2. What is nutrition sensitive agriculture?

- A. Nutrition specific versus nutrition sensitive
- B. What is nutrition sensitive agriculture?
- C. Priority areas in nutrition sensitive agriculture?
- D. Practical experiences on nutrition sensitive agriculture

A. Nutrition specific versus nutrition sensitive

Nutrition specific refers to actions that address immediate causes of malnutrition (see in light blue in figure below). Interventions refer to action that directly enhance and improve intake at the level of individuals.

Examples of interventions, mainly implemented by nutrition and health specialists:

- distribution of vitamins to women and young children
- promotion of breastfeeding
- improved feeding and care taking practices for children, including hygiene
- fortification of salt with iodine
- treatment of undernutrition.

Nutrition sensitive refers to actions that address underlying causes of malnutrition (see in dark blue below). Interventions target especially assets and behavior at the household and community level to indirectly improve the nutritional status of persons.

Examples of interventions, many times implemented by different cooperating experts relating to nutrition, agriculture, water and hygiene, education, others:

- promotion of production systems and technologies that enhance food diversity
- investments to improve hygiene relating to drinking water and sanitation
- income generation activities or social protection programs for food insecure people
- awareness creation for improved nutrition through special curriculum

Source: adapted from UNICEF conceptual framework

Further information

- FAO course on Food and Nutrition Security Foundation
- UNICEF training on Nutrition in Emergencies
B. What is nutrition sensitive agriculture?

Nutrition sensitive agriculture relates to a system-based approach that targets agricultural production systems as a means to improve the nutritional status of households and individuals. It puts the introduction and promotion of nutritionally rich food production in the center, but involves also income enhancing strategies and nutrition related education that positively impact production and consumption patterns in regard to improved nutrition at the household and community level. All in all, nutrition sensitive agriculture pursues sustainable solutions to promote and ensure nutrition security in vulnerable areas. It puts nutritionally rich foods, dietary diversity, and fortification of food crops at the heart of overcoming malnutrition and micronutrient deficiencies.

As a consequence, the concept of nutrition sensitive agriculture stresses the multiple benefits of food variety especially for poor rural households, recognizing not only the nutritional value of food for good nutrition but also its social and cultural significance in such livelihood contexts. The promotion of this concept also entails gender equity and awareness creation measures to improve eating habits and thus household members' nutritional status – especially that of women and young children. More broadly, it also refers to other causes of malnutrition, e.g. health and social protection.

Examples of interventions in the area of nutrition sensitive agriculture:

- introduction of new (nutritious) crops and animals which are high in specific nutrients (i.e. protein, vitamins), e.g. vegetables, fruit trees, chicken, goats
- promotion of agricultural practices that enhance soil fertility, crop diversity and yields, e.g. composting, small-scale irrigation, intercropping etc.
- introduction of storage techniques and small-scale processing infrastructure
- establishment of school gardens
- development of special curricula that focuses on agricultural production and nutrition
- setting in place of special programs focusing on education related to nutrition, safe food preparation, use of safe drinking water, improving hygiene etc.
- promoting agricultural policy that aim at improving food and nutrition security

C. Priority areas in nutrition sensitive agriculture?

According to DFIS/WB, these are the priority areas to intervene when promoting nutrition sensitive agriculture:

1. Invest in women: safeguard and strengthen the capacity of women to provide for the food security, health, and sound nutrition of their families.
2. Increase access to year-round availability of high-nutrient content food.
3. Improve nutrition knowledge among rural households to enhance dietary diversity.
4. Incorporate explicit nutrition objectives and indicators into agriculture investments.

As a means to reach and positively impact rural populations over time, one important priority area to intervene in nutrition sensitive agriculture relates to biofortification (see figure below). Through variety selection and breeding, biofortification aims to increase the nutrition content of relevant food crops whose consumption will then help reduce malnutrition. For instance, the introduction and promotion of orange flesh sweet potato varieties in Sub-Saharan Africa has reduced the Vitamin A deficiency of people, as these varieties contain higher level of Vitamin A than the conventional white fleshed varieties. Both conventional and GMO techniques are used in biofortification programs. Yet, the use of GMO to increase the nutritional value of crops is being perceived as controversial among experts. As “biofortified” often relates to GMO, experts opposing to such technologies rather use the term "micronutrient rich".

Further information

- Welthungerhilfe Fact Sheet – Nutrition Sensitive Agriculture
- USAID – In-depth webinar about nutrition-sensitive agriculture including the different pathways that link nutrition and agriculture in webinar
- FAO – Key recommendations for improving nutrition through agriculture and food systems
- FAO – Nutrition-Sensitive Agriculture and Food Systems in Practice. Options for Intervention
- FAO – Toolkit on nutrition-sensitive agriculture and food systems
- Feed the Future – Improving Nutrition Through Agriculture Technical Brief: Understanding and Applying Primary Pathways and Principles
- Gfras – The Integration of Nutrition within Extension and Advisory Services
- SUN – The contribution of Agriculture and Social Protection to Improving Nutrition
- DFID/Worldbank – Improving nutrition through multi-sectorial approaches
- IFAD – Improving nutrition through agriculture
- ODI – Smallholder agriculture's contribution to better nutrition
To increase the content of essential micronutrients in a certain diet by adding these to the food or by applying special food processing technology.

Fortification

To increase the nutritional quality of food crops by generating varieties with a better nutrient content either through conventional breeding or GMO techniques.

Biofortification

D. Practical experiences on nutrition sensitive agriculture

- Bangladesh: Small fish big gains (new window)
- Bolivia: Crazy for quinoa (new window)
- Zambia & Uganda: Sustainable Nutrition 4 All (new window)
- Zambia: Realigning Agriculture to Improve Nutrition (RAIN) project (new window)
- South Asia: Rice duck farming (weblink), Rice duck farming (pdf)

Further information

- Icipe 2015 – From lab to land Women in ‘push-pull’ agriculture
- FAO 2015 – Understanding mountain soils
- 2017 - Effects of biodiversity on nutrition quality of diets
• Nepal: Snow harvest irrigation (pdf)