, rather than simply listing possible interventions. Therefore, from the second country, the workshop was essentially composed of the following activities: (1) presentation by the survey team on preliminary results; (2) gap/bottleneck analysis; (3) intervention listing; and (4) discussion on an enabling environment for multi-sectoral synergies.

At the beginning of the ten-country Preparatory Survey, the survey team did not have context-specific analysis tools, and it resulted in a rather generic long list of interventions. The survey team therefore immediately decided to develop an analytical framework based on the existing ones to make it visually comprehensible so that all stakeholders could easily capture the agriculture-nutrition pathways in the workshop. Different versions of the pathway charts were used in different survey countries, as the survey team continued to improve the contents of the framework. The final version is shown in Figure 16 under Section 4.2.4.

In three countries (Madagascar, Kenya and Burkina Faso), the survey team introduced a case story approach for the gap/bottleneck analysis, using the information gathered from field observations and actual interviews with typical farming families in nutritionally vulnerable/food insecure areas. To build up a common vision and have a meaningful dialogue during the workshop, a story of a hypothetical yet typical rural woman and her family members was provided as a basis for discussion. This approach was tried out because the team realized that some stakeholders, especially national-level government officials, may not have developed a realistic view of multiple problems that rural families are faced with in their everyday life.

3.4.2 Country Workshop Results and Lessons Learned

Key results of the stakeholder workshops conducted in the ten countries are summarized below:

Table 12: Summary of Country Workshop Results and Lessons Learned

KEY RESULTS – TECHNICAL FINDINGS
▪ As key nutrition issues, most of the countries selected child stunting, sub-optimal complementary feeding and/or anemia in children/women that are all globally monitored. Additionally, some countries also focused on anemia in female adolescents and/or undernutrition in women/female adolescents (measured by BMI) realizing the seriousness of the situations. ▪ In many countries, multi-sectoral coordination, especially at the local level, came out as an urgent issue to look into. It was pointed out that coordination could be institutionalized more naturally at the local governance level, where sectoral convergence is already part of their daily business, than the national level. However, in one country, a group discussion revealed that there was absolutely no common understanding of what coordination structures existed at local levels. ▪ In some countries, there was confusion about who takes the lead in multi-sectoral nutrition programming because of parallel coordination bodies established in different sectors and a lack of agreed organograms/terms of references.
KEY RESULTS – PARTICIPANTS' REACTIONS
▪ Stakeholder interests were very high in most of the countries (over 30 and up to 50 participants actively engaged in discussion and commented that it was meaningful). ▪ In many countries, participants appreciated the opportunity where stakeholders from different sectors jointly analyzed bottlenecks and possible solutions in the entire agriculture-nutrition pathways. It was highly beneficial to spend a considerable amount of time on the gap/bottleneck analysis, which in many cases helped build a group consensus on the urgent need for integrated scale-up of nutrition programmes. ▪ In some countries, it was clearly noticed that participants from the agriculture sector initially tended to focus on agricultural production issues (arguing that improved production would be the first priority to improve nutrition in the population) but gradually developed a common platform where production, consumption and other bottlenecks were identified and linked to each other. ▪ In one country, non-health sector participants initially did not find their role in anemia prevention because it was considered too medical, implying that multi-sectoral coordination should be built on a common understanding that each one has a role in tackling different nutrition problems. ▪ In three countries, use of a case story (of a typical rural farming family under food insecurity and nutritional vulnerability) enabled stakeholders, especially national-level government officials, to understand the multiple dimensions of challenges faced by their target population in their everyday life. It also helped different sectoral stakeholders to realize that they had a role to play in improving the nutritional status of their own target population.
LESSONS LEARNED/LIMITATIONS
▪ Sufficient preparation time should have been allocated in order to fully engage key government officials prior to the workshop. ▪ Prior information sharing would have been beneficial for all stakeholders to understand what IFNA is, how to work with IFNA and utilize its opportunities, etc. ▪ Much more time was needed for the participants in each group work session to have a thorough understanding of the complex agriculture-nutrition pathways and discuss issues in each country's context. ▪ The Preparatory Country Surveys only allowed the national level workshop, and thus the gap/bottleneck analysis was only done as an exercise/general overview. A few countries focused on certain geographical areas and managed to have more specific discussions, yet more area-/context-specific bottleneck analyses and intervention listing, supported by data and peer review process, are needed. ▪ Due to the time limitation and the need to focus on a dialogue, there was not enough time to thoroughly go over and discuss on multi-sectorality, other than agriculture-health linkages. Broader multi-sectoral linkages should be further incorporated in future dialogues.

3.5 ICSA Consultative Workshop in Senegal 2018

3.5.1 ICSA Consultative Workshop - Process

After the Preparatory Country Surveys were completed in all the ten IFNA target countries, the IFNA Secretariat and assisting members from JICA re-visited each country to initiate the process of developing the IFNA Country Strategy for Actions (ICSA), based on the dialogues held during the Preparatory Survey and its findings. This ICSA in-country support process started with an initial scoping exercise, including the setting of the priority nutrition issues to be focused under IFNA and the geographical targeting for the initial phase (please note that details of ICSA and its processes, proposed by the IFNA Secretariat, are described in Chapter 5). Additionally, different agro-ecological zones within the target areas and potential food commodities for nutrition improvement were assessed for an exercise purpose. For example, Ethiopia shared the process as a positive experience in which they felt the ICSA scoping exercise helped them think through how to bring in an agriculture lens to nutrition programming[34]. While some technical inputs were provided by the consultant team, the overall ICSA development process was designed and facilitated by the IFNA Secretariat.

When all the ten countries went through the initial scoping exercise, the IFNA Secretariat organized the ICSA Consultative Workshop in Senegal in April 2018. The overall objective of the three-day workshop was to provide the participating countries with an opportunity to learn from each other by exchanging the lessons, as well as to prepare for the next step after the workshop, which was set to be the finalization and validation/formalization of the ICSA document. The participants included representatives from the ten countries, both from the Ministries of Health and Agriculture, IFNA Steering Committee members (such as FAO, IFAD, JICA, JIRCAS, UNICEF, WFP and the World Bank), IFNA Secretariat (in NEPAD) and NEPAD officials (including Dr. Ibrahim Mayaki, CEO of NEPAD), as well as some observer organizations (such as IFPRI/HarvestPlus, the World Vegetable Centre, the WaterAid and HKI, among others).

3.5.2 ICSA Consultative Workshop - Results

The consultative workshop turned out to be mainly focused on the following two themes:

[34] After they identified complementary feeding and maternal and adolescent nutrition as a neglected part of its nutrition programme, they looked at different agro-ecological conditions and tried to identify potential commodities to tackle the problems in the northern part of Ethiopia by using the national food composition table. The criteria included whether they are traditionally produced by farmers, accessible in local markets, etc. so that it could be scaled up. In addition to the production/market access, other challenges, such as actual consumption by mothers and children, retention of nutrient values in the body, etc. were also considered. They found, for example, dried meat produced at home and made into powder, which could be easily stored and added to complementary food as an important source of protein and bio-available iron as well as vitamin A, zinc, etc.

rethinking the building blocks of multi-sectoral nutrition; and mutual learning through sharing of good practices. This section summarizes the main outcomes of the workshop (details of the presentations and discussions could be obtained from the IFNA Secretariat).

The first theme – the building blocks of multi-sectoral nutrition – was extensively discussed by participants throughout the workshop, which was summarized by Dr. Ibrahim Mayaki, CEO of NEPAD, as the following seven critical elements that need to be worked out:

1) **Structural issue** – positioning of nutrition offices at the highest level
2) **Process issue** – acceleration of joint planning and joint implementation
3) **Territorial issue** – deliberate targeting of the areas that are most in need or marginalized and roll-out of community-based actions
4) **Resource allocation issue** – allocation of resources based on cost analyses (nutrition-sensitive vs. nutrition-specific actions)
5) **Synchronicity of actions on the ground** – synchronization of actions in terms of location and timing and for common goals and targets
6) **Legal backing issue** – development of appropriate laws and regulations/standards that assure nutrition as a human right and ensure adherence and sustainability (i.e. laws/standards for fortification)
7) **Feedback based on evidence** – strengthening of the system for sound data collection and tracking

The second theme – mutual learning – was addressed in country presentations as well as group/plenary discussions. Country representatives were eager to raise questions to each other and share additional information in response, which created an active mutual learning platform. The extracts from the list of good practices are summarized below.

Table 13: Selected Good Practices Shared in ICSA Consultative Workshop

Senegal – strong and sustainable coordination structure to respond to political will Senegal's multi-sectoral nutrition coordination efforts started from the high-level political commitment to nutrition improvement that necessitated a strong coordination structure to fill in with appropriate technical solutions step by step. Senegal made efforts to establish a council that would be strong enough to sustain its functions regardless of political changes. A core lesson learned about capacity was that members of such committees ought to be assigned solely on nutrition. At the implementation level, Senegal has had the comparative advantage of having strong civil society, while its challenge has been how to create linkages between administrative bodies and de-concentrated, decentralized service delivery mechanisms.
Madagascar – nutrition governance supported by horizontal/vertical linkages up to community level At the national level, there are the National Coordination Office under the Prime Minister, the Parliamentary Alliance for Fight against Malnutrition, and the Monitoring & Evaluation Group. At the community level, Community Nutrition Agents actively work on multi-sectoral nutrition interventions with other actors gathering around a common results framework, successfully reducing child wasting and underweight prevalence (but not yet stunting).
Kenya – efforts to make the sub-national coordination functional In the context of the decentralization/devolution, the national-level Food Security and Nutrition Implementation Framework has been endorsed and signed by the Council of County Governors. The national coordination mechanism has been replicated at the county-level (below the region) for each county to come up with its own structure and plan based on their own, context-specific needs. Development partners also come to the same platform to coordinate their support by selecting indicators to measure the progress in a short time and monitor the activities in each community.
Ethiopia – joint planning/implementation and scaling-up MoH and MoA signed the memorandum of understanding (MoU) to work together on complementary feeding and dietary diversity. Health Extension Workers and Agriculture Extension Workers jointly identify target households that have pregnant mothers and/or children under two years of age and provide appropriate support/services to them. The collaborative effort has been expanded from 50 to 150 districts, aiming to be at a national scale in the future.

Source: The Survey Team (extracted from the ICSA Consultative Workshop discussions)

Overall, the workshop yielded the following main results:

- **Reaffirmed the need to mobilize a high-level political will/commitment** to putting nutrition as a center of the national development agenda in each country and link it to the national accountability as an indicator of an inclusive social system.
- **Reminded that the existence of inter-ministerial committees does not automatically solve the issues with regard to multi-sectorality in nutrition.** Coordination mechanisms need to be functional to influence governmental actions for multi-sectoral coherence, which is not a responsibility of a single ministry, be it the MoH or the Ministry of Finance.
- **Prompted active sharing and dialogues on good practices** across the countries and among the inter-sectoral country representative team, resulting in a strong desire **to create IFNA Community of Practice** so that the participating countries could continue to learn good practices and lessons and empower each other.
- **Helped create a common ground between the governments and donors/partners** by putting country representatives as the main interlocutor, assisted by development partners, throughout the workshop.

As the time was limited, there are also remaining issues that need to be further discussed in detail and in a more systematic way:

- **How to address the issue of geographical inequality under IFNA**: By taking into account of the decentralization/devolution contexts, countries need to identify ways to incorporate nutrition actions into local governance processes and ensure budget allocations. IFNA will take a phased approach to contribute to optimal geographical coverage.
- **How and where to make the best use of the existing tools and guidelines for common purposes:** Tools and guidelines (such as FAO's tool kits, WFP's filling the nutrient gap analysis, IFAD's investment planning guideline) are already available to design effective actions, which should be supported by peer reviews.
- **How to generate more evidence:** Countries should be encouraged to make plans to generate more evidence: IFNA could be used as an open forum to explore collaboration to fill the evidence gaps.
- **How to establish an accountability mechanism for nutrition:** Nutrition actions need to be linked to an accountability mechanism where there is a single common results framework supported by an appropriate nutrition information system.

4. Overall Preparatory Survey Findings

This chapter summarizes key findings of the overall Preparator Survey, mostly extracted from key-informant interviews and stakeholder workshops and synthesized with literature review results. While the findings that are most relevant to IFNA activities were selected, they are not meant to be the list of activities that IFNA has committed to support. In other words, the survey team highlighted relevant findings/learning points that may be worth considered by any actors engaged in multi-sectoral nutrition actions, especially in the effort to effectively link agriculture-based strategies to nutrition outcomes (specific recommendations for IFNA's way forward are described in Chapter 5).

4.1 Context-Specific Analyses and Action Designing

As the recent review article by Ruel et al.[35] suggests that contextual factors (including market access) need to be taken into account when designing and implementing a nutrition-sensitive agriculture policy. At the beginning of the ten-country Preparatory Survey, the survey team did not have context-specific participatory analysis tools to explore strategic directions of IFNA. Therefore, even though the discussion on potentially synergistic actions was lively, it still resulted in a rather generic long list of interventions. The survey team therefore explored ways

[35] Ruel et al. Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *Lancet* 2013; 382: 536–51.

to make the analysis and discussion more context-specific despite the time constraints and already-defined scope of work. Based on the experience, the survey team recommends considering the following contextual dimensions to make the final intervention lists more meaningful.

4.1.1 Nutrition and Food Security Analyses by Farming Typologies

To facilitate context-specific analyses, the survey team perceived that geographical targeting and defining specific agro-ecological zones should be the first step, which could not be done in the current phase of the survey process.

The survey team strongly felt that the farming typology is another important dimension for context-specific analyses in the case of nutrition-sensitive agriculture because it affects the selection of commodities and types of interventions that farmers could realistically take up. In this context, the survey team introduced the following two distinctive analytical pathways: (1) producing for self-consumption vs. (2) producing for selling (cash-oriented). This categorization is not the same as grouping of farmers by subsistent vs. commercial farmers because smallholder farmers (often defined as “subsistent”) tend to sell their produce in one way or another to have cash income, no matter how small their production is, and buy certain food from local markets. Therefore, the categorization could be more meaningful when it is combined with a specific commodity group that the target farmers could produce (e.g. large livestock for marketing vs. small livestock for self-consumption). By applying this categorization in a hypothetical setting, workshop participants were able to come up with more context-specific intervention lists (see Kenya’s country survey report).

4.1.2 Consideration of Seasonality

One of the common issues that came out of the ten-country survey results is the effect of seasonality/hunger season on food security and nutritional vulnerability. Although not enough data/analyses were available to fully understand the severity of the effects, it was perceived as one of the major bottlenecks that would affect the food security and nutrition situations of rural populations, particularly smallholder farmers and their family members who end up spending their limited cash to purchase food during hunger season when the market price also goes up.

4.2 Appropriate Nutrition Objectives and Tools for Effective Actions

4.2.1 Setting Appropriate and Specific Nutrition Objectives and Indicators

In recent years, all the ten IFNA target countries have undertaken a number of “nutrition-sensitive” projects/activities on the ground, while the survey team actually realized

that quite a few of them did not have specific nutrition objectives and indicators. Such projects/activities claim that they have incorporated nutrition elements and thus are "nutrition-sensitive," but they often lack any means to ensure/measure their actual contribution to the improvement of the nutritional status of their target population. As "nutrition-sensitive interventions" are defined as those that "incorporate specific nutrition goals and actions," IFNA should re-emphasize the importance of defining specific nutrition problems to be addressed and critically assessing whether/how nutrition objectives are achieved. While the importance of setting appropriate nutrition objectives cannot be over-emphasized, it should be noted that making measurable impacts on nutrition outcome indicators may require a considerable amount of time. Therefore, it is advisable to consider not only nutritional status indicators as measures of outcome but also other behavioral indicators as inter-mediate outcome measures as well as selected process indicators.

4.2.2 Re-Defining "Diversification" and "Nutritious Foods" for Concrete Nutrition Outcomes

"Dietary diversity" and "dietary diversification" are the terminologies that have long been used in the food-based approach to nutrition. Dietary diversity is defined as the number of different foods or food groups consumed over a given reference period, but there is still a lack of consensus about what it actually represents[36] and how it could be measured/compared. In the context of undernutrition problems such as high levels of stunting/wasting, anemia and key micronutrient deficiencies that are already compromising survival and development of children, merely promoting "diversified" or "nutritious" foods may not be the most effective investment as pointed out in IFNA's stakeholder workshops several times. Considering that "diversification" is not an end in itself but a means to nutrition improvement, IFNA places an emphasis on identifying specific undernutrition problems (such as child stunting, anemia, etc.) and re-defining "diversification" by specifying food items/groups that need to be consumed more so as to ensure that investments in nutrition-sensitive agriculture interventions would contribute to national aspiration for zero hunger and malnutrition. At the same time, market stability and agro-ecological sustainability should also be carefully considered so that there would be no trade-offs between nutritional and agricultural gains.

4.2.3 Gender and Behavioral Change Aspects as a Foundation for All Nutrition Improvement Efforts

The literature review and stakeholder dialogues reminded the survey team that gender issues

[36] Ruel, MT. Operationalizing Dietary Diversity: A Review of Measurement Issues and Research Priorities. *J. Nutr.* 133: 3911S–3926S, 2003.

and behavioral change challenges almost always lie as bottlenecks of any nutrition improvement efforts, especially when targeting the most vulnerable/under-served populations. Gender and Social and Behavioral Change Communication (SBCC) interventions are always at the heart of health-sector nutrition activities while it should also be the same in agriculture-based programmes if they are to be nutrition-sensitive.

4.2.4 Use of Simple Analytical Tools for Context-Specific Analysis

Conceptual frameworks developed for nutrition-sensitive agriculture tend to be complex, reflecting the complex nature of agriculture-nutrition linkages. From the IFNA Preparatory Survey processes, however, the survey team learned that the gap/bottleneck analysis using a well-structured yet very simple framework would be of great help in developing a common understanding of what causes what under what conditions. The survey team therefore developed a simple tool (Figure 16) with the following considerations:

- Focusing on linking the three core elements – "production diversification," "consumption diversification" and "nutrition outcomes";
- Clarifying key conditions required to move from "production diversification" to "consumption diversification" and then to "nutrition outcomes"; in other words, visualizing a sequence of factors to link agricultural inputs to nutrition outcomes (from left to right in Figure 5 under Section 1.4.2);
- Distinguishing two pathways based on distinctively different sets of demand and supply conditions – the "self-consumption pathway" and the "market/income pathway" as they are the key determining factors to appropriate agriculture-based interventions; and
- Visualizing where and how different sectoral issues are related to each other in a complete picture of agriculture-nutrition linkages, and reminding especially agricultural stakeholders that the final outcome is nutrition.

To logically understand key problems/issues that lie in the agriculture-nutrition linkage, the pathway chart was used in the gap/bottleneck analysis session of the stakeholder workshop conducted in each country. Figure 16 shows the initial version of the chart and the latest consolidated version. The latter removed the availability-accessibility-utilization-stability categories because it took a considerable amount of time for workshop participants to understand the definition of each terminology and their actual differences. The latest one also highlights the importance of gender considerations in the overall framework.

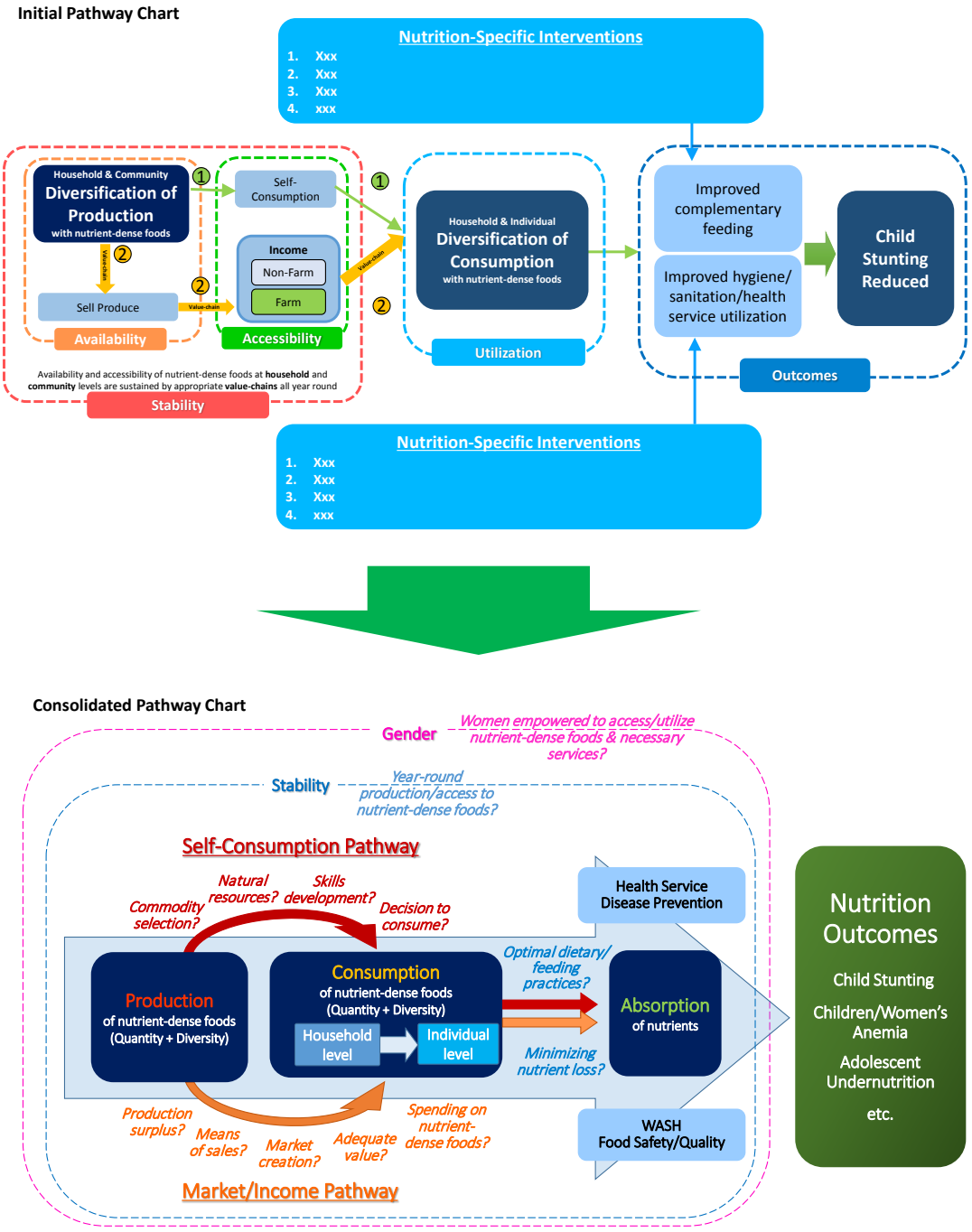


Figure 16: Development of Agriculture-Nutrition Linkage Pathway Chart

In some countries, participants listed major "gaps" seen along the pathways and then further identified "bottlenecks" that created the gaps. This two-stage "gap-bottleneck" analysis helped the participants to dig deeper into the specific problems that should not be missed out. Furthermore, by identifying specific bottlenecks that are behind the major gaps, participants

could discuss more specific solutions to the selected nutrition outcome in mind.

In this Preparatory Survey, the pathways were used for a broad, national level exercise to visualize the linkages and prompt dialogues on potentially missing links, rather than verifying it as evidence-based impact pathways. Therefore, it is named the Agriculture-Nutrition Linkage Pathways. It was well-received and helped promote active discussions among participants coming from different sectors. For the future use, the pathways should be peer-reviewed based on actual data and evidence as much as possible, which also in turn would help the process of identifying critical data/information gaps. From the experience, the survey team would recommend the use of such a simple analytical tool to logically link agricultural inputs to nutrition outcomes with an aim to create a common view of the linkage points for effective actions.

4.2.5 Converting the Gap-Bottleneck (Problem) Tree to the Intervention (Solution) Tree

The country-level gap/bottleneck analysis conducted as part of the Preparatory Survey yielded long lists of bottlenecks against the priority nutrition issues identified in each country as well as corresponding interventions. In the last survey country, Kenya, the survey team tried to reformat the bottleneck list into a "gap-bottleneck tree" (i.e. problem tree), which allowed visualization of what causes what (Figure 17). The gap-bottleneck tree was then turned into an "intervention tree" (i.e. solution tree), which facilitated understanding of the combinations of actions/solutions that may be appropriate to address certain gaps/bottlenecks (Figure 18).

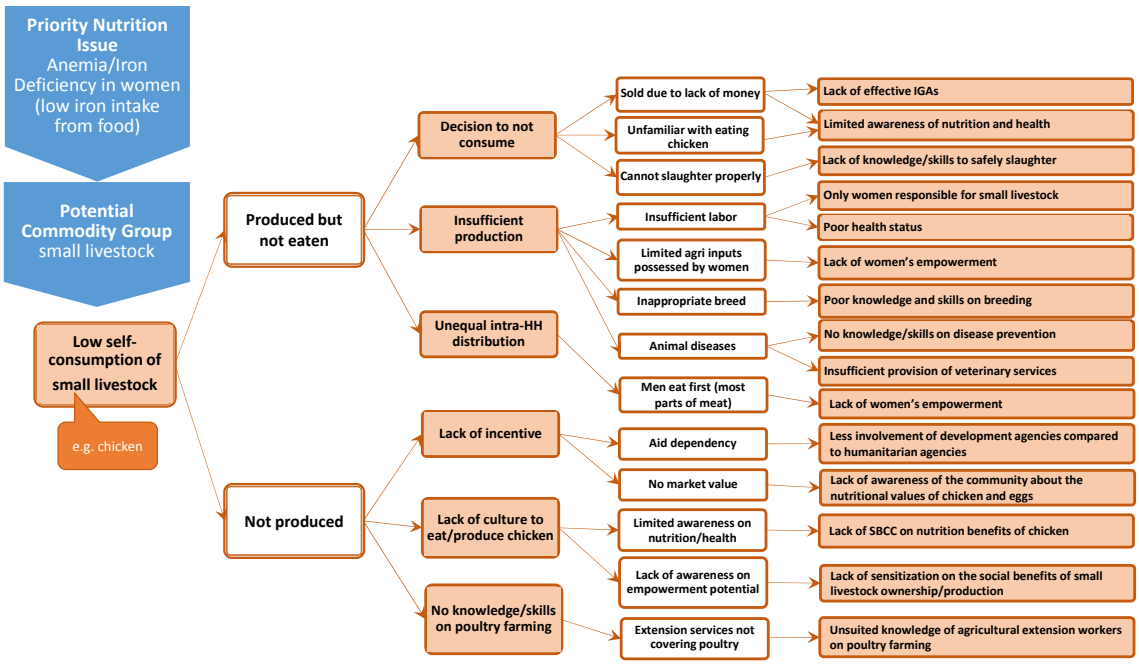


Figure 17: Example of Bottleneck (Problem) Tree

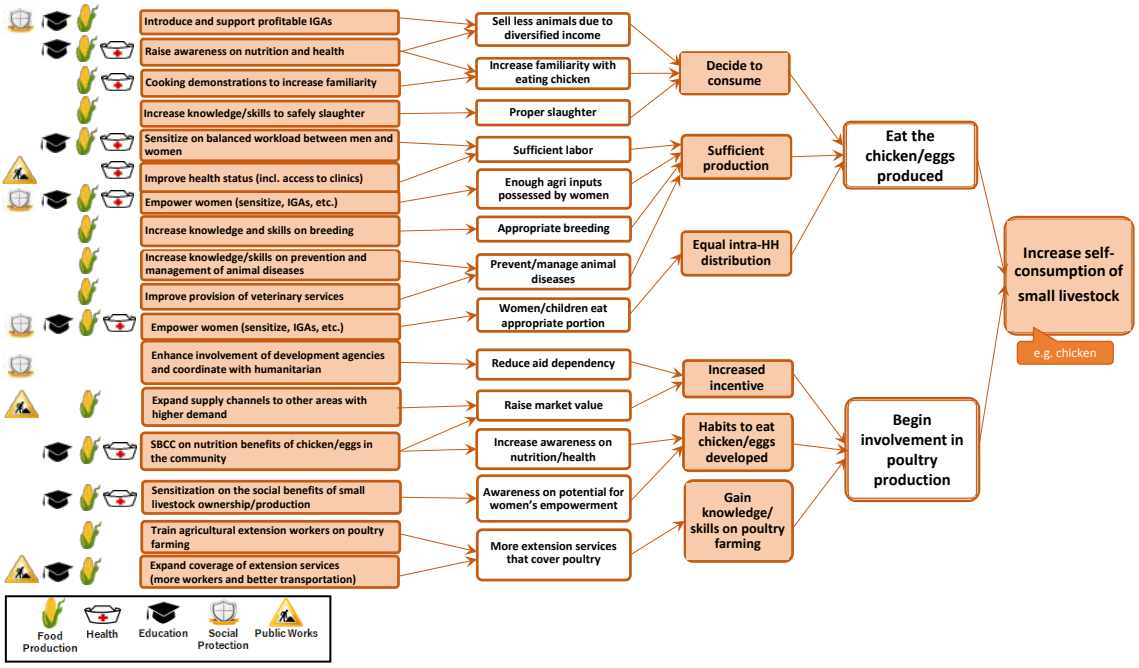


Figure 18: Example of Intervention (Solution) Tree

4.2.6 Identification of Linkages at Project, Activity and Modality Levels

JICA requested the survey team to sort out the intervention lists and categorize each intervention either as "agriculture-based" or "non-agriculture-based" in a table in each of the Preparatory Country Survey reports. The Kenya survey team also tried to visualize which of the related sectors (i.e. food production/agriculture, health, education, social protection and public works) could be involved in/contribute to each intervention (see Figure 18 above). In the Preparatory Survey, this was only done for Kenya by the survey team during the report writing process (not in the stakeholder workshop), but it could have been done in the workshop with relevant stakeholders in each country to build a consensus on who could be involved in what.

Furthermore, the survey team felt that merely identifying relevant sectors may not help them work together. If time allowed, it would have been more beneficial to discuss actual linkage points among those sectors at the project and activity levels as well as in terms of operational modalities (e.g. joint training for agricultural and health extension workers, use of joint action platforms such as nutrition sensitization at Farmer Field Schools, introduction of mobile communication applications to share data between agriculture, social protection and health/nutrition workers).

4.3 Realization of Policy and Strategic Objectives into Local Actions

There are positive movements towards improving nutrition governance, at least in terms of setting up policy/strategy frameworks and coordination mechanisms at the national level in most of the IFNA target countries. However, considering that nutrition governance is a means to achieve better nutrition outcomes, such frameworks and mechanisms should be functional, and actions taken under these frameworks/mechanisms be effective. The ten-country Preparatory Survey specifically looked into the countries' situations from the following viewpoints: whether the policy/strategy has been translated into action plans at the national level; what is happening at the sub-national level; and which key actors should be supported at the local level through sub-national coordination.

4.3.1 Translating Policy/Strategy into Concrete Action Plans

Most of the IFNA target countries already have a national-level multi-sectoral nutrition policy/strategy, which is a common and positive direction towards better nutrition governance. However, some countries do not have a consolidated national nutrition action plan (with a results matrix including estimated costs). A multi-sectoral action plan, developed through a participatory process, could be a driving force for several reasons: it provides an overview of what needs to be done across sectors and how they are related to each other; it could serve as a basis to clarify roles and responsibilities of each sector/actor; and it would encourage budget allocations in each sector.

Furthermore, some countries, such as Mozambique and Kenya, are moving towards the development of sub-national level multi-sectoral planning. In order to promote real synergistic actions on the ground, the development of multi-sectoral nutrition plans at the sub-national government level (or full inclusion of nutrition actions into sub-national development plans) is a critical step. Such a planning process should be led by the local leader (e.g. governor) and participated by sectoral stakeholders to ensure ownership and adequate resource allocations.

4.3.2 Strengthening Local Coordination for Effective Action

With regard to the enabling environment for synergistic actions, major bottlenecks identified by country stakeholders include, among others, a lack of/insufficient functioning of sub-national coordination due to unclear roles and responsibilities, lack of information sharing between the national and sub-national levels, insufficient amount of/delays in budget transfer, etc. These points match with the nutrition governance analysis done by the Sussex University's Institute of Development Studies (IDS) which looked into the horizontal and vertical linkages, roles and responsibilities of different actors, multi-sectoral coordination as

well as budget allocation. To realize the existing policy/strategy into effective actions on the ground, the survey team would recommend IFNA to put a special emphasis on sub-national level support to promote effective actions that are well-linked with local government's planning and coordination.

4.4 Need to Address Structural Challenges in Agriculture-Based Multi-Sectoral Nutrition Programming

4.4.1 Strong Political Leadership and Commitment to Sustain Multi-Sectoral Approach to Nutrition

During the survey period, it was repeatedly reminded that the existence of inter-ministerial committees would not automatically solve the issue of complex coordination needs for multi-sectoral approaches for nutrition. Strong political leadership is indispensable to bring together multiple actors to have a common goal and make the coordination bodies functional. Furthermore, in order to create synergistic effects of different sectoral contributions, it is vital to ensure a commitment to achieving the shared goal, which should be supported from the highest political level. As shown in the case of Senegal (see 3.5.2), high-level political leadership and commitment could make a broader impact on how each sector works towards nutrition improvement and sustain the efforts.

4.4.2 Addressing Data Gaps for Context Specific Analysis and Planning

As already stated, effective nutrition-sensitive agriculture/agriculture-nutrition linkage actions require context-specific analysis and planning, and thus usable data and information must be obtained to help define the contexts. While there are already global dialogues and efforts to improve data availability for nutrition-sensitive agriculture, it would be highly beneficial for IFNA countries to promote country-level dialogues on identifying/consolidating a core set of indicators that may be useful for planning, action designing, monitoring and evaluation and discuss ways to fill the data gaps. The survey team would recommend that IFNA support such efforts from the action designing level, in which the use of an analytical framework and process, e.g. the Agriculture-Nutrition Linkage Pathways described above, could be tried out for practical use and further refinement.

4.4.3 Generating Evidence and Assessing Feasibility/Scalability through Operational Research

In the field of nutrition-sensitive agriculture, research/evidence gaps are still huge – especially in such areas as long-term impacts and sustainability, scalability, cost-effectiveness, target groups and outcomes, effective behavior change communication in agricultural

programmes, women's empowerment, etc.[37]. Therefore, budget for operational research should be set aside in each country (e.g. example of Ethiopia's NNP I), and operational research should be designed in a planned manner so that they could contribute to filling the critical evidence/information gaps in each country and the continental/global contexts. Research questions should be selected, and results shared at an open dialogue platform, which matches with IFNA's principles.

4.4.4 Filling in Inter-Sectoral Communication Gaps

In this IFNA Preparatory Survey, each country survey team was composed of a nutrition specialist (leader), a health specialist and an agriculture/rural development specialist. The in-country stakeholder workshops were also participated by a variety of experts from the nutrition, health, and agriculture/rural development sectors with varying degrees of exposure to nutrition issues. From the beginning, the survey team understood that there would be inter-sectoral communication challenges because of unfamiliarity with technical terminologies, different sectoral perspectives on the same issue, different ways of using data/information, etc. Thus, the survey team tried to listen to dialogues carefully and play a bridging role. The survey team found that the following points may require special attention:

- **Looking at households vs. individuals:** In agriculture, the unit of intervention/ assessment target is almost always at or above the household level (e.g. a farmer as a representative of a farming household) while nutrition problems and services are specific to an individual of a family (e.g. an infant, a young child, a pregnant woman, etc.). It is of most importance that everyone understands the household's access to certain foods/resources may not necessarily ensure the individual's access. For example, it is often the case that certain nutrient-dense foods, such as eggs/meat/fish, are consumed by adults but not given to young children at all because of a custom of only preparing starchy porridge as a complementary food.

- **Nutrition as a social service vs. agriculture as a business/livelihood:** Nutrition interventions are often designed as a social service while farmers do agricultural activities as a business/livelihood. It should be reminded that the matching points between business and health/nutritional benefits need to be sought. Considering that farmers need to make a business to sustain their livelihood while family members' health and nutritional well-being cannot be compromised for the family's prosperity, it is not an issue of which one has a greater importance/priority than the other.

[37] Ruel, et al. Nutrition-Sensitive Agriculture: What Have We Learned and Where Do We Go from Here? IFPRI Discussion Paper. 2017.

- **Dealing with commodities vs. human beings:** Agricultural experts are concerned about the healthiness of commodities (e.g. plants, livestock, seeds, etc.) and even the nutrient content of soil, but in most cases their concerns are not about the health of human beings. However, the agriculture-nutrition linkage is about what happens when their produce reaches people's mouth, including their own and their family's. When nutrition/health and agricultural experts interact with each other, it is useful to highlight/visualize that they are inherently well-linked, and that this linkage should be carefully established in order to benefit their target populations' and their own health.

- **Nutrition-sensitive agriculture is not a revolutionary action but about adding another value to agricultural practices:** Even though adding nutrition-sensitivity to agriculture may be new to many in the agriculture sector, it does not require a revolutionary act, but rather adding another value to the existing agricultural practices and re-thinking ways to maximize the benefit. For example, commodity selection and the contents of agricultural extension services may be adjusted in places where climate adoptability has become another value to consider. Nutrition could be the same. Furthermore, agricultural experts do not have to become an expert in nutrition but could rather identify realistic and effective linkage points so that farmers/extension service providers could incorporate nutrition elements into their existing activities.

5. Way Forward for IFNA

Key Messages from IFNA Preparatory Survey 2017

Translate policies into concrete actions on the ground
National policy/strategy and coordination mechanisms are in place. What is needed is to make them operational/functional, backed-up by strong political commitment, so that they become part of national capacity and effectively support actions on the ground. Know critical gaps and bottlenecks, agree on how to tackle them and incorporate the actions in the plan.

Invest more into local nutrition governance
To create synergistic actions on nutrition, key factors to good governance need to be fulfilled, such as horizontal and vertical linkages, clear roles and responsibilities, functional multi-sectoral coordination as well as adequate and sustainable resource allocation. IFNA places a great focus on realization of the existing policy/strategy into effective actions on the ground, which requires systematic support to strengthen local government's planning and coordination.

Address gender and behavioral change aspects as the foundation for all nutrition improvement efforts
Gender and Social and Behavioral Change Communication (SBCC) interventions are at the heart of building human capital, including nutritional wellbeing. Such interventions should be incorporated as an integral component of any nutrition-specific and -sensitive actions.

Nutrition-sensitive agriculture is not a revolutionary action, but adding another important value to agricultural practices
Even though adding nutrition-sensitivity to agriculture may be new to many in the agriculture sector, it does not require a revolutionary action, but rather adding another important value to existing agricultural practices and re-thinking ways to maximize the benefit for development of a country's human capital. Furthermore, agricultural experts do not have to become an expert in nutrition. Instead, identification of realistic and effective linkage points would help incorporate nutrition elements into their existing activities.

IFNA is not a project/programme, but a continental initiative to establish a framework of collaboration with African governments for accelerating and scaling up multi-sectoral nutrition actions with a special focus on the optimal utilization of agricultural platforms. IFNA is neither intended to come up with a parallel strategy/structure to the existing ones in each country nor accompanied with a new funding mechanism. Rather, it aims to play a catalytic role to create a synergy among stakeholders through stakeholder dialogues and coordination processes that are needed to translate the existing national policy/strategy into effective actions on the ground. IFNA further supports mutual learning across the target countries and eventually with other countries in Africa.

In light of the key messages derived from the IFNA Preparatory Survey and IFNA's aim to play a catalytic role, the survey team would recommend that IFNA take the following key strategic direction (also see Figure 19):

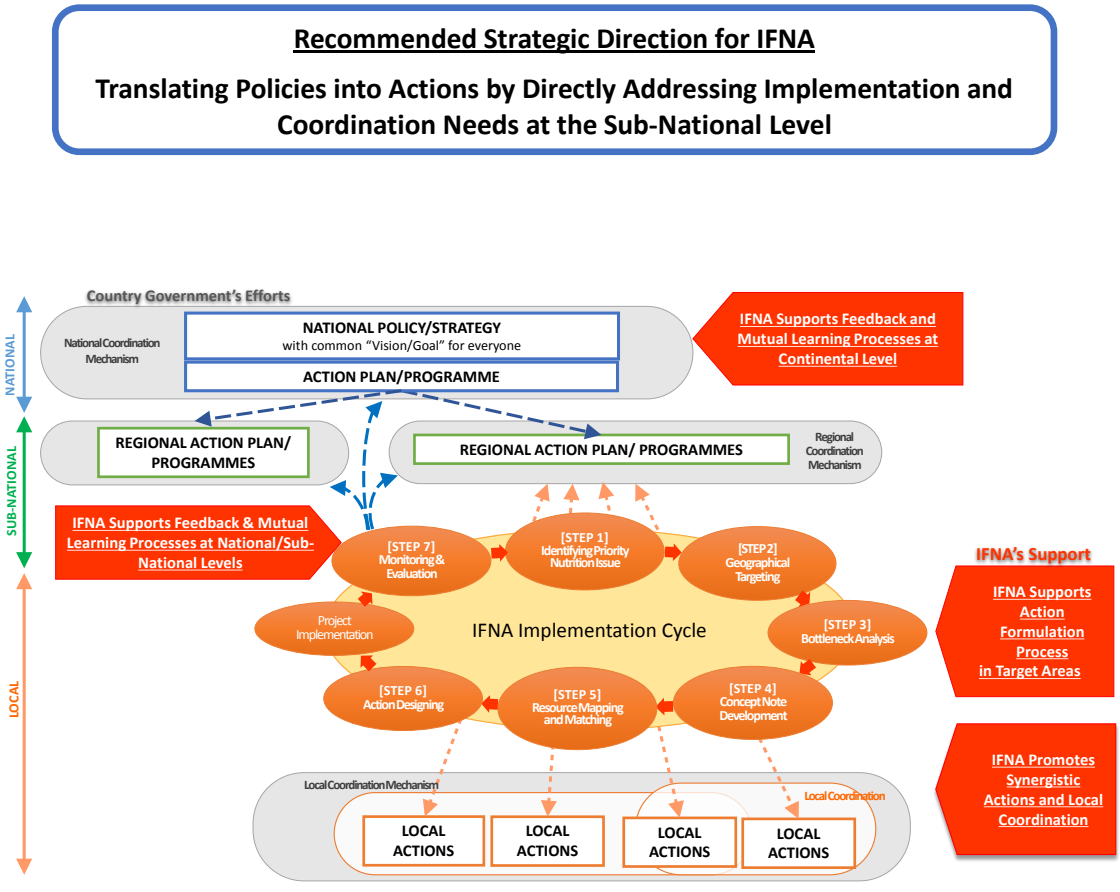


Figure 19: IFNA's Role and Support in National Efforts on Nutrition Improvement

IFNA Country Strategy for Action (ICSA): According to the IFNA Secretariat, IFNA's catalytic process will be guided by the IFNA Country Strategy for Action (ICSA) to be developed by each government through consultative process with stakeholders, supported by the IFNA Secretariat. ICSA is also not a parallel strategy but rather a specific guidance document on how IFNA could support each country to translate the national multi-sectoral nutrition policy/strategy into actions on the ground with a focus on agriculture-based interventions. IFNA facilitates dialogues on how critical gaps and bottlenecks could be filled through synergistic processes among multi-sector stakeholders, especially at the sub-national/implementation levels.

According to the IFNA Secretariat, each ICSA document will be composed of the following two major parts, each with specific steps (see Figure 20 for details):

(1) PART 1 - "ICSA Development":

The first stage is composed of a situation assessment (done as part of this Preparatory Survey), the development of target areas/priority nutrition issues (the scoping exercise done by the IFNA Secretariat as mentioned above), context-specific gap/bottleneck analyses and listing of sets of corresponding intervention options.

(2) PART 2 - "ICSA Roadmap for Implementation":

This stage includes step by step processes, such as the development of concept notes for priority actions, facilitation of resource alignment/matching, action designing, implementation, M&E and feedback to the national/sub-national policy and strategy frameworks.

Each step explained in the ICSA will be primarily implemented by the government jointly with stakeholders in the nutrition sector under the existing coordination mechanisms, supported by the IFNA Secretariat (IFNA Secretariat has already initiated the ICSA development process in each of the ten IFNA target countries).

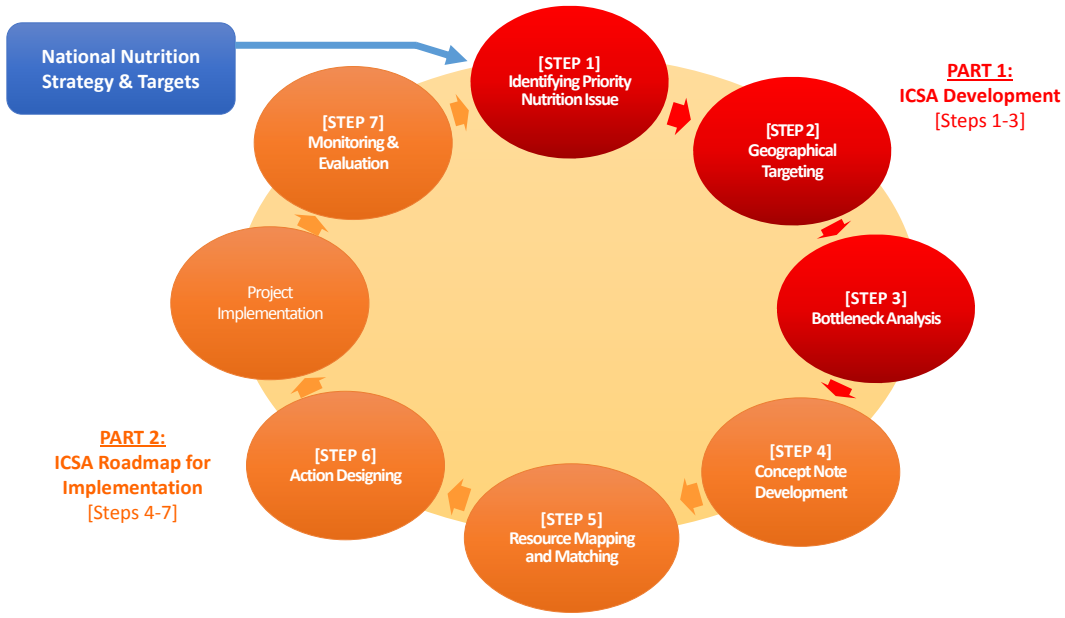


Figure 20: IFNA Country Strategy for Actions (ICSA)

Based on the understanding of what IFNA supports and how ICSA plans to guide the IFNA process, the survey team synthesized relevant findings from the Preparatory Survey processes and reflected them as a recommended way forward to be followed through the ICSA Development and Implementation steps (note that although Steps 1-3 are already ongoing at the time of the report writing, the report still includes relevant points for future reference).

5.1 Setting Priority Nutrition Issues and Geographical Targets

To concentrate resources and maximize the impact, the IFNA Secretariat proposes to narrow down the scope of the IFNA activities as much as possible, at least in the initial phase, by limiting the number of "IFNA's Priority Nutrition Issues" to one to two (or three at most) and geographical targeting to a few areas so that actions could be designed to meet the specific agricultural and market conditions.

In fact, priority setting and geographical targeting should go hand in hand, not as separate steps, so that the selected nutrition issues are also confirmed as the most relevant issues of the target areas. To do so, geographical targeting must be done based on the examination of available nutrition data. For example, sub-nationally disaggregated data sometimes demonstrate that the regions with the highest child stunting rates may not be the same as the ones with the highest anemia prevalence among women. If the target areas are selected based on the food security indicators or other socio-economic or political reasons, it may not help IFNA to focus on the most nutritionally vulnerable areas for a maximum impact. On the other

hand, areas with the highest undernutrition rates may have a very small population size and may not have many partners supporting/operating. As IFNA itself is not a mechanism to finance new projects but rather facilitates the process to link up the existing actions and resources for larger effects, the potential for linkages/resource matching could be another important factor to consider.

The Preparatory Survey process identified two to three "Nutrition Focus Areas" of the country (see each Preparatory Country Survey report), through a desk review and stakeholder consultations, based on the three criteria: (1) severity of the problem, (2) need for accelerated actions and (3) relevance as a platform for agriculture-based nutrition interventions. The IFNA Secretariat has already supported the in-country process to revisit and confirm the final set of the priority issues and select geographical areas to be targeted for the coming years.

Recommended Process of Targeting:

- **Primary criteria for targeting**: The primary criterion should be the severity of the nutrition problem (i.e. "IFNA Priority Nutrition Issues") as IFNA's goal is to improve the nutritional status of the people.
- **Data availability**: To assure the objectivity of selection, the targeting process should be done at the sub-national level where the nutrition outcome data is available.
- **Data usage**: Disaggregated data should be carefully looked at in terms of sex and age because, for example, maternal underweight often affects younger age groups (e.g. 15-19 years old adolescents) which may require specific considerations. Not only prevalence rates but also absolute numbers of those affected may also be considered.
- **Potential application of secondary criteria**: There may be several geographical areas that have equally severe nutritional status or other critical factors to consider. In such a case, other criteria could also be applied for decision-making, e.g. food consumption related indicators (e.g. Household Dietary Diversity Score, Food Consumption Score, Minimum Dietary Diversity for Women, Infant and Young Child Feeding practice, % energy supply from non-staples, etc.), population size, presence of ongoing programmes as vehicles for scaling up of nutrition-sensitive agriculture interventions, etc.
- **Phased approach:** As mentioned in the introduction of this report, IFNA is a ten-year initiative and plans to take a phased approach. The initial phase should limit the scope and geographical coverage because, at the sub-national level, experiences in multi-sectoral programming and coordination based on the agricultural platform are still limited. During the initial phase, effective linkages should be created on the ground and scalability should be carefully assessed. Based on the results of the initial phase, the scope/action areas/geographical targets could be expanded in the succeeding phases.

5.2 Gap/Bottleneck Analysis and Listing of Potential Interventions

From the experience during the Preparatory Survey, the survey team would recommend that gap analysis be conducted in a participatory manner, followed by more specific bottleneck analyses to build a common understanding across different sectors regarding what constitutes agriculture-nutrition linkage pathways, especially where sectoral boundaries meet (i.e. sectoral linkage/interaction points).

Recommended Process of Gap Analysis: Use of Agriculture-Nutrition Linkage Pathways

- **Selection of potential commodity groups:** With the priority nutrition problems in the selected target areas in mind (e.g. adolescent anemia, etc.), country stakeholders should first select certain agricultural commodity groups that could potentially be promoted to tackle the priority problem (e.g. locally grown pulses/legumes in rain-fed, semi-arid areas for self-consumption, small livestock in arid areas for local marketing and self-consumption, etc.).
- **Gap analysis using the agriculture-nutrition linkage pathways:** For each of the selected commodity groups, run a gap analysis to identify major problems that may be blocking the way between the agricultural inputs and nutrition outcomes using the agriculture-nutrition linkage pathways (as shown in Figure 5 in Section 1.4.2) by looking at agricultural production, food consumption and nutrient intake elements as a continuum.

Recommended Process of Bottleneck Analysis and Intervention Listing

- **Use of problem trees:** After identifying major gaps that tend to be broad, more specific bottlenecks behind these gaps should be sought by building problem trees, which would then help formulate more specific actions. The bottleneck analysis should be done for each of the selected commodity groups in each target area. It is critical that the identified nutrition problem is always kept in mind.
- **Converting Problem Trees to Solution Trees:** To come up with specific actions to tackle each bottleneck, a "bottleneck (problem) tree" should be turned into an "intervention (solution tree)" as illustrated in Figure 21 below, which allows for visualization of how each intervention is linked to the overall problem that is being addressed. Moreover, it could help visualize what actions each sector should be responsible for and where the potential areas of synergy exist, leading to dialogues for better collaboration. The diagrams below illustrate the simplified process of building the trees, while in the actual process they could be expanded further to make the bottlenecks/interventions even more specific.

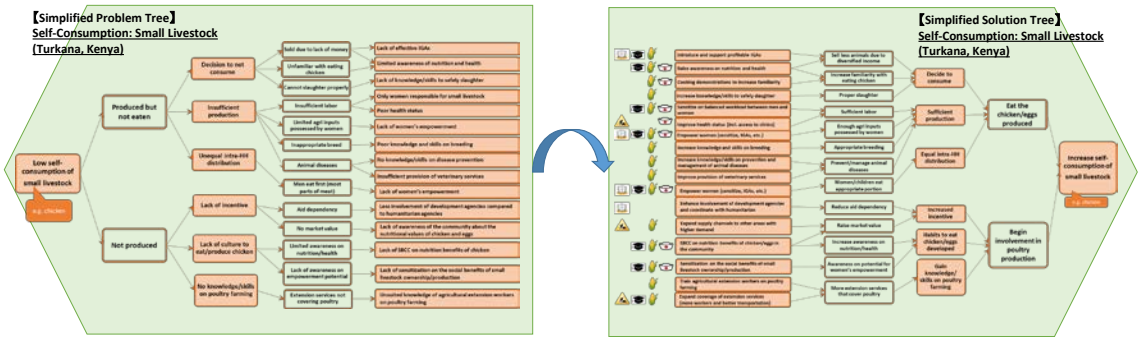


Figure 21: Converting the Bottleneck (Problem) Tree to the Intervention (Solution) Tree

5.3 Stakeholder/Resource Mapping and Matching

Multi-sectoral coordination is not an end in itself but a means towards better outcomes, which could be realized through a number of factors such as improved information sharing, coordinated actions, avoidance of duplications, sharing/maximization of resources, etc. As part of the multi-sectoral coordination efforts, some countries have initiated the process of mapping out the existing stakeholders and resources in the country. Since IFNA places a strong emphasis on sub-national level coordination and actions, it is strongly recommended that IFNA play a role in facilitating stakeholder/resource mapping and matching processes in the target areas.

Recommended Process of Stakeholder/Resource Mapping and Matching:

- **Mapping Exercise to Find Missing Links:** The specific objective of this mapping/matching exercise should be filling the gaps and addressing critical bottlenecks, particularly in agriculture, health and other relevant sectors, so that they could together contribute to tackling the priority nutrition problems in mind. Therefore, it does not have to cover the entire nutrition and related sectors comprehensively, but it should rather be based on the bottlenecks identified above so that the mapping results could demonstrate who is already addressing certain parts of the agriculture-nutrition linkage pathways and where the gaps/missing links are. Furthermore, it should also reflect the functional dimensions in terms of both implementation (who is doing what projects/activities, who is supporting which service delivery/extension modalities, etc.) and governance (who is doing what in planning/budgeting, human resource development, M&E, etc.).

- **Linkage Creation and Resource Alignment:** Matching of resources from different sectors/partners would be a challenging task in reality. Building onto the preceding participatory gap/bottleneck analyses and mapping exercises, IFNA could further support stakeholder dialogues on how the critical gaps/missing links could be addressed, either through simply linking the existing activities/projects or considering the formation of new ones. The process should ideally include the identification of realistic linkage points at the implementation level, development of common results framework and indicators for monitoring, and promotion of sectoral resource alignment for common results (e.g. cost-sharing for common interests, support for joint review meetings), etc.

5.4 Action Designing through Agriculture-Nutrition Linkage Pathways

As already described above in detail, the Agriculture-Nutrition Linkage Pathways chart could help identify gaps and bottlenecks that may be blocking the pathways between agricultural inputs and nutrition outcomes. As it could be adapted into different contexts to different degrees of detail, it could also serve as an action designing tool for a full nutrition-sensitive project/programme or specific actions that are required to link the existing interventions.

5.5 Monitoring & Evaluation and Mutual Learning

According to the IFNA Secretariat, IFNA intends to contribute to the global/continental efforts on improving the information/evidence base for effective multi-sectoral nutrition programming with a focus on agriculture-based actions on the ground. Considering that IFNA is not a funding mechanism, it would not be realistic to expect IFNA to mobilize a considerable amount of funds for new projects with full-scale research elements from its initial stage. The survey team would therefore recommend the following specific actions that could contribute to building a foundation for meeting the information/evidence needs of each country.

Recommended Actions on M&E and Mutual Learning:

- **Strengthening the M&E System to Feed Back into Local Governance**
  - Identification of a minimum set of M&E indicators to measure progress against key bottlenecks in the Agriculture-Nutrition Linkage Pathways.
  - Facilitation of dialogues among stakeholders to consider appropriate M&E designs for feedback into local government plans.
  - Incorporation of capacity building activities in each project/programme of concern to strengthen data collection/analysis/feedback processes, including the collection and use of appropriate baseline data.

- **Facilitating Mutual Learning at Different Levels**
  - Dissemination of M&E findings/results and lessons learned at different levels (e.g. sub-national and national coordination bodies) to facilitate the internalization of model activities into government policy/strategy and assess the potential expansion of IFNA target areas.
  - Support for the global/continental process of mutual learning across IFNA target countries and other countries of interest.

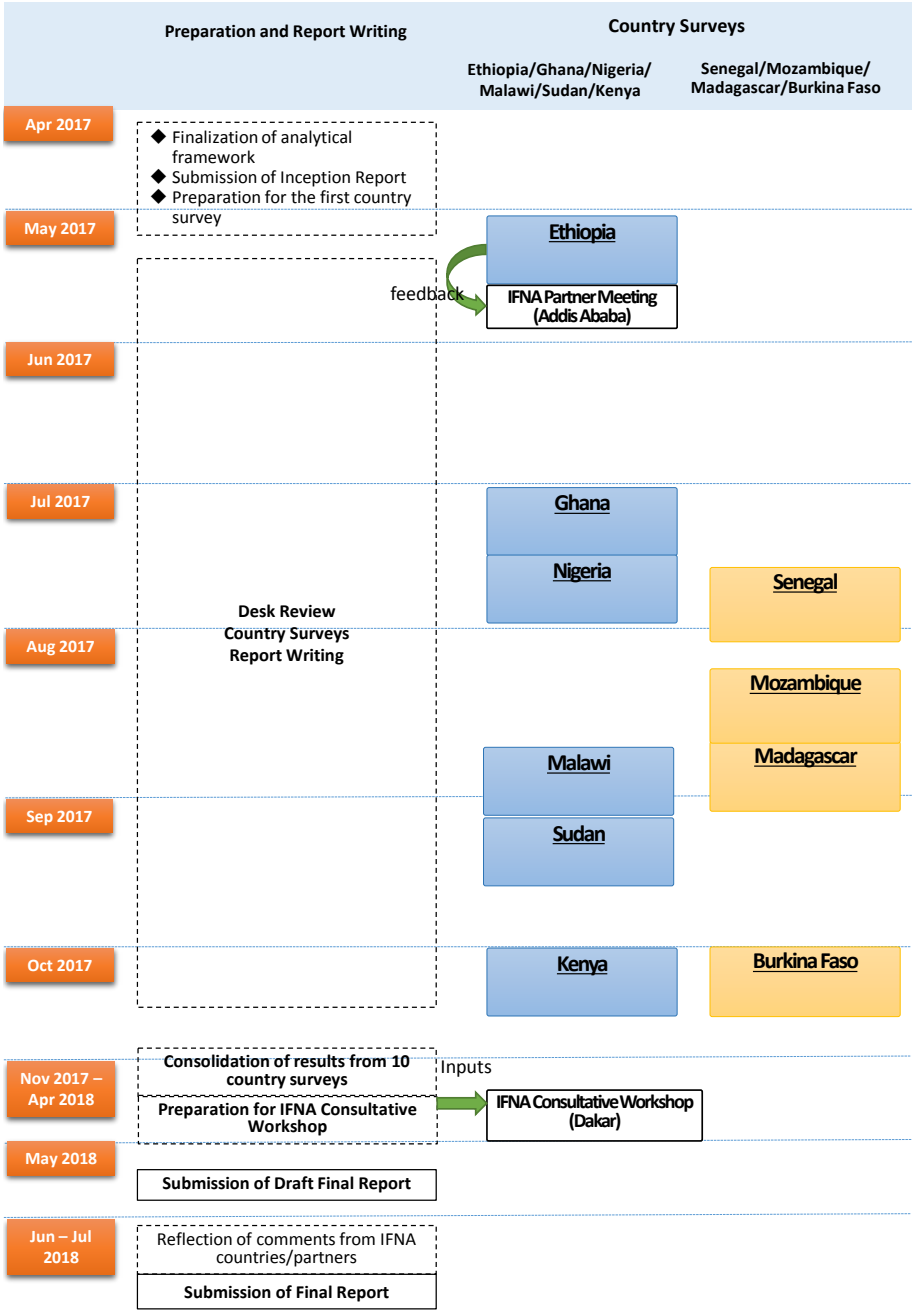
- **Possible Contribution to Evidence Generation Activities**:
  - Mobilization of interested partners and resources to plan and conduct analytical work/operational research/impact evaluation that could fill the most critical information and evidence gaps. Priority information/evidence needs should be determined through technical consultations among relevant international and country stakeholders.

Appendices

Appendices

Appendix 1: Schedules of the IFNA Preparatory Survey

In each country, the survey team planned to spend approximately two weeks to conduct key-informant interviews, visit one or two most relevant project sites, and organize a stakeholder workshop to build a consensus on a strategic direction under the IFNA framework.



Appendix 2: Methodology of the Preparatory Survey

The survey activities were conducted through the following process:

1) **Desk Review**: Acquire and organize information in the form of policy/planning documents, reports, data, academic journals, official websites etc. Fill in as much information as possible through preparatory conference calls with relevant information sources as appropriate.

2) **Preparation of Interview Forms**: Prepare semi-structured interview forms for key-informant interviews to further obtain necessary information and at the same time hear opinions on topics that can lead to the final recommendations as per the analytical framework (e.g. effective linkage points among different sectors, critical issues/gaps to be addressed in the current partnership programmes).

3) **Key-Informant Interviews**: Conduct key-informant interviews with resource persons from government sectors and partner organizations, using the semi-structured interview forms.

4) **Programme Site Visits**: Visit selected programme sites to further understand how multi-sectoral programme models could be designed/implemented/evaluated, how to overcome major challenges for replication/scaling-up/adaptation, as well as what kind of support is needed to create an enabling environment.

5) **Analysis**: Collate the information and analyze potentially effective intervention packages and linkages among different sectors, programmes, interventions and implementation modalities. Also identify challenges and opportunities in operationalizing multi-sectoral nutrition packages of actions based on the analytical framework.

6) **Workshop**: Conduct a workshop in each country with major stakeholders to promote a dialogue and build a broad consensus on potentially effective multi-sectoral nutrition packages, implementation modalities, challenges and key next steps under the IFNA framework.

Appendix 3: Typical Programme for Preparatory Country Survey Stakeholder Workshop

Time	Activity	By
8:30-9:00	Registration	
9:00-9:15	Opening speech / Concept of IFNA	[Coordination Body] /JICA
9:15-9:30	Introduction of survey team / participants	All
9:30-9:40	Survey analytical framework and purpose of the workshop	Consultant team
9:40-10:00	Key findings of the Preparatory Country Survey	Consultant team
10:00-10:15	Priority nutrition and food/agriculture issues	Consultant team
10:15-10:30	Break	
10:30-10:35	Explanation of the Group Work Exercise 1	Consultant team
10:35-11:05	Group work (1) – Gap/Bottleneck Analysis	
11:05-11:25	Reporting the results	Participants
11:25-11:30	Explanation of the Group Work Exercise 2	Consultant team
11:30-12:00	Group work (2) – Potential Interventions	
12:00-12:20	Reporting the results	Participants
12:20-12:40	Plenary discussion on key issues on coordination	Consultant team
12:40-12:50	Summary of the outcome and feedback from participants	Consultant team
12:50-13:00	Closing remarks	NEPAD
13:00-14:00	Lunch	

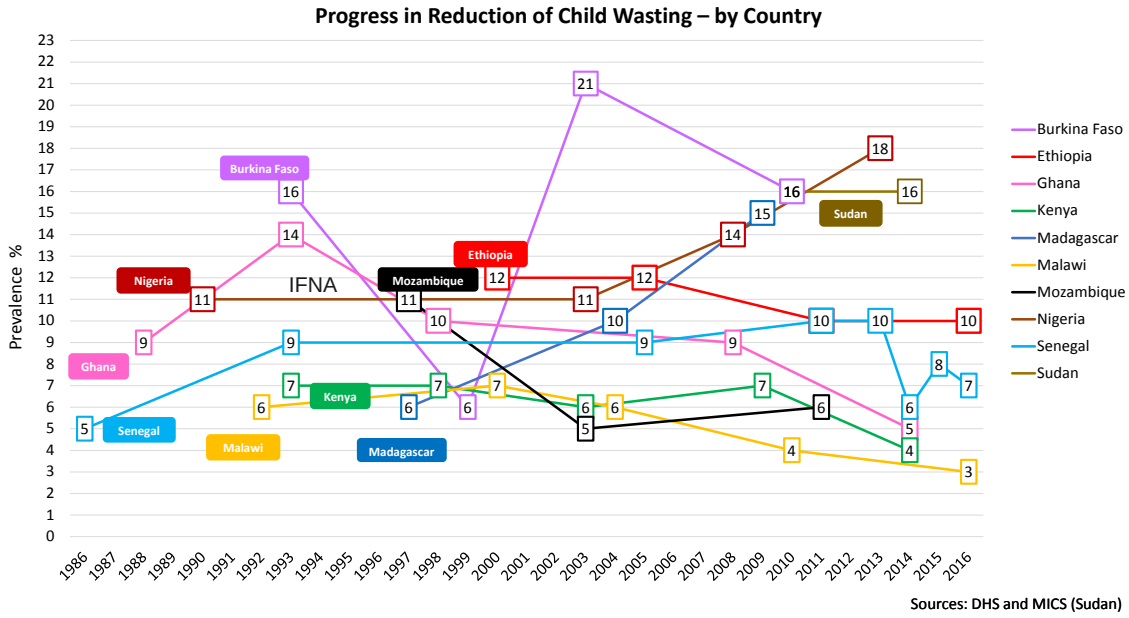
Appendix 4: Strategies of Major Partners Involved in Multi-Sectoral Nutrition Programming

Multilateral Agencies	
FAO	FAO seeks the world free of hunger and malnutrition, where food and agriculture contribute to improving the living standards of all in an economically, socially and environmentally-sustainable manner. In focusing on nutrition, it seeks to help improve diets and raise levels of nutrition of the poorest/most nutritionally vulnerable in gender-sensitive and sustainable ways. [STRATEGY AND VISION FOR FAO'S WORK IN NUTRITION, 2014]
IFAD	IFAD's programs/projects promote the availability, accessibility, affordability and consumption of diverse, nutritious foods (including bio-fortified crops). It also works to raise nutrition knowledge/education and seeks to improve practices/behaviors (e.g. food choices/quality, storage/preservation and preparation) that lead to year-round healthy diets for all family members. [IFAD Strategic Framework 2016-2025: Enabling inclusive and sustainable rural transformation, 2016]
World Bank	The World Bank supports countries by building a knowledge-base, providing technical assistance in policy/program designing and prioritization, and financing the scaling up of evidence-based nutrition interventions. It also provides innovation, infrastructure and resources for improving livelihood and food security, creating and booting job/agribusiness through value chains, and producing safe and nutritious foods. [http://www.worldbank.org/en/topic/nutrition/overview; http://www.worldbank.org/en/topic/agriculture/overview#2]
WFP	WFP supports governments to achieve Zero Hunger/SDG targets for ending all forms of malnutrition. It works on both nutrition-specific and nutrition-sensitive programs with multi-sectoral partners to create environments that foster good nutrition. WFP also puts emphasis on developing national capacity for finding long-term solutions and influencing the broader policy dialogue on food and nutrition security. [http://www.wfp.org/zero-hunger&sa=U&ei=67_UVLEY5MLLA-_BgOgO&ved=0CCsQtwIwBQ&usg=AFQjCNFMYnL2lkl4rcucuNADg_42-Ep-OQ; http://www1.wfp.org/nutrition]
UNICEF	UNICEF is one of the leading agencies for providing both technical and financial support on nutrition in most of the developing countries. In addition to its long history of working extensively on nutrition-specific interventions, UNICEF also supports nutrition-sensitive actions, such as a community-based Joint Resilience Strategy in partnership with WFP and FAO, which includes productive livelihoods, access to basic services and predictable safety nets. UNICEF also manages the Multiple-Indicator Cluster Survey (MICS), which provides large and internationally compatible datasets on nutrition and its major underlying drivers. [https://www.unicef.org/publications/files/UNICEF_Annual_Report_2016.pdf, https://www.unicef.org/nutrition/files/Unicef_Nutrition_Strategy.pdf]
WHO	As a UN's specialized agency playing a normative role, the core of WHO's work in nutrition consists of stewardship, guidance, standard/norm setting and monitoring, including the provision of technical assistance to develop national nutrition policies/regulations/taxation schemes, the development of technical tools (e.g. WHO growth standards), and the establishment/management of nutrition-related databases and information systems, such as the Global database on the Implementation of Nutrition Action (GINA) , the e-Library of Evidence for Nutrition Actions (e-LENA) , the Nutrition Landscape Information System (NLiS) , and the global nutrition targets tracking tool . [http://apps.who.int/iris/bitstream/10665/255485/1/9789241512435-eng.pdf?ua=1]
EU	EU focuses on reducing undernutrition with stunting as its main objective in its nutrition policy framework in 40 countries. EU also has been providing support for SUN and played a contributing role in bringing partners together to address undernutrition at all levels and in ensuring coherent focused action in support of national nutrition plans. [First Progress Report on the Commission's Action Plan on Nutrition July 2014-March 2016]
UN Women	UN Women dedicates to gender equality and the empowerment of women. Through joint programming with other partners, such as IFAD/WFP/FAO, it helps to sustain women's livelihoods and improve food security and nutrition through supporting small businesses, providing high-quality seeds and agricultural extension services, creating agricultural cooperatives and supplying fortified foods. [UN Women Annual Report 2016-17]

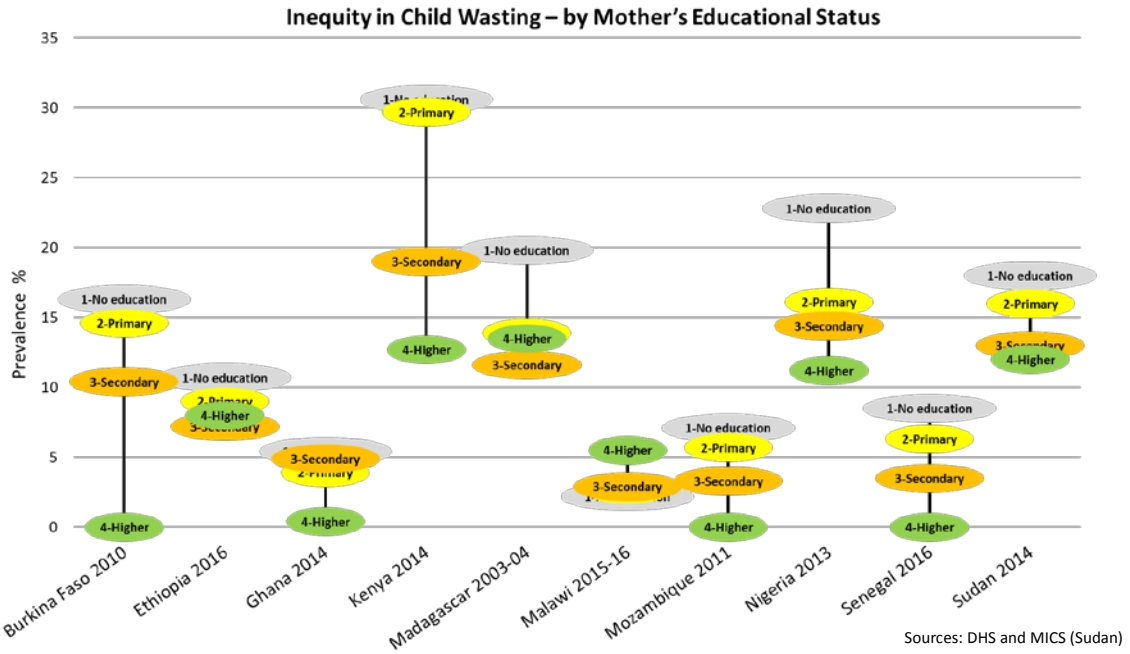
Bilateral Agencies	
USAID	USAID is advancing global food security by helping to improve the most basic human conditions. The U.S. Government's global hunger and food security initiative, called the Feed the Future, supports the development of the agriculture sector to increase income and reduce hunger, poverty and undernutrition. Another initiative, called SPRING, provides technical support to prevent stunting and maternal and child anemia in the first 1,000 days, link agriculture and nutrition, and create social/behavior changes through communication. [https://feedthefuture.gov/countries; https://www.spring-nutrition.org/about-us]
GIZ	GIZ's projects/programs are based on the food/nutrition security the Germany's Federal Ministry of Economic Cooperation and Development's (BMZ) worldwide special initiative 'One World-No Hunger' and aims to strengthen food/nutrition security. Africa is the regional focus for activities of it due to highest rates of hunger and malnutrition or with the most dramatic nutrition issues can be found on there. [One World - No Hunger -A brief outline of the Special Initiative; https://www.giz.de/en/worldwide/34977.html]
DfID	DfID has been working for agriculture and food security, and contribute the Global Goals, which include a commitment to lift 500 million people out of hunger and malnutrition by 2030. Also they focus poverty reduction and helping to ensure every person has access to basic services (e.g. education, health, family planning, better nutrition, and WASH) [DfID, Annual Report and Accounts 2015–16]
Non-Governmental Organizations	
GAIN	GAIN's Agriculture for Nutrition Global Program strengthens the links between agriculture and nutrition by identifying the most effective approaches to retain and enhance nutrition in food along the agricultural value chain – from food production and storage to processing, distribution, retail and preparation –to help make nutritious foods more affordable and accessible to vulnerable populations. It promotes dietary diversity by helping businesses innovate and grow with the aim of improving the availability of nutritious foods in local markets. The program focuses on the following: (1) Scaling Nutritious Commodity Value Chains; (2) Shaping Nutritious Food Systems; and (3) Improving Farmer Nutrition. [https://www.gainhealth.org/programs/agriculture-nutrition/]
HKI	HKI's Enhanced-Homestead Food Production (EHFP) program developed over 25 years ago aims to empower women from poor households in Africa and Asia. It works with local farmers and community organizations to establish community-based platforms, such as the Village Model Farms and the Farmer Field Schools. In these organized groups, women receive hands-on training in gardening and farming practices. The program promotes the production and consumption of iron-rich green leafy vegetables, vitamin A-rich fruits, and vital protein sources such as poultry, goats and fish. [http://www.hki.org/our-work/improving-nutrition/helping-families-grow-better-food#.WkB9ft9l82w]
Save the Children	Save the Children focuses on the "first 1,000 days." Its projects aim to reduce malnutrition in women and children to help children reach their full growth and development potential by applying an integrated approach that brings together health/nutrition, water, sanitation, and hygiene (WASH) and agriculture sectors. They also have complementary strategies, such as improving community delivery platforms for service delivery/demand creation, collaboration with the private sector, and strengthening of sub-national government and civil society capacity in integrated nutrition. [http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.9250263/k.FC1D/Nutrition.htm]
ACF	ACF's Nutrition Security Policy (2014) provides a comprehensive framework for actions in their fight against undernutrition. ACF's nutrition security approach builds on the UNICEF nutrition conceptual framework and aims for a long term, sustainable impact on undernutrition. The policy recognizes the importance of nutrition-sensitive interventions in agriculture and other sectors to reduce undernutrition. [http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/acf_2014_nutrition_security_policy_en_0.pdf]
WaterAid	WaterAid works with national governments to contribute towards the success of the UN Decade of Action on Nutrition 2016-25 by supporting country-led actions to improve access to WASH for those most vulnerable to undernutrition. It also aims to strengthen the evidence based approach for effective integrated actions for nutrition and WASH, work in partnership with the ministries responsible for nutrition and WASH, and increase the nutrition-sensitivity of own WASH programming. WaterAid's global campaign, called "Healthy Start", aims to improve the health and nutrition of newborns and infants by integrating clean water, decent toilets and good hygiene. [WaterAid. Creating Lasting Change, Global Annual Report 2016-17; https://www.unscn.org/en/topics/un-decade-of-action-on-nutrition?idnews=1722]

Research Institutions and Initiatives	
IFPRI	IFPRI is part of the Consultative Group on International Agricultural Research (CGIAR), a global research partnership for a food-secure future. IFPRI provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries. As sited above, IFPRI has been playing an influential role in conceptualizing the linkage between agriculture and nutrition through its work on food system for nutrition and nutrition-sensitive agriculture. IFPRI is the lead agency for the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) which helps realize the potential of agricultural development to deliver gender-equitable health and nutritional benefits to the poor. [http://www.ifpri.org/about; http://a4nh.cgiar.org/]
CIP	CIP is part of the CGIAR, developing and disseminating biofortified, vitamin A-rich orange-flesh sweet potato (OFSP). Biofortification, which increases micronutrient content in sweet potato or other crops through conventional breeding, sustainably builds micronutrient supply into the regular, daily food production and consumption patterns. The CIP's OFSP program intends to focus on locations where malnutrition is prevalent and where sweet potato has an inherent agronomic advantage as a short-cycle crop that requires few inputs and can produce comparatively high yields even under marginal conditions. [https://cipotato.org/programs/resilient-nutritious-sweetpotato/]
CIMMYT	CIMMYT works throughout the developing world to improve livelihoods and foster more productive, sustainable maize and wheat farming, targeting critical challenges that include food insecurity and malnutrition, climate change and environmental degradation. For example, CIMMYT's research on developing maize varieties with high beta-carotene content represents a promising strategy to enhance the availability of vitamins and minerals for people whose diets are dominated by micronutrient-poor staple food crops. [https://www.cimmyt.org/our-work/; http://www.cimmyt.org/biofortification-to-fight-hidden-hunger-in-zimbabwe/]
WorldFish Center	WorldFish conducts researches on strategies to improve the availability, accessibility and consumption of nutrient-rich, safe fish by poor consumers, with particular emphasis on women and children in the first 1,000 days of life in Asian and African countries. [https://www.worldfishcenter.org/tags/nutrition]

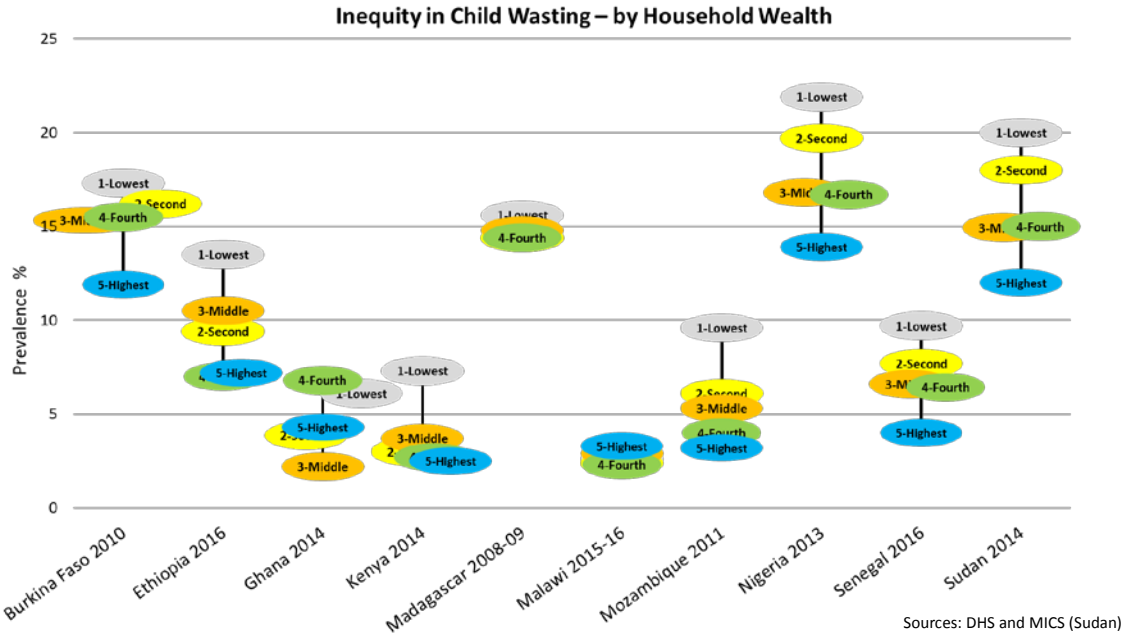
Appendix 5: Trends and Status of Other Nutrition Indicators - Country Comparison



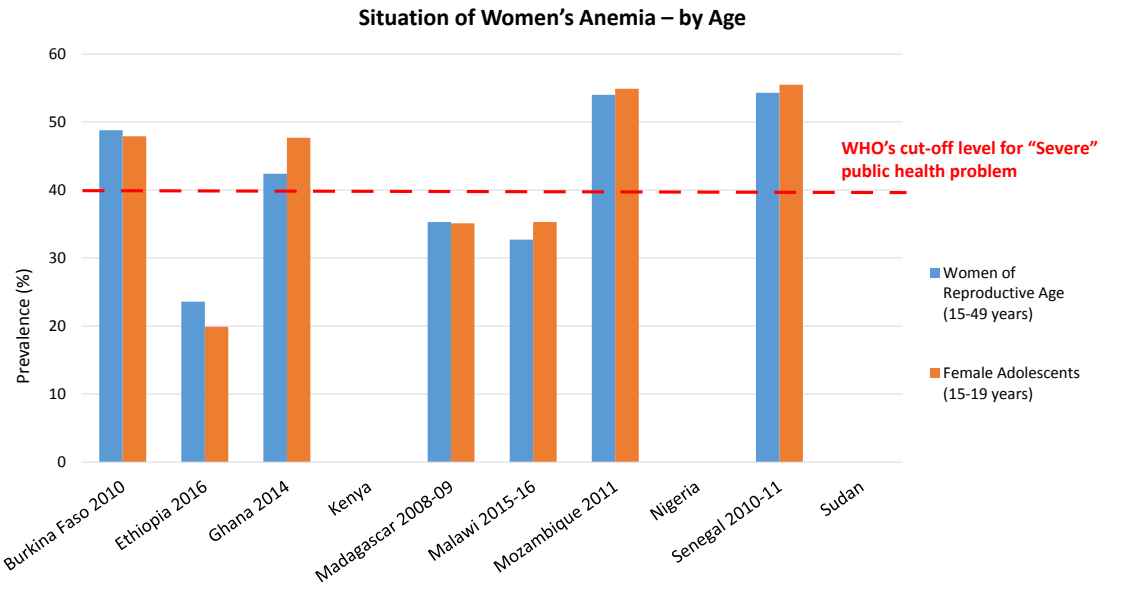
Sources: DHS and MICS (Sudan)



Sources: DHS and MICS (Sudan)



Sources: DHS and MICS (Sudan)



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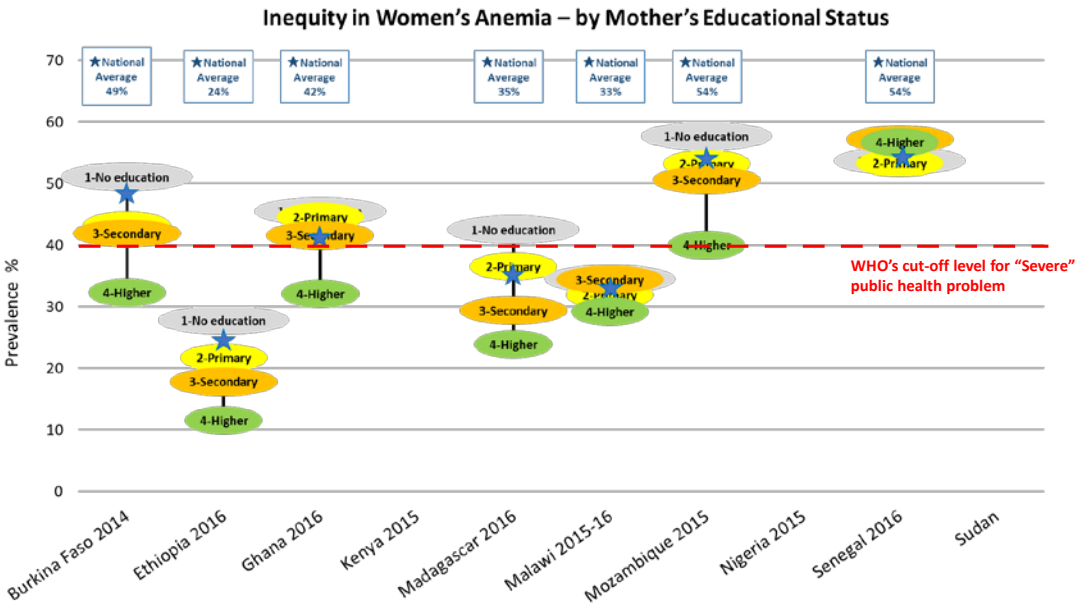

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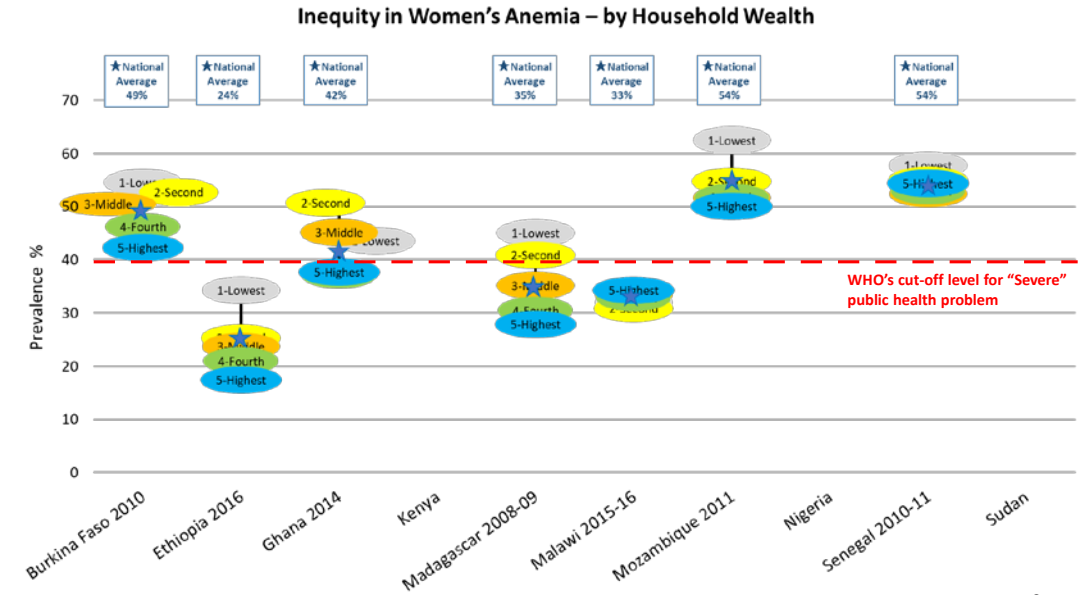

Source: DHS