

Country Name	<b>The Project of Enhancing Development and Dissemination of Agricultural Innovations through Farmers Research Groups (FRGs)</b>
Federal Democratic Republic of Ethiopia	

**I. Project Outline**

Background	<p>While agriculture is a highly important sector in Ethiopia, its productivity was low due to high dependency on traditional farming techniques, and the low productivity has resulted in unstable food supply to the country. In the late 1990s, the Ethiopian Institute of Agricultural Research (EIAR) introduced the farmer research group (FRG) approach to develop appropriate technologies for farmers through their participation. However, the FRG activities at initial stage were limited to an introduction of new varieties of crops through demonstration farms giving insufficient response to farmers' real needs in rural socio-economic constraints. Against this backdrop, a technical cooperation project on the "Strengthening Technology Development, Verification, Transfer and Adoption through Farmers Research Group" (2004-2009) was implemented with the assistance of the government of Japan for improving and institutionalizing the FRG approach in Ethiopia. Through the project, the FRG Guidelines were formulated as action guidelines for researchers, and farmers' involvement in agricultural technology innovation was realized in two agricultural research centers piloted by the project. Based on this experience, it was highly expected to scale-up the results of the project by extending the FRG approach nationwide.</p>												
Objectives of the Project	<p>Through enhancing the training system for the FRG approach, developing appropriate technologies through the FRG approach, and developing capacity of researchers, the project aimed at establishing the FRG approach in the national agricultural research system, thereby contributing to improving the livelihoods of farmers through application of the developed appropriate technologies.</p> <ol style="list-style-type: none"> <li>Overall Goal: Livelihood of the farmers is improved by application of appropriate technologies developed or improved through FRG based research activities.</li> <li>Project Purpose: FRG approach is established in the national agricultural research system (NARS).</li> </ol>												
Activities of the Project	<ol style="list-style-type: none"> <li>Project Site: Corresponding areas to respective research topics (Addis Ababa, Melkassa, Adami Tulu, Bahir Dar, Mekelle, Hawassa, Werer)</li> <li>Main Activities: <ol style="list-style-type: none"> <li>Enhancement of the training system to scale up the FRG approach in NARS,</li> <li>Development/improvement of appropriate technologies in the priority research areas through FRG approach,</li> <li>Development of capacity of researchers to prepare technical information materials for extension.</li> </ol> </li> <li>Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Ethiopian Side</td> </tr> <tr> <td>1) Experts: 19 persons</td> <td>1) Staff Allocated: 18 persons</td> </tr> <tr> <td>2) Trainees received in Japan: 44 persons</td> <td>2) Land and Facilities: Project office</td> </tr> <tr> <td>3) Trainees received in the third country training: 45 persons (Tanzania and Uganda)</td> <td>3) Local Cost: Cost for utility of office (electricity, water and telephone) and operational cost</td> </tr> <tr> <td>4) Equipment: Vehicles, PCs, copy machines, projectors, GPS devices, etc.</td> <td></td> </tr> </table> </li> </ol>			Japanese Side	Ethiopian Side	1) Experts: 19 persons	1) Staff Allocated: 18 persons	2) Trainees received in Japan: 44 persons	2) Land and Facilities: Project office	3) Trainees received in the third country training: 45 persons (Tanzania and Uganda)	3) Local Cost: Cost for utility of office (electricity, water and telephone) and operational cost	4) Equipment: Vehicles, PCs, copy machines, projectors, GPS devices, etc.	
Japanese Side	Ethiopian Side												
1) Experts: 19 persons	1) Staff Allocated: 18 persons												
2) Trainees received in Japan: 44 persons	2) Land and Facilities: Project office												
3) Trainees received in the third country training: 45 persons (Tanzania and Uganda)	3) Local Cost: Cost for utility of office (electricity, water and telephone) and operational cost												
4) Equipment: Vehicles, PCs, copy machines, projectors, GPS devices, etc.													
Project Period	March 2010 - March 2015	Project Cost	(ex-ante) 560 million yen, (actual) 602 million yen										
Implementing Agency	Ethiopian Institute of Agricultural Research (EIAR), Regional Agricultural Research Institute (RARI)												
Cooperation Agency in Japan	Japan International Research Center for Agricultural Sciences (JIRCAS), Nagoya University, Kyoto University, the University of Tokyo												

**II. Result of the Evaluation**

## &lt;Constraints on Evaluation&gt;

- Farmers were not directly surveyed in this ex-post evaluation due to time and budget constraints. Information about the farmers were obtained mainly from EIAR and the research centers.

**I Relevance**

## &lt;Consistency with the Development Policy of Ethiopia at the Time of Ex-Ante Evaluation and Project Completion&gt;

The project was consistent with the development policies of Ethiopia at the time of ex-ante evaluation and project completion. The Ethiopian 5-year national development plan of the "Growth and Transformation Program (GTP I)" (2010/11-2014/15) placed agriculture as one of the primary economic sectors. In its agricultural sector development program, smallholders' agricultural development, pastoral development and private sector agricultural development were raised as three major areas stressing the importance of linkage between research and farmers as one of the implementing strategies.

## &lt;Consistency with the Development Needs of Ethiopia at the Time of Ex-Ante Evaluation and Project Completion&gt;

The project was consistent with the needs of Ethiopia at the time of ex-ante evaluation and project completion. While the agricultural sector public services were prepared holding 60 thousand development agents and 10 thousand farmers training centers for public extension services, few researches were conducted on cultivation management and soil conservation focusing on the localities. Since the linkage between research and extension services was weak, technical information available to the development agents and farmers was limited in quality and quantity.

## &lt;Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation&gt;

The project was consistent with the Japan's ODA policy for Ethiopia at the time of ex-ante evaluation. In the "Country Assistance Program for the Federal Democratic Republic of Ethiopia" (June 2008), one of the five priority areas was the agricultural/rural development focusing on the research and development of agricultural technology, dissemination of improved technologies and support for their application, improvement of irrigation facilities (including support for water harvesting), soil conservation and improvement.

<Evaluation Result>

In light of the above, the relevance of the project is high.

## 2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. The FRG approach was integrated in the national 5-year agricultural development program of the "Agriculture Growth Program II (AGP-II)" (2015/16-2019/20) (Indicator 1). The FRG Guidelines for different regions/ research areas were developed and disseminated to the 6 focal research centers and universities selected by the project (Indicator 2), and 25 (69%) of the 36 NARS member institutions conducted research activities applying the FRG approach (Indicator 3).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have continued. AGP-II incorporated the FRG approach has been in its implementation process until 2020 (Indicator 1). The FRG guidelines developed and disseminated by the project have been available on the websites of EIAR and JICA, and the Pastoralist and Agro-pastoralist Research Group (PAPRG) Guidelines based on the FRG Guidelines prepared by the project was developed and disseminated widely to other regions by the Pastoralist Community Development Project III (PCDP-III) assisted by the World Bank (Indicator 2). Most of the NARS member institutions interviewed in this ex-post evaluation, the 6 focal research centers and universities as well as regional research institutions have been continuously conducting research activities applying the FRG approach (Indicator 3). It is because NARS signed contracts with its members to apply participatory approaches including the FRG approach in their research activities.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved at the time of ex-post evaluation. While no quantitative data available, according to the researchers of 3 research centers interviewed, the significant percentage of farmers keep applying the techniques developed by the project. Besides, productivity of the target crops selected through the FRG approach in one of the target areas has shown higher productivity than the national average.

<Other Impacts at the time of Ex-post Evaluation>

Applying the "Gender Sensitization Session Guidelines" developed by the project, EIAR has mainstreamed gender considerations in its research projects. For example, EIAR has been encouraging women to participate in FRGs resulting the female participation rate in a group to be 40%. This has made female farmers voice their opinions in the process of research topic selection. Through this, according to the interview with EIAR researchers, female farmers have improved their confidence and presence in FRG activities. No negative impact on natural, social and economic environment has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

### Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
Project Purpose: FRG approach is established in the national agricultural research system (NARS).	Indicator 1 FRG approach is integrated in the Ethiopian agricultural research strategy and federal projects.	Status of the Achievement: Achieved (Continued) (Project Completion) The FRG approach was integrated in the national 5-year agricultural development plan of "Agriculture Growth Program-II (AGP-II)" (2015/16-2019/20) as one of the components of its implementation strategy. (Ex-post Evaluation) The strategy has not been changed and AGP-II is in its implementation process.
	Indicator 2 FRG Guidelines for different regions/ research areas are developed and disseminated to respective research institutions.	Status of the Achievement: Achieved (Continued) (Project Completion) Three FRG guidelines were developed to be used in different regions/ research areas and disseminated to the 6 focal research centers and universities selected by the project. (Ex-post Evaluation) The FRG Guidelines developed by the project are available on the website of the project and EIAR. Besides, EIAR and the Ministry of Federal Affairs (MoFA) has been working with the Pastoralist Community Development Project III (PCDP-III) assisted by the World Bank and prepared the Pastoralist and Agro-pastoralist Research Group (PAPRG) Guidelines based on the FRG Guidelines prepared by the project. PAPRG Guidelines have been disseminated to research institutions and universities in other regions.
	Indicator 3 More than 70 % of the NARS member institutions conduct research activities that apply FRG approach.	Status of the Achievement: Achieved (Continued) (Project Completion) Out of 36 NARS member institutions, 25 institutions (69%) were conducting research activities applying the FRG approach. (Ex-post Evaluation) Most of the NARS member institutions interviewed in this ex-post evaluation have been continuously conducting research activities applying the FRG approach because NARS signed contracts with its members to apply the participatory approaches including the FRG approach.

<p>Overall Goal: Livelihood of the farmers is improved by application of appropriate technologies developed or improved through FRG based research activities.</p>	<p>Indicator More than 80% of FRG farmers involved in FRG based researches are benefitted in either term of stability, productivity, and/or profitability of their farming activities.</p>	<p>Status of the Achievement: Partially achieved (Ex-post Evaluation) While no quantitative data available, according to the interviews with researchers of the 3 target research centers, the significant percentage of farmers keep applying the techniques developed by the project. Besides, while the data are available only from Melkassa area, productivity of the target crops selected through the FRG approach has shown higher productivity than the national average (Table.1). Table 1 Productivity of target crops by FRG farmers (Melkassa) (unit: qt/ha)</p> <table border="1" data-bbox="774 293 1517 495"> <thead> <tr> <th>Crop</th> <th>Year</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>National Average (2018)</th> </tr> </thead> <tbody> <tr> <td>teff</td> <td></td> <td>24</td> <td>26</td> <td>26</td> <td>27</td> <td>18</td> </tr> <tr> <td>maize</td> <td></td> <td>35</td> <td>38</td> <td>40</td> <td>42</td> <td>40</td> </tr> <tr> <td>haricot beans</td> <td></td> <td>22</td> <td>n/a*</td> <td>19</td> <td>20</td> <td>17</td> </tr> <tr> <td>onion</td> <td></td> <td>176</td> <td>n/a</td> <td>178</td> <td>180</td> <td>101</td> </tr> </tbody> </table> <p>* n/a: not available</p>	Crop	Year	2015	2016	2017	2018	National Average (2018)	teff		24	26	26	27	18	maize		35	38	40	42	40	haricot beans		22	n/a*	19	20	17	onion		176	n/a	178	180	101
Crop	Year	2015	2016	2017	2018	National Average (2018)																															
teff		24	26	26	27	18																															
maize		35	38	40	42	40																															
haricot beans		22	n/a*	19	20	17																															
onion		176	n/a	178	180	101																															

Source: Project Completion Report (2015) and questionnaires to and interviews with EIAR, 3 target research centers and 5 NARS member institutions

### 3 Efficiency

Although the project period was within the plan (the ratio against the plan: 100%), the project cost slightly exceeded the plan (the ratio against the plan: 108%). The outputs were produced as planned. Therefore, efficiency of the project was fair.

### 4 Sustainability

#### <Policy Aspect>

The national 5-year agricultural development plan of AGTP-II has been in its implementation process until 2020 targeting the strengthening of agricultural system through promoting farmers' participation at various stages including agricultural research. Under AGTP-II, the Ministry of Agriculture issued the "Agricultural Extension Strategy of Ethiopia (AESE)" (2017-2020) and highlighted the FRG approach as one of its intervention areas for agricultural extension promotion. Therefore, the project effects are expected to be sustainable from the perspective of policy aspect.

#### <Institutional Aspect>

The number of agricultural researchers in the country has shown an increasing trend from 1,461 in 2009 to 3,045 in 2017, and according to EIAR, the number of researchers in EIAR has been sufficient.

#### <Technical Aspect>

Out of 18 counterparts in EIAR, 11 of them (61%) have been still in their positions since the project completion. Besides, the 7 of them who have left EIAR have joined to universities or international organizations such as the International Food Policy Research Institute (IFPRI) working as researchers in the country using what they learned in the project. The researchers in EIAR and NARS member institutions trained by the project have maintained their technical level by using knowledge and skills they learned in the project in their research activities. The universities involved in the project have incorporated the FRG approach to their curriculums and community outreach programs utilizing the guidelines prepared by the project. Both of the national and regional research institutions involved in the project have been providing training to their junior researchers introducing the FRG approach.

#### <Financial Aspect>

The total amount of budget for EIAR increased from 295 million Ethiopian Birr (ETB) in 2009 to 495 million ETB in 2019. The budgets for NARS member institutions have also been on an increasing trend for 5 years. According to EIAR and research centers interviewed, there has been no specific budget item for the FRG activities because the FRG approach has been mainstreamed in research activities and not implemented as a separate activity. No negative response to the questions about sufficiency of the budget was shown in the questionnaire and interviews.

#### <Evaluation Result>

In light of the above, the sustainability of the project effect is high.

### 5 Summary of the Evaluation

The Project Purpose was achieved by integrating the FRG approach in the national agricultural development strategy, and by making NARS member institutions to conduct research activities applying the FRG approach. As for efficiency, the project cost slightly exceeded the plan. Considering all of the above points, this project is evaluated to be highly satisfactory.

## III. Recommendations & Lessons Learned

#### Recommendations for Implementing Agency:

- Although it was evaluated in this ex-post evaluation that the FRG farmers keep applying the techniques developed through the FRG approach and getting benefits from them, the judgement of the evaluation was based on the perception of interviewees and limited data available. Therefore, in order to specifically verify the contribution of the FRG approach to improving the livelihoods of farmers and to further improve the FRG approach, it is recommended EIAR in collaboration with the research centers and institutions to make and implement a tracking survey system of the farmers involved in the FRG activities.

#### Lessons Learned for JICA:

- After the completion of the project, in the PCDP-III project assisted by the World Bank, the implementing agency has developed the Participatory Pastoral Research Guidelines (PAPRG) utilizing the FRG Guidelines prepared by the project and disseminated them to other regions. In this manner, it is important to enhance effects of a project by well preparing and planning the collaboration and coordination with other projects or development partners at the initial stage of a project.



FRG Guidelines issued by the project are available at libraries of research institutions and universities



Cultivation of onion variety improved through the FRG approach at Wake-tiyo kebele in Melkassa area