

# Gender Mainstreaming in Ethiopian Agricultural Research System: Approaches, Progresses and Prospects

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## Abstract

This paper presents efforts, approaches and progresses of gender mainstreaming in Ethiopian Agricultural Research System from 2005 to 2015. The study used information sources, such as institutional assessment, annual performance and research progress reports, and field-level case studies. Efforts of gender mainstreaming in Ethiopian agricultural research system have been underway since mid-1990s to encourage gender-disaggregated data collection and analysis. However, formal gender mainstreaming efforts were commenced in 1999 while institutionalizing gender issues in the research system. Since 1999, various gender mainstreaming approaches, such as, establishment of a gender mainstreaming unit at the headquarters and gender focal units at research centers, sorting out of gender mainstreaming priorities, organizational assessment, development and implementation of a national gender mainstreaming strategy and action plan, implementation of capacity building for gender analysis, establishment of international research links, and enforcement of women affirmative actions at workplace, had been applied. Due to the efforts made and approaches used so far, researchers' awareness and understanding towards the relevance of gender issue in the research system had improved. Hence, the developments of technologies that address different gender categories had been increasingly availability to the rural women. The generation of these technologies consecutively contributed for the improvement of the benefit of women from research outputs from 5% in 2005 to 31% in 2015. Despite the progresses, the integration of gender in the research stages is limited in addressing differentiated needs of gender categories due to inadequate availability of gender disaggregated data by the research commodity. Hence, as part of the gender mainstreaming efforts, gender disaggregated information should be generated and take while research planning and implementation is undertaken.

**Keywords:** Gender mainstreaming approaches, agricultural research

## 1. Introduction

Formal agricultural research in Ethiopia was commenced when the Institute of Agricultural Research (IAR) was established in 1966. IAR was established with a mission to formulate national agricultural research guidelines, coordinate the National Agricultural Research System, and undertake research in its centers and sub-centers located in various agro-ecological zones of Ethiopia.

Agricultural research underwent significant reform in the 1990s when the new government committed itself to put in place a decentralized political system in the country. More precisely, in 1993, some IAR centers were decentralized to create independent research centers run by the respective regional governments, and became regional agricultural research centers (RARCs), generally under their respective regional bureaus of agriculture. At present, eight of the nine regional states have established their respective regional agricultural research institutes (RARIs), which have agricultural research as their central mandate and coordinate research activities of agricultural research centers within their respective regions.

Proclamation number 79/1997, which established the Ethiopian Agricultural Research Organization (EARO), later renamed as the Ethiopian Institute of Agricultural Research on 25th of October 2005, states that EARO's objectives are to: generate, develop and adapt agricultural technologies that focus on the needs of the overall agricultural development and its beneficiaries; coordinate research activities of agricultural research centers or higher learning institutes and other related establishments which undertake agricultural research on contractual basis; build up research capacities and establish a system that will make agricultural research efficient, effective and based on development needs; and popularize agricultural research results.

At present, the Ethiopian National Agricultural Research System (NARS) is made up of three types of institutions: the Ethiopian Institute of Agricultural Research (EIAR) (consisting of 17 federal research centers), regional agricultural research centers/institutions (RARCs/RARIs), and agricultural institutions of higher education. Since its establishment, NARS has been striving towards generating and transferring economically viable, socially acceptable and environment-friendly agricultural technologies that boost production and productivity of agricultural sector. So far, encouraging results have been achieved in agricultural research in crop, livestock, soil and water, forestry and agricultural mechanization.

Along with the supply and transfer of research outputs, incorporation of gender components in agricultural research has been considered to generate and transfer client- and need-based agricultural technologies. As per DFID (2009) explanation, gender mainstreaming is important because it incorporates the fundamental principle that women and men experience different conditions and opportunities in life, have

different interests and needs, and are affected in different ways by social, political and economic processes, as a direct result of their gender. In research therefore, these are fundamental issues that need to be addressed as an integral principle of the research framework to provide specific contextual information and data that can facilitate credible research results, with relevant policy implications. As stated by United Nations (2002), gender mainstreaming in research seeks to ensure that gender issues are taken into consideration in planning the overall research agenda as well as in formulating specific projects. The research agenda is important because choices made at this stage shape the opportunities available at the implementation stage.

Responding to the different needs of technology users, that include both women and men, gender-related activities have been undertaken in the research system since the mid-1990s with the overall objective of integrating gender perspective in agricultural research and development endeavors for improving livelihood of farming and pastoral communities.

However, formal gender mainstreaming was commenced during the first sensitization workshop held in 1999 at the Ethiopian Agricultural Research Organization with the support of Canadian International Development Agency (CIDA). The aim of the workshop was to start a firm foundation for the introduction of gender concerns and institutionalization of gender perspectives in the Ethiopian Agricultural Research System for making research activities more gender-sensitive and responsive. The major activities undertaken during the workshop were development of gender mainstreaming action plan, identification of priority areas, and proposal of means of implementation for effective integration gender in the research planning.

Since the inception of the workshop, the gender factor started to be considered as an important variable to achieve the expected outcomes of the research efforts towards reducing poverty, in the general, and that of improving food security, nutrition and sustainable resource management and use, in particular. Therefore, this paper presents the experiences of gender mainstreaming in the research system, its approach and future prospects.

## 2. Methodology

**Data sources:** Unpublished report documents of the Gender Research Coordination Office and compiled reports of the Planning, Monitoring and Evaluation Coordination Office at EIAR, and other related documents were assembled for this synthesis. From the available information, sex-disaggregated data was obtained to identify the total number of women farmers who were participating and benefiting from research outputs and how the Institute has been running the gender dimension in terms of overall mandates and routine work practices. Case studies compiled from field-level assessment through direct consultation of women and men farmers were also applied. Farmers were selected from nearby woredas of Holeta, Debre Zeit and Melkassa Agricultural Research Centers by considering their rich and long years of experience in technology generation, adaptation, promotion and transfer.

**Data analysis and presentation:** The findings of the analysis and case studies are presented using qualitative explanations and figures by using tables and charts. Gender mainstreaming efforts, approaches followed and progresses made are discussed using narratives. Finally, gender mainstreaming prospective was discussed by taking gender integration in the research planning and routine workplace activities.

## 3. Efforts and Approaches to Gender Mainstreaming

### 1) Establishment of Gender Mainstreaming Unit (GMU)

In trying to mainstream gender in the national research system, the Institute established a gender focal unit under the Research Extension and Farmer Linkage Department (REFLD) at headquarter level in 2003. The rationale of linking the focal point to REFLD was due to the fact that gender issue encompasses all aspects of extension activities, such as need assessment and behavior identification, and farmer-led research and technology transfer activities. When the unit was established, it had three main purposes: to coordinate gender mainstreaming activities in the national research system, to create gender awareness among agricultural researchers, and to develop a strategy to integrate gender in agricultural research activities.

By reconsidering a wider scope of gender mainstreaming to fulfill institutional and national expectations, the unit was set independent in October 2006 by being directly accountable to the Director General of the Institute. After as the Institute went through new reform and redesigning of the research system recently, the gender unit obtained added support for facilitation of the mainstreaming process in the system. Thus, the unit was given the place of Gender Research Coordination Office and was officially mandated to coordinate and facilitate gender-related activities in the research system as of December 2009.

The establishment the unit was one of the key steps that initiated gender mainstreaming activities, such as mobilization of institutional resources, designing of a sustainable gender mainstreaming strategy, and development of a gender mainstreaming action plan. The coordination unit positioned to show the relevance of gender integration such that the research process becomes responsive to the needs of different gender categories. This assisted the unit to voice and advocate in various forums and meetings, and draw the attention of all concerned bodies in the research system.

The coordination unit developed the aim of the unit, identified main tasks and priorities for gender mainstreaming, with identification of short-, medium-, and long-term results. The priority areas were concentrated on mainstreaming gender aspect in agricultural system through improving the capacity of researchers as well as research outputs to address the gender gaps (Table 1).

Table 1: Priorities in gender mainstreaming

<b>TITLE :</b>	<b>Mainstreaming gender aspect in agricultural research</b>		
<b>OBJECTIVE</b>	<b>Improve the capacity of researchers as well as research outputs to address gender gaps</b>		
<b>TASKS</b>	<b>RESULTS</b>		
	<b>SHORT TERM</b>	<b>MEDIUM TERM</b>	<b>LONG TERM</b>
Training on gender analysis/capacity building	Awareness raised/created Change in attitude and behavior of staff	Increased number of gender expertise	Better approach designed to address gender needs
Conducting research	Better understanding of the system, and gender roles in social, economic and natural resource management identified	Gender needs and gaps identified , and increased number of gender responsive research proposals	Increased number of problem solving research outputs, and household food production increased
Sharing major findings	Gender disaggregated information produced	Direct beneficiaries be involved in planning research activities	Technology uptake improved

Source: Own document, 2012

## 2) *Forming national gender mainstreaming network*

Towards forming a national gender mainstreaming team, the Gender Mainstreaming Unit together with federal research centers and regional research institutes identified and assigned gender focal persons that are considered as change agents to each core research process, federal research centers, and regional research institutes. The main purpose of assigning focal persons to the system was related to advocating the need of gender consideration in the research system.

The national gender mainstreaming team (which has 21 members) is, therefore, composed of focal persons who are assigned in the federal research centers (14 members in total) and other members representing regional research institutes (7 members) with a responsibility of facilitating gender mainstreaming in technology generation and pre-extension technology delivery system. The Gender Mainstreaming Unit at the national level supervises and supports the team to integrate gender issues in the research planning, implementation, and monitoring and evaluation process.

As part of forming a national gender mainstreaming team, a sensitization and joint planning workshop was held in September, 2009, at EIAR. The joint planning workshop was successfully conducted with the full participation of thirty-five participants (gender focal person) drawn from federal research centers, regional research institutes and the research processes of the federal research institute (Table 2).

This sensitization and joint planning workshop not only abetted to create awareness on the relevance of gender aspect in the research planning but also allowed to find major gaps that should be addressed in gender mainstreaming strategies and action plans. The identified gaps in the workshop consisted of limited knowledge and skill to facilitate gender mainstreaming, low-level of knowledge and skill on how to engender the research system, inadequate knowledge and skill required in participatory research approach to conduct research planning, implementation and final result appraisal.

Table 2: Number of participants in sensitization and joint planning workshop

No	Research institute	# of participants	
		Female	Male
1	Gambella Agricultural Research Institute (GARI)	-	2
2	Afar Pastoral Agro-Pastoral Research Institute (APAPRI)	1	1
3	Somali Pastoral and Agro-Pastoral Research Institute (SoRPARI)	1	3
4	Southern Agricultural Research Institute (SARI)	1	4
5	Tigray Agricultural Research Institute (TARI)	1	7
6	Amhara Regional Agricultural Research Institute (ARARI)	3	6
7	Oromia Agricultural Research Institute (OARI)	1	10
8	Ethiopian Institute of Agricultural Research (EIAR)	1	4
<b>Total</b>		<b>9</b>	<b>37</b>

Source: Own data, 2012

### 3) *Conducting organizational assessment*

The unit conducted a preliminary survey/rapid assessment in 2005. The objectives of the assessment were to: assess the technical, behavioral and cultural dimensions of EIAR in mainstreaming gender; identify the problems that hampered the implementation of gender-responsive research in the organization; and suggest appropriate intervention options to overcome the constraints and facilitate the process of institutionalizing gender. The assessment was conducted in some of the federal research centers and at the headquarter level that are assumed to be representative in terms of research discipline, experience and decision-making.

The findings of the assessment revealed the following organizational shortcomings: lack of understanding about gender, perceiving gender as non-technical issue; uncertainty and reservations on the relevance of gender to agricultural research; limited technical capacity of how to collect gender-disaggregated information; and limited financial support to conduct gender related activities. The study also identified that, because gender focal unit was fully equipped with all required facilities and human resources, the unit was unable to fully address its responsibilities in ensuring and advancing gender equality and equity in technology generation and transfer activities, promotion of staff balance in the workplace, addressing violence and harassment, and in establishing gender-sensitive working environments.

### 4) *Capacity building for gender mainstreaming*

As part of the gender mainstreaming approach, a Training of Trainer (ToT) was organized by participating the focal persons of the federal centers, and regional research institutions and focal points of federal core research processes. The objective of the ToT training was to organize gender training at their respective centers and institutes that enhance the awareness and understanding of the research staff on gender issues in agricultural research. Training events were organized to provide information and tools that enable researchers of different institutes to understand concepts of gender and apply knowledge in their respective activities. By the campaign to advocate the need of gender consideration in the research system, 1487 staff members were trained at different institutes and different research processes (Table 3). Considering gaps, the training was given at three levels: (1) gender awareness and its relevance in agricultural research; (2) gender mainstreaming in agricultural research using simulation exercises; and (3) gender analysis training using specific commodity on-the-spot analysis participating farmers.

Table 3: Gender training conducted in different institutes

No		Number of trainees		Total
		Female	Male	
<b>Regional Institutes</b>				
1	Afar	15	35	50
2	Amhara	187	449	636
3	Gambella	12	45	57
4	SNNP	17	102	119
5	Somali	8	79	87
6	Tigray	15	82	97
7	Oromia	3	32	35
<b>Sub-total</b>		<b>257</b>	<b>824</b>	<b>1081</b>
<b>Federal research centers</b>				
1	Agricultural Mechanization	2	23	25
2	DRRW team members	8	20	28
3	Livestock Holetta	4	33	37
4	Management group	0	28	28
5	Management group with ASARECA	14	47	61
6	Socio-economic group	2	21	23
7	Soil and Water	3	20	23
8	Recently recruited researcher (2003-2004)	30	120	150
9	Livestock	13	18	31
<b>Sub-total</b>		<b>33</b>	<b>192</b>	<b>225</b>
<b>Grand total</b>		<b>333</b>	<b>1154</b>	<b>1487</b>

Source: Own data 2012

#### 5) *Promotion of women-specific empowerment interventions*

The coordination unit organized the development project proposals and financed the implementation of women-specific empowerment initiatives through increased access to women-responsive agricultural technologies and improved practices. The specific objectives of these activities were to: evaluate feasibility and gender responsiveness of the technologies, enhance women's access to improved technology; empower women economically; and understand the implication of the technologies on exiting gender relations. Technologies that are responsive to women's needs and problems included:

- Improved cereals, including QPM, and pulse varieties;
- Improved vegetable and fruit varieties;
- Modern beekeeping technologies;
- Improved root and tuber crops;
- Labor and time saving agricultural mechanization technologies (milk churner, feed chopper, Enset processing, etc.);
- Sericulture products;
- Improved sheep and goat breeds and management; and
- Improved poultry technologies and management, etc.

Some of the projects and community interventions that made perceptible contributions in terms of empowering women farmers through the introduction and demonstration of improved gender responsive technologies included:

- Project implemented with RCBP financial support;
- Agro-processing program of the Sasakawa Africa Association, which is a value-adding program for groups of women farmer and housewives;
- Community-based seed multiplication scheme;
- Project on Farmers Research Group (FRG), JICA financial support;
- Tsion Dessie Memorial Gender Fund (CIDA);
- Integrated women in the development of model Moringa value chain; and
- Other projects such as SIMLESA and EAAP.

#### 6) *Using participatory research approach and gender analysis tools*

Sex-disaggregated data and gender-disaggregated data were collected based on case studies conducted in different part of the country in 2006 (Table 4). The gender analysis study led to the development of users' guide entitled "Gender analysis tools: users' guide on Agricultural Research for Development".

The effort of collecting sex- and gender-disaggregated information assisted in producing information on gender role and responsibility, resource access and control, mobility and decision making patterns. The

information offers an understanding of how women, men and children operate in the system, access to and control over agricultural resources and controlling the benefits, and overall relation in deciding household, farm and community management issues.

The coordination unit organized a national workshop to evaluate and share the results of the case studies. Based on the comments and feedbacks found from the workshop, results were published for further communication. An evaluation of the case studies noticed that they were found scant in generating adequate and representative information on all farming systems exists in Ethiopia. This informs that the need to plan and generate sex- and gender-disaggregated information that, at least, represents major farming systems of the country.

Table 4: List of activities under “Gender differentials for Agricultural Research”

No	Title of the activity
1	Effects of maize and tef conservation tillage on saving time and labor in rural households of Ethiopia
2	Gender-based participatory rural appraisal of farming systems in Wombera, Bullen, and Guba woredas
3	Analyzing gender in agriculture in Adamitulu and Jido Kombolcha, and Bereh woredas
4	Gender-based analysis of livestock production system in Kuyu Woreda
5	Gender analysis in cereal crop production system of highlands
6	Gender-based analysis of smallholder coffee production system in Goma Woreda of Jimma Zone
7	Gender-based analysis of production system in Ambo
8	Gender-based farming system analysis in Adama Woreda
9	Empowering rural women in beekeeping
10	Gender differentials in Amibara and Awash Fentale woredas
12	Gender-based rural livelihood analysis in Kuyu Woreda

Source: Own data, 2012

#### **7) Develop gender mainstreaming strategy and action plan**

A strategy and action plan for the year 2009-2012 was developed and approved using participatory approach. Different stakeholders from the regional and federal research institutes and Bureau of Agriculture have been participated. The document contains major gender issues in agricultural research and proposed activities to ensure the execution of gender mainstreaming in the National Agricultural Research System (NARS).

Major issues indicated on the strategy document are:

- Lack of gender responsive technologies;
- Staff imbalance (less number of women staff); and
- Creating conducive working environment.

Proposed areas of focus:

- Capacity building (continuous gender sensitization training and follow up);
- Generate gender disaggregated baseline information;
- Conduct pilot action research that are targeted to specific needs to improve household income, nutrition and food security;
- Produce gender analysis guideline that will help researchers to incorporate gender aspect in their respective field of activities; and
- Create strong network among different stakeholders particularly with the federal research institutes.

#### **4. Women’s participation in technology promotion and transfer**

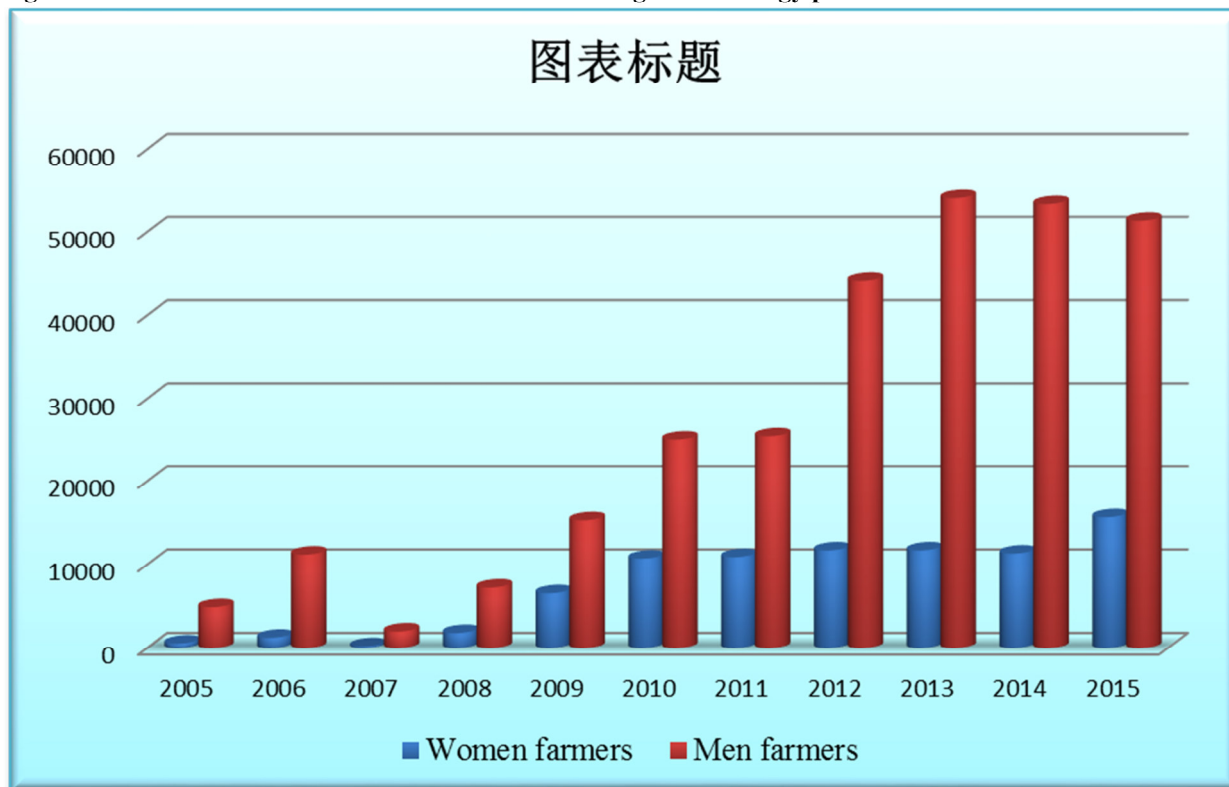
For the past five decades, the Ethiopian Agricultural Research System has released over 3000 improved crop varieties and livestock breeds, pest and disease control methods, crop production and livestock husbandry methods, pre- and post-harvest technologies and recommendations by undertaking scientific research activities on various areas in crop, livestock, land and water, biotechnology, climate, farm machinery and agricultural economics.

Among the released technologies and information, 1135 are improved crop varieties applied in the national agricultural sector. The major achievements including the release of CBD resistant coffee varieties to in 1960s, the supply of the first superior hybrid maize varieties in 1980s, and the release of yellow rust-resistant

wheat varieties in 1990s can be mentioned. Regarding technology extension, it has been able to improve an adoption level of 62-96% in wheat, 56-64% in maize, 76% in tef, 40% in lentil, 26% in chickpea, and 100% in malt barley.

The number of farmers/pastoralists using agricultural technologies has been increasing from time to time due to greater attention given for technology promotion and scaling up for better productivity and ultimate food security. The effort to participate and benefit women from such intervention has been also increasing. The figure presented below shows the participation and benefit of women from technology demonstration and promotion increased from five percent in 2005/06 to 31 percent in 2015/16. Among the factors associated with an increased participation and benefit of women includes a rise in awareness of researchers, improved availability of information on gender role and relations, increased in an opportunity of women to participate in technology demonstration, field days, and so on.

**Figure 1: Number of women and men farmers benefiting in technology promotion and transfer**



Source: Planning, Monitoring and Evaluation Coordination Office, EIAR (2005-2015)

## 5. Women specific empowerment initiatives/ Case studies

### 5.1. Community based chickpea seed multiplication, the case of Ada'a Woreda

Community based chickpea seed multiplication was one of the projects implemented by Debre Zeit Agricultural Research Center (DZARC) in close collaboration with ICRISAT and ICARDA. The project participated both men and women farmers in chickpea growing woreda including Ada'a woreda with the objective to demonstrate chickpea technologies thereby the farmers produce seed under the informal seed production scheme. The farmers were organized in community seed producing cooperatives and introduced with Kabuli and Desi chickpea varieties. Trainings sessions were also organized to equip the members of the cooperatives with the required seed production techniques. The chickpea field supervised at different cropping stage by the group of researchers and members of the cooperatives to draw lessons for the next actions.

***Box 1: Enhancing Women's Role as Chickpea Seed Producers: the Case of Multifaceted Role of Denkaka Megertu Farmers' Cooperative***

*Denkaka Megertu Seed Producing Cooperative is one of the eight cooperatives working in East Showa Zone of Oromia Region under informal seed production system. The cooperatives are engaged in the production of quality seed in major cereal and pulse crops including chickpea. They were organized with the objective to mitigate gaps in seed demand through introduction and demonstration of improved agricultural technologies and technical backstopping. The cooperatives are linked with nearby research centers and involve both men and women members.*

*Ato<sup>1</sup> Alemu Tesema is a farmer in Denkaka Kebele (lowest administration unit) of Ada'a Woreda. He is the chairperson of Denkaka Megertu Seed Producing Cooperative. The cooperative was established in 2010 and has 95 members (6 women). It has a multifaceted role, such as, delivery of seed technologies; training members in quality seed production techniques; provision of credit and marketing services, monitoring and technical backstopping. As he explained, the cooperative served the members with initial seed supply, access to market and other agricultural input delivery. He said the cooperative organized regular training sessions to the members in collaboration with the Kebele agricultural office and Debre Zeit Agricultural Research Center.*

*Ato Alemu noted that the farmers including women are being able to improve their livelihood through the income they generate from seed sales. This is on account of greater market value of seeds as compared to grains. Women in the cooperative obtained an opportunity to access improved technologies and attend the training sessions. They produce chickpea seed and supply to other farmers in the village and outside. He informed that women have been able to increase their chickpea productivity from 12 qt. to 40 qt. per hectare following their involvement in the cooperative. At present, due to the opportunity they obtained, they press for advanced labor and time saving technologies. Moreover, he said that they have built physical and live assets, and furnish their houses with quality household material due to an increase in their annual income.*

Source: EIAR documentation, 2013

**5.2. Empowering women's innovation through Farmers' Research Group (FRG): the case of Farmers Research Group project**

Empowering farmers' innovation through the Farmers' Research Group (FRG) project had been implemented in East Showa zone of the Oromia Region since 2004 by Melkassa Agricultural Research Center of EIAR and Adami Tulu Agricultural Research Center of the Oromia Agricultural Research Institute (OARI) with financial assistance of the Japan International Cooperation Agency (JICA). The project followed farmers' research group (FRG) approach in which the farmers partake actively in the development, verification, transfer and adoption of improved agricultural technologies. The approach helped: develop and adopt appropriate agricultural technologies that meet farmers' need; refine available technologies to fit actual farmers' situation; and develop problem solving capacities. The approach is further believed to promote gender equality and women's empowerment through targeting women and men during every course of action.

Gender consideration is one of the cornerstones in FRG guideline. FRG members include husbands and wives to give greater emphasis for intra-household gender issues. FRG members are trained in production techniques and utilization of the technologies, record-keeping, and FRG concepts, and were encouraged to participate in gender sensitization workshops at their locality for better gender relations. Both women and men FRG members are equally encouraged to actively participate in implementation, data collection, regular meetings, field days, exchange visits.

Gender sensitization and integration of gender in the project cycle using different techniques of participatory approach benefited women FRG members to bring about changes in overall women's livelihood, in general, and that of women's knowledge and skill, and improved confidence in trying new technologies, in particular. Some women registered very high productivity and fetched additional income by selling produces. Due to added incomes, their saving habit was also improved.

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<sup>1</sup>Ato (equivalent to Mr.) is a title of respect for men in Ethiopia and is always put preceding the first name.



### **Box 1: Empowering married women through introduction of agricultural technologies**

*W/ro<sup>1</sup> Ehete Gizaw is a resident of the Awash Bishola village in Dodota Sire woreda of the Arisi Zone located in the Great Rift Valley. She is 42 years old and had completed her high school studies. She has six children, (three girls and three boys). Crop production is the primary source of livelihood for her family. Her annual production was not enough to meet the family consumption requirements.*

*W/ro Ehete was one of the beneficiaries of the project “Strengthening Technology Development, Verification, Transfer and Adoption through Farmers’ Research Group (FRG Project)”. The project is an initiative of EIAR, JICA, and OARI. The first phase of the project was implemented by Melkassa and Adami Tulu Agricultural Research Centers since 2004. W/ro Ehete was a chairperson of one of the Farmers’ Research Groups (FRGs) organized by the Melkassa Agricultural Research Center. Prior to their engagement in the intervention, members were provided with training on action plan development, production techniques, and record-keeping. During the initial phase of the interventions, the FRG members hosted 4 onion, 6 tomato, 3 pepper varieties on their farm, of which W/ro Ehete tried onion varieties, namely ‘Bombay Red’, ‘Adama Red’, ‘Melkam’ and ‘Deresselign’.*

*During the practice, W/ro Ehete received proper technical support in her experimentation. The group members finally selected ‘Bombay red’ and ‘Deresselign’ in ranking order using criteria of yield, early maturity, size and color (deep red) shelf life and marketability. She also hosted market pepper (‘Melka Zala’, ‘Melka Shote’, and ‘Woldhale’), onion seed multiplication, cross-bred dairy technology (performance evaluation and demonstration of F1 Jersey-Borana Heifer), papaya and coffee seedling multiplication, Melkassa-2 maize variety and modern beehives technologies. She witnessed that all the technologies she tried were successful, profitable and impactful. She also reported that she supplied her produce to other farmers (as a seed source), consumers, and restaurants.*

*She indicated that she renovated her old house and built a new one. Her family’s food and nutrition status has improved substantially and she is able to cover the school fees of her children and save some money. She became one of the model farmers and received awards in events organized at federal and regional levels.*

Source: EIAR documentation, 2012

### **5.3. Integration of gender issues in intensification of Maize-Legume cropping systems: the case of SIMLESA Ethiopia program**

The Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) is a research project working for better food security and improved livelihood. The phase one of the program is implemented in five African countries, namely Ethiopia, Kenya, Malawi, Mozambique, Tanzania and Australia itself. According to the project document, the overall objective of the program is to sustainably increase the productivity of selected maize-legume systems in Eastern and Southern Africa by 30% from the 2009 average for each target country by the year 2020 and, at the same time, reduce seasonal down-side risks by 30%.

Important outcomes of the program include: productive, stress-tolerant maize and legume varieties (improved germplasm); sustainable crop and farm management practices (intensification and conservation agriculture technologies); and stronger value chains that are based on smallholder family needs. The Conservation Agriculture (CA) practices are very important for resource-poor women farmers to reduce and spread women workload.

Integration of the gender factor in SIMLESA Program is one of the priorities given greater attention. The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is one of the collaborative partners in this program with the role of providing technical backstopping, capacity building in gender mainstreaming, monitoring, and evaluation. ASARECA has been working on gender mainstreaming since 2010, focusing on the improvement of the collection, dissemination and use of gender-disaggregated data in agriculture as one of the effort to confirm the importance of gender-disaggregated data for food security policy and planning.

**Gender mainstreaming approach:** In order to mainstream gender sensitivity in the research activity of Ethiopian country SIMLESA program, the following methods were followed:

- Capacity building towards gender mainstreaming in SIMLESA interventions;
- Development of gender mainstreaming action plan and case study; and

<sup>1</sup> W/o is equivalent to Mrs.

- Gender sensitization and awareness creation to promote the participation of women in demonstrations, participatory variety evaluation, scaling out, exchange visit, field days, and organizing separate field day for women farmers.

**Structure:** For the successful implementation of SIMLESA interventions, the Ethiopian country team was drawn from federal and regional research system and was engaged in implementing the research activities. The Gender Mainstreaming Unit of the EIAR has been working on mainstreaming gender sensitivity in the research activities of the Ethiopian program with a technical backstopping from ASARECA. ASARECA initiated capacity building activities towards the collection, use, and dissemination of gender-disaggregated data as well as harmonizing gender mainstreaming action plans and development of case studies.

**Gender mainstreaming capacity building:** The followings are gender mainstreaming capacity building training sessions/workshops organized and offered under the SIMLESA project:

- “*Conceptual aspects of gender mainstreaming and how to generate sex and gender-disaggregated data as well as its interpretation*”, held in Arusha, Tanzania between 22th and 24th February, 2011;
- A follow up of the previous training the objective of which was to further build the capacity of the scientists in collection of gender disaggregated data, acquire skills in field facilitation, data collection and analysis. It was held in Morogoro, Tanzania between 26th and 29th July, 2011.
- “*Harmonization of gender mainstreaming action plans and development of case study and lesson learned for SIMLESA*” held in Addis Ababa, Ethiopia between 23th and 27th July, 2012.

A total of 16 (12 male and 4 female) agricultural researchers participated in all events from the Ethiopian team. Based on the Workshop on Harmonizing Gender Mainstreaming Action Plan (held in Addis Ababa, Ethiopia 23 -27 July, 2012), a training workshop was organized and held at the Wondo Genet Agricultural Research Center (WoARC) of the EIAR. The training workshop was attended by 25 participants (of which 2 were female) from federal and regional research centers, woreda agricultural offices and from the World Vision, which was working with the country team. The study visit was convened at Shalla Woreda, which is one of the pilot woredas of the program. Sixty-seven community members, including men (43.3%) and women (31.3%) adult and youth [boys (14.9%) and girls (10.4%)], were involved during the study visit.

**Achievements of the gender mainstreaming efforts:** The intervention activities were being implemented by federal and the regional research institutes of the country under eight research centers in collaboration with extension system and other relevant stakeholders for greater impact on income and food security. The program intervention in Ethiopia covered 17 woredas and communities located in different parts of the country with different maize-legume agro-ecologies. Some of the efforts towards increasing productivity of farmers in maize-legume cropping system are indicated below:

- Socioeconomic information was generated and maize-legume intercropping and crop rotation under CA/minimum tillage were identified for scaling out;
- Seven maize, four legume and one forage variety were identified;
- A total of 7732 households (15.5% are women) had adopted new varieties and improved practices with a performance of more than 127%; and
- The relative participation of women in the overall intervention activities was 17%.

Because of the capacity building efforts towards gender mainstreaming in the SIMLESA research activities, the following results were obtained:

- Better understanding/sensitization of gender issues in maize and legume cropping system among researchers;
- Basic knowledge and skill to apply gender analysis models and participatory rural appraisal tools in collecting, using and disseminating sex- and gender-disaggregated data; and
- Increasing tendency of researchers to work with women and men, recognizing their differentiated role, resource base and existing gender relations;

Women farmers benefited from adopting technologies and CA practices in different ways:

- Increasing their knowledge and skills in technology and CA practices;
- Significant livelihood improvements;
- Yield increment for maize and legume (10% to 30% increase in productivity);
- Additional crop production from the same land through inter-cropping;
- Poor women farmers with no oxen can produce more production;
- Reduced time and labor as a result of the CA and round-up application which result in extra time for other activities,
- Asset building (both in physical and live forms);
- Furnishing their house with quality stuff; and
- Covering school fees for children.

## 6. Prospects of Gender Mainstreaming in Agricultural Research

1. **Promote women's participation in technology demonstration and promotion:** The study found that there is a growing tendency among the researchers to properly target women and men farmers/pastoralists in participatory research trials. There are also technology demonstration practices that target only women farmers/pastoralists (housewives/women-headed households). However, the practices of participating women farmers mostly are not considering the triple role (productive, reproducibly and community management) of women farmers and their resources base due to inadequate availability of gender disaggregated data by the research commodity. Hence it is important to take women's roles and resources base in planning and involving them in method and result demonstration trials, training activities, field days, exchange visits, follow up of activities, post-harvest managements, such as harvesting, husking and sorting, drying, shelling, cleaning and food preparation.
2. **Focus on the demand side (differentiated needs):** Each of the households have different needs, concerns and capabilities. Therefore, while considering the gender factors, research programs should focus on the demand side of men and women in the household. This helps to identify the gender issues and integrate in technology generation, for instance men farmers may want high-yielding varieties, whereas women may focus on nutrition and quality aspect of the varieties. Other factors including land, labor, and capital required to afford the technology should also be taken into account.
3. **Recognize differences between women's and men's use of time:** Women activities may not fall under the definition of 'economic activities' only. As it is said above, women have been described as often playing a 'triple role'. Some intervention may upsurge women's workload. It is estimated that rural women in Ethiopia work for about 13-17 hours per day. Hence, it is necessary to recognize differences of women's and men's use of time to plan gender-responsive field visits, demonstrations, trainings, field days, etc.
4. **Strengthen competence and knowledge for gender mainstreaming:** Next to top level management willingness and support, staff awareness, competence and knowledge are key elements for gender mainstreaming in any organization. Towards building the competence and knowledge for gender mainstreaming, gaps and needs should be first identified. Based on the gaps identified, the Gender Mainstreaming Unit can design capacity building strategy, approach and action plan. In organizations like research institutions, establishing adequate awareness on gender issues among the majority of the staff, understanding and applying gender analysis models, participatory tools and techniques are very significant for proper targeting of beneficiaries. This, in turn, helps to focus the demand side and differentiated needs of women and men, including the youth, and hence, effective matching of technology options to the respective needs and problems.
5. **Gender as a criterion to review and evaluate research project:** In most instances, the review and evaluation processes give less attention to the gender dimension of the specific research project/activity. The gender criterion and its implication on both men and women are not considered when public fund approved for research activities. Whereas some of the joint projects supported by international research organization place gender criterion to approve fund. The requirement of gender criterion in research project review and evaluation helps realize equity by involving women and men in development projects and empowering marginalized groups, enabling them to voice and act on their needs and preferences. Hence, gender consideration should be one of the elements in research review and evaluation processes for its successful integration in all research cycle. Research data collection sheets, and proposal and report formats should also include gender indicator parameters and put in sex disaggregated way.
6. **Promote the collection, use of sex- and gender-disaggregated data:** Sex-disaggregated data in this case refers to the straight forward numbers of males and females in a given population, whereas gender-disaggregated data highlights disparities in gender roles, gender concerns and their implications to the projects and programs by identifying the causes of imbalances by raising consciousness on the issues in the society. This data helps make gender biases more visible and facilitates effective decision-making to bring about greater gender equality and equity. Studying and involving men and women in any development helps generate more accurate and clearer results since the knowledge of male and female are studied and consulted. The collection of sex- and gender-disaggregated data can be ensured through the use of gender analysis models and participatory tools. The process can also be ensured by designing proper format by sex variables for planning project activities, monitoring and evaluating and finally reporting research projects performances.
7. **Accountability and responsibility for gender mainstreaming:** Gender mainstreaming is an effort that should be considered at two levels, such as the institute itself and how it functions, and the mandate/work of the institute. To this end, gender expertise and capacity building alone is insufficient in order to achieve effective gender integration at these two levels. Hence, sanctions for system-wide

accountability should be designed and shall be adopted institutionally to address the gender issues and deals with disparities at all levels. Added to this, gender focal unit and gender focal person are not only responsible for ensuring gender equality; it is also the shared responsibility of top-level management bodies, case team leader, researchers, technical assistances, and supportive staff as a whole.

8. **Appropriate budgeting system:** budget should be allocated for the advancement of women and gender mainstreaming activities using formal and consistent gender budgeting system along with full authority by the unit over the expenditure. Budgeting bodies must allocate sufficient resources to engage in gender analysis and gender-responsive planning and implementation. Budget allocations need to take into account factors such as staff positions, institutional capacity building and gender equality initiatives, including research, analysis, monitoring and evaluation.
9. **Networking and information sharing:** strong networking system should be established in NARS in order to implement successfully gender mainstreaming at federal, regional research centers and higher learning institutions engaged in agricultural research. To put this into effect, formal and non-formal channels, consultative meeting, and workshops should be created.

### Conclusion

In a nutshell, gender mainstreaming in agricultural research has been following various stages and has applied different approaches. The gender mainstreaming approaches, which have been deployed over the past 15 and more years, range from institutionalizing gender in the research system to apply gender analysis models and participatory approaches. As a result, availability of gender-responsive agricultural technologies has been increased. Furthermore, due to increased attention by top-level management bodies and raised awareness of gender issues in the research system among the research staff, the number of women beneficiaries has been grown over the past seven years from 5% to 31% in technology demonstration, field days, and other research for development activities.

However, efforts should also be put in place to advance the benefit of women farmers and the rural youth from the research results through:

- Continuous capacity building actions to strengthen competence and knowledge in gender analysis among the researchers;
- Promotion of women and youth participation in technology development and utilization by:
  - promoting researchers' attitude towards working with women and men;
  - putting mechanisms to involve women in technology development trials and technology scaling up (GTP: all female-headed households and 40% of married women);
  - understanding that women and men have different needs, concerns and capabilities;
  - identifying household types and their resource base and its management; and
  - ensuring additional inputs for women hosting demos and trials
- Greater attention should be put in place to improve women's leadership quality and technical competences through special capacity building activities and experience sharing;
- Proper staffing resource for gender mainstreaming, full-time gender expertise should be designed in all research centers;
- Sanctions for system-wide accountability should be designed and adopted institutionally to address the gender issues and deal with disparities at all levels;
- Gender should be taken as a criterion to review and evaluate research projects; and
- The use of gender sensitive report formats and the collection, and use of sex- and gender-disaggregated data should be promoted.

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