



Improving Nutrient Supplies and Diet Diversity with Vegetables in Mali, (Phase I)

Quarterly Program Performance Report (February 1 – April 30, 2014)

Submitted by AVRDC – The World Vegetable Center
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Annelie Öberg (LL.M.)
Grants & Partnership Development
Tel: +886-6-583-7801 ext. 130
Email: annelie.oberg@worldveg.org

Overall project objectives:

- i) Enhance knowledge among especially women of the importance of healthy diets, especially for children of 6-23 months and under five years in the target region
- ii) Increase skills among women in vegetable food production and processing in the target region
- iii) Increase the use of nutritious and seasonally available vegetables in household diets (diet diversification) and conservation in the target region

1. Progress to date, per the agreed upon deliverables towards achievement of expected results

1.1. Vegetable seed kits production

The production of vegetable seed kits at the Samanko station in Bamako which started in January 2014 is still ongoing. The objective of this activity is to produce 1,200 seed kits. Each seed pack includes one variety of okra, two varieties of tomato, one variety of African eggplant, one variety of pepper and one variety of amaranth. The seed kits will be further distributed by AVRDC – The World Vegetable Center (AVRDC) and its four partners (see details under 1.2 below) to the farmers involved in the different trainings in the project target sites. Vegetable varieties rich in nutrients and vitamins developed via breeding or selected from local accessions by AVRDC were chosen for seed multiplication (Figures 1 and 2). From February to April 2014, recommendations on best practices for seed production, fertilization, irrigation, weeding, phytosanitary and morphological purification, and pollination control were documented and practiced in order to ensure the production of quality seed. At the time of reporting, seeds of tomato and okra are at drying stage, African eggplant in harvesting stage, pepper and amaranth in fruiting and flowering stages respectively. The expected quantities of seed production are listed in Table 1.

1.2. Signing of contracts with partners

Four partners including (Helen Keller International (HKI), Malian Association of Awakening Sustainable Development (AMEDD), Nutrition Division (ND) of the Health Ministry of Mali and Institut d’Economie Rurale (IER) were earlier identified. At the end of April 2014, the contracts with the four partners were finalized in compliance with USAID requirements and signed. The collaborative work and budget listed in the contracts were based on the discussion and mutual agreement during the project planning workshop and several follow up meetings and email or phone communications.

1.3. Recruitment of the position of Food and Nutrition Specialist

The recruitment of the position of Food and Nutrition Specialist to be posted in Bamako has been completed. This scientist will report to AVRDC on May2, 2014 in Bamako, Mali. The key responsibilities assigned to the Food and Nutrition Specialist are as follows:

1. Conduct dietary and nutrition assessments to support development of nutrition specific/sensitive agricultural interventions for improving household diet and nutrition, especially for women and children;
2. Conduct research on issues associated with increasing consumption of vegetables, food and nutrition, quality of fresh and processed vegetables, dietary quality and dietary diversity;

3. Develop and implement community based initiatives to increase awareness about linkages between health, food and nutrition, with emphasis on consumption of safe and nutritious vegetables and dietary diversity;
4. Contribute to develop and implement monitoring and evaluation plans, sampling and study design, and analytical protocols for nutrition specific/sensitive agricultural interventions;
5. Develop, maintain and strengthen partnerships for research and development in food and nutrition, postharvest and gender aspects in the region;
6. Prepare technical reports, publications, and presentations;
7. Undertake any other work as assigned by the supervisor.

1.4. Revision and development of new modules on nutrition

As part of the implementation under the so called Africa Rising project “Sustainable intensification of key farming systems in the Sudano-Sahelian zone of West Africa”, training on food preparation, processing and nutritional awareness were conducted in the M’Pessoba and Sirakelé villages in the Koutiala district. Seven recipes with various combinations of cereal, legumes, vegetables and animal products were tested:

- Enriched porridge made of millet, cowpea and groundnut;
- Paw peanut sauce with amaranth;
- Vegetable soup;
- Enriched porridge of millet, peanut and soybean;
- Laro (a traditional food based on millet and vegetables) food;
- Sauce with green leaves;
- Soybean paste with vegetables.

The recipes were included in the training module on food and nutrition for the project. In addition, two new training modules (including vegetable soup, mashed eggplant and onion) were developed. In total, nine training modules on nutrition with different recipes will be used by AVRDC and AMEED to conduct the training in the target areas of the project. The two new recipes for training are presented in Figure 3 and 4.

2. Identification of specific problems and delays and recommendations for adjustments and corrective action

Delay in the recruitment of the Food and Nutrition Specialist: The process for the recruitment of the Food and Nutrition Specialist is just completed. The delay in recruitment caused delays of activities such as the finalizing of contracts with partners, collection of data on dietary diversification and collection of baseline data on food availability and agricultural practices. Baseline data collection has been postponed and will start in June 2014 and it is clear that the project will require a no-cost extension until the end of 2014 (such a request will be submitted to USAID in June).

The process for developing and finalizing the contracts with partners took longer time than expected due necessary back and forth communications between AVRDC and partners. The contracts have now been fully signed and funds transfer started in April. Fortunately two of our partners (HKI and AMEDD) started prospecting training sites in April to avoid the difficulty and uncertainty of holding training courses in the coming raining seasons (generally

May and June). Four training sites in the villages of Sorobasso, Kissosso, Sougoumba and Molobala have been selected. Six satellite villages per village were identified. At these sites, 137 farmers of which 93 women and 34 men attended discussions on the feasibility to undertake activities on vegetable production and nutrition in their villages. Plots of tomato, onion, pepper and okra of farmers were visited.

3. Outcomes of any high-level meetings held and field visits

Helen Keller International (HKI) and the Malian Association of Awakening Sustainable Development (AMEDD) visited AVRDC in Samanko and discussed the operational plan for Sikasso. In addition, the interventions sites where training and seed distribution will be carried out were identified. In April 2014, these two partners started their interventions in their target villages.

4. Planned activities for the next reporting period (May to July 2014)

- Complete the vegetable seed production at Samanko station (AVRDC);
- Produce 1200 seed packs and nutrition messages (AVRDC);
- Conduct training courses and distribute nutrition seed kits to lead farmers (HKI, AMEED, AVRDC);
- Inventory of traditional technologies for food processing with vegetables and recommend methods and products for training course (IER);
- Develop food processing methods with vegetables and products using a participatory approach (IER);
- Identify dietary options with vegetables for improved diets for children of 6-23 months and under five years (AVRDC);
- Develop a training manual package including diet and basic nutrition and health practices (Division of Nutrition of Mali);
- Integrate agriculture and nutrition topics in the training schedule and manuals elaboration (AMEDD, HKI, AVRDC);
- Organize field and household visits and data collection for monitoring and evaluation datasheet (AMEDD, HKI, AVRDC);
- Train women of reproductive age on food preparation, processing and nutritional awareness in the Sikasso region (AVRDC).

5. Progress on gender and environmental compliance, including but not limited to issues arising; coordination with other USAID programs, or implementing partners of other donors

In West Africa, and particularly in Mali, the food preparation and processing is managed by women. This situation has been confirmed during this reporting period. Indeed, this program on nutrition is a separate part of the USAID funded project "Improving vegetables production and Consumption in Mali (Sikasso). On March 17, 2014 a regional field day was organized by AVRDC in the village of Sokourani, one of the four Best Practice Hubs (BPHs), located between the districts of Sikasso and Koutiala. This field day aimed at sharing knowledge with farmers in postharvest technologies on vegetable such as food processing

with vegetables and preservation of fresh products. The demonstrations carried out by the farmers showed that for some activities like food preparation, processing and preservation of vegetables the responsibility is with women. Men are engaged in staple crops production and to a lesser extent to vegetable production. There is a need to increase awareness to involve more men in these activities.

With regard to environmental compliance, AVRDC trained the farmers in reducing cooking time for vegetables, avoiding excessive cutting firewood for this purpose.

Table 1: Vegetable seed kit production at Samanko station, April 2014

Crops	Variety	Sowing date	Transplanting Date	Area (m ²)	Current situation	Quantities of seeds expected (kg)	
Tomato	Bébiyèrèyé	December 17 th , 2013	January 17 th , 2014	360	Seed drying stage	3	
	Konica		January 15 th , 2014	320	Seed drying stage	3	
	Pepper		Nafama	January 29 th , 2014	320	Fruiting stage	3
	Egg Plant		L10	January 30 th , 2014	360	Harvesting stage	3
Okra	Konni	-	February 4 th , 2014	680	Seed drying stage	30	
Amaranth	A2002	-	January 31 st , 2014	320	Flowering stage	25	



Figure 1 : Seed multiplication of Amaranth (A2002) at flowering stage, Samanko, March 2014



Figure 2 : AVRDC tomato variety (Bèbi yèrèyé) rich in beta carotene just harvested for seed extraction at Samanko, April 2014

Purée d'aubergine à l'oignon

Procédé de préparation pour 1 enfant

Ingrédients:
 -3 aubergines moyennes -3 cuillerées à soupe d'oignons -1 œuf de poule -Un peu de sel
 -2 cuillerées à soupe d'huile d'arachide -1 litre d'eau - Un bol à café de lait frais pasteurisé.

Technique de préparation :
 Laver, éplucher et hacher les oignons. Laver et découper finement les aubergines. Dans un litre d'eau bouillante, mettre l'aubergine et l'oignon. Ajouter un peu de sel. Laisser cuire l'ensemble jusqu'à mollir. Après la cuisson, mettre l'ensemble dans une calasse ou dans une tasse. Ajouter une cuillerée à soupe d'huile d'arachide, le bol de lait frais et le contenu d'un œuf entier. Et écraser l'ensemble jusqu'à obtention d'une pâte. Rajouter ensuite 1 cuillerée à soupe d'huile d'arachide. Servir l'enfant.

Utilité : C'est un aliment qui aide à prévenir la malnutrition chez les enfants de moins de 5 ans. Il complète le lait maternel et sert d'aliment de sevrage.

Figure 3: Poster for training on preparation of mashed eggplant with onion

Recette de soupe de légumes

Recette de la soupe de légume

Beurre ou huile végétale : 1/8 litre- oignon : 2 bulbes al 4 petits morceaux- tomates : 5 fruits – pomme de terre : 1/2kg – poivron : 3 fruits- sel : 2 pincés , poisson : ¼ de kg, courge : 2 morceaux de 200g, poudre de moringa 1 ou 2 cuillerée à soupe, Piment : 2 à 3 fruits, eau : raisonnable

Procédé de préparation

1. Dans une marmite sur le feu mettre le beurre de karité ou huile végétale
2. Ajouter l'ail, l'oignon ou l'échalote découpé ou pilé
3. Ajouter les tomates et bien malaxées
4. Mettre de l'eau à suffisance pour préparer les légumes et avoir de la soupe
5. Ajouter la pomme de terre épluchée et découpée
6. Ajouter le poisson, la courge,, piment, poivron puis du sel
7. Ajouter la poudre de moringa
8. Laisser 3mn sur le feu doux.
9. Servir la soupe à chaud

Figure 4: Poster for training on preparation of vegetable soup