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Orange-Fleshed Sweet Potato Production, Consumption, Promotion and Policy in Burkina Faso: Landscape Analysis

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RAC Reaching Agents of Change — Support Vitamin A Sweetpotato

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ACRONYMS AND ABBREVIATIONS

ACF:	Action Against Hunger / Action Contre Faim
ASUDEC:	Africa's Sustainable Development Council
AVRDC:	The World Vegetable Center
COCARDA:	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole
CRS:	Catholic Relief Services
DFID :	
DFATD/CIDA :	Candian International Development Agency
DGPER:	Direction Générale de la Promotion de l'Economie Rurale
DGPSA:	Direction Générale de la Production et des statistiques Agricoles
EU :	European Union
FAO:	Food and Agriculture Organization
GIZ:	German International…
GRET:	Groupe de Recherche et d'Echange Technologique
HKI:	Helen Keller International
IDE:	International Development Entreprise
INERA:	Institut de l'Environnement et de la Recherche Agronomique
IPC:	International Potato Center
IPFRI:	International Food Policy Research Institute
IRSAT/DTA:	Institut de Recherche en Sciences Appliquées et Technologies / Département de Technologie Alimentaire
JAAL :	Journées Agro Alimentaires
LCOPA :	Laboratoire de Chimie Organique et Physique Appliquée
MISOLA:	Mil Soja Lait Arachide
OFDA :	US Office of Disaster Assistance
OFSP:	Orange Fleshed Sweet Potato
PNSAN:	Politique Nationale de Sécurité Alimentaire et Nutritionnelle
RRI:	Rural Radio International
SCADD:	Stratégie de la Croissance Accélérée et de Développement Durable
SNSA:	Stratégie Nationale de Sécurité Alimentaire
SODEPAL:	Société d'Exploitation de Produits Alimentaires
USAID :	United States Agency for International Development
UNICEF:	United Nations Children's Fund
WB:	The World Bank
WFD:	World Food Day
WFP:	World Food Program
WHO:	World Health Organization

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I. INTRODUCTION

Vitamin A deficiency (VAD) remains a significant public health problem in Sub-Saharan Africa. Prevalence rates top 20% in many countries, leaving millions of people—particularly pregnant women and children—vulnerable to the life-long consequences of the deficiency. Poor growth and development, increased risk of infection, eye problems, night blindness, increased risk of death, pre-term delivery, low birth-weight, and blindness are just a few of the effects of VAD, which could be prevented by adequate intake of Vitamin A.

A number of initiatives are in place to address VAD and improve the health status of vulnerable populations using a variety of strategies and approaches. National and international efforts provide vitamin A through fortification of cooking oils and vitamin A supplementation (VAS) to children 6-59 months, deworming programs, zinc supplementation, and other VAD preventive interventions. These large, population-based approaches are very effective at providing necessary doses of vitamin A and protective interventions to vulnerable populations, but cannot fully address one of the major causes of VAD—inadequate intake of vitamin A through the diet. Programs and interventions to help families increase their daily intake of foods rich in vitamin A are becoming more common in countries with a high burden of VAD. Homestead food production, school gardens, and agricultural extension activities all assist families produce foods that are rich in vitamin A from both plant and animal sources. These initiatives are increasingly including orange-fleshed sweet potato (OFSP).

Research over the last decade has shown that OFSP can be a cost-effective way to combat VAD. Evidence shows that OFSP not only improves vitamin A status when eaten regularly, but also is a hardy, viable, drought-resistant crop that can produce high yields and tolerate marginal soils, making it especially attractive and important in food insecure areas. A single root (100-125 grams) from most OFSP varieties can supply a child under 5 with a full day's supply of vitamin A. Since the crop can be harvested as needed over several months, with 2-3 growing cycles often possible per year, OFSP has the potential to play a major role in the reduction of VAD. Yet, despite the overwhelming evidence of the role OFSP can play in addressing VAD, investments to improve technical capacity for production and the scale-up of successful nutrition programs using OFSP have been slow to follow the evidence.

The Reaching Agents of Change (RAC) Project was developed to advocate for increasing investment in OFSP to combat VAD among young children and women of reproductive age. The project seeks to generate new investments and policy change, to ensure OFSP in included in regional/sub-regional policy agendas, and build institutional capacity for OFSP programming. RAC operates primarily in Tanzania, Mozambique and Nigeria, with Ghana and Burkina Faso included as secondary particpants. The high prevalence of VAD, strong potential for sweet potato production, acceptability of the crop, significant cross-border trade in sweet potato with neighboring countries, existing sweet potato breeding program, favorable policy environment, and increasing commitment to food security issues by government and partners provide sufficient rationale for including Burkina Faso among the countries participating in the RAC project.

This situational analysis was undertaken to assess the potential of OFSP promotion in the country and identify priority project activities in the country. The analysis covers

the Burkina Faso context, sweet potato production and consumption patterns, overview of existing projects promoting or using OFSP, review of national policies and strategies for the promotion of sweet potato, constraints of sweet potato production, multi-stakeholder platforms for OFSP promotion, and an index of technical partners and funding sources.

II. CONTEXT

The extent of vitamin A deficiency in Burkina Faso has not been determined by a national survey, but evidence from several sources dating back to 1986 show that VAD remains a public health problem throughout the country. The findings of a study conducted in 10 villages in Sanmatenga Province between 1999 and 2001, for example, showed very high rates of low serum retinol in 85 % of children aged 12-36 months and in 64 % of their lactating mothers. Results of a 2010 baseline survey for an OFSP project in Sissili Province that sampled 300 mother-child (6-59 months) couples revealed a prevalence of 27.7% of growth retardation in children, 52.8% overall hyporetinolaemia, and 4.7% of night blindness during the last pregnancy in mothers.

Many strategies have been put in place to address VAD, including vitamin A supplementation (VAS) through mass distribution, promotion of exclusive breastfeeding, fortification of industrial edible oils with vitamin A, and promotion of the production and consumption of vitamin A-rich food. Promoting OFSP production and consumption is part of the fourth strategy.

OFSP is a good source of calcium, energy, carotenes, ascorbic acid, and minerals (potassium, phosphorus, calcium, and iron). Combined with legumes, sweet potato can be an ideal nutraceutical to combat protein-energy malnutrition (PEM) and micronutrient deficiencies. It provides more calories than potato (113 against 75/100g). It is also an exceptionally important source of vitamin A, 100 g providing 7100 IU (Ganou Leguet, 2010). It contains significant amounts of vitamin C (20-30 mg/100 g) and orange or dark-yellow fleshed varieties can provide particularly high levels of beta carotene (provitamin A), to ensure good health when consumed in adequate quantity. The more orange-fleshed the tuber, the higher the level of beta carotene.

Sweet potato leaves are also eaten and are more nutritious than tubers. Considering the dry matter, it contains 8 % starch, 4 % sugar, 27 % protein, and 10 % ash. The dark-green color of leaves also indicates the presence of β -carotene, 86 mg/100g of dry matter (Ganou Leguet, 2010). With these nutritional values, sweet potato leaves are used to fortify grain products and even other products derived from sweet potato.

III. SWEET POTATO PRODUCTION

A. Available varieties

The varieties of sweet potatoes available at the country level include about twenty orange-fleshed varieties introduced in 2005 from the International Potato Center (IPC). These varieties were tested in research station and on-farm, and more than 5 of them are currently being disseminated with producers. In addition to these varieties, more than 200 collections (white and orange-fleshed) are currently being evaluated in order to characterize their agronomic performance. The following table describes the main

varieties of sweet potato (white and orange-fleshed) available for cultivation in Burkina Faso.

Table 1: Description of the main varieties of sweet potato available in Burkina

Varieties	Year of introduction/ collection	Yield (MT/ha)	Stage of maturity (months)	Biomass (kg/m^2)	Rate of dry matter (%)	Color of flesh
Local Varieties/Cultivars						
Tiébélé2	2004	19.67	4 - 5	3.08	24.72	orange
American	2008	13.00	4 - 5	2.17	32.38	pale orange
Diabo local	2008	25.00	4 - 5	1.30	23.83	cream
BF 1	2008	34.00	4 - 5	3.08	26.16	yellow
BF 3	2008	36.00	4 - 5	2.42	24.36	yellow
BF 13	2008	35.83	4 - 5	1.68	25.63	yellow
BF 18	2008	35.50	4 - 5	2.43	23.06	yellow
BF 43	2008	33.33	4 - 5	1.32	28.86	yellow
BF 56	2008	36.50	4 - 5	2.00	28.28	yellow
BF 59	2008	32.67	4 - 5	1.75	23.37	yellow
BF 108	2010	32.17	4 - 5	3.35	25.88	white
BF 132	2010	46.83	4 - 5	4.22	23.40	yellow
BF 139	2010	63.33	4 - 5	3.80	24.70	orange intermediate
BF 141	2010	31.83	4 - 5	2.13	24.14	yellow
BF 142	2010	35.17	4 - 5	2.08	23.34	white
Introduced Varieties						
Jewel 566638	2001	31.67	3- 4	3.42	27.76	orange
TIB 440060	2005	16.67	3- 4	3.03	27.15	yellow
Caromex440136	2005	15.33	3- 4	1.10	34.16	yellow
CIP 199062-1	2005	3.83	3- 4	1.05	29.38	dark yellow
Resisto 440001	2005	14.83	3- 4	1.60	31.46	orange
Tainung 440129	2005	9.33	3- 4	2.93	24.69	orange

These data show that the local varieties generally have a longer production cycle and higher yields than imported varieties, while imported varieties are richer in beta carotene (estimated on the basis of orange color intensity of the flesh of tubers) than local varieties.

B. Production statistics and characteristics

The production of sweet potato in Burkina Faso is estimated at more than 140,000 MT per annum, according to the findings of the agricultural production evaluation survey conducted in 2011 by the General Directorate for the Promotion of Rural Economy (DGPER, 2011). Most of the production comes from the provinces of Banwa (Boucle du Mouhoun region) of Kenedougou (Hauts Basins region), Léraba (Cascades region), Nahouri (Center-South region), and Sissili (Center-West region). Table 2 shows the amounts of sweet potato (white and orange-fleshed) produced in each of these production areas in crop year 2011.

Table 2: 2011 Production of sweet potato in the 5 major producing areas

Production parameters	Provinces				
	Sissili	Kenedougou	Banwa	Nahouri	Léraba
Total agricultural area (ha)	136,473	206,982	159,382	60,460	76,037
Area used for sweet potato cultivation (ha)	2,662	1,859	401	463	966
Sweet potato production (MT)	82,138	29,819	11,708	6,937	6,239
Sweet potato yields (kg/ha)	26,685	10,620	26,240	10,340	7,272
Percent arable land used for sweet potato cultivation	0.29%	0.19%	0.25%	0.66%	0.53%

These provinces account for more than 90 % of the country's total sweet potato production. Although representing the major production areas, the proportions of total agricultural land dedicated to the cultivation of sweet potatoes remain very low, at less than 1% in each of the major producing areas, as shown in Table 2.

The Food and Agriculture Organization (FAO) reports that sweet potato production has increased in Burkina Faso over the past five years, as shown in Table 3. This trend in production is likely attributable to several factors, including:

- The use of improved sweet potato varieties with high yields;
- The increasing mastery of production techniques by producers;
- Increasing inclusion of activities to raise awareness and promote the crop in various development programs.

Table 3: Sweet potato production from 2008 to 2012

Year	Area (ha)	Production (MT)	Yield (MT/ha)
2008	6,602	73,221	11.09
2009	6,419	81,499	12.7
2010	9,005	92,520	10.27
2011	7,359	14,061	19.03
2012	7,600	150,000	19.74

According to the results of the 2012 crop year, sweet potatoes (white and orange-fleshed) rank first among tuber plants in terms of total production, followed distantly by yam (99,730 MT), and cassava (4,500 MT). …

Its production is generally undertaken by men, but with increasing involvement of women—particularly in project-specific contexts. The 2012 annual OFSP production survey for the HKI-led OFSP project in the Sissili province revealed that 4 women were involved in the production of OFSP in one of the project target villages against 2 the previous year. Another HKI project in the East Region is also involving women in OFSP production through home gardens and model farms. As part of this project, more than 1,000 women are involved in OFSP production, primarily for household consumption.

IV. USE & CONSUMPTION PATTERNS

A. Use patterns

While national production statistics are available, data on OFSP use and consumption patterns are not generally available. National agricultural surveys conducted in Burkina to date have not provided data on the use made of sweet potato crops, nor is it known what percentage of the population consumes OFSP on a regular basis. Some project-specific data, however, is available and provides some indication of OFSP use patterns in production areas.

The annual surveys for the evaluation of OFSP production that have been conducted by HKI since 2010 in the Sissili province provide some information on the use made of OFSP crops produced in that area. In 2011, the survey was conducted with 203 producers, who reported a total estimated OFSP production of 194 metric tons. Respondents reported that 36% of OFSP harvested was for household consumption, while the remaining 64% was sold, generating an overall income of more than five million CFA francs (USD $10,000).

The same survey with 412 producers at the end of the 2012 crop year reported a total production of 664.57 MT. The amounts of crops consumed accounted for 39 % of total production, i.e. about 261 MT. The proportion of OFSP sold to improve producers' incomes accounted for 61% of total production. This generated an overall income of more than 30 million CFA francs according to the producers.

Import/export patterns for OFSP…. Approximate export quantity to Ghana, Mali…

B. Household consumption/common uses of OFSP

Women play an important role in sweet potato post-harvest activities—particularly in preparing meals and incorporating OFSP into traditional recipes and the family diet. In Burkina Faso, sweet potato organs (leaves and tubers) are consumed in various forms. The fried, boiled and / or steamed tubers are the main modes of local cooking of sweet potato like other tubers. The leaves are mostly added in the sauce of rice or *'tô'* in some areas of the country.

In addition to ensuring processing into local dishes, women, organized in women's groupings, are involved in processing tubers into juice, chips, flour and cakes which are the main products derived from sweet potato.

C. Transformation efforts and capacity

The development of the majority of sweet potato by-products was initially the subject of research at the laboratory of the Food Technology Department of Applied Science and Technology Research Institute (IRSAT/DTA) as part of OFSP promotion project in collaboration with HKI and other partners (INERA and LCOPA). As part of this project, one of IRSAT/DTA flagship activities was to test the technological adaptation of OFSP varieties to various processing methods. For this purpose, tests for the formulation of orange-fleshed sweet potato-based flour, *"atieke"*, biscuits, cakes, Madeleine cake, etc. were performed successfully. The results of this laboratory work were used, among

other things, for transfer of skills and for degree programs (Professional Degree in Agribusiness in 2012 on the theme: optimizing the production of OFSP-based biscuits).

Regarding transfers of skills, numerous women's groupings received training on processing technologies developed by research. In 2012, about twenty women from tuber processing groupings in the area of Sissili received training on techniques for formulation of OFSP-based local dishes such as biscuits, fried cakes, *"tô"*, *"déguè"*, and croquettes (HKI, 2012).

In addition to women's groupings, there are agro -food companies in Burkina Faso that could possibly be potential actors for the promotion of OFSP. These companies mainly include MISOLA, Faso Riibo, Burkina Agricole, SODEPAL, Super Delices, and Entreprise Entracel that are specializing in cereals and tubers processing. Many of them work in the field of grain processing into infant flour and to this end, receive support from NGO GRET Nutrifosa in production equipment. The Research and Technological Exchange Group (GRET) Nutrifaso also oversees infant flour production units for compliance with standards and good hygiene practice and for marketing and selling finished products.

Still in order to improve the nutrition of young children, a study on the theme "Contribution of infant flour (MISOLA) enriched with OFSP to improving the nutritional and immune status of malnourished children" is being conducted in Burkina Faso. This study whose preliminary findings showed a significant improvement in the indicators of the nutritional status in children who consumed the mixed porridge (60% MISOLA+40 % OFSP) compared to those fed only with MISOLA will help to further promote OFSP cultivation.

Since 2012, a local sole proprietorship (Entreprise Entracel) has been testing the production of corn and OFSP-based infant flour. This flour called "BONAN POLANSIE" and well appreciated by children as reported by the company manager is increasingly sold in drugstores to help improve the nutrition of children.

Packaging of a locally produced OFSP-based infant flour

V. PROJECTS PROMOTING OFSP

OFSP varieties are promoted by various organizations involved in the field of nutrition in Burkina Faso. The stakeholders include: (1) HKI - Burkina through its projects "Promoting OFSP to control vitamin A and antioxidants deficiency in Burkina Faso and " CHANGE", (2) CRS- Burkina through its project entitled "Programme Faso" and (3) Radio Rural International (RRI- Burkina) through its project for the promotion of OFSP to improve nutrition among women and children. Moreover, NGOs FDI and Self-help Burkina are planning to invest in the promotion of OFSP. Each of these organizations has a strong expertise in building the capacity of farmers' organizations. For this purpose, they were contacted by the IPC as part of the training organized by the RAC project (Reaching Agents of Change) applied to OFSP.

A. Promotion of OFSP to control vitamin A and antioxidant deficiencies

At HKI, the main project for the promotion of OFSP is called "Project for the Promotion of orange-fleshed sweet potato to control vitamin A and antioxidants deficiencies in Burkina Faso." This research and development project funded by the McKnight Foundation is in its second phase of implementation. The first phase of the project was implemented by HKI in collaboration with INERA in 5 provinces of Burkina Faso (Gourma, Gnagna, Kouritenga , Sissili, and Tapoa) from 2005 to 2009. The main activities of this first phase focused on performing agronomic trials in research station and multi-local on-farm testing in collaboration with experienced producers identified in each province. Following these adaptation tests, 3 OFSP varieties were selected per area for their agronomic performances. One of the main achievements of this project also included the establishment of a network of OFSP seed producers as well as the growing enthusiasm of the people for growing OFSP varieties.

To consolidate these achievements and find responses to new challenges, a second phase of the project was funded again by the McKnight Foundation, with a wider partnership this time. In fact, this phase of the project takes into account the whole OFSP value chain by involving a consortium of four organizations including: (1) HKI, lead responsible for the component "promotion of OFSP production and consumption"; (2) INERA responsible for the agronomic component; (3) IRSAT/DTA responsible for the component "OFSP promotion and processing", and (4) UO/LCOPA that is responsible for optimizing antioxidant levels in OFSP-based recipes.

This 4-year project (December 2009 - November 2013) promotes 5 OFSP varieties (Caromex440136, Tiébélé2, Jewel, Tainung440129, and TIB440060) in 5 villages in the Sissili province. In each intervention village (Boura, Bihéa, Sagalo, Yelbouga, and Yoro), tree nurseries were established for the preservation and multiplication of plant material to meet the growing demand for the production of OFSP varieties being disseminated. The management of nurseries is entrusted to groups of seed producers, formed with the support of the project. In addition to these seed producers, the project receives technical support from the Provincial Directorate of Agriculture (DPA) of Leo which is one of the major partners in the field.

The project's main objective is to improve the nutritional and health status of women and children under 5 years who are the direct target. It also aims to improve the income of producers and OFSP female processors through the sale of cuttings, tubers, and by-products. A technical team of 8 members including a Coordinator, 4 focal points, and a

monitoring and evaluation Officer is responsible for the project implementation. The overall project budget for all partner organizations amounts to 512,000 US dollars.

B. CHANGE project

The CHANGE project is the second project of HKI with an OFSP component. The project aims to improve household food security and nutrition, and promotes the production and consumption of 3 varieties of OFSP (caromex440136, Jewel, and Tiételé2) in 60 villages of Fada health district. The Association for Rural Support and Promotion in Gulmu (APRG), the health district and the Regional Directorate of Agriculture of Fada are potential partners to support production and nutrition activities. The project will be implemented over a period of 3 years (2013-2016) with a budget of about 8;,000 US dollars allocated to the OFSP component and funded by the Canadian International Development Agency (CIDA). It is implemented by a strong team of 16 members (1 Coordinator based in Ouagadougou, 1 nutrition/health Assistant and 1 monitoring and evaluation Officer based in Ouagadougou, 1 field Coordinator, and 12 facilitators based in the intervention area.

C. FASO Programme

NGO CRS-Burkina through its USAID-funded project called "Programme Faso" is experimenting 12 varieties of OFSP to assess the level of adoption by producers for a greater extension. The experiment is being made in the northern part of the Namentenga province, in the Komondjari province and the Gnagna province in partnership with Association Tin Tua, OCADES Kaya, and with technical support from INERA. The main objective of this program is to support food diversification to improve child nutrition. The project works in 10 rural communes of 3 health districts through participatory varietal selection conducted by INERA, multiplication of plant material with nurserymen, and distribution of vouchers for cuttings for production in the field. During the crop year 2013, a total 1,300 farmers benefited from OFSP cuttings at a rate of 50 cuttings per farmer on average. The project is for a period of 5 years (2010-2015) and the technical team responsible for implementation at CRS consists of 2 people, including an officer in charge of the agricultural program (Mr. Hamidou TRAORE) and his Assistant (Mr. Emmanuel KABORE).

D. Project for the promotion of OFSP to improve nutrition in women and children

The interventions of this project implemented by RRI- Burkina are fairly recent (2013) and will continue until 2015, i.e. a period of 2 years. With financial support from the Bill and Melinda Gates Foundation, the project aims to reduce nutritional deficiencies among women and children under 5 years by encouraging the consumption of OFSP through radio programs. Its intervention area covers three provinces including Boulkiemdé (Koudougou), Léraba (Orodara), and Banwa (Solenzo). The project is implemented by a team of 3 members (1 Coordinator, 1 officer responsible for training and monitoring radio stations, and 1 ICT officer) who provide support for community radios through participatory radio campaigns and the use of ICTs to convey information on OFSP production and nutrition. The partnership under the project has a scientific committee set up in August 2013 and a national steering committee whose members come from diverse backgrounds including:

- The Ministry of Agriculture ;
- The Ministry of Health;

- The groupings of female processors;
- Producers' organizations;
- Some NGOs working in the field of nutrition.

VI. NATIONAL POLICIES & STRATEGIES FOR OFSP PROMOTION & PRODUCTION

In Burkina Faso, the institutional and policy environment is conducive to the promotion of sweet potato. The Ministry of Agriculture through the General Directorate for the Promotion of Rural Economy (DGPER) has developed a strategic plan for the development of agricultural value chains in which sweet potato plays an important part. With this document, the ministry intends to sustainably improve the contribution of sweet potato to food security, poverty reduction and to an accelerated growth of the national economy. To this end, it has been supporting producers since 2011 with campaigns for the distribution of sweet potato cuttings including OFSP varieties

Sweet potato and corn variety "Bandofa" are the main off-season crops whose production is encouraged by authorities in Burkina Faso. The production of these two crops in the dry season was officially launched on the World Food Day (WFD) held in a rural commune of Ouagadougou (Komsilga) on 29 November, 2013.

By encouraging the cultivation of sweet potato in general and particularly orange-fleshed varieties, the Government and its development partners aim to contribute to the reduction of nutritional deficiencies among vulnerable people such as children under 5 years and women of childbearing age. This political will is in line with one of the 4 major national strategies to reduce nutritional deficiencies. These strategies include exclusive breastfeeding, micronutrient supplementation, food fortification, and dietary diversification.

To support its strategies for improving the living conditions of the people most vulnerable to nutritional deficiencies, Burkina Faso has developed a number of policy documents including: the National Food Security Strategy (SNSA), the National Policy for Food and Nutritional Security (PNSAN), and the Strategy for Accelerated Growth and Sustainable Development (SCADD) paper.

Developed in 2003, SNSA's goal is to meet, in 2015, the conditions for sustainable food security and contribute to reducing inequalities and poverty in Burkina Faso. Adhering to the guidelines of the World Food Summit held in Rome in 1996, the Government has set a target to reduce by 50% the number of people suffering from hunger and malnutrition by 2015. For its implementation, a National Food Security Program (PNSA) was developed with 4 main specific objectives including:

1. Diversifying and sustainably increasing domestic food (plant, animal, and fish) production to cover the needs of the people;
2. Improving conditions and building the capacity of households to access food supplies ;
3. Improving the nutritional status of people by reducing protein-energy malnutrition and micronutrient deficiencies;
4. Building research capacity to provide efficient varieties and technologies for achieving food security.

Therefore, the promotion of sweet potato, especially the orange-fleshed variety contributes to achieving all this program objectives. In fact, the introduction of improved OFSP varieties contributes to achieving program objectives 1 and 4 that encourage plant breeding and crop diversification. The introduction of OFSP varieties also helps to improve the nutritional status due to the high levels of beta carotene and to improve the living conditions of households through the sale of tubers and by-products.

The review and validation of PNSAN was subject to a workshop held in Ouagadougou on 25 October, 2013 by the Ministry of Agriculture and Food Security. Designed to be a policy framework and guidelines for nutrition programs, PNSAN aims to ensure adequate and quality nutrition for people in 2025. To be adopted, this policy should be consistent with the guidelines for sustainable development, fight against poverty and promotion of sustainable food and nutritional security. Thus, PNSAN also supports OFSP promotion programs that aim to improve farmers' incomes through the sale of tubers (two times more expensive than local sweet potato) and contribute to improving food security and the nutritional status of consumers.

Adopted in December 2010, SCADD is replacing the Poverty Reduction Strategic Paper (PRSP) implemented from 2000 to 2010 and is the reference document for all development efforts in Burkina Faso. Just like PNSAN, SCADD aims to improve the level of people's income and quality of living. It has 7 specific objectives overall including 2 ((iv) improving the health of people through the reduction of mortality in children under 5 years and (v) improving maternal health) that are common to those of the projects promoting OFSP in Burkina Faso.

The Government of Burkina Faso also contributes to the promotion of local products—including OFSP—via its organization of the bi-annual event called Agro Food Day (JAAL). The event is held every other year in Ouagadougou. These exhibition/sale days provide an ideal setting to promote the competitiveness of local products and encourage the stakeholders from processing to innovation. On the occasion of the 6th edition (25 November to 4 December, 2011), the head of the association "Wend Guud Yamba" received a special award for the formulation of a corn and OFSP-based local dish (couscous).

VII. CONSTRAINTS AND CHALLENGES OF OFSP PRODUCTION

In Burkina Faso, root plants including sweet potatoes have long been classified as "other crops." With the emergence of DGPSA, the Government's policy consists in specifying these crops to have statistical production data. Thus, for over a decade, the production of sweet potato has been quantified in agricultural surveys. Moreover, production is increasing with a total production of 140,061 MT and 150,000 MT respectively showed by agricultural surveys of 2011 and 2012. Although crops are significant, the production of sweet potato is still confronted with some constraints mainly including:

- Lack of cuttings to meet the demand of production due to water problems for the maintenance of nurseries;
- Poor mastery of preservation techniques that compels producers to sell their crops for almost nothing;
- Pests and diseases that cause significant crop losses ;
- Low soil fertility;

- Low level of consumption.

Challenges to introduce OFSP varieties in some areas primarily result from poor communication, some communities claiming that the consumption of these varieties brings about hernia and leprosy. Other constraints related to higher perishability of OFSP compared to local white-fleshed varieties of sweet potato could also account for its low production in households. To better understand this, a study on constraints to the adoption of OFSP production is underway at IRSAT/DTA and the findings will help to take concrete information and awareness raising actions with people.

VIII. MULTI-STAKEHOLDER PLATFORMS

[Section under construction: Content to be added]

IX. TECHNICAL PARTNERS AND FUNDING SOURCES

There are several technical and financial partners that are either already supporting agricultural and nutritional projects that address dietary approaches, or have areas of expertise and interest areas that make them potentially viable funding partners for future activities in Burkina Faso. These partners include:

- Embassies : Embassy of Taiwan-China ;
- Bi-lateral agencies: USAID, OFDA, DFATD/CIDA, GIZ, DfiD, EU
- International organizations: UNICEF, FAO, World Food Program (WFP), World Health Organization (WHO), and the World Bank (WB)
- Non-Governmental Organizations: HKI, Groupe de Recherche et d'Echange Technologique (GRET), Action Against Hunger (ACF), Save the Children, Mercycorps International, RRI, CRS, Terre des Hommes, Medicus Mundi Spain, Oxfam international, Africare, IDE, IPFRI, COCARDA, ASUDEC, AVRDC, and Ground Work.

These partners and potential partners represent broad interests, but with skills and expertise that could be utilized in OFSP promotion. Some are involved in emergency nutrition projects, but are beginning to see the need to address long-term issues and address underlying causes and chronic undernutrition. Others are involved primarily in agricultural research, food production technology, rural development, program implementation and scale-up, and other related areas. There is great need to strengthen advocacy and take advantage of the multitude of partners in the field.

Key national / government partners for agricultural and nutritional projects include:

- The Ministry of Agriculture through its Directorate General for Crop Production (partner at the central level) and regional and provincial directorates of agriculture (field partner) ;
- The Ministry of Health through the Directorate of Nutrition (DN).

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