

# Better Potato for a Better Life: Reducing Food Insecurity and Dependence on Cereals in Amhara Oromia, Tigray and SNNP regions of Ethiopia

The capacity of federal and regional agricultural research stations to produce disease-free planting material of potato and sweetpotato (P&SP) has been increased. The Government of Ethiopia ratified the Quality Declared Seed (QDS) system piloted by the project. During the first project phase (2010-14) to until mid-2016, 385,908 households have received sweetpotato vines and 25,459 farmers were trained on sweetpotato production.

SEP  
2016



Fig 1. Recipients of cascading vine distribution at Dera (credit Y. Mikias)

## What is the problem?

Ethiopia faces a major public health problem in terms of chronic food insecurity and malnutrition. Despite the gains made in the last decade, malnutrition rates remain high: 40% of children under the age of five are stunted, 25% are underweight and 9% are wasted. The reasons for poor nutrition indicators relate to inadequate availability of and access to a quality diet. For example, only 4% of children aged 6-23 months are fed appropriately, based on the recommended infant and young child feeding practices (EDHS, 2011). The majority of households in the target regions depend on a few staple foods (mostly cereals). Consequently, they have very low intake of iron and vitamin A, either from food or through supplementation from health facilities. Vitamin A deficiency affects approximately 61% or about 7.7 million children annually, and results in an estimated 50,000 deaths each year. Iron deficiency, which causes anemia, is widespread. Orange-fleshed sweetpotato (OFSP), which is extremely rich in pro-vitamin A, and potato, which we are breeding for improved iron (Fe) and zinc (Zi) content, have significant potential to address the current malnutrition situation; furthermore they produce more calories per unit area and time than other major food crops. They are also more efficient in their use of water than cereals. But, average yields of both crops are low in Ethiopia. One of the

major bottlenecks in increasing productivity for both crops is the low quality of planting material, which is affected by disease.

## What do we want to achieve?

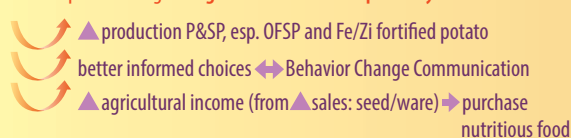
The expected long-term impact of the project is *enhanced rural incomes, food security and nutrition in four regions of Ethiopia through resilient and profitable potato and sweetpotato (P&SP) value chains*. After a successful Phase 1 (2010-2014), in Phase 2 (2015-2016), we seek to achieve five outcomes:

- 1) improved capacity for disease-free P&SP seed production
- 2) over 140,000 households with access to quality seed (P and/or SP)
- 3) over 50,000 households with improved productivity
- 4) over 8,000 households with increased revenue from P or SP sales
- 5) over 8,500 households with improved household dietary diversity

The agriculture-nutrition impact pathway (Fig 2) is expected to become effective.

Fig 2. Development along the Agriculture Nutrition Pathway

### Development along the Agriculture-Nutrition pathways:



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Fig 3. Quality Declared Seed workshop participants in Ethiopia (Sept 2016)

### Where are we working?

In Phase 2, we are extending and consolidating our activities in Phase 1 areas in the SNNPR and Tigray regions. We are implementing project activities in four (04) regions, namely, Amhara, Oromia, SNNP and Tigray Regions. Presently, we are working in 53 districts (*woredas*), in 2-5 communities (*kebeles*) per district in these four regions (233 *kebeles* in total). Among these, sweetpotato related activities are being implemented in more than 50% of the *kebeles*.

### How are we making it happen?

Our project is pursuing two objectives: (1) to establish and strengthen P&SP value chains; and (2) to increase production and consumption of P&SP in conjunction with other nutritious food crops. We apply an extensive partnership approach, working with agricultural research centers, Bureaus of Agriculture (BoAs) and non-governmental organizations (NGOs) to enable sustainability and out/up scaling. Based on their core competencies, these partners play specific roles in the implementation of specific activities related to the:

- Establishment or strengthening of production capacities of pre-basic disease-free planting material by the public sector, applying rapid multiplication techniques
- Training of extension partners, using Training of Trainers (ToT) courses (Fig 4)
- Establishment of a system of decentralized P&SP seed multiplication by farmer groups and cooperatives, commercial farms, and small-scale farmers; strengthening of production and business capacities of the multipliers
- Improvement of market linkages within the value chains, including improving the institutional framework; for example, piloting and roll-out of a low cost seed quality declared inspection system (QDS) for P&SP planting material
- Nutrition promotion and education, especially for OFSP

- Production and consumption promotion for OFSP through household garden schemes
- Increasing recognition of benefits of P & SP through wide-scale quality seed distribution

### What have we achieved so far?

Since beginning of the project (1st phase 2010-2014) to date (middle of project 2nd phase, 2015- 2016), the capacities of the regional and federal agricultural research stations to produce disease-free planting material (P&SP) were increased. These stations are now able to supply foundation and primary vines to the private sector for further multiplication. In the second phase, the research partners were able to produce 458,787 cuttings of OFSP foundation materials and decentralized vine multipliers and nurseries have been established. Around 25,459 participants have attended farmers' training on sweetpotato, and around 7,934 people were trained in ToT events. Approximately 224,000 attended OFSP-based nutrition promotional activities, while around 128,636 households were direct beneficiaries of vine distributions (Fig 1). Based on empirical experience about farmer-to-farmer seed transfer, this means that around 385,908 households have been able to start sweetpotato production. The institutional framework for quality seed was improved, as the formal inspection system is moving forward (Fig 3) and by the end of 2016 a good number of materials will be inspected.

### What's next?

Following the official ratification of the QDS concept by the Government of Ethiopia for P&SP planting material in June 2015, the project has supported the roll-out of the seed quality inspection scheme in all four regions. During this reporting period, the project extension partners (BoA, GRAD, GOAL, VITA) have continued to give training and backstopping on QDS (P&SP) to woreda staff and the inspection authorities. The approval of the pilot QDS system for P&SP has been a major achievement and serves as an example for other countries to emulate. We plan to support the roll-out in project and non-project areas, anticipating that it will provide P&SP seed multipliers new business opportunities. We will consolidate our achievements in SNNPR and Tigray, especially development of farmers' business skills. Implementation in Amhara and Oromia will build on our experiences in SNNPR and Tigray. We will intensify empirical work to evaluate the project's outcome and impact.



Fig 4. OFSP nutrition Training of Trainers at Shashemene (SNNPR)

#### Key Partners:

- Bureaus of Agriculture in Amhara, Oromia, SNNPR and Tigray

#### Agricultural Research Institutes and related research stations:

- Ethiopian Institute of Agricultural Research (EIAR)
- Southern Agricultural Research Institute (SARI)
- Tigray ARI (TARI)
- Amhara ARI (ARARI)

#### NGO-partners for nutrition promotion and education:

- Mums for Mums
- Egna Leegna
- CARE-Ethiopia

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