



EPOPA Organic Sesame workshop

Singida, Tanzania

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1 Introduction

From May 2006 to August 2007, the export company of the EPOPA Sesame project is supported by the EPOPA programme for conversion to and export of organic sesame from Singida region, Tanzania. This is a SSE project (Specific Support to Exporter), which means that the exporter is supported in specific areas, during a limited period (16 months), and with a limited budget.

The exporter was established in 2005. Main income is from conventional beeswax. First conventional sesame exports were in 2005 to Germany. No sesame was exported in 2006 due to late organisation of trade finance and purchase from farmers. Inspection by TanCert/IMO took place in August 2006. The exporter had then only bought 2.5 tons of in-conversion sesame. The ICS manager did not function well, his contract was ended in July 2006, and he is since hired in as a consultant.

The field visit by CM, PC and PL plus driver took place from 13 to 16 November 2006. The exporter was present during the entire visit, and participated for part of his time in the Organic Sesame workshop with FOs and an external project consultant. A visit was made to Iglanson village where the exporting company holds a small office, for discussions with a few organic sesame producers. Follow-up of the field visit took place in the Agro Eco office between PC and PL on Friday November 17 and continued by e-mail.

At the time of the visit, the position of ICS manager was still vacant. The exporter was preparing for sowing of organic sesame and organic cotton in December 2006 with around 900 farmers. Cottonseeds were bought through EPOPA. An ICS Manual was not available, nor was the report of the TanCert inspection in July 2006.

2 Organic Sesame Workshop

On Tuesday November 14, an Organic Sesame workshop was organised in Singida (town) for FOs of the exporting company. The workshop was attended by 10 FOs, of whom 5 were already working for the exporter in the 2005/06 season. The other 5 FOs were recruited to start supporting organic cotton production in the season 2006/07.

The aim of the Organic Sesame workshop was to review and elaborate on the needs and requirements of organic sesame growing in the Singida area in view of the season 2006/07, to contribute to building a common understanding between actors, and to exchange and learn about the specificities of the growing area. The programme of the workshop is in Annex 1. The session on soil fertility management had to be skipped because of lack of time.

The aim of the workshop was largely achieved and the participants appreciated the EPOPA Organic Sesame workshop. The venue at the training centre in Singida was good but very hot in the afternoon, and with unpredictable availability of electricity. Electricity went down during daytime, making the use of electronic devices (beamer, laptop) not possible. Meals and drinks were available in good quality and in quantity. The workshop was held both in English and in Kiswahili, except for the presentation of PL Ray Mjunguli about ICS and certification, which was only in Kiswahili.

The follow-up and feed-back meetings on November 17 at the Agro Eco office in Dar es Salaam between PC and PL, and between PC, PL and CM, were also very positive and constructive. The SSE document of May 2006 and the related Budget (version August 17, 2006) were revised and updated. A list of action points was made for follow-up.

3 Agriculture in Singida region, Tanzania

3.1 Participants' background profiles

Extensive time was taken during the Organic Sesame workshop to get to know each other. FOs did not know each other very well, while team building is important to achieve good performances. See Annex 2 for Participants' background profiles.

A total of 16 persons participated in the workshop: the exporter, 3 visitors, the project consultant and former ICS manager, the local buyer, and ten (10) FOs. Three (3) out of 10 FOs are women. Most participants have finalised or are about to finalise secondary school. The exporter, project consultant and one FO completed university studies. Two (2) FOs have done primary school. One of them was awarded a prize in 2005 for being the best farmer of Singida region.

Nine (9) out of ten FOs are married. Eight (8) out of ten have children, ranging in number from one to eight. One FO has two wives, as is quite common under Islamic customary law. The age of participants ranged from around 20 to an estimated 60 years old.

3.2 Farm profiles

Field Officers (FOs) are also farmers themselves. In order to get insight in agriculture practices in Singida area, an inventory was made of FOs farm profiles through four case studies. See Annex 3.

On the basis of these FO Farm profiles, which are of course no more than indicative of the farming situation in Singida, one can draw the following picture. The crop area in Singida ranges from 6 acres (2.4 hectares) of land to 30 acres (12 hectares) per farming family. Many families also hold cattle, and some may have income from beekeeping, sales of wood or other activities.

Sorghum is the main staple crop. Maize is second. In these four cases, all maize is intercropped with sesame, beans and groundnut. Other food crops in Singida area are: millet, beans, bambara nuts and cowpea.

A quarter of farmland (27%) on average is set aside for cash crop production. Sunflower and sesame are the most important cash crops. The high number of sunflower mills on the road to Iglanson confirms the significance of sunflower as cash crop in the region. Finger millet and beans (the latter at least in part) are also being grown for markets. The importance of cash crop production differs considerably between families, from 15-50% of total crop area. The highest % of

cash crop area was found in the smallest farm family, although in our sample of cases, there is no clear relation between family size and cash crop orientation.

From this inventory, it is found that all sesame is grown in association with maize, not as a pure stand. This was not yet known by EPOPA before the workshop. In all four cases sesame is mentioned as an important crop. Cotton was not mentioned in any of the four cases. It shall be food for thought for the exporter that many people in Singida do apparently not consider cotton as an interesting crop (whether due to the crop, to related marketing systems, or to other circumstances).

Finally, note that only one out of four families has fallow land for rotation. Rotations should ideally be cereals-leguminous crop-cotton-cereals or alike. However, it is difficult if not impossible to establish a sustainable rotational cropping system, when the cereals sorghum, maize, millet and finger millet are of such importance, and when the rest of the crops are largely nutrient exporting cash crops.

4 Organic sesame production

4.1 Sesame as a crop

The following topics have been discussed during the workshop about sesame as a crop in the Singida region, and more specifically in the village Iglanson.

- In Singida region you can find different heights, soil types and rainfall patterns. Sesame is concentrated in the Western area of Singida. Iglanson village is in the lower area in the Southwest, with more rainfall, and pretty good soils for cultivation. The area is relatively drought-resistant, yet was affected very significantly by drought in 2005/06.
- Sesame production is not common in the Eastern part of Singida region, reportedly due to a lack of traders and thus markets. Sakaa village is in the East.
- Cotton production is not common in the Iglanson area. In former days (till 1997) it was an important crop in Iramba (about 85% of total cotton), and it was also grown in Singida (10%) and Manyoni (5%). Total production in 2005/06 was a low 268 tons of seed cotton; of which 85 tons from Iramba and 85 tons from Singida.
- Planting time is December-January. Sesame/maize is sown as one of the first crops. The main sowing technique used in this area is broadcasting. Row sowing, which is preferred by EPOPA, is not common. However, row sowing is known in the area and applied in some other crops.
- In broadcast sowing the big maize seeds mixed with very tiny sesame seeds are jointly mixed with sand and scattered over the field. The reason why sand is added is to keep sesame seeds from sticking together¹. It also adds weight to the seed mixture, an advantage in sowing.
- Workshop participants were not aware of the recommended planting distance in row sowing for maize and sesame in a mixed crop. There should be a recommendation for planting distances for maize and sesame in a mixed cropping system and for pure sesame stands. EPOPA is expected to provide clear recommendations, based on what is common in conventional.
- Diseases and pests are not considered a problem in sesame production. So no need for input provision, stocks, sprayers and alike.
- Sesame production level relies on plant density and weeding. These are the parameters one can try to control and play with in order to improve production.
- Weeding should be done twice: 3 weeks after emergence (about end-December), and approximately 4 weeks later (end-January). Afterwards

¹ According to the farmers, 5 kg of sand per kg of seeds would suffice for 2 acres of land.

there is no need for weeding because plant cover will keep weeds under control.

FO's work on sesame growing is thus limited to the months of December and January: ensure early planting and planting in rows, and timely weeding at least twice in December and January.

4.2 Sesame at harvest and post-harvest

The next moment where FOs can make a difference in sesame production is at harvest and after harvest, by ensuring the quality of the sesame seeds for export:

- Sesame plants should be cut in time, at ground level, once the leaves turn yellow. This is around late-March.
- Plants should be kept upright and put together in bundles. These are too heavy to transport and therefore kept in the field.
- Drying takes place in March-April, in the field, for around 2-3 weeks. Normally there is no rain in this period.
- Slashing and winnowing takes place in April-May. EPOPA requires this to take place on tarpaulins, and provided funds for purchase. The tarpaulins must be kept clean.
- Slashing and winnowing on an adobe-like platform made of dried cow manure mixed with water (a common habit in Singida) is not allowed, in order to prevent contamination.
- Contact between sesame seeds and the soil shall be prevented at any time.
- Contact of the sesame seeds by farmer shall only be with clean, washed hands. This to prevent transmission of micro-organisms and to prevent any contamination.
- The sesame seeds shall be kept separate from animals at any time. Contact with bird droppings, chicken, sheep, goats, etc. may lead to contamination with micro-organisms.
- Once winnowed, the sesame seeds shall be put in new, clean bags, which are provided by the exporter². No other bags (e.g. polypropylene or other) may be used for storage. Bags shall be appropriately numbered and administered.
- Storage sites must be well cleaned, and not been in contact with any pesticides in the past.
- Storage pests present a risk. No chemical pesticides are allowed. Natural insecticides are not recommended either, because they may influence the taste of the seeds. It is recommended to PL and FOs to discuss storage pest prevention in more detail with farmers, in order to assess together the opportunities for prevention and control.

² For management of the number of bags per farmer, yield estimates are required.

The organic sesame shall be kept separate from any other sesame and from contamination at any time – whether at storage, at transport to Dar, at storage and in processing in Dar, at transport to port, and at export to destination.

4.3 Internal Control System & certification

The PL Ray Mjunguli discussed the Internal Control System (ICS) and organic certification issues. Former FOs had some understanding on organic agriculture, ICS and certification. It was relatively new to the new FOs who will be focusing on organic cotton production.

Elements discussed in the presentation were the following:

1. ICS:

- What is meant by an Internal Control System
- Why is it important for smallholder group certification
- The elements of the internal control system (including all the documents)
- The role of FO regarding the ICS
- What is required to make an efficient ICS
- What are the internal organic standards and how can they be applied by farmers
- Internal inspection

2. Organic Certification

- What is organic certification all about
- Which steps are there towards certification
- Conversion period
- Certification bodies, Inspection exercise
- What is inspected
- Role of ICS and staff in organic certification.

4.4 Organic sesame production and purchase

The following issues regarding production and purchase were brought forward in our meeting with four organic sesame farmers in Iglanson village:

- According to some farmers in Iglanson village, an area of 4 acres of sesame should produce around 8 bags (of 84 kg per bag) in a ‘normal’ year; or 168 kg per acre. This corresponds to 660 kg per hectare. Another farmer, however, claimed that 1 bag per acre would be more likely, which is 330 kg per hectare. World average is around 350 kg of sesame per hectare.
- Last year farmers had already sold most of their produce by the time the exporter was ready to buy (in July). Farmers expect the exporter to buy the organic sesame in May already.

- Exporter's price should be competitive. The price offered by the exporter in 2006 would have been interesting in May, but not in July. Prices tend to go up over the buying season. Best time for purchase by the exporter is May.
- Farmers are paid per can of about 14 kg each. Price will generally be around TSh 8,500-9,000 per can, which is around TSh 607-742 per kg. According to the farmers, the price may go up to around TSh 12,000 per can (TSh 857 per kg) by July in case of scarcity, which was the case in 2006 following drought.
- The exporter offered TSh 650 per kg for the organic sesame in July 2006.
- The exporter should take into account that there are competitors around. In case of scarcity, he may have to raise his price in order to be able to purchase sesame.

4.5 Organic sesame processing

The exporter reported the following regarding the processing of sesame seeds and export to destination:

- He plans to buy from a German manufacturer in Hamburg a seed-cleaning machine with four layers, with which it is possible to obtain 99.9% purity. The machine will be located in Dar es Salaam, in order to have better control over operations.
- Cost of the cleaning machine is about USD 7,000. Cost of cleaning operations would be about USD 30-35 per ton, while the exporter estimates a price differential according to purity rate of USD 60 per ton.
- Sesame seed quality (purity, oil content, protein level, etc.) can be analysed at Tanzania Bureau of Standards (TBS) in Dar es Salaam. This was not done in 2005. Purity rate at that time was 98% according to a buyer in Germany. No confirmation was sought from a third party.
- The best way to minimise the risk of pest infestation of the sesame seed would be to control it before and during export to destination. A technical option is to use fumigation with CO₂ at port of embarkation and/or at port of destination. Costs are high though, and facilities for CO₂ use are not available in Tanzania.
- Exporter believes that he can export without a high risk of pest infestation.
- The PC will further investigate the CO₂ fumigation option.

5 Policy environment

The policy environment for the development of organic agriculture is very positive in Singida region. The District Executive Director (DED) approached EPOPA by sending a letter on August 14, 2006, after a meeting with the Regional Commissioner (RC) to assess whether EPOPA/Agro Eco could help to make the entire region organic in future. The RC's request originates from the recognition that:

- Pesticides are virtually not being used in agriculture in Singida region.
- Chemical fertilisers are not economic in use in Singida region, while rainfall is erratic and low. Farmers are thus virtually not using them.
- There is a lot of cattle in the region. People have become used to applying farmyard manure as an organic fertiliser on their fields. This was also witnessed during our visit to Iglanson village.
- The manure provides nutrients to the plants, helps to maintain soil structure, and favours soil humidity. Farmers are well aware of this.
- Organic agriculture makes use of organic fertilisers, and only of natural insecticides for crop protection in case of need. In sesame no crop protection is actually needed.
- The exporter has started organic sesame production, and plans to start with organic cotton production.
- RC Singida would like EPOPA to inventorise the opportunities for certifying and marketing other organic products (e.g. sunflower, honey, etc.).

EPOPA responded favourably to the request of DED by a letter of the CM dated October 16, 2006. CM, PC, PL and exporter visited the DED office and the RC office together with DALDO. At the DED office, we met with Mr. Sabore. At RC office, we met with the Regional Administrative Secretary (RAS).

The RAS turned out not to be informed about the idea of the RC, nor about the letter from the DED to EPOPA of August 14th. She applauded the idea however, even when being slightly sceptical about “new projects having all kinds of nice ideas but generally not following up with actions”. It was convened between parties that EPOPA would follow up after the meeting with RAS by sending a letter to RC with a proposal on how could be proceeded.

EPOPA requested RC/RAS to inventorise whether budget can be made available from the Agricultural Support Development Project (ASDP) for this exciting plan “Singida organic”. The ASDP funds cover the different donor funds for agricultural development.