

Project summary

One Timad Package validation (OTIPAVA)



KEY NOTES

- The combined use of organic and inorganic fertilizers improves soil fertility, land productivity and crop yield for smallholder farmers.
- The *one timad* package is affordable to poor farmers and appropriate to land constrained and risk-prone farmers. The package is also appropriate for poor farmers residing in high potential areas.
- It saves foreign currency at country levels and fertilizers cost of over 2.5 million PSNP farming households as it partly replaces the mineral fertilizers recommended rate by use of compost.
- The package improves drought resistance of crops as it improves soil structure, aggregate stability and soil water holding capacity.
- The *one timad* package improves resilience to climate change as it raises carbon sequestration to the soil.

BACKGROUND INFORMATION

In 2018 the WUR BENEFIT REALISE Ethiopia programme set out to take agricultural best practices to recipients of the Productivity Safety Net Programme (PSNP). These are the poorest farmers with a very marginal resource base, that experience a food gap and low diet diversity. To reach these "PSNP" farmers, the REALISE programme experimented with the so-called *One Timad* (0.25 ha) package. The aim was to introduce regenerative agricultural practices that can reduce the expensive external inputs that farmers must buy to apply best practices. A more regenerative approach can at the same time address issues often raised by farmers: limited water holding capacity of the soil and increased climate change resilience. Composting, intercropping, relay cropping and mixed cropping were introduced together with a wide range of new (often more drought resistant and more productive) crop varieties. This increased agro-biodiversity and crop yields and reduced risks of pests, drought and thus crop failure. Experience with the so-called integrated soil fertility management had already been obtained on the earlier Ethiopia - WUR CASCAPE programme and the Fertile Grounds Initiative projects. These works had shown that it is possible to reduce the standard recommended fertilizer rate by half if the equivalent of 4 MT/ha of compost is applied. Compost will also contribute to soil biology, and the soil's water holding and action exchange capacity. The success of the package was very clear, and farmers doubled and tripled yields of their crops and got several additional benefits such as improvement in soil biophysical properties and soil moisture retention. Hence, this project is aimed to validate the effect of integrated nutrient management on soil health, crop

yield, soil biology, carbon sequestration and economic benefit to the farmers.

The *one timad* package works on the four broad categories of innovation;

- o **Paradigm:** shift from one fits for all to customized and tailor-made advisory service.
- o **Product:** *one timad* package (combined use of organic and inorganic fertilizers; improved seed (OPV/hybrid); 0.25 ha, IPM).
- o **Process:** micro packaging of fertilizers, and seeds, consultation with key stakeholders, piloting of *one timad* package, MEL, package formulation.
- o **Position:** segmentation of target (PSNP men and women farmers), landless youth with those who rent out land.

PURPOSE AND OBJECTIVES OF THE PROJECT

OTIPAVA project aimed to validate the effect of integrated nutrient management on soil health and economic benefit to the farmers by reducing the costs of mineral fertilizers and generating shreds of evidence and piloting innovative approaches for further institutionalization and scaling. It operates a type of agricultural package designed for low socioeconomic and female farmers to influence the extension practices that mostly target the better and progressive farmers.

The overall development objective of the project is to create evidence for practices that contribute to the transformation of the food system by addressing leverage points about productivity, enhanced value chain performance, and improved human nutrition for improved food security while minimizing the impact on the environment and ensuring social inclusion. OTIPAVA's goal line is to develop a fully endorsed *One Timad* package that uses compost as the component of Recommended Extension Package that will be scaled by the Ministry of Agriculture.

PROJECT INTERVENTION AREA

The project is implemented in three regions of the country. They are the west Gojam zone in Amhara, the west Arsi zone in Oromia, and the Wolaita zone in SNNP. It works jointly with Regional Agricultural Research Institutes (ARARI, OARI, and SARI) and BoA in the respective regions.

IMPLEMENTATION METHODS

The composting method and ISFM experiment has been conducted on-station and on-farm. In addition, on farm validation of the *one timad* package has been conducted on

large demonstration plots in non-PSNP districts on wheat (Yilmana Densa District) and maize (South Achefer District). The project also has been conducting a study on willingness to pay for micro packaging of mineral fertilizers.

HIGHLIGHTS IN AMHARA REGION PROJECT AREA

Maize and wheat validation trials:

Under OTIPAVA project, in addition to on-station and on farm composting and ISFM experiments done by Adet agricultural research center, a total of 207 (114 beneficiaries for Maize and 93 beneficiaries for wheat) farmers were selected and provided with improved seed varieties (Table 1 and Figure 1). The beneficiaries were selected from 8 kebeles of Yilmana Densa and South Achefer districts. The main farmer selection criteria were having compost and *one timad* of land for organic and chemical fertilizer demonstration works.

Farmers used half amount of the recommended NPS/B and UREA fertilizers and replaced the other half of the recommended fertilizers using compost. Different data have been collected at different growth levels and grain maturity periods and analyzed. Crop yield and yield-related data, soil and compost analysis and economic (partial budget) analysis data will be considered.

Maize and wheat planting demonstrations: Both woreda beneficiary farmers of OTIPAVA project attended and practiced maize and wheat planting demonstrations (Figure 2). Similarly, organic and chemical fertilizer application demonstration activities were conducted with the presence of beneficiary farmers.



Figure 2: Wheat Planting Demonstration and Experts Discussion at Yilmana Densa woreda, Enegadie Kebele

EXPECTED DELIVERABLES OF THE OTIPAVA PROJECT

- Use the pieces of evidence generated from on-station and on-farm trials to formulate an extension package using the combined use of organic and inorganic fertilizers.
- Design *one timad* extension package which is suitable for land-constrained and low-income farmers. These groups include young farmers having a small parcel of land, women-headed households and poor farmers who can't afford to apply the full recommended inorganic fertilizers.
- Mainstream and institutionalize regenerative agricultural practices aspects of the *one timad* package with multiple leverage points: soil health, cropping system, and sustainable livelihood.
- Strengthen the business model for compost through youth employment and entrepreneurship in the long term.

District	Kebele	Land Covered by Maize (ha)	Land Covered by wheat (ha)
S.Achefer	Abchikli	10.5	-
	Kurbiha	2.5	-
	Gurach	6	-
	Lalibela	5	-
Y. Densa	Qoker	4	-
	Goshiye	0.5	6.75
	Dewaro	-	12.25
	Enegadie	-	4.25
Total		28.5	23.25

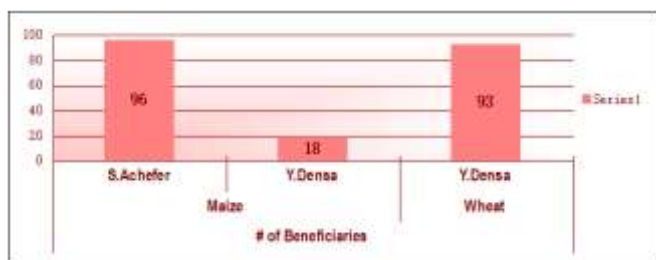


Figure 1: Number of beneficiaries by woreda and crop type



Partners



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