

## Summary of Terminal Evaluation

<b>4. Outline of the Project</b>	
<b>Country:</b> The Federal Democratic Republic of Ethiopia	<b>Project:</b> Quality Seed Promotion Project For Smallholder Farmers
<b>Issue/Sector :</b> Agriculture/ Forestry/ Fisheries, Agriculture, Agriculture/General	<b>Type of Cooperation:</b> Technical Cooperation Project
<b>Division in charge:</b> Rural Development Department	<b>Amount of Cooperation (accumulated amount until the Project Terminal Evaluation) :</b> ¥ 480 million
<b>Period of Cooperation (R/D):</b> From February 2010 to February 2014 (Four years)	<b>Partner Country's Implementing Organization:</b> Ministry of Agriculture
	<b>Supporting Organization in Japan:</b> None.
<b>1-1. Background and Profile of the Cooperation</b>	
<p>The agriculture sector in Ethiopia is crucial for Ethiopian's economic growth, since it shares about 40% of GDP and 85% of rural population of the country. Therefore, the importance of agricultural sector is clearly described in the national development plan ("Growth and Transformation Plan") for 2010-2015. However, most of the farmers are still relying on traditional farming practices that lead to low productivity, and it brings about unstable food production and supply.</p> <p>One of the causes of these problems is believed to be the limited use and supply of good quality seed. Considering the significant current and future role of the agriculture sector, a seed system that provides quality seed to meet with demand of farmers is an essential enabler to continued economic and social development of Ethiopia.</p> <p>There are several organizations, research institutes, universities such as Ethiopian Seed Enterprise (ESE), who bear the backbone of seed production in Ethiopia and have the duty to produce and supply certified seeds. However, the amount of its supply is limited to only about 20% of its demand. Consequently, most of the farmers use farm-saved seed, informal seed or grains as seed.</p> <p>These seeds are mostly with low yield, low germination and low purity. This situation led the Government of Ethiopia (GOE) to aim at increase in quality seed production by (seed) farmer to satisfy (grain) farmer's demand. But 'seed farmers' have a number of problems related to the production technique, quality management and distribution, such as 1) Farmers' seed production technique is insufficient, 2) Seed quality control is not sufficient at local level, 3) Low seed price does not motivate producers and 4) Seed is not timely distributed to farmers.</p> <p>In this situation, GOE requested the Government of Japan to implement JICA technical cooperation project related to seed production with the Ministry of Agriculture and Rural Development (now the Ministry of Agriculture: MoA) as C/P organization. In response to the request, JICA has started the implementation of the Technical Cooperation Project "Quality Seed Promotion Project for Smallholder Farmers", aiming at the increase in self-pollinating crops of teff and wheat production through utilization of quality seed produced by smallholder farmers, since February 2010 for 4 years till February 2014, in the target woredas in three regions namely Amhara, Oromia and SNNP (Southern Nations, Nationalities, and People's).</p>	
<b>1-2 . Cooperation Overview</b>	

**(1) Overall Goal:**

Production of mainly self-pollinating crops, teff and wheat, is increased through utilization of quality seed in the target woredas.

**(2) Project Purpose:**

Use of quality seeds is increased in the target woredas.

**(3) Outputs:**

- Output 1: Quality seed production technologies are improved.
- Output 2: Quality seed production technology is disseminated to seed producing farmers and/or farmers who want to start seed production.
- Output 3: Quality assurance of seed is strengthened.
- Output 4: Sustainable system of quality seed production for smallholder farmers is suggested.

**(4) Inputs (at the time of Evaluation):**

< Japanese Side >

- Ø Long-Term Expert: 2 persons (51.5M/M)
- Ø Short-Term Expert: 15 persons (83.8M/M)
- Ø Provision of Equipment: Necessary equipment for the Project implementation (20.6 million Japanese Yen)
- Ø Training in Japan: 7 persons / Training in Third Country: 2 persons
- Ø Project Local Cost: 134.1 million Japanese Yen

< Ethiopian Side >

- Ø C/P Assignment: 45 persons
- Ø Project Places and Facilities:
  - Office spaces in Ministry of Agriculture, the Regional Bureau of Agriculture (BoA) in Amhara and Oromia, and DZARC.
  - Land space for building for seed inspection laboratory in Five Woreda Agricultural Offices (Ada'a, Dendi, Lume, Sodo and Yilmanadensa woredas)
  - Agricultural land for verification activities in DZARC.
- Ø Utilities Cost for Project Places: Running cost (electricity and water, etc.) for the office spaces.

**5. Evaluation Team and Period**

<b>Evaluation Members</b>	<p style="text-align: center;"><b>&lt;Japanese Side&gt;</b></p> <p>Mr. Kimiaki Jin / Team Leader</p> <p style="text-align: center;">Chief Representative, JICA Ethiopia Office</p> <p>Dr. Yoshiaki Nishikawa / Seed</p>
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	<p>Professor, Faculty of Economics, Ryukoku University</p> <p>Ms. Miki Motomura / Evaluation Planning</p> <p>Assistant Representative, Japan International Cooperation Agency (JICA) Ethiopia Office</p> <p>Dr. Kaori TANAKA / Evaluation Analysis</p> <p>Senior Consultant ICONS Inc.</p>
	<p><b>&lt;Ethiopian Side&gt;</b></p> <p>Mr. Hirago Feleke / Team Leader</p> <p>Senior Expert, Agriculture Input and Supply Directorate, Ministry of Agriculture</p> <p>Mr. Aresawum Mengesha / Member</p> <p>Officer, Crops' Team, Food and Agriculture Organization</p>

**Period of Evaluation:** August 11<sup>th</sup> to 29<sup>th</sup> 2013

**Type of Evaluation:** Terminal Evaluation

**6. Summary of Evaluation Results**

**3-1. Verification of the Project's Achievement**

**1) Achievement Level of Outputs**

**Output 1: Quality seed production technologies are improved.**

1-1. At least five (5) seed production technologies are verified.

1-2. A seed multiplication technology manual is produced.

The output 1 has been achieved. The project identified 7 kinds of seed production technologies, by the verification trials through DZARC, as well as the adaptability trials through Farmers' Training Center (FTC) (Indicator 1-1). The project has introduced these technologies through SFS. As the row planting technology is one of the critical technologies for the quality seed production, which is officially enhanced by ATA, the project has especially advocated this technology by fabricating and introducing a row sowing machine to the SFS farmers. Adding to the above 7 basic technologies, 10 kinds of production technologies have been identified by the project. All those technologies has been compiled in "Teff & Wheat Seed Multiplication Manual" (ver.3, July 2013), which is under the approval process in Ministry of Agriculture at the moment of evaluation (Indicator 1-2). Upon the approval, the manual will be translated to the local language and will be distributed to all the stakeholders.

**Output 2: Quality seed production technology is disseminated to smallholder farmers and/or farmers who want to start seed production.**

2-1. Capacity of extension staff of the target woredas as trainer or facilitator is enhanced.

2-2. More than 900 farmers are graduated the SFS.

2-3. At least 80 % of farmers participated in SFS adopts one of the seed production technology verified in Output 1.

It is expected that output 2 will be achieved by the end of the project.

The project provided the trainings for extension agents through Training of Facilitators (ToF) and Technical Training (TT). The cumulative numbers of the staff trained is 199 in ToF, and 591 in TT. SFS have been conducted based on these trainings, and the number of SFS has been increasing steadily during the project. The number of graduated farmers from SFS has also increased almost double every year based on the estimation on the third round SFS. Half of the third round SFS are organized by the initiative of Ethiopian government. Although the support from the project is limited to the provision of stationery or the material of hut installation (blue sheet etc.), there is high motivation among the woreda agricultural offices to continue SFS. The graduation rate for the past SFS is high (94% in average), and the team confirmed high satisfaction among the farmers interviewed. Thus, the team concluded that the capacity building among extension agents have been satisfactory implemented (Indicator 2-1). The cumulative number of expected SFS graduates during the project period exceeds 2000, exceeding far beyond 900 (Indicator 2-2). According to the follow up survey conducted by the project<sup>3</sup>, there is high motivation by farmers to introduce one of the technologies studied through SFS (Indicator 2-3).

On the other hand, the team noted for the high turnover rate among extension agents, and there is a concern in terms of sustainability of the capacity development, although the team could not judge the concrete impact of it toward output 2 due to the lack of information. The data to measure indicators of output 2 (such as the number of farmers who have introduced the seed production technologies, or the technology transfer methods among extension agents to tackle high turnover rate) were not available as well, thus the exact achievement level of each indicator could not be assessed.

### **Output 3: Quality assurance of seed is strengthened.**

- 3-1. More than 1 person who has attended training on seed inspection (field and laboratory) is assigned at the laboratory in each woreda.
- 3-2. At least 80% of farmers participated in SFS utilize Field Notes
- 3-3. Seed testing procedure and manual for simple seed laboratories are developed.
- 3-4. Seed testing laboratories conduct seed quality tests to products of more than 80% of farmers participated in SFS

It is difficult to achieve the output 3 by the end of the project. Activities under output 3 have been delayed considerably due to the delay of dispatch in the field of seed quality control.

By the time of evaluation, the construction of laboratories and installation of testing equipment in 5 woredas, trainings for inspectors and their allocation to each laboratory (Indicator 3-1), preparation of the procedure and manual for the seed quality testing (Indicator 3-3) have been implemented.

However utilization of field notes by SFS farmers seems to be limited (Indicator 3-2), and full scale seed testing activities at the laboratories (Indicator 3-4) have not yet been conducted. As for the field note, the current version which can be utilized for several years have been distributed to the farmers in May to June 2011. According to the project, the ratio of utilization among the farmers who participate in

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<sup>3</sup> The follow up survey was conducted in June 2013 to 2<sup>nd</sup> round SFS graduates in 18 villages out of 24. 10 farmers were selected from each village, and answered questionnaire. There were 180 answers gathered by the time the mission team starts evaluation survey.

the ongoing SFS is quite high; however the utilization of the notes after SFS graduation is not confirmed. As for the seed testing at the laboratory, it is expected to be conducted from April to June 2014, considering to the harvesting season and the annual work schedule of extension agents. Thus output 3 cannot be achieved during the project period.

**Output 4: Sustainable system of quality seed production for smallholder farmers is suggested.**

- 4-1. Outcomes of the outputs 1, 2 and 3 are compiled and make certain contribution for implementation of the seed strategy and/or improvement of seed system.
- 4-2. A report compiled good practices and good outcomes of the Project, etc. is prepared.

Output 4 cannot be achieved by the end of the project. To suggest an overall system of quality seed production in woreda level to be sustainable, it is important to study a seed distribution system as well as a cost and benefit analysis in woreda level. This study is currently under implementation (activity 4-2, and 4-3). Based on this study, as well as the result acquired by the seed quality testing for 3<sup>rd</sup> round SFS graduates, the project will compile final suggestions for a potential approach to be introduced in Ethiopia (Indicator 4-1). Thus, if the activities under output 3 are achieved, the output 4 will be achieved.

As for the report compiled good practices and outcomes of the project, the project is correcting the materials to be compiled in the report, and it will be published before the end of the project (Indicator 4-2).

## 2) Achievement Level of Project Purpose

**Project Purpose: Use of quality seeds is increased in the target woredas.**

1. At least 40 tons of quality seed multiplied in a cropping season through the project approach is produced in the target woredas.
2. At least 75% of quality seed multiplied in a cropping season through the project approach in the target woredas is used or sold as seed.

The project purpose cannot be achieved by the end of the project.

If the rate of graduates exceeds 90% for the third rounds SFS, it is expected that 2044 SFS farmers is to be graduated. If all these farmers continue producing seeds for 0.1ha with the yield of 1.8 ton/ha, which is the average yield of the second round SFS farmers for teff production, the total annual production will be 367.9 tons. Assuming equal number of SFS farmers among each woreda, this makes 73.6 ton per woreda, thus it exceeds 40 tons. However, it is necessary to wait for the result by the output 3 to confirm if the produced seeds are quality seeds, thus it cannot be judged if it will be achieved during the project period (Indicator 1).

Although the follow up survey mentioned above suggests the most of the production by SFS farmers with allocated lots have been utilized or sold as seeds not as grains, the team noted other examples of the farmers utilizing their production as grains. It needs data to judge indicator 2, and it is expected that the project makes monitoring activities in this regard

## 3-2. Summary of Evaluation

### **(1) Relevance**

Relevance of the project is assessed as high. There is no change in conformity with the agricultural development policy of Ethiopian government as well as with the Japanese ODA policy toward Ethiopia. The relevancy of the project approach to increase the production and circulation of the quality seed in local level continues to be high. The planning committees in each woreda and the orientation to the farmers in each village have been organized during the process of target areas and groups' selection. Considering quite high graduation rate for first and second SFS rounds (94%), it can be assessed that the high relevancy is kept in target areas and groups' selection as well.

### **(2) Effectiveness (Inhibiting and Promoting Factors)**

Effectiveness of the project is assessed as relatively low. The project cannot be completed by the end of the project due to the delay in activities under output 3.

The inhibiting factors for the project purpose and outputs are: repeated revisions of PDM, which have been followed by the changes of project activities and outputs; lack of a unified view on seed system among relevant organizations in Ethiopia; repeated changes of Japanese experts with rather short terms (including the chief advisor); the delay of the expert dispatch in the field of seed quality control; less purity of C1 seeds procured for first round SFS; outbreak of stripe rust in Africa on wheat production in 2011; high turnover rate among extension agents; lack of involvement by Ethiopian counterparts especially in federal level etc.

The promoting factors are: contributions to the activities under output 3 and 4 by the short term experts or local staff assigned after the mid-term review; high recognition and reputation for SFS activities or approaches from within and without the project; high motivation to participate and contributions by SFS farmers; the timing of policy enhancement by the Ethiopian government to introduce the row seeding technology etc.

### **(3) Efficiency**

Efficiency of the project is assessed as relatively low.

As for the input by Japanese side, training contents and approaches and procurement of equipment have been properly and efficiently implemented; on the other hand, modality of expert dispatches as mentioned above especially during the first half of the project term was noted as one of the major causes in delaying the project activities.

As for the input by Ethiopian side, there were lack of involvement of counterparts in project management, lack of staff assigned in seed quality control activities, high turnover rate, and lack of the office space provided for the project team.

### **(4) Impact**

Impact of the project is medium. Even the achievement level of the overall goal cannot be measured at the moment of evaluation; there are generally very high recognition and appreciation by the

various stakeholders in seed sector, especially as to the SFS approach towards the seed production technology improvement.

As for the impact inside of the project purpose, the following impacts have been recognized: the technologies on seed production increase have been delivered soundly with the high cooperation by the farmers, the project has strengthened the linkage between development agents and SFS farmers; it has facilitated farmer-to-farmer seed exchanges; there is high motivation of the stakeholders to continue government run SFSs; it has contributed the government policy to disseminate row-sowing etc.

As for the impact outside of the project purpose, the following impacts have been recognized: some of the SFS graduates organized themselves as a primary seed cooperative for seed production; some of SFS members are contract farmers of ESE, thus indirectly improving the seed quality for basic seed or C1 productions; the human capital building approach in SFS produced huge impact in smallholder farmers' daily farm operation, as well as producing the group dynamics among them etc.

## **5) Sustainability**

Sustainability of the Project is assessed as medium. The project has demonstrated an effective approach to improve availability of quality seeds at local level. However, due to the delay of some of project activities, the data available at the moment is not enough to judge sustainability of the project in total. Some of the points recognized by the team in terms of sustainability are described below:

In terms of policy aspects, as mentioned in the clause of the Relevance, the project has high relevancy and the project intervention is supported with government policy through the new seed law proclamation. There is possibility that the project contributes to materializing the informal seed distribution or quality declared seed system by sharing its experience.

In terms of institutional and financial aspects, there has been general dependency of the project management toward Japanese experts' team, and lack of involvement of counterparts in federal level that leaves concerns in the level of technical transfer in terms of project management. On the other hand, half of the third round SFSs have been organized by the initiative of Ethiopian government and there is high willingness to continue, despite the difficulty in the arrangement of materials necessary for the trainings. There is "readiness" of the government to institutionalize the project approach into the existing government system so as to formalize various requests by farmers' groups. The possibility to have financial support by other donors has been also considered. As to the woreda laboratories, its functions and status need to be institutionalized under the regional bureau of agricultures.

In terms of technical aspect, to see the introduced quality seed production technologies to be functional and sustainable, it is necessary to recommend a level of quality standard that can be satisfactory for the local demands, and agree to it with the relevant stakeholders. As to the technical sustainability in human resources, there is a concern in sustainability of the skills and knowledge transferred to the woreda staff in target areas, due to the high turn-over rate. At the moment, there is a budget allocation planned by the government to tackle with the issue improving working conditions of

extension agents.

### **3-3. Conclusion**

The evaluation team confirmed that the project has produced a great change by introducing different ways for farmers to counteract seed shortage and confirmed there is high relevancy and impact. On the other hand, there is a delay in seed quality testing activities, so that effectiveness and efficiency of the project are assessed medium. As to sustainability, there are concerns in terms institutional and technical aspects.

At the moment, the team confirmed it is necessary to put one of the focus on the seed quality inspection activities and based on that the project needs to suggest a functional local level quality seed production and circulation system. As the testing activities at the woreda laboratories can be made only from April to June 2014 when the extension agents finish their mandates to fully involve in other programs, thus the team concludes it is necessity for the project to extend for another half year after the project period (until August 20<sup>th</sup>, 2014).

### **3-4. Recommendations**

Based on the conclusion above, the evaluation team recommended the following actions to be taken in the remaining cooperation period.

#### **1) Continuation of the Project Components (especially SFS approach)**

It is necessary to study and suggest how to incorporate the SFS approach into the existing extension system of MoA. The evaluation team identified three possibilities to be considered as below:

- iv) FTC has training programs for farmers, and the SFS approach may be incorporated as a program inside FTC.
- v) Ministry of Agriculture has a plan to implement trainings for all the farmers in the country in the coming years, utilizing ATVET and FTC, and the SFS approach may be incorporated as one of the training approaches.
- vi) There are the existing practices of the SFS approach inside of the project by the initiatives of each regional and woreda authorities, as the government run SFSs. This initiative in conducting government-run SFSs is very encouraging, and it should be continued and expanded while making utmost efforts in improving the quality of the SFSs (in the aspect of human resources, and financially and technically).

#### **2) Monitoring of the SFS graduates**

It is necessary to study a mechanism of monitoring and follow-up the SFS graduates so as to confirm sustainability of the introduced technologies and to expand its technical contributions.

#### **3) Ensuring the Seed Assurance System**



It is necessary to study and recommend an appropriate quality standard and testing procedure at woreda level for the seeds produced by the SFS farmers at woreda level, so as to function a local seed circulation system for farmers.

#### **4) Institutionalizing the QSPP experience and knowledge**

- Ø It is necessary that the experience of QSPP is integrated into the process of strengthening the informal seed distribution system. For this end, it is advisable to continue dialogues with the organizations and initiatives (or program stakeholders) such as ATA and ISSD, which are the major stakeholders regarding the seed system development in Ethiopia.
- Ø It is advisable to study on how to contribute materializing the quality declared seed (QDS) which is defined in the new seed proclamation. It is necessary to study the possibility of distribution of the seeds as QDS, which are produced based on the approach developed by QSPP, and contribute materializing as a part of the QDS concept.

#### **3-4-1. Recommended Actions to be taken by the Japanese Side**

- Ø It is necessary that Japanese side supports the inspectors in woreda laboratories for them to implement testing for the seed produced by the SFS farmers, so as to complete the activities under the output 3 and Output 4 that are based on other Outputs.
- Ø It is necessary that Japanese side to support technically the trainings of newly assigned inspectors in the woreda laboratories, which will be conducted by Ethiopian side.

#### **3-4-2. Recommended Actions to be taken by the Ethiopian Side**

- Ø It is necessary that Ethiopian side to assign necessary staff in woreda laboratories in timely manner so as to let the staff practice necessary assignments. If there will be a replacement of the staff, knowledge transfer or sharing have to be done properly.
- Ø It is necessary that Ethiopian side to develop a linkage between regional laboratories and woreda laboratories, and thus to authorize woreda laboratories to issue certificate for seed qualities.
- Ø It is necessary that the data and experience gained by the project activities are integrated into the process of materializing and institutionalizing a system of seed testing standard and procedure.

#### **3-5. Lessons Learnt**

- 3) It is desirable that the availabilities of experts in the core fields of the project are to be confirmed before the project starts.
- 4) It is desirable to determine the most appropriate modality of expert dispatch assessing whether it is preferable to dispatch short-term experts in terms of efficiency, or long-term experts to ensure consistency of approaches in project activities, and to monitor project performances.

End.