USAID FROM THE AMERICAN PEOPLE

MULTI-SECTORAL NUTRITION STRATEGY 2014-2025

Technical Guidance Brief

NUTRITION-SENSITIVE AGRICULTURE: NUTRIENT-RICH VALUE CHAINS

BACKGROUND

Agricultural development plays an essential role in improving nutrition. Recently, the term "nutrition-sensitive agriculture" has emerged as a way to define agriculture investments made with the intention of also improving nutrition. Investments require deliberate and appropriate forethought and planning to yield impact on nutritional status, and consequently good health and wellbeing. This technical guidance brief focuses on nutrient-rich value chains[1] as a nutrition-sensitive agriculture investment. Additional technical briefs are being developed to cover various other topics in agriculture and nutrition-sensitive agriculture.

Investments in agriculture help alleviate poverty, improve food security, and may prevent undernutrition, especially since 75% of the world's poor live in rural areas and work in agriculture. For a majority of the rural population in Feed the Future countries, agriculture is the primary livelihood and main source of income. Most of these communities are in various stages of transition from subsistence farming to commercial farming. Most of the rural poor must produce at least some of their food, and depend on the market for buying the remainder. Diets are often monotonous, consisting primarily of nutrient-poor staple foods. Particularly nutritionally vulnerable households engage in daily labor on other households' farms. In addition, rural households depend on income from agriculture for other expenses that affect physical and cognitive development of children, such as health care, water and sanitation, shelter, school fees, clothing, fuel, and transport.

Table 1: Promoting Nutrient-Rich Value Chain Products

- Target production of nutrient-rich commodities, ideally those with nutrients lacking in diet.
- Include social and behavior change components specifically aimed at consumption of targeted foods and food products within the context of a diversified diet, food safety, and other important nutrition behaviors.
- Ensure availability of target foods and food products in local markets.
- Support consumption education.
- Measure outcomes, including intermediate targets such as consumption and market availability.

PROGRAMMING PRINCIPLES

Several pathways have been identified showing how nutrition-sensitive agriculture interventions can more directly impact nutrition and food security. Interventions should be designed considering the pathways most relevant to the value chain and the most relevant underlying causes of undernutrition. More information on how to improve nutrition through agriculture-led activities is available in a series of technical briefs[2]. The identified pathways include:

- Agricultural Income - for food purchase and for health care and education expenditures
- Food Production - through reduced food prices, own consumption, and processing and storage
- Women's Empowerment - through women's decision-making in the household; women's time use and the impact on their ability to care for themselves and their children; women's workload and the impact on maternal energy use; and women's control of income, participation in markets, and resource allocation

Among these pathways and principles, this initial brief concentrates on the food production pathway by promoting nutrient-rich commodities for sale and own consumption. Feed the Future value chain products that tend to lend

[1] Value Chains are referred to as they are throughout Feed the Future.
[2] SPRING Improving Nutrition Through Agriculture Technical Brief Series https://www.spring-nutrition.org/publications/series/improving-nutrition-through-agriculture-technical-brief-series

themselves to "quick wins" include horticulture, legumes, aquaculture, and livestock. These food sources include essential nutrients commonly deficient in the diet.

Basic advice for program design for nutrient-rich value chains is outlined in **Table 1**. In addition, all agriculture investments can be made more nutrition-sensitive by analyzing the pathways explained above and by following the globally recognized programming principles outlined in **Table 2.**[3] Value chain activities for nutrient-rich products should include social and behavior change components to encourage consumption by nutritionally vulnerable household members, particularly pregnant and lactating women and children six-to-23 months old. Nutrient-rich value chains are defined in **Table 3**, and suggested entry points for these value chains are outlined in **Table 4.**

Table 2: Programming Principles

- Incorporate appropriate objectives and indicators into design
- Incorporate nutrition promotion and education
- Diversify production and increase nutrient-dense crops and livestock when this makes economic sense - that is, when not in conflict with obtaining income
- Improve quality of processing, storage, and preservation of food
- Expand market access to vulnerable groups and expand markets for nutritious foods
- During project design, assess the local context and address the underlying causes specific to the situation
- Ensure designs work to empower women through decision-making, time use, and control of income and resources
- Target the nutritionally vulnerable and improve equity
- Work across sectors - collaborating and coordinating where possible
- Maintain or improve the agricultural natural resource base (i.e. water, soil, air)

Table 3: Nutrient-Rich Value Chains

A commodity is defined as nutrient-rich if it meets any of the following criteria:

1. Is bio-fortified
2. Is a legume, nut, or some seeds such as sesame, sunflower, pumpkin seeds, wheat germ, or sprouted legume seeds
3. Is an animal source food, including dairy products (milk, yogurt, cheese), fish, eggs, organ meats, meat, flesh foods, and other miscellaneous small animal protein (e.g. grubs, insects)
4. Is a dark yellow or orange-fleshed root or tuber
5. Is a fruit or vegetable that meets the threshold for being a "high source" of one or more micronutrients on a per 100 calorie and per 100 gram basis

MEASURING PROGRESS

For programs aiming to improve nutritional status, clear nutrition objectives and appropriate indicators should be included at the design stage. For programs or activities aiming to improve intermediate steps, such as dietary diversity, indicators and objectives that measure the stated end goal should also be incorporated. For more comprehensive Feed the Future monitoring and evaluation information and resources, consult the Feed the Future website.

Feed the Future has added three new indicators - two population-based and one activity-based - to capture progress toward Feed the Future's Intermediate Result 6: Increased Access to a Diverse and Quality Diet. These indicators are to report results under USAID's new Multi-Sectoral Nutrition Strategy, and under the nutrition-sensitive agriculture sub-element under the Agriculture Program Area of the Standardized Program Structure and Definitions. The population-based indicators are: 1) Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities, and 2) Prevalence of children 6-23 months of age who consume targeted nutrient-rich value chain commodities. The activity-based indicator is: Total quantity of targeted nutrient-rich value chain commodities (see **Table 3**) set aside for home consumption by direct beneficiary producer households. The new indicators are applicable where missions are implementing nutrition-sensitive value chain activities where the value chain commodity has been selected for nutrition objectives, solely, or,

[3] Derived from http://www.unscn.org/files/Annual_Sessions/UNSCN_Meetings_2013/Key-Recs-AgNut-EN.pdf

usually, in addition to poverty reduction objectives. As these three new indicators capture only a portion of nutrition-sensitive agriculture activities, USAID is working on guidance for measuring agriculture and nutrition in programs.

Table 4: Illustrated Entry Points for Nutrition-Sensitive Agriculture

Value Chain Examples	Entry points for nutrition-sensitive interventions
Roots and tubers	• Dark-colored root vegetables • Bio-fortified orange sweet potato and cassava • NOTE: starchy staples (e.g. cassava, white potatoes) are not nutrient-dense as defined in Table 3 • Nutrition-sensitive agriculture work on starchy staples is still possible, but will entail additional analysis and planning
Legumes: Groundnuts Soybeans Chickpeas Beans	• Increase availability and consumption • Mycotoxin (e.g. aflatoxin) control • Soybean as an ingredient in animal food to increase availability of animal source protein • Processing of soy into flour that can fortify traditional foods
Livestock: Cattle (meat, dairy) Poultry (meat, eggs) Goat (meat, milk, cheese) Sheep (meat, milk, cheese) Camels (meat, milk, cheese) Micro-livestock (e.g. guinea pigs, rabbits)	• Ensure nutrient value of animal source foods is understood and encourage consumption • Ensure safe handling of manure to avoid contaminating food • Consider penning poultry to avoid environmental enteropathy • Promote high standards of hygiene, sanitation, and food safety in handling, preserving and processing milk, meat, cheese, and eggs
Aquaculture	• Integrate vegetable production around fish ponds • Promote polyculture that favors home consumption • Ensure ponds do not become malaria mosquito breeding sites
Horticulture: Vegetables (e.g. carrots, kale, cabbage, sweet green pepper, okra) Fruit (e.g. mango, avocado, citrus, passion fruit)	• Promote nutrient-rich foods preferred in the locality • Encourage consumption as appropriate • Include a social and behavior change component • Crops next to the house are easily tended • Consider fruit, nut, citrus, and/or fodder trees
Bio-fortified tubers, legumes, and cereals	• Vitamin A-rich maize • Vitamin A-rich sweet potato • Vitamin A-rich cassava • Iron-rich beans • Iron-rich pearl millet • Zinc-rich rice • Zinc-rich wheat

This Technical Brief will be periodically updated. Comments from readers are welcome, especially comments to help clarify the information provided or where additional information may be useful. (Last updated July 9, 2015.)