

Training for change

Practical trainings that changed the mindset and practices of smallholder farmers in Estena village, South Wollo Zone, North Eastern Ethiopia

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Ecological organic agriculture initiative

Ecological Organic Agriculture (EOA) is an African Union led initiative which was started in 2014 with the aim of establishing an organic farming platform based on available best practices and to develop sustainable organic farming systems. Its mission is to promote ecologically sound practices among diverse stakeholders in production, processing, marketing and policy-making to safeguard the environment, improve livelihoods, alleviate poverty and guarantee food security. Ethiopia is one of the eight African countries where the Swiss Development Corporation (SDC) funded EOA project has been implemented.

The project in Ethiopia

The EOA project in Ethiopia has been led by the Institute for Sustainable Development (ISD), the Country Lead Organization (CLO), since its inception. The project has different pillars under which different partner organizations have taken part as pillar implementers. The Institute as a lead organization took the responsibility of coordinating the partners' works and is playing a great role in the steps that take towards the aims of the EOA initiative.

The setting

South Wollo zone (Dessie area) located about 400 Km North East of Addis Ababa is one of the areas where the EOA project has been on implementation since it was started in 2014. The project has been operational in eight villages found in three districts (Ambassel, Tehuledere and Worebabo) of the zone where vegetables are widely grown by smallholder farmers. The vegetables are sold at the local markets mainly in Haik and Dessie towns. Vegetables like carrots and beetroots go to markets beyond Haik and Dessie, mainly to Addis Market.

Estena is one of the villages in Tehuledere district where the EOA project was started with 12 young vegetable grower farmers. It was started by engaging farmers in trainings that focused on the use of ecologically sound crops production techniques mainly with the use of natural pest and production management techniques. The techniques involved the use of soil fertility enhancement methods that don't depend on chemical fertilizers mainly the use of compost, animal manure, leaving leafy weeded materials to decompose on the farm, repeated ploughing to expose the soil for weathering, vermicomposting and other simple processes to maintain fertility of their farm.

Farmers also use pest management techniques which incorporated knowledge based decisions making steps by regularly observing their farm to study the status of the crops regarding pests and disease, indigenous knowledge of local farmers including the use of plant extracts prepared by farmers themselves. They use croton (*Croton macrostachyus*) leaf, sisal (*Agave sisalana*), *Crinum abyssinicum* and other plant extracts in the form of liquid and powder. They use cow urine to extract some of the plants they use for pest management. Use of

resistant varieties, adjusting planting time, maintaining field hygiene, and removing affected plants are among the disease management techniques vegetable grower farmers use.

Main project outcomes

Vegetable growers in the project areas, including Estena village, were able to adopt the use of EOA principles to produce vegetables. As part of the project, the farmers were supported to establish cooperatives to pave the way for better market links and supply chains. In addition to that ISD supported the cooperatives by setting up vegetable shops in the middle of Haik town where member farmers can deliver their produces for the market. The shops serve as points of distribution where farmers sell their vegetables either in bulk to small traders and restaurants or in small amounts for Households consumption.

Few farmers have contracts with hotels and restaurants, on the basis of mutual agreements, to supply their products. With the support of the EOA project on linking farmers with better market, hotels and restaurants were approached in an effort to create the market link so that farmers can directly supply them with the type, quality and amount they need. Type of vegetables to be supplied to hotels and restaurants may vary in different seasons. This is part of the agreement and customers are well aware of vegetables that may fall short in certain seasons. On the other hand, hotels needed a continuous supply and farmers have to meet that demand. Hence, changes in the cropping systems were required and that brought them into the farm budgeting practice where farmers have to plant vegetables at different time intervals to ensure continuous harvest. The EOA project via its field officers played a great role in helping farmers to adopt farm budgeting system. With this kind of supply chain, farmers focus on the production as they don't have to worry about the market issues. Hotels are also happy with this marketing as it avoids the hectic of selecting quality products in crowded local market places. It also gives them an opportunity to discuss about the quality and quantity with farmers.

The project brought good results in building the technical capacity of farmers at the farm level and helped them see beyond their village and outside the local traders for market links and good prices. The practical training conducted with full involvement of the farmers also played a role for individual, household and community empowerment and cohesion. Trainings are arranged for groups of farmers mainly based on farm neighborhoods and that created discussion platform for farmers to share experiences and learn from each other. It also gave them an opportunity to develop the habit of working together and in consultation with each other on issues like planting different vegetable types in one season, pest management techniques including the use of plant extracts and marketing. It helped the community to develop the habit of working together, gain strong voice in selling their vegetables mainly in setting prices depending on the market situation, higher or lower prices of vegetables at certain season.

With better market links and the coming of more supply chains, continuous production and supply of vegetables to consumers, mainly hotels and restaurants; emanated as a major challenge for farmers. This was a challenge that needed interventions so that farmers can ensure continuous production and supply to consumers. Hence, ISD introduced a farm budgeting system so that farmers can divide their land into smaller plots [size of plots depend on farm size] and plant vegetables at different time intervals.

Changes in the vegetable production systems to ensure continuous harvest and supply

With the continuous supply problem in mind, ISD conducted a series of trainings on farm planning, vegetable cropping systems including mixed and intercropping which, at a later stage, brought changes in the mindsets of the farmers which helped them change their cropping systems, increased cohesion with each other and that helped them in getting better markets. The farmers jointly organize production calendar to avoid planting the same vegetable type in the whole area, predict volume of production and forecast market availability and prices. The trainings focused on:

- Dividing the farm into a relatively smaller plots, depending on the farm size, and plant vegetables at different times so that the vegetables can reach for harvest at different times. Photos below show vegetables at different growth stages and a plots of land being prepared for another round of planting. Plate below “A” shows emerging seedlings of beetroot and ploughed land for next round planting, plate “B” beetroots above the citrus plant with 3-4 leaves and 1-2 leaves stage which are around the citrus plant. Plate “C” on the other hand shows head cabbage planted at different times.



Figure 1. Vegetables planted at different time intervals

- Implementing a mixed cropping system: depending on the crop/vegetable type, farmers mix different vegetables in one plot to ensure continuous harvest and also for the variety. In Estena village, farmers sow local cabbage (green leafy vegetable) underneath head cabbages which are maturing and soon to be harvested. Plates on figure 2 below show emerging leafy vegetables underneath a head cabbage. Once the

head cabbage is harvested farmers continue protecting the leafy cabbages. The local cabbage is also sown in a similar fashion like the head cabbage is planted at different time intervals to ensure continuous harvesting. Mixing different vegetable types can be one way of pest and disease management. But farmers need to be careful with mixing crops from the same family but at different growth stages within the same plot, or at staggered sowing dates on plots on nearby farms. For some pests or diseases, doing that provides them with a continuous supply of food at the tender, young stage or the attractive fruiting stage, and they jump from one plot to another, with their population levels increasing rapidly.



Figure 2. Leafy cabbage (local cabbage) planted underneath a maturing head cabbage

The trainings given on farm budgeting, changing vegetable cropping systems by adjusting planting dates and implementing mixed & intercropping helped attain continuous production and sustainable supply of vegetables. With continuous trainings and follow up from the field agents, market links especially the coming of contract marketing was a driving force for farmers to adopt the cropping system change. Uptake of the system change increased once the demands of the farmers was fulfilled, especially the market availability.

Impacts of the project

The project, through its on-farm trainings, has helped farmers learn a new vegetable cropping systems which enabled them grow vegetables continuously to ensure sustainable supply. Continuous production has also brought economic benefits to the farmers involved. Farmers use water for irrigation from Lake Haike with motor pumps. Availability of water year round is one advantage that helped them ensure continuous production.

The establishment of farming associations (cooperatives) has served as a platform for farmers to discuss on vegetable planting, seasonal vegetable selection to increase profitability and also assess market opportunities. This established system has empowered farmers at production and marketing levels. Some farmers have contracts with hotels and restaurants which is more profitable, in terms of saving time and transportation costs, compared to selling their produces at the local market.

For every change in practice both at farm level and marketing, there is a parallel change in the behavior of farmers. Farmers resisted to change their cropping systems at first and were practicing their usual way of planting the whole farm at once. It took time for farmers to be convinced and bring changes in their cropping habits. Once the farm budgeting training was started, few farmers started to implement the cropping system change and they were selling vegetables continuously. With the financial benefits they get by selling vegetables at different times, the farmers stick to the new cropping systems which also attracted farmers in the neighborhood. Hence, farmers had to change their mind setting about harvesting and selling vegetables at once which also have been prone to a big loss at times when prices go down for certain vegetables.

The tasks they carry out in their respective farms and their strong collaboration with each other especially via the established cooperatives to deal with marketing challenges are evidences, among others, that show the impacts the project. ■