SYNTHESIS OF GUIDING PRINCIPLES ON AGRICULTURE PROGRAMMING FOR NUTRITION

DRAFT - SUMMARY

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Foreword

The food and agriculture sector is essential to human nutrition. It plays the lead role in year round access to diverse, safe and affordable foods, and provides livelihoods to millions of households. Improving nutrition also helps achieve goals of reducing poverty and increasing productivity. But food and agriculture interventions do not always contribute to positive nutritional outcomes; they can even have negative impacts. Specific attention is required to make sure agriculture is “nutrition-sensitive”. But what does this mean in practice, and what should be done differently?

These questions have taken on a particular importance as a growing number of countries and development institutions are putting nutrition at the heart of their agenda, as they respond to the UN Secretary General’s Zero Hunger Challenge and join the Scaling Up Nutrition (SUN) movement. In recent years, there has been a proliferation of interest in linking agriculture and nutrition, and many multilateral, bilateral, and civil society organizations have produced guidance on improving nutrition impact through agriculture.

FAO has therefore carried out a review of these materials through an extensive consultation process to assess the degree of consensus amongst development partners, and to identify major guiding principles that can assist policy makers and program planners in the design of nutrition-sensitive agriculture policies and programs.

The report synthesizes existing recommendations from guidance materials published by 12 international development institutions. It also identifies organizational statements or strategies, and lists technical resources that can be useful for the application of these principles.

The review identifies a high degree of consensus among development institutions. Recommendations are synthesized into a list of 20 main messages, which broadly fit into three categories: planning a program or policy, taking action through main program activities, and a supporting set of factors based on governance, policy, and capacity.

If these principles can be incorporated into agriculture programs now, including appropriate monitoring and evaluation, then the result will be a new generation of evidence that will improve knowledge on operational “how-to” best practices, costs, and impact. This new knowledge would further improve ability to plan for and include nutrition outcomes in agriculture projects, propagating a cycle of knowledge, commitment, and action.
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Introduction and Purpose

Since the food crisis in 2008, the L’Aquila commitments to agriculture, as well as increased agriculture investments from multilateral development institutions and foundations, have greatly increased the funding envelope and human resources for agricultural development, particularly that focused on smallholder and women farmers. At the same time, the Scaling Up Nutrition Framework for Action (2010) and Road Map (2011) have also placed an emphasis on the need for urgent investment to reduce malnutrition, and the United Nations Committee on World Food Security (CFS) is developing a Global Strategic Framework for Food Security and Nutrition (2012). National governments and operational staff have also increased their requests for assistance and guidance from the international development partners on what to do to improve nutrition impact from agriculture. For example, since the inclusion of nutrition as Pillar 3 in the CAADP, African nations are seeking improved knowledge and capacity in this area.

The main underlying determinants of adequate nutrition are access to adequate nutritious food, healthy environments and access to health services, and adequate care practices for children and mothers. In turn, these underlying causes are affected by an array of basic causes, such as political environment, gender equity, and economic resources. As such, nutritional improvement will come from approaches within many sectors that aim to have impact on the underlying determinants of nutrition – or, “nutrition-sensitive” development – in addition to “nutrition-specific” approaches that directly affect the immediate determinants of nutrition (food intake and disease). Agriculture is of fundamental importance to human nutrition, both as a direct determinant of household food consumption, and through its role in livelihoods and food systems. There is a growing understanding that agricultural development provides an obvious and needed entry point for efforts to improve nutrition, and at the same time, agricultural investments targeted to smallholder farmers are more likely to succeed if they address the human capital constraints due to malnutrition.

In the last several years, there has been a proliferation of interest in leveraging agriculture to maximize nutrition impact. Many development institutions have published guidance notes about linking agriculture and nutrition, mainly intended to assist program planners to understand and implement the linkages. Several other institutions have released public statements of their own approach to maximize nutrition impact through agricultural programs. Development institutions have also sponsored literature reviews, community conversations, and research programs to investigate the best strategies based on evidence and experience.

This synthesis aims to provide an updated and complete list of current guidance, institutional strategies, and other publications released by international development institutions and inter-agency UN bodies on maximizing nutrition impact through agriculture, and provides a summary of the key messages currently available. The purpose of this paper is to provide accessible information on what the international development community is saying on this topic, to underscore key points of emerging consensus and to expose differences that may be potentially

2 These twin approaches are identified in the Scaling Up Nutrition Framework for Action (2010).
confusing to implementers or which offer opportunities for further refinement of guidance and strategies. The main audience is country-level policy-makers and program-planners; a secondary audience is the international development community, which has an opportunity to amplify key messages that have been voiced independently by separate institutions. In alignment with the Rome Principles (2009), this synthesis helps to foster strategic coordination between institutions and to strive for comprehensive, sustainable agricultural, food security, nutrition and rural development programs.

**Methods**

Selection Criteria of Resources Reviewed:

1. Bilateral, multilateral, or NGO publication (no scientific journal articles, abstracts, or results of individual studies)
2. Official institutional publications intended for public use (no internal deliberative documents or unofficial working papers)
3. Materials destined for professionals working on agriculture program design and implementation
4. Specific focus on agriculture-nutrition linkages (i.e. not nutrition programming in general)
5. Published since 2008 (although a few exceptions were made where older documents were generally still consistent with the institution’s current approach, or more recent material was not available)

Search methods:

1. Listed all organizations with a potential interest in links between agriculture and nutrition, and searched for guidance, with the assistance of the Agriculture-Nutrition Community of Practice (http://knowledge-gateway.org/ag2nut) and FAO staff.
2. Gathered statements from bilateral, multilateral, or NGO leaders given at the IFPRI conference “Leveraging Agriculture for Improved Nutrition and Health,” Delhi, Feb 2011.
3. Where organizations with a known agriculture-nutrition work program did not appear to have published statements, contacted key informants to ask for links to published statements.
4. Contacted the Agriculture-Nutrition Community of Practice (Ag2Nut CoP) and FAO staff to review the list, and incorporated publications that were missing.

The complete list of documents identified is found in Annex 1. A total of 53 publications were identified to date; 31 development institutions have published guidance, a statement, or explorations of the evidence linking agriculture and nutrition. The documents identified were then categorized into like groups. Five categories emerged:

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3 The institutions include: A2Z (USAID-funded project now closed), ACDI/VOCA, ACF, AED (now closed), AGRA, AVRDC (The World Vegetable Center), Bill & Melinda Gates Foundation, Bioversity International, CGIAR, Concern Worldwide, EC, DFID, FANTA (USAID-funded project), FAO, Fintrac, GAIN, HKI, ICRW, IDS, IFAD, IFPRI, IYCN (USAID-funded project now closed), The McKnight Foundation Crop Collaborative Research Program, Save the Children UK, USAID, World Bank, WFP, WorldFish Center, World Vision International, UN HLTIF and UN SCN.
- **Guidance notes.** The characteristic feature of a document categorized as a “guidance note” was emphasis on general principles for maximizing nutrition impact of agriculture, supported in many cases by specific examples of actions.

- **UN inter-agency guidance.** These were categorized separately because they reflect co-signed consensus across many multilateral organizations. These included the UN Standing Committee on Nutrition (SCN) and UN High-Level Task Force on Food Security (HLTF).

- **Manuals.** These focused on specific operational steps within recommended actions. Two documents were cross-filed in both the “guidance note” and “manual” category; they were both entitled “manuals,” but placed significant attention on stating and describing overarching principles as well.

- **Statements and strategies.** These were documents that publicly outlined the approach of an individual institution to incorporate nutrition into agriculture, but that were not aiming to give general comprehensive guidance on linking agriculture and nutrition.

- **Other.** Highly relevant published institutional documents that did not fall in any of the above categories were placed in the “other” category. These included four commissioned literature reviews, a community conversation, and a research program.

This synthesis paper includes only the 20 documents categorized as “guidance notes” and “UN inter-agency guidance,” published by 12 institutions. It also briefly compares the summary institutional guidance to four agency-commissioned literature reviews to provide information on how the recommendations align with available evidence.

All identified guidance documents were read thoroughly and coded for themes. The minimum inclusion criterion for a theme was that it was mentioned by at least three organizations. Decisions on “lumping and splitting” themes was an iterative process. A list of potential themes was generated and populated with quotes, which then were analyzed and sometimes combined or separated, based on how much material was available for each potential theme, and how much the material overlapped with other potential themes. The final list of 20 themes is based on an inductive process that resulted in messages that were conceptually distinct, although often somewhat overlapping (e.g. ensuring equitable access to resources and empowering women). There were several other potential themes which were not included, because of too little mention, or excessive overlap with other themes:

- Resilience and mitigating risk, which was a general, multifaceted principle threaded throughout all topics (statements about resilience were included in many other categories, including “targeting,” diversify production,” “reduce seasonality,” and “manage natural resources,” among others)
- Investing in infrastructure (included in “policy coherence” and “marketing opportunities”)
- Food price policy (included in “policy coherence”)
- Population and Environmental policies/issues (both included in “policy coherence” and/or “natural resource management,” depending on the nature of the quotes)
- Social protection components to programs (included in “multisectoral collaboration” and “policy coherence,” depending on the nature of the quotes)
• Food safety (mentioned only in passing by 5 institutions; recommendations fell under the principles of “post-processing,” “nutrition education,” and “governance”)
• Financial incentives for including nutrition objectives (discussed explicitly only by IFPRI; included in “multisectoral collaboration”)
• Budgeting (discussed by only ACF).

Review process:

There were three stages of review. The first, described above, consisted of initial inputs from the Agriculture-Nutrition Community of Practice and FAO staff on documents to include. The second stage involved contacting authors of the guidance notes for them to check the validity of statements about their publications in an initial draft. The third stage was an open consultation on a final draft for consultation (April 2012), which was shared widely through professional networks, and actively through presentations of the draft (at FAO, USAID, the Association for International Agricultural and Rural Development 2012 conference, and the Ag2Nut CoP) and solicitations for input from various individuals knowledgeable about the topic. Over 70 individuals representing 30 institutions provided documents or comments during the review process.

Scope

As noted above, the synthesis is of guidance published by institutions; it is not a review or synthesis of the peer-reviewed journal literature. The review is focused on guidance on development approaches, rather than emergency response. Most existing guidance documents emphasized programming more than policy, but also included policy recommendations (mostly captured in the “Supporting” principles) due to the reality that a given policy environment strongly influences the impact and sustainability of agriculture programming for nutrition. The primary audience of most existing guidance is actors involved in programming (many were written primarily for their own staff or to guide their own projects/investments), although most documents identify governments and global donors as part of their broader audience (see Table 1). The primary focus of the guidance is on reducing undernutrition, but several guidance notes include overnutrition as a possible nutrition problem discoverable through context assessment, and frame the goal of nutritious and sustainable diets as important for both sides of the dual burden. Similarly, the predominant focus is on improving producers’ nutrition rather

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4 Some of the guidance notes provided advice for reforming food aid, or supporting nutrition during crises: see identified guidance notes by ACF and HLTF, as well as other materials including FAO (“Protecting and Promoting Nutrition in Crisis and Recovery”, Annex 1), and USAID (“Delivering Improved Nutrition”, Annex 2). Of particular note, the UN HLTF documents included had a “twin track” dual focus on meeting immediate needs of vulnerable populations (dealing with emergency food assistance and safety nets), and building longer-term resilience and food and nutrition security (dealing with development approaches). For consistency, this review included material mostly the latter (the development “track”).

5 The HLTF documents were also unique among all documents reviewed in that their primary focus was policy, rather than programming. However, they also contained significant mention of programming principles which are captured in this synthesis; again because it is difficult for either policy or programming to have an effect without the other. The abundance of policy recommendations from HLTF is briefly summarized in the synthesis sections on “Supporting” principles, and is copied more extensively in Annex 3.
than general consumer nutrition, but many organizations explicitly recognize dual benefits for both producers and consumers from the principles (as well as the dubitable dichotomy, since producers are also consumers). The main areas where principles may have different affects if applied mainly for the benefit of producers or consumers are: market or home consumption orientation, choice of crops/livestock for production, and targeting.

This review has sought to be comprehensive, but it does not necessarily include all institutional publications relevant to the issue of linking agriculture and nutrition. The review did not encompass publications focused on sustainable agriculture or food security with less explicit focus on strategies to link to nutrition, although some of the recommended principles (such as targeting smallholder farmers) may overlap. (Examples include the UK Government Future of Food and Farming report, the World Economic Forum’s New Vision for Agriculture, and reports of the Global Donor Platform for Rural Development, found in Annex 2.) Likewise, reports focusing on nutrition without explicit linkage to agriculture were excluded, although several also may have contained relevant practical approaches for rural contexts (such as the SCN Guiding Principles for nutrition policies, programmes and projects in the context of the global crisis, which overlap to a large extent with the main themes found here).
Section 1: Summary guidance

The recommendations in the guidance documents were synthesized into a list of 20 main messages, which broadly fit into three categories: planning a program or policy, taking action through main activities, and a supporting set of factors based on governance, policy, and capacity. These messages were compiled from the 20 guidance documents on linking agriculture and nutrition produced by 12 development institutions: multilateral organizations (FAO, IFPRI, Bioversity International, World Bank), bilateral and bilateral-supported organizations (EC, FANTA, IYCN), and NGOs (ACF, Save the Children UK, World Vision); and inter-agency UN bodies (UN HLTF and UN SCN). These 20 guidance documents are listed in the “Guidance Notes” and “UN Inter-Agency Guidance” found in Annex 1.

The aim is to present an objective summary and synthesis of existing published guidance. The identified principles (including their descriptions in the summary) do not necessarily reflect the views or priorities of FAO, the author, or commenters.

The following summary is a distilled synthesis of the guidance, followed by a conceptual framework to aid in visualizing the main principles. All information contained in the summary, including sub-points as well as main points, was stated by at least three institutions. While three institutions was the initial cut-off for inclusion, in fact, all principles were discussed by a majority of the institutions that have published guidance. Of all 20 principles, eight were discussed by all 12 institutions, and another eight by 10-11 institutions; the remaining four principles were discussed by at least seven institutions each.

Further information around each principle can be found in the complete paper, available at:
Main themes of guidance documents

The identified principles, including their descriptions, represent existing published guidance and do not necessarily reflect the views or priorities of FAO, the author, or commenters.

Planning for nutrition

Best practice principles:

1. Incorporate explicit nutrition objectives into agricultural projects, programs, and policies. Traditional agriculture sector goals may have potential to yield nutrition improvements, but evidence and experience shows that explicit nutrition objectives are necessary to guide specific activities and M&E plans to maximize positive nutrition impact and minimize harm.

2. Assess the context to identify nutritional problems and groups most at risk, to understand the causes of malnutrition and constraints to good nutrition, to identify opportunities to address those constraints taking into account local resources and culture, and to build on existing efforts, knowledge, and resources. This will maximize effectiveness and efficiency of interventions and reduce negative side effects.

3. Do no harm. Avoid unintended negative consequences through a process of identifying potential harms, developing a mitigation plan, and setting in place a well-functioning monitoring system for timely detection of negative effects. Potential harms could arise from increasing women’s workloads, crop choice, agrochemicals, increased agricultural water use, and zoonotic disease.

4. Measure impact through programme monitoring and evaluation. Measure intermediate outcome indicators as well as nutritional status impact, to be able to track positive effects and attribute them to the intervention, and to identify and mitigate poor implementation or unintended negative effects. The most commonly-mentioned indicators are dietary diversity scores and stunting.

5. Maximize opportunities through multisectoral coordination. Nutrition improvements depend on many sectors, and translating food security and consumption impact into nutritional status often requires improvements in health, sanitation, and care and feeding practices. Coordination at least in the planning and review phases, and in the implementation phase where possible, will maximize the likelihood of nutrition impact from agriculture.

6. Maximize impact of household income on nutrition through concerted design efforts, such as through increasing women’s access to income-generating opportunities and discretionary control of income.

7. Increase equitable access to productive resources through policies and programs. At the policy level, pay particular attention to increasing access to land rights and water. Programs can facilitate access to credit, productive assets, extension services, and markets (for women in particular).

8. Target the most vulnerable groups, including smallholder farmers, women, and poor/food insecure households.
Taking Action

All approaches should:

9. **Empower women**, the primary caretakers in households, through (i) increased discretionary income, especially via increased attention to crops/livestock grown by women; (ii) improving women’s access to extension services, financial services, technology, inputs, markets, and information; (iii) avoiding harm to their ability to care for children; (iv) investing in labor and time-saving technologies targeted to women; (v) adding program components to enable high-quality child care; and (vi) advocating for policies to support women’s rights to land, education, and employment.

10. **Incorporate nutrition education** to improve consumption and nutrition effects of interventions. Develop a concise set of clear, actionable messages and strategies based on an understanding of local perceptions, and barriers and opportunities to behavior change. Messages often involve improving food safety, promoting consumption of healthy diets and locally-available and nutrient-dense food, understanding nutritional requirements of different family members and care/feeding practices. Employ agricultural extension agents to communicate nutrition messages as feasible.

11. **Manage natural resources** for improved productivity, resilience to shocks, adaptation to climate change, and increased equitable access to resources through soil, water, and biodiversity conservation. These provide ecosystem services essential to smallholder livelihoods, water quality, and food security.

These can be combined with approaches to:

12. **Diversify production and livelihoods** for improved food access and dietary diversification, natural resource management, risk reduction, improved income, and other purposes.

13. **Increase production of nutrient-dense foods**, particularly locally-adapted varieties rich in micronutrients and protein, chosen based on local nutrition issues and available solutions.
   
a. **Horticultural crops** are highly recommended, particularly when combined with nutrition education, to improve year-round micronutrient intakes and healthy diet patterns, and to increase income and women’s income control. Homestead and market-oriented production are both likely to be positive, in view of nutrition for both producers and consumers.
   
b. Produce **animal-source foods on a small scale**, including fish and livestock, to improve intakes of micronutrients, protein, and fat; keep production small-scale to avoid harms to the natural resource base.
   
c. Harness the potential of nutritious **underutilized foods** (such as indigenous or traditional crops) which often have high nutrient content and resource use efficiency, and potential for income generation.
   
d. Increase **legume** production for their nutritional value (rich in energy, protein, and iron) and for their attribute of nitrogen fixation, which can improve soil fertility and yield and reduce inputs.
   
e. Invest in **biofortification** as a complement to other approaches.
   
f. Staple crop production may be necessary but insufficient for addressing undernutrition because of its limited ability to improve dietary diversity.
g. Cash crops are viewed as unlikely to improve nutrition on their own, based on risk of unintended consequences for smallholders, such as potential reduction in dietary quality for a variety of reasons. Complementary strategies (e.g. diversification) are recommended to go along with cash crop production.

14. **Reduce post-harvest losses and improve processing** to increase and prolong access to and consumption of diverse foods among both producers and consumers, to preserve or increase nutrient content of food, to increase income and profit margins, and to improve food safety. Solar drying and fortification are highly-recommended processing techniques.

15. **Increase market access and opportunities** to improve smallholder incomes (especially for women) and consumer diets. Tools include farmer associations, improved infrastructure, and social marketing and demand creation for nutritious foods that smallholders may have a comparative advantage in producing.

16. **Reduce seasonality of food insecurity** through diversification throughout the year, improved storage and preservation, and other approaches.

Creating a Supportive Environment

**Principles that enable programmes to achieve nutrition impact:**

17. **Improve policy coherence** supportive to nutrition, so that one policy does not work against another policy or program. Food price policies, subsidies, and trade policies sometimes have counterproductive effects on nutrition and may need reform. Pro-poor policies including social protection schemes, land reform, and infrastructure-building create an enabling environment for nutrition improvement.

18. **Improve good governance for nutrition**, including leadership and commitment at the highest levels of governments and donors, demonstrated by drawing up a national nutrition strategy and action plan, allocating adequate budgetary resources, implementing nutrition surveillance, and being accountable based on transparency and nutrition indicators.

19. **Build capacity** in ministries at national, district, and local levels, and increase nutrition staff.

20. **Communicate and continue to advocate for nutrition.** In addition to basic awareness-raising around extent and consequences of malnutrition, disseminate impact results across sectoral, national, and institutional boundaries and translate them into policy-relevant messages for effective program and policy changes.
Conceptual framework of guidance

**PLANNING**

- **Context Assessment**
- **Nutrition Objectives**
  - Maximize Opportunities:
    - Multisectoral coordination
    - Impact of income
    - Equitable access to resources
  - Do no harm
- **Targeting**
- **M & E**

**DOING**

- Diversify Production and Livelihoods
  - Produce more nutrient-dense foods including vegetables, fruits, animal source foods, underutilized foods, legumes, and biofortified crops; specifics depend on context
  - Reduce post-harvest losses and improve post-processing
  - Increase market opportunities
  - Reduce seasonality
    - with
    - Women’s Empowerment
    - Nutrition Education
    - Management of Natural Resources
- Supporting
  - Policy coherence, Governance and Capacity-building, Communication and Advocacy
Section 2: Discussion

Main conclusions

Current guidance shows a high degree of alignment between institutions. It is striking how much overall agreement there was on main principles for reaching nutrition. This was true even though many institutions published guidance primarily for the use of their staff in their own programs and investments. Disagreement by omission was not considered, because of the wide range of length/scopes of the guidance notes (1 to 100 pages), omission could simply have been due to limited page space. The 20 main messages were each supported by a majority of the institutions, not just the minimum of three for inclusion, which demonstrates a strong convergence around a discrete set of principles. Some stakeholders have voiced concern over the empirical evidence base underlying actions to increase nutrition impact from agriculture programs, but the fact that a majority of international development institutions independently stand behind very similar approaches is itself a strong justification to increase action around these principles. Policy decisions often must be made without the benefit of airtight scientific evidence; or else the status quo continues, which has been clearly shown to be inadequate for addressing nutrition. There is no good argument for inaction when the international development community is so well aligned on many actionable principles to maximize nutrition impact of agricultural investments. In addition, there is a low risk of doing harm by acting on these principles, many of which are based in ethical concerns and good practices for programming, and the best evidence available. As new evidence is generated from projects implementing the current guiding principles, the guidance may be refined or revised in the future.

Outright disagreement was not observed for any principle, but there were some differences in emphasis between guidance notes. Recommendations may differ on some specific points due to institutional priorities or experience in different contexts:

- How much to prioritize homestead food production for household consumption or for market purposes, either of which could theoretically result in improved diets for producers.
- Whether the primary aim of nutrition-sensitive agriculture is observable impact on individuals within producer households, or contributions to larger scale food systems to improve nutrition sustainably for the population (or both).
- How to target agricultural interventions to the needs of different livelihoods groups; those that most benefit one group may be slightly less beneficial to the other (though double wins may also exist e.g. production by smallholders and processing or retail by landless laborers).
- How much emphasis to place on three kinds of production in particular (within the recommendations on what to produce): staple crops (because of their utility for energy intakes but potential competition with more nutrient-dense food production), biofortified crops (notes were quite positive but several emphasized that biofortification needed to be accompanied with other strategies, with ACF supporting use of only classical breeding methods for biofortified crops), and animal-source foods (which have characteristics that may be highly beneficial in some circumstances, and harmful to health and the environment in others).
• How much to depend on agricultural extension agents or program agents to deliver nutrition-relevant information, and how much to collaborate with or depend on health staff to deliver coordinated messages.
• Whether multisectoral collaboration should involve joint implementation of projects, or simply joint planning and review (e.g. for coordinated messages and referrals).

Comments from partners during the consultation phase echoed these main conclusions. There was unanimous support for the usefulness of a clear set of principles, and no commenters raised oppositions to the 20 main messages. Comments also revealed the same differences in emphasis apparent in the guidance notes, referred to just above.
Which principles must be implemented to guarantee success?

There is no one combination of approaches that would be universally applicable or successful.

- The principles in the “planning” category are good practice principles that ensure a well-designed intervention.
- The three principles first underscored in the “doing” category – women’s empowerment, nutrition education, and natural resource management – are those which are likely to be critical to success in any context. This conclusion is based on the small body of research showing positive impact on diet or nutritional status from agriculture interventions, which consistently include women’s empowerment and nutrition education. (Natural resource management is immediately critical in projects involving water, but also contributes to food and nutrition security in a longer timescale in all projects.) Other main programmatic activities recommended (such as crop diversification, or post-harvest loss reduction) are likely to have effects that differ by context and the limiting factors to food security and nutrition.
- The “supporting” activities may be critical for implementation or sustainability - but are often difficult to change from a program perspective. Their importance would be highly context dependent, based on limiting factors to nutrition within a given context.

The need for each principle depends on the context, including what actions would eliminate barriers to good nutrition, and what actions are possible given local and institutional resources. In most cases, it is unlikely (or exceedingly difficult) that all 20 principles could be achieved within a single program. It stands to reason however, based on their relation to well-accepted best practices, known limiting factors, and existing experimental evidence, that as many as possible can be applied, the better the chance of positive nutrition outcomes.

Which type of agriculture programs should integrate nutrition considerations?

The guidance is most easily applied to community-level projects, focused on impact for vulnerable households employed in agriculture. It is also clear from the guidance, however, that all agriculture programs or projects should at least assure that harm to nutrition is minimized (for all stakeholders, including farm-owners, laborers, and consumers), suggesting that nutrition-sensitive agriculture would at a minimum follow the principles of “do no harm” and “M&E.” The greater call is that “nutrition-sensitive” thinking should not be applied only to miniscule proportions of overall investment, but should be mainstreamed into all agriculture programs and planning. This is pertinent particularly if “food security” is a goal.
What is missing from the current guidance

Increased collaboration with agriculture professionals
While the recommended principles are well-founded from a nutritional point of view, greater collaboration with agronomists, ago-economists and other professionals from the agriculture sector would be helpful in refining them and making them more actionable. So far most of the authorship of these guidance notes is based in nutrition. Increasing the substantive contributions from the agriculture side may result in guidance that speaks the agriculture “language” and that is more aligned with the main priorities and incentives of professionals working in the agriculture sector. For example, only three notes mentioned market viability as a criterion for production choice – which, next to yield, is a fundamental principle for the agriculture sector. Nutritionists may wish to increase guidance on how to increase market viability of certain nutritious foods, e.g. indigenous crops or biofortified crops, so that agriculture professionals are better able to act on advice to promote them. Greater inclusion of agriculture staff may prompt a larger discussion of production/income/nutrition trade-offs and co-benefits, and may expose some misalignment in preferred approaches to reach nutrition. For example, in the Interagency Report to the G20 on Food Price Volatility (June 2011), agricultural economists from FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, WTO, IFPRI, and the UN HLTF offered annexed advice on increasing resilience of agriculture through nutrition, and discussed only biofortification as a strategy, specifically dismissing dietary diversification strategies as being too long-term. That is the opposite emphasis as compared to the guidance notes, which offer multiple strategies to achieve dietary diversity, and which consider biofortification a complementary approach. Nutritionists need to work together with agriculturalists in a sincere and open dialogue about how to mesh priorities and approaches, and to raise awareness about the determinants of malnutrition and best practices to achieve nutrition results; advice that is omnipresent throughout the guidance notes. This process, of course, requires partnership from the agriculture side as well, which may be gained through continued communication and advocacy about nutrition.

Comments from various partners indicate that engagement with agriculture professionals needs to happen at both country level and institutional level. It seems there is somewhat of a chicken and egg problem regarding country-led and donor-supported action. The World Bank guidance note stated that country client demand for improving nutrition is one of the most important factors that would increase financing for nutrition-sensitive development; lack of country demand has a resonating impact on the priorities of agencies’ country-level managers as well as senior management. On the other hand, HLTF wrote that official development assistance “has an important role to play in supporting the case for catalyzing and then accelerating necessary increases in national spending.” In other words, raised commitment, and capacity at country level will be important for donors to invest in nutrition-sensitive agriculture; and at the same time, global agencies also have an indisputable role in discourse and capacity development.

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6 This section incorporates views expressed by commenters who responded during the open consultation process.
Further guidance on improving market access for smallholders

One area that would particularly benefit from agriculture sector input is the recommendation to increase marketing opportunities. Most guidance notes discussed the importance of livelihoods and increasing market access for vulnerable farmers. The call for market access is based in concerns about equity as well as income generation. Some partners, however, saw too little emphasis on marketing in the guidance, and too much on small-scale solutions. The comparison of guiding principles with evidence is one explanation for this apparent leaning: Many guidance notes explicitly sought to be evidence based, and the best evidence has come from small-scale production such as homestead gardens, especially if they include nutrition education or promotion. Where the nutrition effects of commercialization have been examined, commercialization was based on cash crops or staples, and generally resulted in no nutrition impact (positive or negative). Almost all guidance notes strongly endorsed the need for increased market opportunities – but focused on an approach qualitatively different from a traditional cash cropping approach.

Recommendations for marketing approaches with nutrition as an explicit outcome focused on (1) nutrient-dense foods and (2) commodities for which vulnerable groups (especially smallholders and women) have a comparative advantage in producing and marketing. Market opportunities were viewed as a way for producers to increase income, as an incentive for them to grow nutritious and underutilized foods, and as a way to increase consumers’ access to nutritious foods. The advice was also centered on improving equity or leveling the playing field; whereas traditional commodity “cash cropping” often gives a comparative advantage to larger farms and to men, the focus of increased market opportunities should be specific to women and smallholders in particular (e.g. indigenous crops). The guidance talked about the usefulness of social marketing and demand creation to help create market opportunities. In the area of marketing nutrient-dense foods that give a comparative advantage to women and smallholders, there are relatively few documented experiences to date; an area where the literature could be vastly enhanced.

Therefore the lack of more comprehensive marketing recommendations should not be interpreted as a lack of support for the principle, but rather as a lack of expertise and experience in successful approaches with nutrition as an explicit outcome. Apart from often focusing on cash crops for marketing, the agriculture sector, for reasons of efficiency in its use of resources, has in the past tended to assist vulnerable households in subsistence/home production activities, because investing in market access programs is too risky or too involved. Smallholders in many cases need intensive training in business principles such as budgeting, production calendars, and consumer demand. They may also need lengthy assistance from projects to broker deals with lucrative markets for them, in part because large buyers may not be willing to consider contracts with smallholders without an insurer, and smallholders may not be able to survive financially due to infrequent payments. There are a host of marketing problems which marketing specialists and agricultural economists are best equipped to handle. Investing in market access assistance for smallholders, especially for nutrient-dense foods they have a comparative advantage producing, is an important topic that needs further discussion and partnership with the agriculture sector. One commenter wrote of looking forward to efforts “to engage those of us in the agricultural community through a market-related focus.”
Evidence around approaches to reduce both poverty and malnutrition efficiently
Relatiedly, some commenters were concerned that the approaches emphasized in the guidance are not most efficient for poverty reduction (and that poverty exacerbates malnutrition). Much of the guidance arose from the mirror image concern: that poverty reduction approaches in agriculture are not most efficient for malnutrition reduction (and that malnutrition exacerbates poverty). There are larger research gaps in understanding whether there are poverty/malnutrition tradeoffs from nutrition-sensitive agriculture, keeping in mind long-term effects well beyond a program cycle (since better nutritional status of young children has large lifelong income effects), as well as whose poverty (household, women’s, or children’s potential?), and whose nutrition is measured (young children’s, women’s, or someone else?) The most relevant research should seek to identify approaches that reduce both poverty and malnutrition. Along with this are related concerns about potential trade-offs between specialization and diversification, but it seems win-wins should be possible and documentable: diversification is commonly recommended on grounds of both nutrition improvement and economic gain/risk reduction.7

Further considerations in the theme of reducing post-harvest losses
Commenters suggested more attention may be due aflatoxins, in relation to cultivation and food storage practices, marketing, and potentially regulations, based on emerging knowledge about its prevalence and apparent negative effects on child growth. (Some existing guidance notes discuss aflatoxins briefly.) Also, improving infrastructure for refrigeration may be a critical need for ensuring farmers can successfully market nutrient-dense foods.

Stronger and clearer guidance on food price policies, with attention to the nutrition transition
Another area that would benefit from more concrete and specific guidance, based on interaction with agricultural economists, is on food price policies and other food and agriculture policies in the “policy coherence” theme. Most smallholder farmers, a commonly recommended target population, are net buyers of food; and urbanization is accelerating. The relative prices of foods affect likelihood of consuming a diverse diet; more work is needed on elasticities of demand for nutritious foods, supply constraints, and effective food policies and regulations to improve dietary quality. Given that the reality of many low- and middle-income countries is that substantial proportions of their populations are both underweight and overweight (with overweight increasing), guidance will need to move toward addressing both nutritional problems in order to avoid harm. There is a growing body of policy-oriented literature aimed at reducing overnutrition through food policy (see for example the Foresight Project, Chicago Council, and PROFAV documents referenced in Annex 2), but so far, this literature has not been substantially taken up by institutions focusing on development in low-income countries.

Stronger emphasis on environmental sustainability of approaches
Some partners highlighted the importance of keeping in mind an end goal not just of improved nutrition measureable in the short term, but that the goal should be sustainable diets. This concept is captured to some extent within the principle to “manage natural resources” – which

7 Note from a contributor: A specific challenge is that food and market demands (and social mores) often induce people to focus on staple crops. Consequently, inordinate amounts of time and labor are dedicated to those. Unless these pressures are reduced that pressure (e.g. via policy change, other market opportunities, labour-reducing technologies, nutrition promotion, etc.), increasing focus on other crops is difficult.
was discussed by 10 of the 12 institutions – because the livelihoods, food production, and disease exposure of farmers is closely connected to the natural resource base. Thus recognizing ecosystem services as the foundation for nutrition, comments from partners indicated that the “natural resources” principle should go beyond short-term farm-level natural resource management, encompassing regional and global food systems – especially in light of climate change that will increase vulnerability of farmers. (This was especially clear in the HLTF documents.) If not, efforts will be short-sighted and weaker than what is necessary to ensure food and nutrition security for all globally, for the long term.

Costing
Costing of recommended interventions is currently missing. The most important costing may be to identify the costs of agriculture programs that include nutrition objectives, for planning and budgeting purposes. Cost benefit analyses that look at the effects of “option A” (an approach with nutrition considerations) and “option B” (a standard approach) would also be helpful. Neither pure costing nor cost benefit analyses\(^8\) have been done with agriculture objectives in mind; even Save the Children UK did not attempt to cost its agriculture recommendations within the guidance note “An eight-step, costed plan of action.”

Effective delivery of nutrition education/behavior change within agriculture
Many guidance notes recommended **agricultural extension agents** as a channel for nutrition-relevant information, but depending on agricultural extension agents for the array of nutrition messages recommended may not be feasible; greater attention is needed to who will deliver nutrition education in the context of agricultural programs, and what messages they should focus on. More evidence and experience from various contexts would be useful to identifying effective combinations of delivery channels, including not just who conveys the information by how it was done. Further, relying on agricultural extension agents requires that they exist in sufficient numbers in the first place. In many countries, they do not. An enhanced role of agricultural extensionists in nutrition education probably needs to be combined with advice to simply increase funding allocations for agricultural extension in general. This includes increases in quality of training, including nutrition, as well as quantity of personnel (see capacity-building); remuneration may also need increase in some cases to provide an incentive for skilled people to join and to provide high-quality assistance.

The guidance provides some information on **“how” nutrition education or behavior change communication can be done effectively** (beyond the “what” messages and “who” delivers them), but this aspect is critical. (For example, dialogue and negotiation, barrier analysis, social mobilization, exploration of motivations, demonstration and modelling, mutual support and peer education, hands-on practice and feedback; “baby-steps” in existing systems to influence nutritional change.) A few partners emphasized that behavior change is a social phenomenon – that social barriers or supporters affect whether change occurs, so education, again, often needs to go beyond messages to individual households. It also can be directed at consumers to increase market demand for nutritious foods (as noted in the WB guidance note). There is substantial

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\(^8\) Credible cost-benefit analyses have been done for biofortification, reaching the top of the Copenhagen Consensus list (2008), for the outcome of improved micronutrient intake. An initial cost benefit analysis of HKI’s homestead food production model in one region of Bangladesh estimates an economic rate of return of 160% (see Annex 2).
experience on effective social and behavior change communication that would bring important insights to operationalizing the “nutrition education” recommendation.9

**Considerations for avoiding unintended disempowerment of women**

Two areas related to women’s empowerment lacked a full discussion of potential unintended consequences that could unintentionally result in disempowerment for women. One was promoting market-oriented production of women’s crops (e.g. horticultural or indigenous crops) for the purpose of empowering women through enhanced income generation, which could potentially have the unintended consequence of shifting control over the crops to men. This has sometimes been observed in practice, but how to ensure that women maintain production and income control, even when yields and profits increase, was not discussed within the recommendations. One possibility is that nutrition education – recommended by all institutions – and extension can address roles and responsibilities of men and women. They can highlight the benefits to the household from women’s income, taking a more proactive role in maintaining women’s control over production and sale. Context assessment may also prove useful for exploring the likely impact of marketing women’s crops.

The ubiquitous advice to recognize women’s role in providing child care also requires careful operational thought and action. While the guidance generally was very supportive of approaches to allow women to participate both in economic opportunities while being able to feed their children well, there is a fine line between protecting women’s ability to care for their children and prioritizing child care over other choices women may make. Similar to anti-discrimination and maternity leave policies in high-income countries, it is important that the recommendations avoid an unintended consequence of projects passing over women for lucrative opportunities because they are assumed to be unable to take them on due to child care. Successful approaches that increase women’s economic empowerment while maintaining or improving child care practices need to be documented.

**Overcoming inadequate support for context assessment, efforts to avoid harm, and multisectoral collaboration**

Although the recommendations stressed the importance of context assessment, currently it is rare to find adequate funding, staff, and time for achieving that goal in most programs. Interventions are frequently designed in proposals without comprehensive understanding of cultural context and opportunities for collaboration with existing initiatives. Requests for proposals may need to be reoriented to commit more funding, time, and staff to context assessment before the program clock (3 years, 5 years, etc) starts ticking. Some existing tools describe participatory methods for rapid assessment at low cost10, and these methods may increase willingness of donors and program staff to invest in context assessment. Local NGOs sometimes specialize in participatory assessment, and large donor projects could sub-contract with them for the purpose of context assessment. Improved access to information on the existence and capacity of local NGOs would

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9 Some tools are included in Annex 2 under “nutrition education”; USAID-funded SPRING is also working to pull together existing tools, and the forthcoming guidance document by the McKnight Foundation CCRP focuses on lessons learned around behavior change within their agriculture programs.

10 For example, see ACF and FAO manuals in Annex 1, and other tools such as the RAP guide in Annex 2.
be helpful. One NGO that commented emphasized the need for farming systems analysis and research to design appropriate and effective interventions.\textsuperscript{11}

The recommendation to do no harm was near universal, and processes to operationalize that advice have advanced recently. More work is needed, however, to help agriculture projects predict potential harms likely for their specific region and project, and to incentivize that thoughtful process in the planning and monitoring stages. While the guidance notes listed many general classes of harm (such as reductions in women’s time), this recommendation is difficult to generalize because it is context-dependent, and a likely harm in one place may be a non-issue elsewhere.

The constraint of inadequate incentives is also true for the advice to collaborate multisectorally. All guidance notes were supportive of multisectoral collaboration, at least in planning stages of projects. Although the guidance notes fully acknowledged the difficulty of collaboration, advice was generally weak on improving incentives for effective collaboration, even in planning stages. FAO’s “Joint Planning” document (in the “manuals” category) offers operational guidance for a workshop approach, and is an important tool to accompany the advice.\textsuperscript{12}

\textbf{Emphasis on university training to build capacity}

Commenters pointed out that the amount of capacity building needed is very difficult because there are so few professionals globally who can credibly bridge the fields of agriculture and nutrition. Universities around the world need to increase cross-disciplinary training, and agricultural curricula need more inclusion of nutrition. This would help to increase the number of people able to support agriculture-nutrition capacity building within ministries, as well as the number of nutrition-cognizant people in national and international agricultural research centers.

\textbf{Guidance specifically targeted to government audiences}

The guidance here was mainly written for programming (often the primary audience was staff within the authoring agency). Some translation or revision may be needed to speak directly to a government audience. Many of the principles are, however, directly relevant to government ministries: the governance, policy, and capacity themes (and part of the equity theme) are geared toward governments, and many of the other principles can be re-formulated as policies that would enable and incentivize all of those actions (e.g. policies to enable diversification). Commenters pointed out the need for more policy guidance at the sub-national level, where programmes are implemented.

\textbf{Clarity on targeting}

Some commenters saw a conflict between targeting on agricultural vs. nutrition criteria. The relatively low focus on lifecycle stage for targeting efforts in the guidance (only 3 guidance notes suggested targeting young children) differs from the overwhelming focus on the “1000 days” in nutrition community – such as in the SUN Framework (2010) and Road Map (2011) and the

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\textsuperscript{11} Examples include: (1) in areas with high rainfall at harvest time, where groundnuts are the main sauce: there is a high risk for aflatoxins. Train beneficiaries on reducing risks. (2) Home vegetable gardens: difficult if livestock roam freely around the village. (3) Animal protein and milk: Need to increase fodder production before introducing animals. See FAO guide on farming systems: \url{http://www.fao.org/farmingsystems/description_en.htm}

\textsuperscript{12} There is also a new IFPRI book, “Working Multisectorally in Nutrition” (Garrett and Natalicchio eds., 2011).
1,000-days movement – referring to the period of conception to a child’s second birthday where damage due to nutrition is largely irreversible. Setting inclusion criteria in agriculture programs to include only households with pregnant women and young children would be logistically and ethically problematic. “Targeting” in the guidance, however, can also refer to soft targeting, or program design characteristics to reach vulnerable groups within households (e.g. producing crops or livestock products that can be easily used as nutritious complementary foods for young children).

**Participatory development, ownership, and program sustainability**

A theme highlighted by commenters was the need for participatory development and building ownership in communities. As one commenter wrote, “**health ownership** is a cardinal point of health promotion: that is, the ability of individuals and communities to act for themselves and to undertake some of the essential educational process – looking at their own needs, deciding on a range of actions, providing social support, monitoring what they do and measuring impact for themselves.” This is related to ensuring program sustainability. Several guidance notes did discuss community involvement and ownership during program design and even monitoring (see context assessment synthesis: one purpose is to initiate a process of inclusion). This seems to be an important point of the “how” or the process of nutrition-sensitive agriculture to ensure uptake, impact, and continuation of new practices and behaviors.

**Increased accessibility and generation of “how-to” knowledge and case studies**

Overall, the guidance notes provide a comprehensive, well-founded set of principles for maximizing nutrition impact of agricultural policies, projects, and programs. *How* to implement the guidance effectively was generally not addressed substantially, although that is due to the inclusion of only “guidance notes” in this synthesis draft (not operational manuals), and also to the context-dependent nature of applying the principles. In the few instances where organizations gave “how-to” advice (such as using positive deviance sessions as a tool for context assessment, women’s empowerment, and nutrition education), it was particularly noted in the synthesis of guidance by theme. Some of the individual guidance notes highlight case studies of well-designed programs trying to make the links (EC and WB provide many examples; FAO 2001, Save UK 2012, and WV provide one example each), and the World Bank review (2007) also provides several examples of such programs in detail. Many tools exist that would assist with implementing the guiding principles, although they are not necessarily easily accessible, and may not be adequate for needs in varying contexts. Partners noted that ‘how to’ guidance for agriculture and nutrition interventions individually exists and could be merged as relevant to projects attempting to link the two. Incentives for knowledge sharing may also need to be addressed: since most documentation that NGO produce are to meet the donors’ reporting requirements, it may be difficult to learn from their experiences if they are not describing how they proceed to integrate their activities, and lessons learned. Beyond the project level, operational guidance or a distillation of experience on how to strengthen nutrition governance and alignment among sectors is needed. Research in implementation science can help to identify approaches and tools that work.

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13 Some practical how-to tools are included in Annex 2; the ACF, EC, and WB guidance notes also contained links to additional resources.
**Interactive capacity building**

There is likely a limit, however, to what pre-written tools can do, for two reasons: firstly, that the specific “how to” depends greatly on the context (and most organizations implicitly recognized this, in spending so much page-space discussing the importance of context assessment and how to do it). Secondly, capacity building training is most effective in person, with written material only as a support. Absorbing and understanding even the principles in this synthesis paper require time and familiarity with nutrition determinants. Some of the guidance documents included an introductory primer on nutrition, which is helpful as reference material, but deep learning from practitioners cannot be expected without face to face interaction and discussion. Therefore, in addition to operational tools and implementation science research, a recommendation of this synthesis is that the principles be communicated through interactions, for example in workshops, and iterative feedback on country and program plans. Development institutions are encouraged to provide such support. To do so, they must build their own capacity as well as those of in-country practitioners.

**Changing the discourse around food security**

All guidance notes took as a given that food security means consistent physical and economic access to nutritious diets. This meaning, while clear from the UN definition\(^\text{14}\), differs from a view functionally limited to staple production or even income generation. Only one (WB) recommended explicit efforts to return to nutrition in the discourse; many other guidance notes mindfully used the term “food and nutrition security” partly to emphasize the centrality of nutrition. Agriculture professionals often see “improved food security” as part of their mission. Consistently referring to nutritious diets within discourse around food security could increase commitment to mainstreaming nutrition in agriculture.

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\(^{14}\) FAO defines “food security” as “a situation that exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO 1996: World Food Summit Declaration and Plan of Action. Rome)
Next steps

The most important next step is to include the agreed-upon principles in forthcoming agriculture programs and learn from the outcomes. This requires commitment from the highest levels of governments and development institutions to link agriculture and nutrition, which has thus far been inhibited by four main constraints: (i) information on what to do, (ii) how to do it, (iii) how much it will cost (per benefit gained), and (iv) how it will be supported or rewarded.

The first constraint to action so far has been a perceived lack of clarity in guidance and evidence for nutrition-friendly agriculture. Interested agriculture professionals have been unclear on what to do to improve nutrition through agriculture, and the nutrition community on the whole has not yet come together around common advice. This synthesis is a step to fill that gap, and the finding of remarkable similarity of guiding principles among guidance notes published by 12 international development institutions is encouraging.

A second constraint apart from “what to do” is how to do nutrition-friendly agriculture. Better guidance on operational best practices, particularly around improving market access and ensuring that women benefit, would be of great benefit to include nutrition in agriculture projects. Recommendations specific to project types, value chains for specific crops, and agroecosystem types may also help.

The lack of costing and cost benefit information is another constraint to serious buy-in from agriculture sector staff who want to be sure to spend scare resources wisely. Cost and impact information (including nutrition impact, productivity, and economic impact) should be gathered wherever possible.

Each of these first three constraints deals with the availability of high-quality evidence based on evaluations and case studies of the nutrition impacts of agriculture programs. Support for producing the next generation of evidence is critical, including guidance on study design and methodology, and adequate human and financial resources to carry it out.

A fourth constraint relates to how efforts to link agriculture to nutrition will be supported and rewarded by governments and institutions. Food and agriculture policies supportive of healthy diets and nutrition would help to make nutrition-friendly agriculture the lucrative option, which would be by far the most powerful way to increase action. Support for capacity in agricultural extension as well as nutrition training and staffing at all levels would increase the feasibility of actions to improve nutrition through agriculture. This requires appropriate investments be made in institutional development related to nutrition in the agriculture sector, an area which has so far received very limited development support. Institutional incentives for multisectoral collaboration, context assessment, and a planning process to avoid nutritional harm, would increase the chances of their happening.

If the principles can be incorporated into agriculture programs now, including appropriate monitoring and evaluation, then the result will be a new generation of evidence that will improve
knowledge on operational “how-to” best practices, costs, and impact – and may result in a revision of guiding principles. This new knowledge would further improve ability to plan for and include nutrition outcomes in agriculture projects, propagating a virtuous cycle of knowledge, commitment, and action.

Figure 1. Virtuous cycle of knowledge, commitment, and action based on next steps
ANNEX 1: ALL DOCUMENTS IDENTIFIED:
Institutional Guidance/Statements on linking agriculture and nutrition

Summary:
A total of 53 publications were identified to date; 31 development institutions have been involved in publishing guidance, a statement, or explorations of the evidence linking agriculture and nutrition. These fall into the categories of “guiding principles and operational guidance” for increasing nutrition impact of agriculture programs; UN inter-agency guidance; “manuals” to assist program staff in implementing the principles; “statements and strategies” describing approaches of individual institutions; and “other” including four academic reviews, a community conversation, and a research program. The papers identified in each category are identified below.

Guidance notes (10 institutions)

ACF International (Action Against Hunger)
“Maximizing the nutritional impact of food security and livelihoods interventions: a manual for field workers” (Geraldine Le Cuziat and Hanna Mattinen) July 2011

Bioversity International (BI)
“Improving Nutrition with Agricultural Biodiversity: a manual on implementing food systems field projects to assess and improve dietary diversity, and nutrition and health outcomes”
Oct 2011

EC (European Commission)
“Addressing Undernutrition in External Assistance: an integrated approach through sectors and aid modalities.” September 2011
Note: Sections 2.6-2.7 are: “Improving Nutrition through Food Security” and “Improving Nutrition through Agriculture”
http://capacity4dev.ec.europa.eu/topic/fighting-hunger

FANTA (Food And Nutrition Technical Assistance - USAID)
http://www.fantaproject.org/downloads/pdfs/NutAg_Mar01.pdf
Background paper: “Increasing the Nutritional Impacts of Agricultural Interventions” (Patricia Bonnard) 1999
**FAO (Food and Agriculture Organization of the UN)**
“Assisting the food and agriculture sector in addressing malnutrition” 2010
“Investing in Food Security: Linking Agriculture to Nutrition Security” 2009
“Incorporating Nutrition Considerations into Development Policies and Programmes” 2004
*Note: p44-46 is most relevant: Policies and programs in agriculture.*
“Incorporating Nutrition Considerations into Agricultural Research Plans and Programmes” 2001
http://www.fao.org/docrep/005/y1181e/Y1181E00.htm

**IFPRI (International Food Policy Research Institute)**
“Leveraging Agriculture for improving nutrition and health outcomes: The way forward.” 2011
http://2020conference.ifpri.info/publications/the-way-forward/
This piece has also been published as Ch.23 in *Reshaping agriculture for nutrition and health* edited by S Fan and R Pandya-Lorch, IFPRI 2012 (S Fan, R Pandya-Lorch, and H Fritschel)

**IYCN (Infant and Young Child Nutrition – USAID)**
“Achieving Nutritional Impact and Food Security through Agriculture: Fact sheet” Feb 2011
http://www.iycn.org/resource/?resource_categories=agriculture-tools
http://iycn.org/files/FINALIYCNAgricultureFactSheet022311.pdf
“Integrating Household Nutrition and Food Security objectives into proposed agriculture projects: Illustrative guidance” Feb 2011
http://www.iycn.org/agriculture.php

**McKnight Foundation Crop Collaborative Research Program (CCRP)**
“What we know about agricultural interventions to improve child nutrition” Forthcoming
(listed alphabetically: Berti, P. Beznier-Kerr, R., Creed, H., Cruz, Y., Jones, A., Nicklin, C., Omonte, M., Perez, M., Scurrah, M.)
*To be released 2012 or 2013.*

**Save the Children, UK**
“A Life Free from Hunger: Chapter 4: Harnessing the Potential of Agriculture to Tackle Malnutrition” 2012
“Hungry for Change: An eight-step, costed plan of action to tackle global hunger” 2009
*Note: “component 3” of the plan is about nutrition-friendly agriculture*
World Bank (WB)
“Addressing Nutrition through Multisectoral Approaches: Guidance Note for Agriculture and Rural Development” Forthcoming 2013
To be posted at www.worldbank.org/nutrition

World Vision International (WV)
“Growing Healthy Children: Addressing child undernutrition through agriculture.” (Sheri Arnott) Feb 2011
“Growing healthy children: Key Lessons from evaluations of World Vision's integrated agriculture-nutrition-health programming” (Kioko Munyao) Feb 2011

UN inter-agency guidance (2 inter-agency bodies)

UN SCN (Standing Committee on Nutrition)
“6th report on the world nutrition situation: Progress in Nutrition” 2010
Chapter 4: Sustainable Food and Nutrition Security
Note: the 6th report (SCN’s most recent) focuses on two priority areas: maternal nutrition (Ch 3), and agriculture as central to improving nutrition (Ch4).

UN HLTF on Global Food Security (High Level Task Force)
“Food and Nutrition Security for All through Sustainable Agriculture and Food Systems” March 2012
http://www.un-foodsecurity.org/
“Updated Comprehensive Framework for Action (CFA)” 2010

Manuals (8 institutions)

ACDI/VOCA
Set of four “Nutrition Integration Fact Sheets” on integrating nutrition into value chains for legumes, vegetables, maize, and rice, accompanied by a nutrition primer. April 2012
http://www.thousanddays.org/author/acdivoca/

ACF International
“Maximizing the nutritional impact of food security and livelihoods interventions: a manual for field workers” July 2011
Bioversity International
“Improving Nutrition with Agricultural Biodiversity: a manual on implementing food systems field projects to assess and improve dietary diversity, and nutrition and health outcomes”
Oct 2011

FAO
“Guidelines for joint planning for nutrition, food security, and livelihoods: Agreeing on causes of malnutrition for joint action.” May 2011
“Protecting and Promoting Nutrition in Crisis and Recovery” 2005
“Guidelines for preparing micro-project proposals to improve food security and nutrition” 2002
http://www.fao.org/DOCREP/005/y2829e/y2829e00.htm
“Guidelines for participatory nutrition projects” 1993; currently being updated
http://www.fao.org/docrep/v1490e/v1490e00.htm#TopOfPage

GAIN, IDS, and USAID
Nutritious Agriculture by Design: A tool for program planning. May 2012
Not yet available online

IYCN
“Nutritional Impact Assessment Tool: a tool for maximizing the positive impacts of agricultural interventions on nutritionally vulnerable and food insecure populations” September 2011
http://www.iycn.org/resource/?resource_categories=agriculture-tools

Statements and strategies (12 institutions)

AGRA (Alliance for a Green Revolution in Africa)
“Transforming agriculture, nutrition, and health linkages” (Ngongi) Feb 2011

AVRDC – The World Vegetable Center
Brochures of mission and activities Consumption/nutrition is one of the main themes
http://203.64.245.61/web_docs/brochures/HQ_brochure_web.pdf
http://203.64.245.61/web_docs/brochures/unique_center_latest.pdf
“Indigenous Vegetables: A home-grown answer to malnutrition”
http://203.64.245.61/web_docs/brochures/point/Point-Nutrition.pdf
“Home Gardens: Fresh vegetables within reach of all”
http://libnts.avrdc.org.tw/web_docs/media/background/home%20gardens_rev_s.pdf
BMGF (Bill & Melinda Gates Foundation)
“Optimizing Nutrition Outcomes from Investments in Agriculture” Aug 2012
http://www.gatesfoundation.org/agriculturaldevelopment/Pages/optimizing-nutrition-outcomes-from-investment-agriculture.aspx

Bioversity International
“Resilient Food and Nutrition Systems: Analyzing the role of agricultural biodiversity in enhancing human nutrition and health” 2011

Concern Worldwide
“The Time is Now: Improving Food Security and Nutrition for the Poorest” 2012
“Realigning Agriculture to Integrate Nutrition (RAIN) Project” (Tom Arnold) Feb 2011
http://2020conference.ifpri.info/files/2010/12/20110211parallel1B3_Arnold_Tom_note.pdf

Fintrac and USAID
“Spotlight Analysis: Nutrition and Agriculture” Dec 2011

HKI (Helen Keller International)
“Homestead Food Production and Nutrition Education” (Victoria Quinn) Feb 2011
“Homestead Food Production – A Strategy to Combat Malnutrition and Poverty.” 2001

ICRW (International Center for Research on Women)

IFAD (International Fund for Agricultural Development of the UN)
Strategic Framework 2011-2015: Enabling poor rural people to improve their food security and nutrition, raise their incomes and strengthen their resilience
http://www.ifad.org/sf/index.htm
http://www.ifad.org/sf/strategic_e.pdf

USAID (United States Agency for International Development)
Feed the Future Guide 2010
Note: p13-14 outlines FTF approach to reducing undernutrition through agriculture investments.
http://www.feedthefuture.gov/guide.html
Feed the Future Indicator Handbook: Definition Sheets

WorldFish Center
“Fish and Human Nutrition”
http://www.worldfishcenter.org/sites/default/files/fish_human_nutrition_1.pdf

WFP (World Food Programme of the UN)
“Enhancing nutrition along the value chain” (Ken Davies, P4P) Feb 2011
“WFP Nutrition Policy” (2012) discusses P4P and biofortification

Other
(5 commissioned literature reviews, 1 research program, 1 community dialogue)

AED and FAO
“Deepening the Dialogue: Agriculture and nutrition collaboration to enhance global food security: summary report from the Open Forum held on Nov 1, 2010”

CGIAR (Consultative Group on International Agricultural Research)
CRP4: “Agriculture for Improved Health and Nutrition” 2011

DFID-commissioned review (University of London):
http://www.dfid.gov.uk/R4D/PDF/Outputs/SystematicReviews/Masset_etal_agriculture_and_nutrition.pdf
http://eppi.ioe.ac.uk/cms/LinkClick.aspx?fileticket=QbYFOITyugs%3D&tabid=2974&mid=5583
http://www.bmj.com/content/344/bmj.d8222

IYCN
http://www.iycn.org/agriculture.php
USAID (through A2Z, hosted by AED); IFPRI
“The Micronutrient Impact of Multisectoral Programs Focusing on Nutrition” (JL Leroy, M Ruel, E Verhofstadt, D Olney) 2008
http://www.micronutrientforum.org/innocenti/Leroy%20et%20al%20MNF%20Indirect%20Selected%20Review_FINAL.pdf

WorldFish Center
“The contribution of fish intake, aquaculture, and small-scale fisheries to improving nutrition: A literature review” (N Kawarazuka) 2010

World Bank
“Pathways from Agriculture to Nutrition” 2007
ANNEX 2: ADDITIONAL RESOURCES

Some additional tools are identified below, which would assist implementers in following the available guidance, or to understand the issues further. Note that this list is far from exhaustive; it simply provides some pertinent references suggested by contributors.

**Context Assessment and Implementation guidance:**

A2Z: The USAID Micronutrient and Child Blindness Project
“Program Assessment Guide.” (Pelletier, D., Corsi, A., Hoey, L., Houston, R., Faillace, S.)
August 2010
http://www.a2zproject.org/pdf/PAG.pdf

AED
Designing by Dialogue. Consultative Research to Improve Young Child Feeding. (K Dickin, M Griffiths, E Piwoz) 1997
http://www.globalhealthcommunication.org/tools/58

CINE (Centre for Indigenous Nutrition and the Environment at McGill University)

CORE Group
“Nutrition Program Design Assistant: A tool for program planners” (2010)
http://www.coregroup.org/component/content/article/119

FANTA

FAO
“Analysis of Farming Systems”
“A Response Analysis Framework for Food and Nutrition Security Interventions at District at Inter-cluster and Cluster Level, Drawing on work done in relation to the IPC (version 1.1) and the IASC Cluster System in Somalia; A Facilitation Guide.” (2011)
IFAD
“Good practices in participatory mapping” (2009)

INFDC (International Nutrition Foundation for Developing Countries)
RAP: Rapid Assessment Procedures: Qualitative Methodologies for planning and evaluation of health related programmes (N Scrimshaw and G Gleason, Eds.) 1992

IPC (Integrated Food Security Phase Classification)
Standardized Tool for classifying food security (2011)
http://www.ipcinfo.org/index.php

Manoff Group
Trials of Improved Practices (TIPs): Giving Participants a Voice in Program Design
Technical Brief: The Manoff Group's Formative Research Expertise

Micronutrient Initiative (MI)
http://www.micronutrient.org/nutritiontoolkit/

Never Ending Food
http://www.neverendingfood.org/h-low-input-fns/

WFP
World Food Programme's Food Security Analysis Service (Vulnerability Analysis & Mapping)
https://www.wfp.org/food-security

WHO/UNICEF
“Planning guide for national implementation of the global strategy for infant and young child feeding” (2007)

World Bank
Nutrition Toolkit: Project Design
http://go.worldbank.org/7K1WV3B4M0

Context assessment data sources:
DHS
http://www.measuredhs.com/

LSMS
http://go.worldbank.org/IPLXWMCNJ0

MICS

FAO
Data
http://faostat.fao.org
Nutrition country profiles

FIVIMS (Food Insecurity and Vulnerability Information and Mapping Systems) initiative
http://www.fivims.org/

UNICEF
Statistics and monitoring
State of the World’s Children (2011)
http://www.unicef.org/publications/index_57468.html
http://www.unicef.org/publications/index_51656.html

WHO
Nutrition databases
http://www.who.int/nutrition/databases/en/index.html
“Indicators for assessing infant and young child feeding practices: Part III Country Profiles”
http://www.who.int/nutrition/EB128_18_Backgroundpaper1_A_review_of_nutritionpolicies.pdf

World Bank
Data
http://data.worldbank.org/
World Development Indicators
Nutrition Country Profiles (2011)
http://www.worldbank.org/nutrition/profiles

M&E

JPAL (Jameel Poverty Action Lab at MIT)
5-day course on evaluating social programs
http://www.povertyactionlab.org/course
World Bank
Nutrition Toolkit: Monitoring and Evaluation
http://go.worldbank.org/7K1WV3B4M0

What can we learn from nutrition impact evaluations? Lessons from a review of interventions to reduce child malnutrition in developing countries. 2010

“Methodologies to evaluate the impact of large-scale nutrition projects” (JP Habicht, GH Pelto, J Lapp) 2009

Indicator guidance:

FANTA/FANTA-2
Household Hunger Scale (2011)

http://www.fantaproject.org/publications/hfias_intro.shtml

http://www.fantaproject.org/publications/hdds_mahfp.shtml

http://www.fantaproject.org/publications/hdds_mahfp.shtml

http://www.fantaproject.org/publications/householdcons.shtml

FAO
“Guidelines for measuring household and individual dietary diversity” (2011)

“Expert Consultation on Nutrition Indicators for Biodiversity .2 Food Consumption.” (2010)

IFAD
Results and Impact Management System (2011)
http://www.ifad.org/operations/rims/

IFPRI, USAID, OPHI (Oxford University)
“Women’s Empowerment in Agriculture Index” (2012)
http://www.ifpri.org/publication/womens-empowerment-agriculture-index

WHO, UNICEF, USAID, AED, UCDAVIS, IFPRI
“Indicators for assessing infant and young child feeding practices: Part I Definitions” (2008)
Women’s empowerment:

Actionaid, CARE, Christian Aid, Concern Worldwide, Find Your Feet, Oxfam, Practical Action, Save the Children, Self Help Africa
“What works for women: Proven approaches for empowering women smallholders and achieving food security,” 2012

BMGF
“Creating Gender-Responsive Agricultural Development Programs” 2012

CFS Policy Round Table on “Gender, food and nutrition security: A concept note.”

CPHCC, WFP, UNSCN, ACF
“Enhancing women’s leadership to address the challenges of climate change on nutrition and security and health”

Farming First
“Rural Women: Policies to help them thrive” 2012

FAO
“Policy on Gender Equality: Attaining Food Security Goals in Agriculture and Rural Development” 2012

The State of Food and Agriculture, 2010–11: Women in Agriculture: Closing the Gender Gap for Development” 2011

“Country Programming Framework: Integrating Gender Issues” 2010

Gender and Nutrition Key Facts
http://www.fao.org/docrep/012/a184e/a184e00.pdf

“Focus On: Right to Food and Gender” 2007
IASC (Inter-Agency Standing Committee)
“Gender Marker Tip Sheet” 2011
http://pakresponse.info/LinkClick.aspx?fileticket=1vjO3q47mu4%3D&tabid=107&mid=629
“Gender Handbook in Humanitarian Action: Women, girls, boys and men; Different needs, equal opportunities.” 2007

ICRW
“Bridging the Gender Gap in Agricultural Extension” 1985
“Women, Land, and sustainable development” 1995

HKI

**Nutrition education:**

FAO
http://www.fao.org/docrep/014/am866e/am866e00.pdf
“Trials of Improved Practices; Guiding Notes For TIPs Trainers and Implementers.” 2011
http://www.fao.org/docrep/014/am868e/am868e00.pdf
“Trials of Improved Practices; Reference Notes and Tools.” 2011
http://www.fao.org/docrep/014/am869e/am869e.pdf
“Nutrition Education in Primary Schools: A planning guide for curriculum development” 2006
http://www.fao.org/docrep/009/a0333e/a0333e00.htm
Curriculum Development Centre, Zambia and FAO: “Nutrition Education, Supplementary Material; Teacher’s Book Grade 4.” 2007
http://www.fao.org/docrep/010/ai210e/ai210e00.htm
“Setting-up and running a school garden; Teaching toolkit.” 2010
http://www.fao.org/docrep/012/i1118e/i1118e00.htm
“Setting-up and running a school garden; A manual for teachers, parents and communities.” 2005
http://www.fao.org/docrep/009/a0218e/a0218e00.htm

World Bank
“Nutrition Toolkit: Nutrition Communication”
http://go.worldbank.org/7K1WV3B4M0

Management of natural resources:

AVRDC – The World Vegetable Center
“More Crop per Drop: Using Simple drip irrigation systems for small-scale vegetable production” 2011

FAO
“Forests for improved nutrition and food security.” 2011

Nutrition-oriented agricultural production:

AVRDC – The World Vegetable Center
“Discovering Indigenous Treasures: Promising indigenous vegetables from around the world” (2009)
“A Primer on Vegetable Gardening” (1993)
These, and additional titles dealing with specific crops available at:
http://avrdc.org/?page_id=424

FAO
“Food composition study guide; questions and exercises – questions and answers.” (UR Charrondiere,B Burlingame, S Berman, I Elmadfa) (2011)
FAO and INFOODS
“International Food Composition Tables Directory”
http://www.fao.org/infods/directory_en.stm
“FAO/INFOODS Food Composition Database for Biodiversity Version 2.0 – BioFoodComp2.0” (2012)
“INFOODS List of underutilized species contributing to the Nutritional Indicators for Biodiversity. Version 1.” (2010).
http://www.fao.org/infods/biodiversity/INFOODSUpdatedGFU-list.xls

Post-harvest Processing:

AVRDC – The World Vegetable Center
“Vegetables Postharvest: Simple techniques for increased income and market” (2010)

FAO
“Maintaining Quality of Food and Feed Grain through Trade and Processing; Training Manual.” (2007)
http://www.fao.org/docrep/010/a1417e/a1417e00.htm

**Marketing:**

ACF

Farm Concern International
“Commercial Village Approach” – information can be found at:
http://www.farmconcern.org/

HKI

**Capacity Building:**

FAO
http://www.fao.org/docrep/012/al303e/al303e00.htm
“Promoting Improved Complementary Feeding (with recipes); A Manual for Community Nutrition Promoters.” (2011)
http://www.fao.org/docrep/014/am867e/am867e.pdf
http://www.fao.org/docrep/012/i1548e/i1548e00.pdf
E-learning course: Assessing Impact of Development Programmes on Food Security
“Needs Assessment for Professional Training in Nutrition Education, and Communication” 2011
www.nutritionlearning.net

FAO, Food and Nutrition Council of Zimbabwe, UNICEF, EC
“Healthy Harvest: A training manual for community workers in good nutrition, and the growing, preparing and processing of healthy food.”

IFPRI
“Agriculture, nutrition and health essentials for non-specialist development professionals” (J Harris) (2011)
http://www.lidc.org.uk/_assets/2020_ANH_Essentials_JodyHarris_M.pdf

Other:

Chicago Council on Global Affairs
“Bringing Agriculture to the Table: How agriculture and food can play a role in preventing chronic disease.” (R Nugent, chair) (2011)
http://www.thechicagocouncil.org/UserFiles/File/GlobalAgDevelopment/Report/Bringing_Agriculture_To_The_Table.pdf

CINE (Centre for Indigenous Peoples’ Nutrition and Environment) and FAO
“Indigenous Peoples’ food systems: the many dimensions of culture, diversity and environment for nutrition and health.” (2009)
http://www.fao.org/docrep/012/i0370e/i0370e00.htm

Indigenous Peoples’ Food Systems and Wellbeing: Interventions and Policies for Healthy Communities. (Kuhnlein HV, D Spigelski, B Erasmus and B Burlingame, Eds.) (in press)
Currently not available online

The Coalition for Sustainable Nutrition Security in India
“A Leadership Agenda for Action” (2008)

Farming First
“Guide to Food Security Initiatives”
http://www.farmingfirst.org/foodsecurity/

FAO
“Sustainable Diets and Biodiversity: Directions and Solutions for Policy, Research, and Action” (ed. B Burlingame and S Dernini) 2012
http://www.fao.org/docrep/016/i3004e/i3004e.pdf

“Combating Micronutrient Deficiencies: Food-based approaches” (ed. B Thompson and L Amoroso) 2010
http://www.fao.org/docrep/013/am027e/am027e00.pdf

“Impact of the Financial and Economic Crisis on Nutrition– Policy and Programme Responses” (Brian Thompson)
“The Contribution of Nutrition to Achieving the Millennium Development Goals”

“Nutrition-Sensitive Agriculture and Food-Based Approaches”


FAVHealth (Effects of Fruit and Vegetables on Human Health)
http://favhealth2012.uasd.edu/

Global Donor Platform for Rural Development
http://www.donorplatform.org/resources/publications

HKI
“Homestead food production model contributes to improved household food security, nutrition and female empowerment – experience from scaling-up programs in Asia (Bangladesh, Cambodia, Nepal and Philippines). HKI Asia-Pacific Nutrition Bulletin Vol. 8 Issue 1, March 2010.


More information from Save the Children USA in Bangladesh “Jibon O Jibika Endline Report”

“Homestead Food Production in Barisal, Bangladesh: Capstone report.” (C Berning, B Correa, K Sirman, and F Sosa) 2008
This report focuses on a cost-benefit analysis of the Homestead Food Production model, estimating an economic rate of return of 160%.
http://elliott.gwu.edu/academics/grad/ids/capstone_reports.cfm

IFA
“Fertilizing Crops to Improve Human Health” 2012
http://www.fertilizer.org/ifa/HomePage/SUSTAINABILITY/Nutrition

IFPRI
“Leveraging Agriculture for Improving Nutrition and Health: Highlights from an International Conference”

“Understanding the Links between Agriculture and Health” (2006) (C Hawkes and M Ruel)
http://www.ifpri.org/publication/understanding-links-between-agriculture-and-health
“Working Multisectorally in Nutrition” (2011) (J Garrett and M Natalicchio)  

“Strengthening the Role of Agriculture for a Nutrition Secure India” (S Kadiyala, PK Joshi, SM Dev, TN Kumar, V Vyas) 2011  

“Pro-nutrition agriculture in India: Entry Points and Policy Options” (SM Dev, S Kadiyala) 2011  

“Agriculture’s Role in the Indian Enigma” (D Headey, A Chiu, S Kadiyala) 2011  

“Improving Diet Quality and Micronutrient Nutrition: Homestead Food Production in Bangladesh” (2009) (L Iannotti, K Cunningham, M Ruel)  

http://www.ifpri.org/publication/millions-fed

Harvest Plus publications on biofortified crops can be found at:  
http://www.harvestplus.org/

Sight and Life

“Diversification from Agriculture to Nutritionally and Environmentally Promotive Horticulture in a Dry-Land Area” 2011  

SUN Framework for Action (2010) and Road Map (2011)  
http://www.scalingupnutrition.org/key-documents/

UK Government Office of Science, Foresight Project on Global Food and Farming Futures  
“Understanding and improving the relationship between agriculture and health” 2010  
(Wagge, J, Dangour, Al, Hawkesworth, S, Johnston, D, Lock, K, Poole, N, Rushton, J, Uauy, R)  
http://www.bis.gov.uk/assets/bispainters/foresight/docs/food-and-farming/additional-reviews/11-597-wp1-understanding-improving-agriculture-and-health

Future of Food and Farming Report (2011)  

UNSCN (16th United Nations Conference of the Parties)  
“Climate change and nutrition security” Dec 2010  

USAID

WHO and FAO joint initiative: PROFAV (Promotion of Fruit and Vegetables for Health) (supported by GlobalHort, CIRAD, NEPAD, TAHA and HODECT)

World Bank
“Prioritizing nutrition in agriculture and rural development projects: Guiding principles for operational investments” (A Herforth, A Jones, P Pinstrup-Andersen)
To be released 2012

World Economic Forum
“New Vision for Agriculture” (2011)
http://www.weforum.org/issues/agriculture-and-food-security

Communities:

Agriculture-Nutrition Community of Practice
http://knowledge-gateway.org/ag2nut

Food Security and Nutrition Network

Global Forum on Food Security and Nutrition
http://www.fao.org/fsnforum/

IFPRI
Conference website continually updated: Leveraging Agriculture for Improved Nutrition and Health
http://2020conference.ifpri.info/

SecureNutrition Knowledge Platform
http://www.securenutritionplatform.org

*There are many peer-reviewed scientific journal articles and books not listed here that provide rich knowledge on the topic, and have informed the institutional publications included.*