

INTERVENTION STRATEGIES AND INDICATORS TOWARDS NUTRITION SENSITIVE APPROACHES

This document provides a concise overview how agricultural development projects can be made more nutrition sensitive. It has been developed in 2019 as part of a project for the Netherlands Enterprise Agency to raise nutrition awareness amongst project executors of FDOV and SDGP projects and updated in 2021. We clustered these projects based on the following types of outcomes mentioned in the project proposals: 1) Increased income; 2) Increased access to a specific food group; and 3) Improved diets.

1) Increased income

Researchⁱ indicates that there is no automatic improvement of nutrition when production and/or incomes rise. It also depends on intra-household dynamics (inclusion of women), awareness and attitudes, local availability and affordability of food. The table therefore proposes interventions that may be integrated in the SDGP project, matched with indicators:

Relevant interventions to increase nutrition impact	Indicators and M&E
<p>Did production and/or income indeed increase due to the SDGP project?</p> <ul style="list-style-type: none"> • Raising awareness on importance of nutrition^{ii, iii} and preferably encourage good nutrition practices through Nutrition Behaviour Change Communication^{iv} • Ensure women are encouraged to participate in the project (inclusive targeting) • Integrate women empowerment (e.g. discuss and/or promote shared responsibilities and decision making in the household) to improve nutrition practices <p>In case of employer – employee relationships:</p> <ul style="list-style-type: none"> • “Workforce Nutrition”^v: healthy food at work, nutrition education, nutrition-focused health checks and breastfeeding support. 	<ul style="list-style-type: none"> • MAHFP^{vi} (months of adequate household food provisioning) • Include nutrition and food safety-related knowledge and behaviour questions in a survey • Minimum: Gender disaggregated data for reach of interventions + tracking results • Elements from Pro-WEAI^{vii} – project Women Empowerment in Agriculture index. WEMNS will be recommended once it has been validated • The package includes corresponding indicators

2) Increased access (availability and affordability) of specific food crops

Impact on nutrition depends on the nutritional value of the crops that the projects focus on, and whether there is evidence that there is a dietary gap for the food group this crop belongs to amongst target consumers. Impact on nutrition also depends whether these crops are affordable for the specific target groups that face food insecurity during some period of the year (e.g. Base of Pyramid

(BoP) consumers) and/or whether part of the production is used for own consumption if target consumers are smallholder farmers households themselves.

Relevant interventions to increase nutrition impact	Indicators and M&E
<p>All above +</p> <ul style="list-style-type: none"> • In case of nutrient dense crops^{viii} (such as fruits, vegetables, pulses, nuts, animal-protein rich or bio-fortified^{ix} foods) promote own consumption as well as adequate post-harvest handling^x and processing • In case of staple foods: select a nutrient dense variety of this staple food that contains lacking (gap) nutrients^{xi}; promote homestead food production to improve dietary diversity 	<ul style="list-style-type: none"> • Increased consumption of nutritious crops: Food Frequency Questionnaire^{xii} only for relevant foods (e.g. promoted by the project) to target group • Uptake of improved post-harvest and processing practices (through simple survey: observation/ questionnaire) • Idem

3) Improved diets

Defined as: having a diet that is diverse, healthy and adequate. The diet should cover all nutritional needs (energy, proteins and micro-nutrients) and be suitable for the age of the targeted group. Availability and affordability of nutritious food is a pre-condition but not sufficient to guarantee improved nutrition. Tailored behavioural change interventions are needed for specific groups. Dietary habits should be monitored to tailor interventions and keep track of their effects.

Relevant interventions to increase nutrition impact	Indicators and M&E
<p>All above +</p> <ul style="list-style-type: none"> • participatory appraisal of dietary habits^{xiii} to enable contextualization of interventions (e.g. identify the enablers and barriers for behaviour change) • cooking/food processing demonstrations^{xiv} may be integrated in farmer trainings or organised for the wider community • mother to mother support groups can be initiated (as infants and young children are most vulnerable to malnutrition) with limited project funds and implemented through part time facilitators supervised by (and in support of) the health worker 	<ul style="list-style-type: none"> • MDD-W ^{xv} (minimum dietary diversity for women of reproductive age) • MAD ^{xvi} (minimum acceptable diet for 6-23 months old infants and children)

NB: In order to sustainably address existing malnutrition, additional intervention strategies are needed. These should include multiple sectors among which: health, water, sanitation and hygiene (WASH) and education and therefore go beyond the scope of the SDGP program and this toolkit.

Explanation of the recommended tools and methods

The table below provides a short description of the recommended interventions. This can serve project owners to identify and plan additional interventions that increase or measure nutrition impact. To implement such interventions projects are recommended to seek the services of a nutritionist who is aware of the local context and has experience in nutrition-sensitive agriculture. The recommended corresponding indicators are described in the lower part of this table. Monitoring and evaluation expertise in the area of nutrition is required to assess the current situation and keep track of effects on nutrition.

Interventions	Explanation
Raising awareness on importance of nutrition and of shared responsibilities and decision making in the household	In most countries UNICEF/MOH have developed contextualised nutrition education materials that development partners can use. In some countries also materials for nutrition sensitive agriculture are available, like in Ethiopia. Therefore, linking with the provincial or national nutrition committee or working group, or with the Ministry of Health and Ministry of Agriculture is recommended. Ideally projects would support Nutrition-Behaviour Change Communication (BCC) or Social Behaviour Change (SBC) As awareness alone does not make people change their behaviour:
Nutrition-BCC (or SBC)	Apart from knowledge on benefits of recommended behaviours people also need to be able to access the nutritious foods, or clean water for adequate practices and may need to be empowered in order to adopt new behaviour. This depends on the enablers and barriers the individual experiences. The ANH academy and GIZ developed a mini-course on BCC in a series of 5 webinars ^{xvii} with the first one addressing the “SBC Essentials”
WASH	WASH stands for Water, Sanitation and Hygiene which are all contributing to a good nutrition status as they protect health. While this is not recommended above as a separate intervention, we explain it here as it is usually a relevant part of contextualised nutrition education materials.
Women empowerment to improve nutrition practices	SDGP interventions aim for gender equality. Evidence shows that going further by 1) engaging women in the selection of foods for production and 2) the empowerment of women to breastfeed and to 3) access and allocate family income reduces stunting. Projects can encourage this in their farmer trainings which should be inclusive and both gender- and nutrition-sensitive (see endnote iii p.41, 65)
Workforce nutrition	Healthy food at work, nutrition education, nutrition-focused health checks and breastfeeding support. These so-called Workforce Nutrition interventions are implemented by the employer and described by GAIN (see endnote v)
Promote adequate post-harvest handling	Adequate postharvest handling and processing practices are crop specific. Info per crop is provided by FAO Information Network on Post-Harvest Operations <i>INPhO</i> ^{xviii} . More general information on preventing nutrient losses postharvest are described in FAO 2017 ^x
Promote adequate processing practices	“The <u>choice of processing technique</u> should take into consideration its impact on the content and bioavailability of nutrients. For

	<p>example, germination and malting of grains and pulses can enhance their vitamin, mineral and protein content and bioavailability. On the contrary, techniques that include prolonged exposure to heat or sun significantly reduce vitamin content.”</p> <p>“Although crops have the highest nutritional value when consumed in the fresh state, <u>food processing contributes to nutrition</u> by extending the shelf-life of raw materials and by enhancing the safety and retaining the nutritive value of many foods. Furthermore, it enhances the palatability of food and saves time for cooking and food preparation at the household level.”^x</p>
Selecting nutrient dense staple food varieties containing lacking (gap) nutrients	Local or context specific gap nutrients are known by national or provincial level nutrition or health departments. At design/formulation stage of projects, as well as during the inception period this can be obtained. In some countries (inter)national research stations are working on identification of nutrient dense staple food varieties and organizations like CIAT, IRRRI and Harvestplus have produced new bio-fortified varieties. ^{ix}
Homestead food production (kitchen/home gardens) could be promoted alongside staple or non-food crop production.	When households produce their own vegetables and fruits their access to a diverse diet improves. With good planning and maintenance in many circumstances year round access to vegetables can be achieved. Select vegetables and fruits that contain nutrients that are missing in local diets (gap nutrients). Food Based Dietary Guidelines ^{xix} (available in many countries) provide this information. Using local agricultural calendars and linking up to agricultural extension services is recommended.
Participatory appraisal of dietary habits	In order to develop adequate nutrition education and SBCC it is important to find out what people eat, e.g. do they miss any food groups, is their food safe for consumption: from safe and diverse ingredients that are prepared in a hygienic way? Are there any food taboos or fasting periods, and who receives the best food and the largest servings? This can be assessed using a mixed methods household survey or faster, through focus group discussions if no similar surveys have been done in the area. ^{xiii}
Cooking/food processing demonstrations	Cooking demonstrations bring nutrition knowledge closer to behaviour change, as people need to develop skills to apply knowledge. They should be based on local nutrition education, as this addresses the prevailing gaps in nutrients. Cooking utensils and recipes should match with local practices and preferences so that the audience can easily identify with- and therefore apply the recommended practices. “For example, nutrition education can provide actionable knowledge on cooking methods that preserve nutrient value, and empower the caregiver (e.g. through cooking demonstration) to prepare nutritious meals for the whole family with special focus on small children, while addressing food related taboos and beliefs that affect food choices and distribution in the household (e.g. household member hierarchies in food distribution).” ^{xiv}
Mother to mother support Groups (MMSG)	With limited project funds a small local intervention can be supported by the project. It can be implemented through part time facilitators who are supervised by (and supporting) the health

	worker. In MMSGs pregnant women start meeting on a monthly or a bi-weekly basis and are advised on Infant and Young Child Feeding (IYCF) practices with e.g. UNICEF/MOH counselling cards. Groups may continue until the child is 2 or 3 years old.
Indicators	Explanation
Gender disaggregated data for reach of interventions	Gender disaggregated data means that for each indicator is specified how many men and how many women participate. Or that percentages reflect totals, as well as women as part of the total number of women, and men as part of the total number of men, as well as children/elderly if relevant.
Pro-WEAI – project Women Empowerment in Agriculture Index	Pro-WEAI is a tool for measuring women empowerment in agricultural development projects. It is an advanced set of indicators that requires some time investment and selected modules are recommended only for projects with a women empowerment component or where this is mainstreamed (see the NWGN manual for selection) (see endnote vii)
Include nutrition and food safety-related knowledge questions in survey	As part of M&E a knowledge questionnaire can be developed to assess knowledge at the start of the intervention and again at the end. Include relevant questions that reflect the content of awareness raising or training efforts.
MAHFP (months of adequate household food provisioning)	MAHFP provides a picture of household food access and takes into account seasonality. It consists of only two questions: 1. Were there months in the past year in which you did not have enough food to meet your family's needs? 2. If yes, which were the months, during which you did not have enough food to meet your family's needs? (see endnote vi)
Uptake of improved post-harvest and processing practices	Uptake of project specific practices can be measured through a quantitative survey among farmers and/or farmer organizations and/or extension services. Questions and observations will focus on the practices that were promoted in the intervention, and will be asked to a representative sample of partners/value chain actors. Results can be expressed in % of farmers (from the total of farmers participating in the project).
Increased demand for, purchase and/or consumption of nutritious crops and derived products	Demand and purchase can be measured in a qualitative survey among farmers and in markets and shops. For consumption the food frequency questionnaire mentioned below can be used.
Food frequency questionnaire (interesting for specific foods, both related to food gap and intake of fast foods/ ultra-processed foods)	During a household survey a questionnaire can inquire how frequent an individual or the household has consumed a specific food over a specified period (e.g. 1 day, 1 week) (see endnote xii)
MDD-W (minimum dietary diversity for women of reproductive age)	Dietary Diversity (DD) is an indicator of diet quality. In resource poor environments diets tend to be monotonous and of low quality. To measure DD relevant foods are classified into a number of predefined food groups, depending on the target group. Data is collected at individual level through 24 hour recall in face to face interviews. For MDDW women need to consume 5 or more of the 10 predefined food groups on the preceding day. (see endnote xv)
MAD (minimum acceptable	MAD is a combination of DD (as a proxy for nutrient density) and

diet for 6-23 months old infants and children)	meal frequency (as a proxy for energy density) for children under two years that can be assessed by interviewing mothers/caretakers. (see endnote xvi)
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ⁱ Ruel, M. T., Quisumbing, A. R., & Balagamwala, M. (2018). Nutrition-sensitive agriculture: What have we learned so far?. *Global Food Security*. <https://www.sciencedirect.com/science/article/pii/S221191241730127X> Accessed on 14 January 2021.

ⁱⁱ Powerful infographic: Food and Nutrition Education for healthy diets: <http://www.fao.org/3/a-c0064e.pdf> Accessed on 14 January 2021.

ⁱⁱⁱ FAO, *Nutrition-sensitive agriculture and food systems in practice Options for intervention*, 2017. <http://www.fao.org/3/a-i7848e.pdf> p. 41 (nutrition education and BCC) + p. 45 (income generation for nutrition). Accessed on 14 January 2021. In most countries UNICEF/MOH have developed contextualised nutrition education materials that development partners can use. In some countries also materials for nutrition sensitive agriculture are available, like in Ethiopia. Therefore, linking with provincial nutrition committees or working groups, or with the Ministry of Health and Ministry of Agriculture is recommended.

^{iv} Social Behavioural Change (SBC) essentials: part 1 of GIZ/ANH Academy Webinar series on Social and Behaviour Change (SBC) for Improved Agriculture and Nutrition <https://www.anh-academy.org/sbc-webinar-1> Accessed on 14 January 2021.

^v Workforce Nutrition in large scale farms or off farm processing locations, see GAIN, *Workforce Nutrition evidence briefs*, 2019. <https://nutritionconnect.org/resource-center/workforce-nutrition-evidence-briefs>. Accessed on 14 January 2021

^{vi} Food and Nutrition Technical Assistance (FANTA), <https://www.fantaproject.org/monitoring-and-evaluation/mahfp>. Accessed on 14 January 2021.

^{vii} Pro-weai is a tool for measuring women empowerment in agricultural development projects <https://weai.ifpri.info/2018/04/27/introducing-pro-weai-a-tool-for-measuring-womens-empowerment-in-agricultural-development-projects/>. Accessed on 14 January 2021.

^{viii} InFoods (online global food composition tables in which nutrient content between species and varieties can be compared). <http://www.fao.org/infoods/infoods/tables-and-databases/en/> The information for specific varieties of crops needs to match with agronomic data for the location. In some countries agricultural research institutes or companies like HarvestPlus are looking into this. Accessed on 14 January 2021.

^{ix} Biofortification: FAO, *Nutrition-sensitive agriculture and food systems in practice Options for intervention*, 2017 <http://www.fao.org/3/a-i7848e.pdf> p. 13. Accessed on 14 January 2021.

^x Reducing food losses post-harvest, during storage, processing and preparation and increase availability and income. FAO, *Nutrition-sensitive agriculture and food systems in practice Options for intervention*, 2017. <http://www.fao.org/3/a-i7848e.pdf> p. 19 and p. 69 on food loss and waste. Accessed on 14 January 2021.

^{xi} Selection of a staple food variety that both performs well in the local agro-ecological circumstances, is marketable AND has a higher content of gap nutrients. Local or context specific gap nutrients are known by national or provincial level nutrition or health departments. At design/formulation stage of projects, as well as during the inception period this can be obtained. InFoods (reference viii) is mentioned as the information source where the nutrient content of different varieties can be compared. There is much attention for “biofortification” in which varieties are being developed that have a higher nutrient density. (see reference ix for biofortification).

^{xii} FAO, *Compendium of indicators for nutrition-sensitive agriculture*, 2016. <http://www.fao.org/3/a-i6275e.pdf> p. 20. Accessed on 14 January 2021.

^{xiii} Fautsch Macías, Y. & Glasauer, P. 2014. *Guidelines for assessing nutrition-related Knowledge, Attitudes and Practices*. Rome, FAO. Available at: www.fao.org/3/a-i3545e.pdf. Accessed on 14 January 2021.

^{xiv} Cooking demonstrations should be based on local nutrition education, as this addresses the prevailing gaps in nutrients. Cooking utensils and recipes should match with local practices and preferences so that the audience can easily identify

with and apply the recommended practices. FAO, *Nutrition-sensitive agriculture and food systems in practice; Options for intervention* <http://www.fao.org/3/a-i7848e.pdf> p. 42. Accessed on 14 January 2021.

^{xv} INDDEx Project (2018), Data4Diets: Building Blocks for Diet-related Food Security Analysis. Tufts University, Boston, MA. <https://inddex.nutrition.tufts.edu/data4diets/indicator/minimum-dietary-diversity-women-mdd-w>. Accessed on 14 January 2021.

^{xvi} INDDEx Project (2018), Data4Diets: Building Blocks for Diet-related Food Security Analysis. Tufts University, Boston, MA. <https://inddex.nutrition.tufts.edu/data4diets/indicator/minimum-acceptable-diet-mad>. Accessed on 14 January 2021.

^{xvii} Agriculture, Nutrition and Health Academy, Webinar: Social and Behaviour Change Essentials, 2020. <https://anh-academy.org/sbc-webinar-1>. Accessed on 14 January 2021.

^{xviii} For info per crop: FAO Information Network on Post-Harvest Operations (INPhO) <http://www.fao.org/in-action/inpho/home/en/> on good practices in post-harvest activities for agri-food products and technical data and information for agribusinesses) Accessed on 14 January 2021.

^{xix} FAO, overview of food-based dietary guidelines [http://www.fao.org/nutrition/education/food-dietary-guidelines#:~:text=Food%2Dbased%20dietary%20guidelines%20\(also,healthy%20eating%20habits%20and%20lifestyles](http://www.fao.org/nutrition/education/food-dietary-guidelines#:~:text=Food%2Dbased%20dietary%20guidelines%20(also,healthy%20eating%20habits%20and%20lifestyles). Accessed on 14 January 2021.