

integrating gender

gender

matters

achieving results

Independent External Evaluation of EMPOWER Program for USAID / Ethiopia

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The Women in Development (WID) IQC

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Ethiopian Management of Participatory Opportunities for Women in Extension and Research (EMPOWER) Program

TABLE OF CONTENTS

Acknowledgements	iii
Acronyms and Abbreviations Used	iv
Executive Summary	vi
Introduction	1
Chapter 1: ONFARM Component	9
Chapter 2: Income Generation (IG) Component	23
Chapter 3: Appropriate Technology (AT) Component	36
Chapter 4: Short-Term Training Component	42
Chapter 5: Scholarship Component	55
Chapter 6: Conclusions	66
Chapter 7: Applications of the EMPOWER Model to Future USAID or other Development Strategies	83
Appendices	
Appendix A: Scope of Work	
Appendix B: Independent External Evaluation Team Schedule	
Appendix C: List of Project Documents Reviewed by External Evaluation Team	
Appendix D: List of Titles of EMPOWER Scholars' Research	
Appendix E: Plan of Action	
Appendix F: Evaluation Questions and Respondent Groups	

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ACRONYMS AND ABBREVIATIONS

ACA	Awassa College of Agriculture
ADS	Automated Directives System
ANRS	Amhara National Regional State
AT	Appropriate Technology
AWLAE	African Women Leaders in Agriculture and the Environment
BBF	Broad-Based Furrow
BBM	Broad-Based Makers
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CRDA	Christian Relief and Development Association
CSP	Country Strategy Plan
DA	Development Agent
DAC	Development Assistance Committee
D&G	Democracy and Governance
EAWLAE	Ethiopian Association of Women Leaders in Agriculture and the Environment
EMPOWER	Ethiopian Management of Participatory Opportunities for Women in Extension and Research
EOP	End of Project
EOPR	End of Project Report
ERA	Equal Rights Act
FAO	Food & Agriculture Organization of the United Nations
FTA	Free Trade Agreement
FY	fiscal year
GBI	Gender Budget Initiatives
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HTP	Harmful Traditional Practices
ICT	Information and Communication Technologies
IDB	Inter-American Development Bank
IDRC	International Development Research Centre (Canada)
IFES	International Foundation for Election Systems
IG	Income Generation
ILO	International Labor Organization
IPED	Institute of Private Enterprise Development
IPM	Integrated Pest Management
IR	Intermediate Result
IT	Information Technology
IUCN	World Conservation Union
LFC	Leadership for Change
MOFED	Ministry of Finance and Economic Development
MoJ	Ministry of Justice
NDI	National Democratic Institute
NDS	National Development Strategy
NGO	Non-Governmental Organization

NRDC	National Resource and Documentation Center for Gender and Development
NRM	Natural Resource Management
OA	Office of Agriculture
OECD	Organization for Economic Co-operation and Development
OFPEP	ONFARM Productivity Enhancement Program
OSU	Oklahoma State University
PA	Peasant Association
PLWHAs	People Living With HIV/AIDS
PRA	Participatory Rural Appraisal
RFA	request for assistance
RFP	request for proposal
RHPP	Rural Household Production and Productivity
SME	Small and Medium Enterprises
SNNPRS	The Southern Nations, Nationalities, and People's Regional State
SO	Strategic Objective
TIFI	Trade, Industry, Finance and Investment
UN	United Nations
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Program
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
VAW	Violence Against Women
WHO	World Health Organization
WI	Winrock International
WID	Women in Development
WTO	World Trade Organization

Executive Summary

The EMPOWER project was an agriculture technology transfer and gender mainstreaming project focused on food security and enhanced gender relationships in the small-holder sector of rural Ethiopia. The project had an overall goal to improve household level agricultural production and productivity in order to enhance food security, reduce vulnerabilities and improve income generation. It also hoped to create more enabling environments for women to fully participate in the processes of development. The cornerstone of the EMPOWER project was capacity building. The project was managed by Winrock International (WI) and funded by the United States Agency for International Development (USAID), Ethiopian Mission (USAID/Ethiopia). It operated for five years, from 1998-2003, in four sites within two regions of the country—Southern Nations, Nationalities and Peoples Regional State (SNNPRS) and the Amhara National Regional State (ANRS).

The End-of-Project Independent External Evaluation was commissioned by USAID/Ethiopia and conducted by DevTech Systems, Inc. of Arlington, Virginia. A four member evaluation team was organized to conduct the external review using participatory and multidisciplinary inputs. Field work was concentrated in the month of December, 2003. The three most dominant methods used in the evaluation were:

- Document reviews—project agreement documents and amendments, PRA baseline studies, annual and periodic reports, end-of-session evaluations, seminar and training proceedings, phase-out strategy documents and end-of-project cumulative reports.
- Semi-structured interviews and focus-group interviews—with target and non-target beneficiary farmers; local, regional and federal level partner agency representatives; wereda officials and administrators; Leadership for Change (LFC) participants and trainers; scholarship holders; University administrators and Winrock staff at local, regional and headquarters levels.
- Field visits and observations—visits to project offices, field demonstration plots, partner farmer homes and fields, weather stations, natural resource project sites, university campuses and wereda and regional agency offices.

Both quantitative and qualitative data were used in addressing the questions that guided the evaluation. The field work capitalized on verifying project claims and reports and in understanding project components and contributions. Project achievements were summarized from quantitative data reported in end-of-project reports and estimates of economic impact were derived from research and situation-specific examples and then generalized to the population as a whole. The following is a brief summary of the evaluation findings, conclusions and lessons learned articulated by the evaluation team.

The EMPOWER Project Model

Ethiopia has widespread food security problems. The Food and Agricultural Organization (FAO) World Food Program estimates that over 40% of the country's rural households do not produce enough food or income to meet basic nutritional needs (this

figure is much higher in the areas served by the EMPOWER project).¹ Degraded soils, rudimentary rural roads and infrastructure, insufficient access to land, widespread rural poverty and the lack of agricultural inputs, information and technologies creates vulnerabilities that over the years have been enhanced by war and droughts. It is well accepted that rural women contribute more than 50% of the labor to operate and manage farm production, but their contributions go



unacknowledged and their access to training, credit and productive assets lag behind that of men. No rural development or agricultural enhancement program could succeed without the active participation of women—and yet few projects proactively work to remove the barriers that prevent women from contributing to development goals. EMPOWER was conceived to do so. But EMPOWER was not a women’s program. It carefully targeted both men and women and mainstreamed each gender as appropriate in various components of an integrated approach. The EMPOWER Project can be characterized as *supporting improved household production and food security while creating an enabling environment for both men and women to effectively work to insure and sustain future food security.*

The EMPOWER Project included the following components or strategies:

- ONFARM technology testing, adaptation and dissemination to enhance food production;
- Income generation through credit to diversify/increase agricultural production;
- Training in various technologies and gender awareness to capacitate the rural community and various extension workers/institutions;
- Scholarships to upgrade the credentials of women professionals to serve decision-making and leadership roles in the agriculture and rural sector; and
- Integration and institution building to sustain women’s voice in development.

A.1. ONFARM

The ONFARM technology transfer component used basic principles of agriculture extension applied to a specific set of communities. Worldwide, most extension programs are criticized for their ineffectiveness in moving research-based innovations into the smallholder sector. But EMPOWER *proved that small and often poor subsistence level farmers, even farmers of female headed households and those from very remote and isolated communities can fully participate in the processes of adoption and diffusion.* WI empowered farmers to manage the innovation testing process and make their own decisions as to what was worth adopting using a farmer-led approach. This farmer centered approach created confidence and enthusiasm for the innovation-testing process that created curiosity and led to peer dissemination and natural diffusion. Diffusion rates

¹ Project Proposal, 1996.

of 3-5 times are recorded in the project documents and the personal testimonies of interviewees indicate even greater penetration into the non-partner population. Thus the project can be considered a good example of the technology transfer model of extension.



For those 3,914 farmers (57% female) able to participate in demonstrations (target or participating farmers/households) the results were significant and impressive. Even if farm households only participated in one of the many agricultural interventions introduced, they realized important productivity gains (20-50%) that stretched their access to food for two or more months. If combined with income

generation activities, farm households could make significant gains in both income and food security. Across the years these gains could be expanded and solidified to improve their resilience and progress toward their food security and quality of life goals.

These projected gains are especially noteworthy in face of the fact that project staff were extremely stretched. The scope of the geographic areas to be covered, the inaccessibility of communities and the scarcity of local resources provided almost impossible working conditions. Luckily the WI staff established rapport and good working relationships with their allied Office of Agriculture peers and created strong linkages with the academic and research community. These networks were important assets creating access to the farm community in a timely fashion and in backstopping the technology access and transfer process. Limitations of reliance on these systems included accepting the associated opinions of farmers about past interactions with “extension,” relying on the research community to recommend crop varieties and innovations that may or may not be appropriate to local needs, and investing in training and capacity building in systems with high turnover. In spite of these limitations, these relationships were important in the long run to stretch the capacity of WI staff to reach remote areas, to reinforce the importance of the work WI was undertaking and to institutionalize and sustain project impacts.

An overall weakness of the program as perceived by Regional Officials was its limited penetration capacity in terms of numbers of farmers directly involved. The WI hired Development Agents (DA) served as many farmers as the government DAs, and in the north served many more. And the WI program was more intense and required more contact and follow-up with farmers. But the resources of the project were extremely limited. On the supportive side, WI provided transportation for their DAs (motorcycles or mules) and had a strong backup system that provided financial and technical support and allowed a great deal of flexibility for agents to make decisions on their own. These conditions created an enhanced work environment that empowered staff and created internal rewards to sustain their heavy workloads. But the scope of the potential audience that needed their help was overwhelming, and the pressures from wereda officials to expand because they lacked resources themselves, was continuous. These were

unfortunate pressures and realities that diminished the project in the eyes of some regional leaders.

A second weakness voiced about the project was its short-lived presence. Even if the anticipated continuation of the project timeline had been received, these were four-five year commitments. True development gains take longer to stabilize and institutionalize. These ONFARM strategies could easily have continued and expanded to additional communities and weredas and thus maximize the lessons learned and high start-up costs. But the termination decision seemingly removed WI staff before either farmers or OA personnel were ready to takeover. In every community visited, farmers and officials lamented the fact that a second wave of activities would not be available to involve more farmers directly in the training and loan activities. Similar concerns were voiced concerning the training and scholarship dimensions.

A.2. Income Generation

The Income Generation (IG) component can generally be considered very successful. It created income-generating opportunities for over 2,000 poor farmers, around 80% of whom were women. It was successfully implemented in all four project areas and at least 10 different agriculturally related income generating activities were taken-up by farmers, most



of which exceeded their numerical targets in terms of the number of participants.² The project was also able to make credit available to women, in most cases for the first time. This was done either by providing resources to existing service and production cooperatives, which had previously catered almost exclusively to men, to allow women to participate and to borrow; or by establishing new savings and credit cooperatives exclusively for women. The creation of credit sources for women must be considered a major achievement of the project, particularly given the difficult history of cooperatives in Ethiopia.

It is difficult to assess the economic impacts of the income generating component at this early stage as many families were still consuming most of their own produce (which, in itself is an important outcome). However, under favorable circumstances the IG activities were able to generate earnings equal to 50% to 100% of typical household earnings from traditional agricultural production. This was achieved by a combination of sale of crops or animals produced with the loan, own consumption of produce and use of earnings to accumulate assets increasing future earnings.

² The following figures show actual number of participants as compared to original targets. Yem: poultry 103% and beehives 151%. Gimbo: poultry 123% and beehives 247%. Enebsie and Libokemkem combined: poultry 194%, beehives 92%, oxen 100%, sheep 117%, fishing 132% and irrigation pump 90%. Source: End of Project Report (draft) November 2003, Tables 10, 11 and 12. These are the only activities for which the achievement percentages are given.

A number of challenges and issues were identified. One of the potential weaknesses of the project was the lack of marketing support. This omission would be especially troublesome if the project attempted to scale-up participation. Also, despite the excellent progress made in providing credit, a potential weak link is the credit mechanisms. The project ended before all of the credit programs had been completely legalized and before there was time to work with the different organizations to complete the first and second cycle of loans to women and thus work out any operational problems.

On the positive side, the IG Component can be credited with significant social impacts:

- Provided women with credit, which permitted them to purchase the inputs to start their own business and gave them recognition as productive contributors to the household and community economy;
- Women were able to reinvest part of their earnings in productive assets so that they increased their control over resources and their own lives; and
- Women's economic empowerment gained them recognition as equal partners with men in farming activities and gained them the right to participate in community decision-making.

A.3. Introducing Appropriate Domestic/Non-farm Technology

A total of seven new labor and fuel reduction technologies were introduced. The technologies most widely adopted by women were: "mirt" mud stoves (872 adoptions); fireless cookers (794 adoptions); and enset decorticators (670 adoptions). The technologies most widely adopted by both men and women were: iceless coolers (438 women and 240 men) and improved grain storage (354 women and 330 men). All of these technologies were widely accepted although there were a number of specific criticisms, such as the fact that the mirt stove took up more room than the traditional stove and could be damaged if something dropped on it.

Winrock's four-step introduction and dissemination methodology proved effective through:

- Acquisition and demonstration by the DAs along with hands-on familiarization;
- Identification of volunteers to test/adapt the technology in actual working settings;
- Close contact between DAs and volunteers to provide help and obtain feedback on problems and improvements; and
- Informal dissemination by the volunteers.

The system worked well and most volunteers were very enthusiastic disseminators. Some women noted that 24 or 26 other women had built an improved stove with their help. The enset decorticator saved so much time and human energy that it was quickly adopted and used to transform the workweek for many women. The fact that the technologies had impressive advantages such as fuel savings of three to five times over open fires, and grain loss reductions of 40-60% for storage devices, helped to create demand in these poor struggling households.



A.4. Short-term Training

The training component can be characterized as focusing on four types of training—

- Technical training accompanying the introduction of various technologies and credit systems to ensure that the necessary knowledge and skills needed for successful adoption and maintenance of innovations are available to participants.
- Development agent and supervisor training to improve technical skills, enlarge abilities to support female farmers, and develop experience with participatory methods to encourage a broader participation of both men and women in program planning and implementation.
- Gender awareness and sensitivity training to rural women, community leaders and agency professionals to enlarge understanding of the barriers to women’s status and participation and encourage actions to minimize these barriers including reducing the adherence to harmful traditional practices. Complementing this awareness level training the project provided specific management and leadership training for select rural women leaders to help them become more assertive and involved in public affairs and outreach to women.
- “Leadership for Change” training for professionals working in the zonal, regional and federal level agricultural and rural agencies to improve their confidence, risk-taking ability and leadership in support of women’s full participation in development.

Nearly 1,400 individuals were involved across these types of training.³ All of these various forms of short-term training have been amazingly well-received and effective. As a result of the dialogue and skills developed through training, women’s involvement at the household, farm, and community level has achieved widespread support. One of the goals of EMPOWER was to change the institutions and environments that affect rural populations to create more supportive environments for men and women to address development challenges together. By all intent and purpose a great deal of progress has been achieved in the project sites. However, the needs for training are never-ending. Even during the implementation period the training component seemed thin. Larger numbers of community agency representatives and emerging women leaders needed to be trained in order to be available to train and influence the very large populations that waited to be reached. Likewise, ongoing training programs need to be institutionalized in communities to provide updating and higher order skill development to be able to respond to future needs. Great strides have been made, and the types of training have been judged very appropriate and relevant. The only criticism is that not more is being done.

³ Source: End of Project Report, (draft) November 2003, page 77.

A.5. Scholarships

The scholarship component of the project enlarged the pool of professional women with upgraded academic credentials and thus qualifications in the agriculture and rural sector by 92 individuals. This is a critical mass for any sector and is even more impressive in that 90% of these individuals are currently concentrated in two regions of the country. Ethiopia's professional ranks are slim and for so many females to be in critical decision-making positions in the Bureau of Agriculture and related agencies that affect rural populations is outstanding.

This component of the EMPOWER project was a long-term capacity building and institutional change effort. Throughout the world a dearth of females are evident in the professional and leadership ranks of agricultural and rural development institutions. Some experts associate this lack of female voices in the planning and implementation of programs and policies as directly and adversely affecting the ability of these programs and policies to address the needs of women. EMPOWER hoped to change that relationship and bring more women into positions of influence so that their experiences, sensitivities and ability to relate to other women's realities could be incorporated into the work of their institutions.

There is no doubt that access to upgraded credentials has had impressive consequences for the lives and futures of these women, and indirectly to their work and to the status of women in general.

- Almost all of the scholarship returnees received job promotions. Economically, 50%-75% salary increments were associated with these job promotions. But these job promotions were not just lucrative; they presented opportunities for women to exercise increased responsibilities for supervision, planning and policy involvement that will improve their ability to address issues affecting women and men in the rural sector. One female scholarship holder noted, *“My first day back on the job I was invited to a high level policy meeting. I had never been invited to such a meeting before. Not only was my presence acknowledged, but they listened to my opinions and accepted my ideas.”*
- The increased skills, capabilities and confidence of these women encouraged them to assume new roles, take risks and act more assertively in dealing with people and institutions. These women are challenging the status quo and advancing new strategies and initiatives within their realm of responsibilities. A senior expert in a regional Bureau of Agriculture remarked, *“I am working with a project to provide income generating opportunities for poor rural women. There are a lot of obstacles to overcome, but I know that the changes that are needed will be important. We can make this work.”*
- Both the fact that such scholarships existed and the evidence of the resources represented by these returnees has improved attitudes toward women. More colleagues are believing in the capabilities of women and accepting them as equals, a reality that did not exist prior to the project. In fact, women commented that they *“felt like part of the fixtures—overlooked and underestimated by the male decision-makers in their units.”* Not only have these women gained status

and respect from their peers and colleagues, even external agencies and community leaders are calling upon them to serve leadership and expert roles. They have become role models for other females and students/daughters as well. Because of their achievements, they have motivated others to excel and now peers, spouses and children are seeking higher degrees or raising their aspirations.

Another aspect of the scholarship component has already had impacts on the research and scholarship available regarding rural issues. As part of the BSc degree, domestic students were engaged in a research or extension project as part of their coursework. Likewise, MSc and PhD candidates were required to conduct original research. All of these scholarly assignments created an opportunity to expand the knowledge of rural issues, especially issues affecting rural women. Topics of these research projects included nutrition and child growth, domestic violence, the biochemical characteristics of various food products and processes, crop production enhancements, animal production, the process of introducing new technologies, promotion of new food products, household technology adoption and forestry introductions. Of particular note is the practicality of these studies, providing relevant information for extension applications; and the gender sensitivity of these topics, investigating problems of immediate concern to women. These studies enlarged the knowledge base in Ethiopia about rural issues and contributed substantially to understanding smallholder adoption patterns. A criticism of this research component is the limited availability of these papers/reports. A more systematic collection, inventorying and dissemination of the papers are needed. A secure library should be identified to house the collection and make the results accessible electronically, if possible.

Finally, a sustainability strategy was planned to provide an ongoing networking and advocacy support system for these and other professional women in the agriculture and rural sector. The strategy involved the creation of a professional association—The Association of Women in Agriculture and the Environment (AWLAE). A great deal of effort has been expended to create the organization and secure legal status for it as a domestic NGO, but it is not yet functional as a peer support system. The termination of the EMPOWER project is also unfortunate as the organization still relies heavily on the WI staff for leadership. Given the high levels of commitment of its members, however, its prognosis is positive.

B. Assessing the EMPOWER Model

The External Evaluation Team was asked to try to identify what was unique about EMPOWER. Was it the types of technologies introduced or how they were introduced? Was it the working relationships established between project staff and participating families? Was it the differences in how WI functioned and how government extension functions? Was it the gender components? What made the program work?

Some of the unique and critical features of the approach as articulated by the evaluation team include:

- *Women’s empowerment and gender mainstreaming.* The project combines a focus on gender equity and women’s empowerment (through scholarships for women professionals, creating credit mechanisms accessible to women, etc.), with a gender mainstreaming strategy focusing on both female and male farmers and adapting conventional economic and social roles to ensure both sexes can maximize their contribution to household welfare. The approach also promotes equal participation of both sexes in household, community and local government (*wereda*) decision-making.
- *Close cooperation with government* at the wereda, zonal and regional level to give ownership of the program and capacity to government agencies who will be responsible for its continuation. This includes a commitment from units in original agreements for cooperation and eventual take-over, an official “phase-over document” designed by both farmers and officials delineating take-over strategies, the extensive training and involvement of government functionaries in project activities to ensure familiarization, and the step-by-step turning over of project resources and responsibilities at the end of the project. All of these efforts were designed to maximize the likelihood that government agencies would be willing and able to continue the activities of the project and use the methodologies for other efforts.
- *Adapting national technologies* to the ecological, economic and cultural conditions of the farms and households in each region, rather than bringing-in foreign technology. The EMPOWER approach involves working with farmers in a farmer-led process to adapt technologies developed by government agencies and national research institutions so as to make them affordable and to ensure their compatibility with local conditions. In the process this establishes ownership and the capacity to innovate in the future.



An important feature of the EMPOWER model is the emphasis on the integration of the different components through:

- A systematic focus on women’s empowerment and gender mainstreaming in all of the project activities;
- Maximizing the role of women in agriculture by supporting agriculturally related income generation activities that reinforced women’s contributions to agriculture and household welfare;
- Combining the impact of ONFARM and income generation to illustrate a potential strategy to break the “cycle of low price seasonal sales” that is a serious bottleneck to poverty reduction in rural areas;
- Reinforcing the new capacities of recent academic graduates with leadership training to ensure risk-taking and proactive support for change; and
- Having a sustainability strategy that combined self-sustaining elements with phase-over plans to transfer responsibilities to appropriate government agencies.

Are any one of the EMPOWER components more important than others? That would be hard to answer. Each has its individual merits and yet each contributed to the project goals as a whole.

C. Estimating Project Impacts on Food Security, Gender Relationships, and Institutional Capacity

C.1. Food Security

Best estimates would suggest that food availability gains of 20%-50% were feasible. Translated into food security, these gains would provide two or more months of additional food availability (based on baseline estimates of 6 months). The partner families in the south reported similar estimates when queried directly about increased food security. Ninety percent of families noted that they had food available for 9 months or more at the end of the project, when estimates at the beginning of the project were for 6 months.⁴ No similar data were collected in the north where food security was more tenuous. The 20-50% gains are extrapolated from the following data:



- Improved varieties of basic food crops with 22%-125% yield advantages, suggesting that farmers could produce at least 20%-50% more grain in any one season;
- Post-harvest storage techniques that extended storage times by 3 or more months provided reduced crop losses and the ability of farmers to sell gain at more advantageous times (see example in the ONFARM chapter of earnings of 100 birr per family); and
- Income generation activities that increased incomes on the average of 150 birr per household; which, when compared to an average earnings of 730 birr per year, is a 21% increase in income.

Any one of these innovations would allow a family to increase food availability beyond the 20% targeted in original project documents.

C.2. Gender Relationships

No data are available to estimate how many families or communities experienced improved gender relations, but a number of qualitative indicators suggest substantial progress:

- At all project sites, male farmers spoke enthusiastically about what their wives had accomplished;
- At all project sites, women were sitting alongside men and speaking freely in group meetings;
- At all project sites, reports were told of single women getting married partly because of the assets and status that they were able to bring to a union;

⁴ Baseline data estimates seem to have been secured from PRA studies, not directly from partner families, although end-of-project data were collected from project families (Gimbo staff interpretations).

- At all project sites, local community and religious leaders praised the project for building gender awareness and changing attitudes towards women;
- In all communities involved in EMPOWER activities, women are now available to participate in leadership and public affairs roles; and
- In all communities involved in EMPOWER, leaders are speaking out against harmful traditional practices.

C.3. Institutional Capacity



Again, no data exists to document the change in institutional capacity because of the EMPOWER project. However, the following indicators suggest enormous impacts:

- Nine new savings and credit associations/cooperatives established in the SNNRPS and 7 in ANRS;
- 290 professionals trained in participatory

planning/programming from grass roots agencies;

- 149 development agents and supervisors from Offices of Agriculture trained in various agricultural techniques associated with ONFARM activities;
- 92 women professionals with upgraded credentials taking decision-making roles in agricultural and rural organizations, 90% concentrated in two regions of the country.
- 110 male and female professionals from two regions trained in leadership skills and willing and able to train others; and
- A new department and BSc major in *Rural Development and Family Sciences* available to train development workers at Awassa College of Agriculture.

These indicators would suggest that the EMPOWER project made substantial inroads on the food security, gender relationship and capacity building goals set before it.

D. Prognosis for Program Sustainability and Replication

Another goal of the external evaluation was to estimate the degree to which sustainability strategies incorporated into the project would ensure that the project continues, that impacts would be sustainable or that benefits would be expanded to others in the future. The prospects for the sustainability and replicability of the project can be summarized as follows:

- While Winrock had defined and implemented a systematic strategy for the progressive take-over of the projects by the *weredas*, there is a risk that local government support for the project will gradually erode. One reason is that the high turnover of government DAs means that many of the staff who have been trained by Winrock and who have the greatest commitment to the project will be

transferred, and there is no mechanism in place to train their replacements. The negative feelings created in many agencies by what they perceived as the sudden termination of the program may also discourage these agencies from continuing to support the program. And an unforeseen consequence of the national decentralization policy is that the program may have relatively little chance of being supported at the regional level as it is perceived that these are *wereda* level decisions and programs.

- Evidence from the first two years suggests that most families will probably be able to continue to operate the innovations secured through ONFARM, the Income Generation Component and the Appropriate Technology introductions without external help. The activities were carefully designed to be implemental within the economic and cultural contexts of each project location and most families are able to manage the activities on their own. However, there are several external factors, which may affect the sustainability and expansion of the activities. The first is the lack of access to markets beyond the small, local markets (many of which are quite inaccessible to families in the more remote communities). The second issue concerns the sustainability of the credit programs, some of which had not yet been legalized when the project closed; and others of which are breaking new ground by providing credit and other services to women. And lastly, some of the introduced varieties will need replacement stock as the genetic pool will gradually erode. In all cases the maintenance of these institutional and technological innovations will depend on various government agencies to ensure continuation and replication.
- Training was the cornerstone of all EMPOWER activities. The biggest threat to training is staff turnover. Already major changes in staffing at the OA have removed a number of trained DAs and supervisors from the ranks of those who could continue to support ONFARM and IG families and involve additional families. The WI staff have created written documents, supplied training manuals in local languages and have invested heavily in train-the-trainer approaches to create a legacy for future institutionalization and replication. But heavy time demands on those trained and changing organizational priorities will ultimately affect commitments for sustainability.
- The scholarship component and associated professionalization of women is most at risk for continuation and replication. The individuals trained will certainly continue to serve in leadership roles and exert an influence on the status of rural programs. But the continual availability of scholarships and scholarly works for additional women is questionable. The political will to sustain this effort is not evident within government or external donors. The brightest hope is in the academic institutions that train the next generation of rural functionaries. Today's scholarship holders will continue to serve these training institutions for years to come, and their students will serve the needs of rural populations.

E. A Summary of Lessons Learned

The EMPOWER project was a very complex and multifaceted program. The external evaluation team was admonished to try to identify lessons learned from the EMPOWER

experience to help learn from their experience but also to assist in showcasing the program to other development agencies. Thus the following lessons learned have been articulated by the evaluation team. These are only tentative suggestions. The actual EMPOWER staff, who know the program more intimately, might have more detailed suggestions.

E.1. Lessons Learned from ONFARM

1. Agricultural innovations of value to farmers are available from research centers within Ethiopia. But they need to be tested and sometimes adapted to fit farmer-managed and local situations.
2. Agricultural productivity gains are possible even among smallholder farming households, female-headed households and those in isolated and remote communities with limited access to information and services.
3. Farmer participation in the demonstration/testing/adoption/diffusion process is invaluable. It creates capacity for experimentation and learning, generates natural curiosity and dissemination potential and provides confidence and hope to farmers who have few support services.
4. Significant female participation in agricultural innovation testing and adoption is feasible given a supportive environment for their involvement.
5. More than one innovation is needed to generate food security. The combination of access to improved seeds, production practices and post-harvest storage techniques together create significant productivity gains that contribute to food security or increased income.
6. The Income Generation component coupled with the ONFARM component in the same household holds great promise to overcome the cycle of low price seasonal sales.
7. Investments in natural resource management techniques to reduce soil and water loss can generate enthusiasm and hope in a community that can complement agronomic innovations.

E.2. Lessons Learned from Income Generation

8. Agricultural-focused income generation helped raise women's esteem and recognition as being "farmers" and equal partners with men in farming activities.
9. Women's successful involvement in both economic activities and the testing and adoption of innovations helps to change perceptions among men and especially local leaders about the capabilities and decision-making potential of women. This results in women being invited to community meetings, being asked to serve on local committees and being viewed as contributing members of society.
10. Access to credit is essential, but institutional credit is a weak link. Investments in farmer-operated savings and credit cooperatives can be an alternative.
11. Women's participation in credit cooperatives has important effects beyond the provision of credit. It offers a way for women to participate, often for the first time, in formal organizations and group processes. Also, the presence of a

- collective body creates opportunities for women to exercise their voice in public affairs.
12. Enhanced economic status gains women greater equality within the household and community.

E.3. Lessons Learned from the Introduction of Appropriate Technologies

13. Farmers, male and female, are willing and able to adopt new technologies if affordable and useful to their daily routine.
14. Training is essential with all technology introductions.
15. An informal dissemination process can work well to spread the adoption of appropriate technologies as initial adopters are usually enthusiastic and motivated to share their experiences, and neighbors are eager to learn.
16. Development agents need to maintain close contact with adopters to provide on-the-ground support and feedback on problems or improvements.
17. Adoption and dissemination worked particularly well for technologies such as the enset decorticator, which were used by women working in groups.
18. It is important to document the reactions of adopters to appropriate technologies so as to be able to share information about strengths and weaknesses and to judge the benefits generated. Of particular importance is collecting estimates of reduction in women's time and energy burden, as these are especially onerous constraints to women's participation in development activities.

E.4. Lessons Learned about Training

19. Training in leadership skills can help participants become more confident and willing to take risks.
20. Training in gender and cultural barriers can bring about relative attitudinal change in rural areas as manifested by support given to women by spouses and the progress being made to do away with harmful traditional practices.
21. Local officials and agency staff need training in tools and skills to be able to support women's participation in development programs and community activities.
22. Empowered women become role models and change agents in their communities.
23. Gender awareness training needs to be provided intensely and repeatedly so that the gender agenda can remain in the forefront of community conversation.
24. There is never enough gender awareness training, but training with skill building is essential to create action.



E.5. Lessons Learned from the Scholarship Component

25. Existing academic programs designed for traditional students do not serve non-traditional students well. Specially designed programs that focus on mature learners, concentrate coursework to reduce total time, and provide support services better meet their needs.
26. Scholarships targeted exclusively for any group will raise concerns, but the goals of the effort must be considered and weighed against other competing goals.
27. Infusing a substantial number of newly upgraded mid-career professionals to any sector should have an immediate and lasting impact. The strategy to quickly creating a critical mass of trained and credentialed women professionals in the Bureau of Agriculture and Women's Affairs Offices at the regional and federal levels in Ethiopia is producing substantial attitude change and recognition/respect for women and their potential.
28. Selecting training sites in-country not only reduces costs, but may contribute to retention.
29. On the other hand, international training creates opportunities for developing new networks, information streams, and access to critical resources.
30. Newly trained individuals need continuing contact with each other and with stimulating activities to maintain enthusiasm.

E.6. Lessons Learned about Project Design

31. The majority of rural populations have multifaceted problems brought about by chronic poverty. Therefore, projects need to be integrated and multifaceted to bring about meaningful results.
32. Projects that address women need to involve both men and women to avoid restrictions/conflicts and to maximize benefits.
33. Monitoring data should include sufficient information to estimate effects of interventions, such as gains in productivity, income or time, even if only captured on a sampling of participants.
34. The processes of phase-over and institutionalization need to start at the project design stage and fully involve those affected line agencies and organizations from the beginning. It is important for projects to incorporate self-sustaining features in the design of activities to the extent possible (e.g. train-the-trainer, local capacity building, peer dissemination).
35. All externally funded projects need a "champion" within government or community bureaucracies to assist during project implementation and to oversee post-project commitments for sustainability.

F. Summary

The EMPOWER project has met the goals and most of the specific targets articulated in the project plan. There is no doubt that the program and the model has proven that significant increases in agricultural productivity can be achieved and that seemingly insurmountable obstacles to raising women's status and participation can be overcome.

Serious sustainability questions remain, however, primarily because of the termination of the project when many processes and activities were unfinished or immature. Replication is also questionable, not because of the relevance and value of the program, but because of the political will of funding and operational units.

INTRODUCTION

A. Origin and Purpose of the EMPOWER Project

The *Ethiopian Management of Participatory Opportunities for Women in Extension and Research (EMPOWER) Project* was conceived in 1996-97 and became operational in January of 1998 with funding support from the United States Agency for International Development (USAID) Ethiopia Mission. Winrock International (WI) managed the project under a cooperative agreement with the Federal Democratic Republic of Ethiopia. The project was originally conceived as an extension of two well received and successful programs operated by Winrock International in Africa:

- African Women Leaders in Agriculture and the Environment (AWLAE): an integrated approach to stimulate the leadership qualities and actions of women in various organizations and communities and to create more gender sensitive environments for women's participation in development; and
- ONFARM Productivity Enhancement Program (OFPEP): a technology transfer approach that builds local capacity to innovate and spread the benefits of relevant technologies for long term agricultural productivity enhancement.

Ethiopia has widespread food security problems. The Food and Agricultural Organization (FAO) World Food Program estimates that over 40% of the country's rural households do not produce enough food or income to meet basic nutritional needs (this figure is much higher in the areas served by the EMPOWER project).⁵ Degraded soils, rudimentary rural roads and infrastructure, insufficient access to land, widespread rural poverty and the lack of agricultural inputs, information and technologies creates vulnerabilities that over the years have been enhanced by war and droughts. It is well accepted that rural women contribute more than 50% of the labor to operate and manage farm production, but their contributions go unacknowledged and their access to training, credit and productive assets lag behind that of men. No rural development or agricultural enhancement program could succeed without the active participation of women—and yet few projects proactively work to remove the barriers that prevent women from contributing to development goals. EMPOWER was conceived to do so! But EMPOWER was not a women's program. It carefully targeted both men and women and mainstreamed each gender as appropriate in various components of an integrated approach. The EMPOWER Project may have originally had an exclusive focus on women (as its title reflects), but through modifications in the project design the resultant project can be characterized as *supporting improved household production and food security while creating an enabling environment for both men and women to effectively work to insure and sustain future food security*. As it was finally implemented, the project included the following components or strategies:

- ONFARM technology testing, adaptation and dissemination to enhance food production
- Income generation through credit to diversify/increase agricultural production

⁵ Project Proposal, 1996.

- Training in various technologies and gender awareness to capacitate the rural community and various extension workers/institutions
- Scholarships to upgrade the credentials of women professionals to serve decision-making and leadership roles in the agriculture and rural sector.
- Integration and institution building to sustain women's voice in development

B. The EMPOWER Project Transitions

The original project was designed to run for 5 years (1998-2002), some aspects encompassing capacity building at the federal level and ONFARM productivity enhancement in two project areas in The Southern Nations, Nationalities, and People's Regional State (SNNPRS). Two amendments were incorporated into the design in 1998 and 2001 to realign project outputs to better conform with USAID mission priorities for food security, and to expand the project to a second region of the country, the Amhara National Regional State (ANRS). Correspondingly the end date was extended to December 2003. Also the project incorporated a pilot effort to understand the coping mechanisms of HIV/AIDS on food security in the ANRS area in 2001.⁶ Further in mid-2003 the mission redirected a substantial portion of project funding (\$700,000) to relief activities and confirmed the need for project phase-out as scheduled, despite hopes for an extension to consolidate work in the ONFARM component. Thus in reality the project functioned fully for five years at the Regional and Federal level in gender training and in Yem Wereda in the south for ONFARM. It only functioned three years in Gimbo Wereda in the south (SNNRPS) and significantly less than 3 years in Enebsie Sar Midir and Libokemkem Weredas in the north (ANRS).

It must be noted that from the onset, EMPOWER was a multifaceted project. The EMPOWER project focused on building agricultural productivity and food security while directly addressing gender barriers to agricultural production and food management. In addition to providing access for both men and women farmers to appropriate technologies and agricultural innovations, the project worked through training and awareness activities, to foster an enabling environment that would promote effective working relationships between men and women in the rural communities, institutions and structures that affect agriculture.

C. Project Objectives and Strategies

The EMPOWER project, in the short and intermediate term, invested in the introduction of appropriate technologies and innovations to build resiliency at the household level and capacity at the institutional level to deal with bottlenecks to food security. It also had a longer-term focus in strengthening academic institutions, providing training and scholarships to upgrade the credentials of professional women, and creating more

⁶ Although some preliminary work began on the HIV/AIDS agenda with the completion of a first wave prevalence study, the actual household survey of coping mechanisms was cancelled in 2002 with the removal of funds by the mission.

supportive environments within the institutions affecting rural communities and women's access to and involvement in development activities.

The EMPOWER project worked cooperatively with a number of government and non-governmental partners.

- Wereda Administrations
- The Bureau of Agriculture at all levels
- Women's Affairs Bureaus at all levels
- Ethiopian Agricultural Research Organization
- Christian Relief and Development Association (CRDA)
- Ministry of Education and Institutes of Higher Education, such as:
 - Debu University—Awassa College of Agriculture (ACA)
 - Alemaya University Agricultural Extension Program
 - Mekelle University Agricultural Extension Program

In addition, the project organized a number of new structures to support women:

- The Ethiopian Association of Women Leaders in Agriculture and the Environment (EAWLAE), 2001
- Women student's mentoring programs in Awassa
- Establishment of women's savings and credit cooperatives, Yem and Gimbo

D. The End-of-Project Independent External Evaluation

The original project agreement called for both a mid-term and an end-of-project external evaluation. However, due to the changes introduced at mid-stream and the termination decision by the mission in the final year, no such plans were implemented. To compensate, WI Ethiopian office commissioned an external consultant to review the work in the SNNPRS in September 2003. A report of that external evaluation is available.

However, prior to the decision to terminate, a proposal for a participatory evaluation was designed (in March 2003). That document formed the basis of a search for funding for a comprehensive and independent external evaluation. Within the USAID system, monies are allocated to various organizations and consortia to provide services to the missions on various pre-determined themes. One such *indefinite source contract* was held by DevTech Systems Inc. of Arlington, Virginia to provide services on Women in International Development related areas. The Ethiopian Mission contacted DevTech to see if an evaluation team could be formed before year's end to implement the evaluation design. DevTech agreed to organize the independent external evaluation.

D.1. Objectives of the Independent External Evaluation

The independent external end-of-project evaluation can be characterized as an External Review using participatory and multidisciplinary inputs. The draft scope of work developed in March 2003, "*An Ethiopian Management of Participatory Opportunities for Women in Extension and Research (EMPOWER) Program: A Proposal for Participatory*

Evaluation,” was accepted as an appropriate starting point for the evaluation. Based on clarification discussions with Ethiopian USAID Officials John McMahon, Yesuf Abdella and Yeshiareg Dejene and with initial interactions with WI Program Coordinator Dr/Woz Wudenesh Hailu, the following outcomes for the external evaluation were identified. The independent external evaluation would:

1. Serve as a general verification process to review and confirm project claims for achievements and deliverables and to estimate the degree to which project objectives and related modifications were necessary and productive in moving toward agreed upon goals.
2. Gather expert opinion as to the unique elements of the EMPOWER model and their individual or collective influence on project achievements with the intent of identifying operating principles or lessons learned for replication to future endeavors:
 - a. Assess the assumptions, strategies and achievements of the individual EMPOWER components and their integrative aspects to determine if expectations have been met and whether any adjustment are merited:
 - i. ONFARM
 - ii. Income Generation with Credit
 - iii. Training
 - iv. Scholarships
3. Estimate quantitatively and qualitatively the degree to which project activities and achievements have left a legacy of improved food security, gender relationships and capacity in the participating institutions and individuals that would endure and be sustained beyond the project period.
4. Identify specific success stories, principles and lessons learned to contribute to the showcasing of the project to the donor/government/stakeholder community.

D.2. The Evaluation Team

An interdisciplinary team of four members were selected to serve as the independent external review team. Two members of the team were expatriates and two members were Ethiopian. The team worked individually, in pairs and as a total group. The team met periodically to compare observations and insights and to focus upcoming interviews for maximum impact.

- Mary Andrews, Evaluation Specialist and Trainer with Michigan State University Extension. Dr. Andrews is experienced with international projects, active in WID networks and experienced with evaluating extension and rural development initiatives.
- Mr. Michael Bamberger, Gender and Program Evaluation Specialist with long-term World Bank experience. Michael is experienced in gender analysis, program evaluation, and cross-cultural training.
- Ms. Senait Seyoum, Agricultural Economist and Research Analyst for IFPRI and a Hubert Humphrey Fellow. Ms Seyoum has a strong history of consultancies in

- both a research and evaluation mode covering a range of topics related to agriculture and rural development.
- Mrs. Hadera Tesfay, Communications Specialist and Gender Consultant. Mrs. Tesfay is experienced in designing projects and evaluations in areas of women’s affairs, women’s rights, resettlement, micro-finance and leadership development.

D.3. Project Components and Assignments

Elements of the EMPOWER project were allocated to individual team members for concentrated attention.

1. Training in leadership and gender awareness for rural leaders and officials with the provision of tools to encourage women’s participation in grassroots programs (participation methods)—Hadera Tesfay.
2. Scholarships to upgrade women for leadership positions in Ag and Rural sector—Mary Andrews.
3. Introduction of improved agricultural and household practices—Michael Bamberger.
4. Credit for income generating activities that diversified production—Michael Bamberger
5. Food security/household resiliency gained/sustained—Senait Seyoum.

D.4. Timeline

A very quick turn-around time loomed before the evaluation team. The team leader would arrive in Addis Abba just prior to the U.S. Thanksgiving holiday and the second expatriate member would arrive just after the holiday, giving the team less than one month to complete their field work before the Christmas holiday season. Complicating this tight schedule was the fact that many of the WI staff members had already taken new positions in preparation for the December 31 closing of the project. The remaining staff were busy preparing final documents, actively handing over responsibilities to local authorities and finalizing project activities. In spite of these complications, a very smooth and productive evaluation was conducted. The USAID Mission staff, the WI Ethiopian and WI United States staff were extremely gracious and responsive, providing extensive documentation, clarification and logistical support.

The actual timeline for the External Evaluation was as follows:

26 November-2 December, 2003	Document review, evaluation planning, interviews with key stakeholders in Addis area.
3-17 December	Field work: individual and group interviews.
18-22 December	Analysis and development of tentative conclusions; debriefing with stakeholders and report planning.

22 December

Departure of Expatriate Members of the Evaluation Team.

1-10 January, 2004

Preparation and finalization of External Evaluation Report.

D.5. Evaluation Methodology

The evaluation was anticipated to be participatory—involving participants and stakeholders in both actively shaping the evaluation focus and in gathering and reviewing the data and findings. A variety of evaluation tools were expected to be used to garner both quantitative and qualitative information. And of utmost concern was that the team and their approach be gender sensitive.

The evaluation evolved into a program review formatted as a rapid rural assessment. Participation was evident in the strong Mission and WI staff involvement in determining the scope and focus of the evaluation. Intensive briefings prior, during, and at the end of the data-gathering portion of the evaluation insured strong stakeholder participation in shaping and clarifying the evolution of outcomes. But participant involvement was confined to the input stage. A wide variety of participants were interviewed individually or in groups, and their opinions and stories were very evident in the reams of monitoring data and annual documents reviewed by the team (a list of documents is presented in the appendix).

The three methods used to gather data were 1). Review of Documents—program agreement documents and amendments, Participatory Rural Appraisal studies, annual and periodic reports, end-of-session evaluations, seminar/training proceedings, phase-out strategy documents and fresh off the press end-of-project cumulative reports; 2). Semi-structured interviews and focus group discussions—with target and non-target beneficiary farmers, with local, regional and federal level partner agency representatives, with development agents and their supervisors in targeted weredas, with wereda officials and administrators, with Leadership for Change participants and trainers, with scholarship holders, with University administrators and with WI staff at local, regional and the headquarters level; and 3). Field visits and observations—to project offices, field demonstration plots, partner farmer homes and fields, weather stations, natural resource project sites, university campuses and wereda and regional agency offices (the full schedule of visits and interviews is presented in the appendix).

A debriefing was held with both the USAID Mission staff and with the WI headquarters staff in Addis prior to the departure of the expatriate team members. These debriefing sessions were informal and interactive, suggesting conclusions and soliciting feedback and clarification. A PowerPoint presentation was prepared for the USAID Mission debriefing. Handouts of the full presentation were distributed, but only a small portion of the program was actually presented as priority was given to answering questions and focusing on the interests of the audience. A rich and productive discussion ensued with

elaboration of the potential of the EMPOWER model to contribute to future mission priorities and strategies.

D.6. Limitations of the Evaluation

Three of the most obvious limitations and threats to the objectivity of the independent external evaluation were:

1. The fact that the WI staff organized all the visits and interviews thus selecting the settings to be observed
2. The quick turn-around for the evaluation limited the extent to which data and documents could be analyzed with WI staff to ensure accurate interpretation and summarization. It became evident early-on that the various documents provided by WI contained inconsistencies. Not only were different datasets available at different sites, but the presentation formats prevented quick assessment across the years. Thus although the team struggled to summarize figures and generalize annual data to end-of-project impacts, the quality of the information presented limitations.
3. The timing of the external evaluation was unfortunate. Repeatedly the team received admonitions not to terminate the project. Although many officials and participants recognized that the team was not responsible for the decision to terminate the project, they still held out hope that the team could influence that decision. As a result any inquires concerning the capacity of families or agencies to continue or sustain project activities was met with comments such as, *“We have the training and awareness to continue, but we don’t know what will happen in the future. We need the project to continue for some time yet.”* *“We are just starting to see things differently, if WI leaves, our progress will end.”* *The line officers have the power of oversight to see that things continue, but I am not sure that they will act. They have other things to do.”* *“It is too early to pull out. Impacts are not large enough. It is too early to talk about diffusion.”* *“More people are waiting to join the project. If WI leaves, they will not get a chance to be helped.”*

Realizing that these limitations existed and that the team would need to rely heavily on internal inputs, a triangulation process was used to the extent possible. As information was received, either through observation, interview or documentation, a process of confirmation or clarification from more than one source ensued. Thus when questions arose within the team or hypotheses/rationales were questioned, further investigation was undertaken. Not until at least two sources provided the same interpretation did the team accept the information. In some cases, questions remained unanswered or inconsistencies in interpretation were just accepted. The team realized that the stakeholders for this evaluation wanted confirmation about the accuracy of impacts and claims. But given the limitations of the monitoring data, summary statistics were hard to secure. The estimates provided in this report should be accepted with these reservations.

The additional limitation for the evaluation caused by the announcement that the project would be terminated was a fact that the evaluation team just needed to be sensitive about.

Many local officials and even partner farmers were reluctant to suggest that they could proceed without the project. Many of these officials were also quite bitter about what they considered to be the premature and unjustified way in which the project was terminated, particularly in the North, and this may have affected the opinions they gave on how the project was implemented and its long-term benefits. Over and over again the team was told that additional time was needed or that the project was needed to continue the benefits that were started. This single minded attempt to influence the termination decision through the evaluation team created a serious dilemma and challenge to our ability to estimate project impacts concerning sustainability.

D.7. Summary

The independent external evaluation was an attempt to quickly assess a very complex project. The fast pace and broad-brush approach that resulted has its limitations, but also its strengths. It is definitely an independent appraisal. And because of its broad mandate, it focused on the larger picture—not the specifics of implementation but on the strategies and their usefulness. Ideally more impact data would be available to use in judging effectiveness, but the broad based qualitative inputs helped to supplement the limited outcome data. Likewise, although the evaluation team was dependent on the WI staff to facilitate the fieldwork, enough flexibility existed to add interviews or to return to issues from multiple perspectives. The entire WI team was open and available to the evaluation team. They tried to be responsive, not directive. Repeatedly the team came to them with questions for clarification or for access to additional information. They responded quickly and positively. Likewise, the USAID staff was extremely positive and helpful, making the work of the team pleasurable.



Evaluation team in the field, interviewing Government Office of Agriculture supervisors, partner farmers and local religious and community leaders.

Chapter One: ONFARM Component

A. Objectives and Focus

Agriculture is the dominant industry in Ethiopia. With 70% or more of the population dependent on agriculture, improvements in agricultural productivity, especially in the smallholder sector, can have a significant impact on reducing poverty and fostering economic growth. Farmers in Ethiopia face serious constraints to increasing agricultural production. These constraints include low soil fertility and land degradation, poor quality seeds and access to high yielding crop varieties, inappropriate farming techniques, crop pests and diseases, shortage of agricultural inputs (e.g. seeds, fertilisers, farm implements and oxen), large post harvest losses and poorly functioning markets. Consequently with small landholdings, a large percentage of subsistence farmers have insufficient production and/or income to sustain the family throughout the year. Food security is a serious problem, especially in drought-prone areas. The EMPOWER project included an ONFARM component designed to address the needs of the smallholder sector to increase agricultural production and productivity, reduce crop losses and diversify incomes, with a view of ensuring sustainable production and improved food security.

A key element of the ONFARM component was the introduction and diffusion of technical innovations through a train-the-trainer and a peer dissemination approach. A first group of farmers and extension development agents were trained or associated with specific activities, such as the introduction of new crop varieties or improved agronomic practices. Members of this group, in turn, trained other farmers or shared the knowledge they had acquired in informal ways, thereby extending the knowledge to a larger number of farmers.



Young herdsman watching our arrival in rural Enebessie Wereda (ANRS).

This farmer-led adoption and diffusion process empowers farmers to experiment with new techniques and make their own decisions concerning adoption. Such an extension approach creates local capacity and more sustainable practices as farmers themselves evaluate and adapt technologies to fit their needs. Formal extension organizations become catalysts and serve introduction and backstopping functions, but farmers themselves are the agents of change--serving innovation and diffusion functions.⁷ This approach is especially relevant in light of the realities of smallholder productivity around the world. Charles Anholt noted in a 1994 World Bank Technical Paper, "It is likely that

⁷ Scarborough, Vanessa, Scott Killough, Debra Johnson and John Farrington (Ed.), 1997. *Farmer-led Extension*, Overseas Development Institute and World Neighbors, London.

future gains in agriculture productivity through technical innovations will have to be more incremental, locally specific and directly geared towards specific farmer constraints.”⁸ ONFARM can be characterized as demonstrating all of these attributes.

Winrock’s ONFARM activities that involved food, agriculture, processing, marketing or environmental techniques were open to both men and women. However special efforts were exerted to involve women. The percentage of women participating was quite high, for instance ranging from 43% in Enebsie to 70% in Yem. This is especially commendable as when most projects mainstream gender, female participation remains at very low levels. Not only do traditional cultural norms impede women’s participation, but also the broad time demands on women for both household and farm-related tasks create constraints on her availability to participate. In the EMPOWER project, special efforts were made to encourage men to bring or send their spouses to training sessions and field days; associated introductions of fuel and labor saving devices freed women’s time for other pursuits; development agents were sensitive to the needs of women and skilful in making them feel comfortable in a group, and community-wide awareness of the goals of the project to involve women helped to create a more open and responsive environment for their participation.

A.1. The ONFARM Process of Technology Transfer

As a technology testing, adaptation, adoption and diffusion model, ONFARM used the following steps.

1. ONFARM staff first acquired promising agricultural technologies from federal and regional agricultural research centers and development agencies (e.g. Ethiopian Seed Enterprise, NGOs like GTZ-IFSP South Gondar, and wereda offices of agriculture). All of the technologies introduced through EMPOWER were available in Ethiopia.
2. Improved technologies and practices thus recommended by researchers were then brought to the project’s intervention sites and tried or demonstrated. Crop varieties and practices were screened on demonstration plots on public property, nurseries or on rented land. Other technologies were loaned out to actual farmers to use and critique.
3. ONFARM staff worked with farmers to evaluate and adapt promising innovations. The process of selection or adaptation used local capacity, materials and production methods.
4. Demonstration plots were established on target farmer’s fields (250 sq meter plots) to compare new varieties to existing varieties or to alternative new varieties. The project provided the seed and fertilizers needed for these trials while the farmers provided all of the labor and management. Farmers then could observe the entire crop cycle including pest resistance and drought responses, as well as final yields.
5. Records of the varietal and fertilizer trials across farm plots were summarized and evaluated by both farmers and extension staff. These results were also returned to

⁸ Anhold, Charles. 1994. *Getting Ready for the Twenty-First Century: Technical Change and Institutional Modernization in Agriculture*, World Bank Technical Paper 217. World Bank, Washington D.C.

- the appropriate academic and research centers. Mechanical technologies were also evaluated and their strengths and weaknesses shared.
6. Farmers decided based on their own criteria whether or not to continue to grow a specific variety, or use a specific technique. Those with training in seed multiplication independently decided whether or not to multiple seeds or access seeds from neighbors for specific varieties. Further demonstrations of promising varieties were propagated on demonstration sites for display to the general public and to be discussed during farmer field days held in various PAs.

Training in the process of managing field trials and evaluating innovations was an integral part of this entire process. Thus, innovation testing was very participatory, farmer centered, responsive to local realities, and designed to build local capacity for ongoing sustainability.

B. ONFARM Activities Supported by the Project

Excluding income generation and appropriate technology program components which are dealt with separately in other chapters, Winrock's ONFARM activities included the following introductions and involved over 2000 farmers. WI implemented these activities in partnership with staff from the wereda Offices of Agriculture (OA) and other relevant institutions in selected Peasant Associations (PAs) of the four weredas of intervention.

- *Crop/Variety demonstrations*: the introduction and testing of improved crop varieties of wheat, barley, teff, field peas, haricot bean, fava bean, chickpea, flax, Irish potato, linseed, forages, and finger millet. Differing varieties were introduced depending on the site. All were open pollinating varieties, not hybrids. Project sites were specifically chosen to be able to test crops appropriate in the highlands, middle-altitudes and in some places, the lowlands.
- *Demonstrations of improved agronomic practices*: (i) soil fertility management demonstrations with either artificial fertilizer or compost application treatments on selected crops; (ii) Integrated Pest Management (IPM) i.e. demonstration of natural crop protection measures against pests, diseases and weeds, and storage pest control experiments using botanical pesticides; and (iii) demonstration of improved agronomic and cultural practices such as timely harvesting, alley cropping (Libokemkem), optimum drying, threshing and cleaning of crop products. Closely associated with this were demonstrations of improved farm implements such as the mould board and winged plows, broad-bed makers (BBM),⁹ row and winged weeders, and budding knives.
- *Small Scale Seed production and multiplication*: This activity was a self-sustaining strategy aimed at enabling farmers to have adequate and continuous access to improved crop varieties. Farmers and development agents in the project sites

⁹ BBM was introduced in Enebsie Sar Midir where over 60% of soils in the 13 PAs of Winrock intervention were vertisols. In these PAs, insufficient internal and surface drainage was the major limiting factor to crop production. With the Broad Bed Furrow (BBF) technology introduced by the project, it was possible to increase average wheat yields in the area from 30 quintals per hectare to 43.2 quintals per hectare i.e. to get a 44% increase in wheat yield (Enebsie Sar Midir Wereda Project Site, On Farm Annual Progress Report. April 2003).

received training in seed multiplication. Farmers selected crop varieties they preferred for multiplication using their own criteria (including, but not restricted, to yield advantage). Initially, the project signed contractual agreements with a few farmers to multiply seeds used for ONFARM demonstrations. After the seeds they produced underwent quality checks and were cleared by experts of the wereda OA, farmers involved in seed multiplication were able to sell the seeds to the project office or on the open market. Later on, farmers engaged independently in seed multiplication using their own seeds and fertilizers, and handled clearance by the OA and marketing themselves.

- *Natural Resources management*: This activity focused on awareness creation about the value of soil and water conservation measures and the actual construction of model physical conservation structures such as bunds, earthen terraces, checkdams, cut-off drains, contour plantations to stabilize bunds, gully control and water harvesting units on both private and common land. Grass, forage and forest seedling production and distribution were also undertaken in selected PAs of the four weredas targeted by the project.
- *Capacity Building*: The introduction of any new technique or technology was accompanied by appropriate hands-on training. These training sessions were organized by Winrock staff, but often used the expertise of local OA experts or specialists from the research centers. Both WI and OA development agents and supervisors were invited to participate so that they could in-turn teach others.
- *Support Activities*: A variety of support activities were organized to provide a more informed basis for agricultural investments. In most weredas these included meteorological stations, soil surveys, crop adaptation/demonstration sites and forest nurseries. In addition, the project organized group exposure visits, field days and a variety of participatory planning and phase-over committees/meetings involving both farmers and local officials.

C. Assessing Impacts of the ONFARM Component

C.1. Problems in Assessing Impacts

Winrock attached a high priority on documenting project implementation. Apart from the PRA reports done prior to project launch, annual ONFARM progress reports and plans were produced for each project site, reporting on the status of crop demonstrations (yield data for variety and fertilizer trials), farmer level seed multiplication, the introduction of appropriate technologies, natural resource conservation, capacity building/training, and lateral acquaintance and diffusion of technologies. When the project closed down, at the end of 2003, site-specific End of Project Reports (EOPR) were produced, giving detailed accounts of ONFARM and other activities it had undertaken during the project's life.

Winrock project staff was very conscientious in collecting and reporting ONFARM data, and involved government DAs and DA supervisors in data gathering, analysis and evaluation, especially in the collection of data on the number of non-target farmers acquainted with and adopting various ONFARM technologies. Annual progress reports

and plans compiled for each project site, on the basis of data submitted by field staff, were also made available to the Administration and OA of the respective weredas in which the project was operating.

In spite of this comprehensive monitoring, it is difficult to assess the impact of the ONFARM component of the project for two reasons. First, in the northern project sites, Enebsie Sar Midir and Libokemkem, where project activities were launched in 2001, the project closed down without full documentation of the results of trials or lateral diffusion. This problem was compounded by the occurrence of drought in these two sites during the second year of operations which affected the performance of all crop varieties.

The second problem with assessing impact relates to the fact that the amount and quality of data generated by the project, though impressive, had several limitations, including the following:

- While the number of individuals who participated in different ONFARM activities is well documented, including gender and marital status differentiation, there is little systematic evidence of results. No aggregatable data are available to document how target farmers, who tried selected components of ONFARM packages, actually used them especially after their participation in ONFARM demonstrations and what the consequences of adoption have been with respect to their household food production, food security or income. For instance, some evidence is presented as to the extent of further adoption, but unspecified as to the size of plots of land or over repeated seasons.
- Lateral diffusion and acquaintance with technologies introduced by the project was carefully reported for non-target farmers in all four project sites. This was accomplished by asking each participating farmer to report on how many other farmers they had shared information/inputs about the technologies/innovations, and if just awareness was created or actual trial/adoption. However the specifics of that transaction were lost in the actual reporting. Thus the data represent only broad dissemination estimates that cannot be linked to specific innovations to estimate productivity gains.
- Data collection and recording methods differed across sites, so it is difficult to aggregate data and make comparisons. Added to this, there are differences in the units used across sites to measure ONFARM accomplishments, for example number of households, number of participants or number of practices. A combination of these units is needed to estimate the impact of innovations on farming households, but creating these estimates is difficult with the existing data.

Given the above limitations, the following impact assessment of the ONFARM component of the project should be considered as tentative.

C.2. Estimates of Impacts of ONFARM Project Component

The overall goal for the ONFARM component was 20% increases in food production and/or increase in the number of households having adequate access to food for 9-12 months. At the project onset, based on the PRA surveys, households only had access for home produced grains for up to six months on the average (7-9 months in the south). Thus 20% increases in consumable grains would increase food security by 2.4 months.

C.2.1 Crop/Variety demonstration

In Table 1.1 a summary of ONFARM activities is presented. Included are the number of varieties that were introduced by the project, passed through adaptation and ONFARM/demonstration trials, were multiplied by farmers and showed yield advantages over local landraces. The data also identify the number of farmers who participated in ONFARM demonstrations and the percentage of female participants in the four project sites. Since not all crop varieties could be included, only totals and sub-totals for selected field crops are reported. The choice of crops and varieties included in Table 1.1 is based on their importance in demonstrations conducted in each project site (a more detailed table identifying all field crops and varieties is presented in the appendix).

Table 1.1. Number of Crop¹ Varieties Introduced, Passed through Adaptation and Demonstration Trials, Multiplied by Farmers and Showing Yield Advantages over Landraces by Project Site

Project site, project period and crop type	#crop types	#vars introduced	#vars passed adaptation trials	#vars tested on farm (dem. Plots) ³	#vars multiplied by farmers ³	Varieties showing yield advantage over local		# farmer participants in demonstration trials	
						#vars w. yield adv.	Percent yield adv. Range	Total no.	% female ⁴
<u>Yem 2000-03</u>	12	42	26	nag.	5	22		922	66
-Wheat		10	5	n.a.	n.a.	5	28-47	169	n.a.
-Teff		5	4	n.a.	n.a.	2	4- 23	171	n.a.
-Maize		2	2	n.a.	n.a.	2	17-66	113	n.a.
-Field pea		1	1	n.a.	n.a.	1	52	150	n.a.
-Lentil		2	2	n.a.	n.a.	1	40	90	n.a.
<u>Gimbo 2000-03</u>	16	58	57	21	16	15		1243	66%
-Teff		6	4	5	3	3	1-107	n.a.	n.a.
-Wheat		5	5	1	1	1	25-125	n.a.	n.a.
-Haricot bean		5	5	3	2	3	2-175	n.a.	n.a.
-Field pea		1	1	1	1	1	52-64	n.a.	n.a.
-Chick pea		5	5	2	2	2	27-108	n.a.	n.a.
<u>Libokemkem 2001-03</u>	13	80	54	56	16	9		1089	46%
-Teff		4	2	4	2	-	-	151	44
-Barley		4	3	4	3	-	-	131	44
-Wheat ²		21	15	11	3	3	10-22	121	49
-Maize		6	0	6	-	1	35	105	54
-Rice		2	1	1	-	-	-	152	56
-Chickpea		5	3	5	3	-	-	98	47

<u>Enebssie Sar Midir 2001-3</u>	9	67	59	37	11	7		660	45%
-Teff		6	5	3	1	1	8	99	47
-Wheat ²		19	16	14	3	2	21-22	104	48
-Field peas		5	4	5	1	1	31	16	24

Notes:

n.a. = Not available

¹Only selected field crops (cereals and legumes) of importance are considered in this table (see appendix table XX for more details). For Yem, Libokemkem and Enebssie Sar Midir crop varieties that involved 75%, 70% and 75% of farmers respectively in ONFARM demonstrations have been kept. For Gimbo, crop varieties that required the largest volume of seeds have been kept.

²For Libokemkem and Enebssie Sar Midir the number of wheat varieties cited is the sum of bread and durum wheat varieties.

³In Yem, introduced and most adapted crop varieties were identified in the EOP report, but there was no specific information on varieties which went through ONFARM demonstration or were multiplied by farmers.

⁴The Yem EOP report does not have any information on the number or percent of female participants in ONFARM demonstrations by crop variety. The EOP report for Gimbo does not have any list of partner farmers who participated in ONFARM demonstrations by crop variety. Hence figures reported in this column for these 2 sites represent total number of farmers who participated in ONFARM demonstrations.

Source: Compiled on the basis of lists found in End of Project Reports for individual project sites.

As shown in Table 1.1, the number of varieties introduced varied from 42 (12 crop types) in Yem to 80 (for 13 crop types) in Libokemkem. Varieties introduced are mainly for cereals (e.g. wheat, teff, maize, barley and rice), although field peas (*Tegegnech*), chickpeas and lentils have also been actively promoted. The evaluation team was told that the original list of varieties came from recommendations of regional and national research institutes. There is no evidence in the PRAs or earlier project documents of farmer involvement in the initial selection of crops or varieties introduced, although farmer evaluations of varieties tested on demonstration plots is an integral part of the ONFARM component. There does appear to have been some discrimination with respect to identifying improved crop varieties on the basis of agro-ecological suitability and soil adaptability, but no data were found to suggest that agro-ecological recommendation domains were used to promote or target technology packages.

Out of 42 varieties (12 crop types) introduced in Yem, 22 varieties (11 crop types) showed yield advantages over local landraces, and 5 varieties (of 5 crop types) were multiplied at the farmer level. In Gimbo, out of 58 varieties (16 crops) introduced, 15 varieties (8 crops) showed yield advantages over landraces and 16 varieties (of 7 crops) were multiplied. In Libokemkem, 80 varieties (13 crop types) were introduced, 9 varieties (5 crops) showed yield advantages over landraces and 16 varieties (8 crops) were multiplied by farmers. In Enebssie, 67 varieties of 9 crops were introduced, 7 varieties (5 crops) showed yield advantages and 11 varieties (7 crops) were multiplied by farmers.

About 52% of varieties introduced in Yem showed yield advantages over local landraces, the equivalent percentages for Gimbo, Libokemkem and Enebssie being 26%, 11% and 10% respectively. The number of varieties multiplied at the farmer level ranged from 5

in Yem to 16 in Libokemkem and Enebsie. This implies that 12 to 28% of varieties introduced were eventually multiplied by farmers. One reason for not multiplying more varieties¹⁰ may be related to the high price of fertilizer, required for almost all introduced varieties, which may have been unaffordable by farmers.

In spite of the greater number of varieties introduced in the northern, compared to the southern sites, the number of varieties showing yield advantages over landraces was lower in the north, in both absolute and percentage terms. This may be due to the fact that a major drought occurred in the north during the second year of trials, or perhaps a variety of factors influenced results in this more vulnerable agro climate. It can also be seen that in Libokemkem, farmers multiplied a greater number of varieties than were showing yield advantages over landraces, suggesting that yield maximization was not the only consideration in farmers' choice of varieties.

The data in Table 1.1 also document the percent yield advantages of the various varieties demonstrated. Within each site, yield advantages emerged for at least two or more crops. For wheat, farmers could realize 22%-125% increases in productivity, for teff, in the south, rates of 23% to 100% increases and for maize, 35% to 66% increases. Field pea registered yield advantages of 31%-108%. *Thus farmers could easily improve their productivity and food availability by 20% to even 100% through one or more introductions.*



C.2.2.Improved agronomic practices

Fertility demonstrations were conducted at all project sites. The evaluation team was informed that Ethiopia has one of the lowest rates of fertilizer utilization in Africa. All chemical fertilizers are imported and more recently the government subsidies for

¹⁰ Assuming agro-ecological suitability of varieties.

fertilizers have been stopped. In the north especially, the increasing cost of fertilizer vis-à-vis the low market price of food crops has made farmers and development agents to be curious about fertilizer use. Although farmers can access loans to purchase seeds and fertilizers from the government service cooperative, only a small percentage of farmers do so. As a result, smallholder yields are further constrained.

The objective of the fertilizer trials in ONFARM were twofold—to assess the effects of various rates of fertilizer application (both below and above recommended rates) on both local varieties and those new varieties with high promise, and to demonstrate the effect of no fertilizer at all so that farmers could observe the impacts of fertilizers for themselves and not just believe what they have heard. For even if farmers did not think they could afford chemical fertilizers, if they believed in their value, they would be more likely to seek alternatives. Fertilizer trials were thus conducted in Yem for three seasons and in the other weredas for two seasons. Generally the strategy was to demonstrate four application treatments at the ratio of 100kg DAP and 100kg urea per hectare (1:1; 1:0.5; 1:0; and 0:0) for each crop. Maize or barley, wheat and teff were the primary cereal crops involved and field pea, lentils and linseed crops were demonstrated with two treatments (1:0; and 0:0). The 0:0 ratio would mean no fertilizers were applied. *Results varied per crop and per site, but generally the demonstrations provided clear evidence that fertilizer treatments of 1:1 and 1:0.5 provided yield advantages ranging from 20-170% over the control (0:0).* By increasing the rate of application beyond these levels, however, only small yield advantages were shown. Thus farmers could clearly create a recommendation rate and not expend resources where they are not needed. In the north, both chemical and organic fertilizers were tested in vegetable trials. In these trials, compost applications had better results than artificial fertilizers.

In addition to fertilizer trials, other demonstrations of compost preparation and utilization, weed control and seed rate practices were conducted. Integrated Pest Management (IPM) was also widely reinforced. WI capitalized on the indigenous knowledge of farmers and local experts to assess a variety of botanical substitutes for chemical pesticides. For instance in Libokemkem, farmers used *a botanical maize stalk borer control technique that resulted in yield advantages of 37-64%*. Farmers were also taught to modify cultural practices to make environments less favourable to pest reproduction and/or survival. In Gimbo, where post harvest grain losses are severe, farmers often sell their grain shortly after harvest in order to prevent insect losses. Through the project a botanical pesticide was tested. *When added to the stored grain, it increased storage times by 50% without damage.* For the group of 377 farmers who used this technique and sold their maize after six months when prices were high, they earned 38,024 birr for their 388 quintals (*an estimated 100 birr per family*)¹¹. Moisture and high temperatures also increase pest and fungi damage. The introduction of the improved grain storage devices improved moisture conditions significantly. Not all of these experiments, however, provided clear alternatives, but they did motivate farmers to continue to experiment.

¹¹ Estimates based on a survey in Gimbo wereda where 388 quintals of maize were sold after six months of storage. Three hundred seventy-seven farmers used this storage alternative.

A variety of mechanical technologies were introduced and tested on farmer's fields. The improved mould board plow was widely distributed as well as various weeding devices. But of significant value was the broadbed maker (BBM) or broadbed furrow (BBF) technique. In Enebbisie, in particular the heavy vertisol soils created water logging during the wet season, and thus reduced yields. To facilitate dissemination of the broad bed maker, 30 implements were made available to partner and non-partner farmers. Twenty-six farmers producing wheat tested the effects of this device in forty-three demonstrations. The device improves internal and surface drainage by creating deep furrows across the fields giving the appearance of raised beds. *This technique increased yields by 44%!*

C.2.3. Small Scale Seed Production and Multiplication

In all project sites, farmers were trained in small scale seed multiplication techniques. Access to high yielding, improved seeds is a nation-wide challenge. Thus the ability to produce additional seed from the improved varieties demonstrated ONFARMers' plots would reduce dependence on external sources, speed diffusion and provide an important capacity at the local level to sustain the benefits of ONFARM after project withdrawal. Within the training for this activity farmers were encouraged to use standardized plots and cultural practices, carefully select seeds for germination, maintain product purity throughout the growth, harvest and storage cycles and work with the OA for certification. The project facilitated marketing by purchasing some of the multiplied seed for demonstrations within the project sites and encouraged farmers to sell their seeds in the open market. A great deal of swapping occurred as farmers traded seeds to have access to their choice of varieties. Across sites, 213 farmers have been formally trained in seed multiplication (47% women). The seed multiplication component became a significant income generation option both in seed sales and in product sales using the multiplied seed. In Gimbo, for example 23,713 birr were earned from the sale of a variety of seed by 86 farmers (*275 birr per farmer*). Many of these farmers used their earnings to buy sheep, heifers, oxen and chickens to further diversify their assets.

C.2.4. Natural Resource Management

The overall goal of the project was to train and support farmers in creating 30 km or more of soil and water conservation structures and to distribute and plant 100,000 seedlings. This component, natural resource management, was added after the original project started. Local officials strongly advocated for the effort, although it would not have immediate effects on food security per se. The actual results far surpassed the targets.

In Yem, where the rugged and hilly nature of the terrain created severe soil erosion, the focus of WI and OA efforts was to construct soil bunds, check dams, cut-off drains and plantations of soil retaining root plants (trees, bushes and grasses). Gimbo concentrated on earthen terraces and contour ridges. Training and awareness building was a major effort, using every opportunity to engage farmers and local leaders in dialogue about the soil erosion problems and the effectiveness of various alternatives. Specific hands-on training where farmers worked along-side development agents in constructing the various structures was also highly instrumental in developing the confidence needed for independent action. The nurseries that were established produced various grasses and

seedlings (over 30 types) to make available for these purposes. In both Yem and Libokemkem, public lands were rehabilitated as well, helping to stabilize degradation or provide an income generating alternative for PAs. Also in the north, conservation structures were constructed during mass mobilization campaigns sponsored by government and NGOs using food for work resources. At Michael Debir PA in Libokemkem, farmers trained in these techniques identified a local watershed and constructed 50 km of conservation structures in collaboration with land owners and village residents. A total of 1375 individuals (461 female) were involved that benefited 177 households directly and prevented the devastation from invading the PA grazing commons. The other public effort mentioned earlier in Libokemkem concerned an eroded hillside owned by the PA. By contour plantings of select tree species, the erosion was halted and a plantation of over 40,000 trees will support 53 homeless youth households in the future.

An innovative but smaller effort undertaken by the project was the construction of demonstration water harvesting structures. Similar structures were being disseminated by government OAs, but the WI effort complemented the vegetable production strategy and thus contributed directly to the food security goals. These structures were basically underground storage units to collect and preserve run off water during the rainy season and make it available for irrigation at other times. A unit in Yem helped to support the women's vegetable production cooperative. In other places, it was placed on private lands to support commercial scale vegetable production. Both tin roofed and thatched roofed structures were observed.



D. Summary

A variety of crop production and management techniques were tested in the various weredas to create alternatives to improve agricultural productivity. *The most significant result of these efforts was proof that productivity increases were possible.*

Table 1.2. Summary of Productivity Gains from Various Introduced Innovations

Innovation	Gains
Promising varieties of wheat	22%-125%
Promising varieties of teff (in the south, only)	23%-100%
Promising varieties of maize	35%-66%
Promising varieties of field pea	31%-108%
Fertilizer applications at recommended rates	20%-170%
Botanical maize stalk bore control technique	37%-64%
Botanical grain storage application	50% longer storage
BBM for improved drainage on lowland wheat	44%
Seed multiplication and sale	275 Birr per family

Whether through access to improved varieties, the use of fertilizers, cultivation or pest reduction techniques, improved storage or natural resource management—productivity gains could be achieved at rates well above 20%. Did the partner farmers achieve these gains? Yes, but at the present these gains can only be estimated based on the advantages of individual innovations. Adoption rates for specific crops or techniques are not available but from testimonial data, appear very impressive. And lateral dissemination rates of from 3-5 times or as in the example from Gimbo of 312% for awareness and a lateral adoption rate of 47%, is significant for a pilot effort with limited time in the field. Thus there is reason to believe that farmers exposed to these new technologies will, in fact, have significant productivity gains in the future. Food security has been extended even with just the demonstration efforts, and applied to larger landmasses, could be considerable. In the entire set of project sites visited, farmers praised the project and the innovations that they tried. They shared stories of increased yields, more variety in the household diet, sales of produce, profits of which were used for school fees, shoes, clothing and housing improvements. They had plans for future agronomic improvements and felt confident that the downward slide of decreasing incomes could be reversed. Comments such as, “*we had only heard about some of these things, now we have them (i.e. BBM);*” “*we can see the results ourselves and know that we can do these things (i.e. soil conservation);*” “*we are disappointed that WI is leaving; only now seeing the results of their work; others are waiting to become involved;*” “*WI has accomplished in three years, what our office (OA) has been trying to do in the past 10 years (Government DA);*” “*WI has been successful; we only regret that they will not be able to spread out to more PAs (wereda official).*”

E. Lessons Learned

1. Agricultural productivity gains are possible even among smallholder farming households, female-headed households and in isolated and remote communities with limited access to information or services.
2. Agricultural innovations of value to farmers are available from research centers within Ethiopia. But they need to be tested and sometimes adapted to fit farmer-managed and local situations.
3. Farmer participation in the demonstration/testing/adoption/diffusion process is invaluable. It creates capacity for experimentation and learning, generates natural curiosity and dissemination potential and provides confidence and hope to farmers who have few support services.
4. Significant female participation in agricultural innovation testing and adoption is feasible given a supportive environment for their involvement.
5. More than one innovation is needed to generate food security. The combination of access to improved seeds, production practices and post harvest storage techniques together create significant productivity gains that contribute to food security or increased income.
6. The Income Generation component coupled with the ONFARM component in the same household holds great promise to overcome the cycle of low price seasonal sales.
7. Investments in natural resource management techniques to reduce soil and water loss can generate enthusiasm and hope in a community that can complement agronomic innovations.

F. Recommendations

1. End-of-project data should be completed in the north where baseline data for the ONFARM component exists, so as to have the capacity to assess change and thus impact over time.
2. Future projects should design indicators of outcomes and impacts as well as participation data, even if documentation is on a sampling basis rather than across the full population of participants.
3. Critical indicators should be available across project sites, to aid end-of-project summarization. Likewise the units of measure and their definitions should be consistent.
4. If projects were to more carefully identify and prioritize constraints within specific groups of target farmers to be served, including women, the selection of improved technologies for introduction could be matched for more effective program implementation. Within EMPOWER, there was great uniformity in the OFARM components across project sites, the emphasis being on the introduction of improved crop varieties, less on improved agronomic and cultural practices or the introduction of improved farm implements which may have been of critical importance in some areas. In Enebsie, for example, more emphasis could have been given to BBF technology. Similarly in Gimbo, more emphasis could have been given to the reduction of pre- and post-harvest crop losses (i.e. improved

- grain storage devices and IPM techniques which have resulted in significant increases in crop yields and sales, and consequently, in improved household food security).
5. Attempts should be made to assess the financial costs and returns of introduced packages at the farmer level to be able to use such information in both estimating impacts but also in communicating to potential adopters.
 6. In situations such as in these weredas where farmers can't afford fertilizers and lack access to any but local markets, projects should address these concerns more directly in the project design.
 7. In Enebsie and Libokemkem wheat varieties HAR 604 and 1685, and field pea variety Tegegnech (teff, fava bean and linseed also promising) have found wide acceptance among farmers and should be promoted more aggressively in future.
 8. The ONFARM approach of technology testing/adoption/diffusion is an important introductory level strategy in any community. Added to that approach, a Farming Systems approach would help to funnel sets of appropriate techniques and technologies to maximize the potential of each farming household.

Chapter Two: Income Generation (IG) Component

A. Objectives and Focus

The Winrock baseline and PRA planning studies found that most families in the project areas were not able to cover their basic annual food requirements from the very small plots and poor quality land that they cultivated.¹² The problem of food insecurity was particularly severe for female-headed households who often lacked labor and faced additional cultural and economic constraints on their ability to farm. Consequently, the EMPOWER project included an income generation (IG) component designed to provide additional sources of food and to help families, particularly women, to diversify their production and accumulate productive assets to increase their resilience to stress and to promote sustainable improvements in their quality of life.



The IG component was also designed to strengthen the economic and social empowerment of women. Prior to the project, women were not considered to be farmers and most decisions concerning choice of crops, seeds, farming methods and purchase of agricultural inputs were made by the husband or other male household members. Most women also had little or no access to credit or productive assets. Meetings with wereda officials also confirmed that prior to the project very few women came to public meetings and even fewer expressed their views in the meetings.

A major input to start IG activities was credit. Consequently, the project had to develop ways to make credit available to women, either by making it easier for them to join the existing cooperatives, or by creating new savings and credit cooperatives targeted to the specific needs of women. Training was also critical and courses on IG activities were provided to families and to the partner government agencies who would continue to provide support to the families after the termination of the project. Experience from other developing countries showed that it was critically important to design IG activities and particularly credit mechanisms which would be accessible to women without alienating men and creating domestic conflicts.

¹² Estimates from PRA studies concluded that families had on the average of 6 months of food security at the beginning of the projects, with slightly more likely in the south.

B. Income Generating Activities Supported by the Project

The income generation activities directly supported by the project included:

- *Vegetable production:* Demonstration vegetable gardens were organized for groups of women who then took up cultivation of some of the varieties on their own land. The results were disseminated by inviting neighbors to the demonstration sites and by providing information in the market. The project was targeted to women but male family members were encouraged to participate and around 10% of loans went to men. Training was provided on vegetable cultivation, diet and food preparation and credit was provided both to individuals and for group projects.
- *Beekeeping:* The project initially introduced improved beehives from Kenya and improved methods of beekeeping and honey production. This model had been introduced earlier by Government, but most farmers found it too expensive. Winrock worked with an experienced beekeeper (Ato Arega) who had migrated from the North where beekeeping techniques were more advanced, and who had already been experimenting on his own to adapt the Kenya model. With his help a cheaper model was developed, tested and disseminated in both Yem and Gimbo. About 75% of the participants came from Yem and Gimbo. Beekeeping equipment (gloves, masks, etc.) was provided, and training was given on all aspects of beekeeping and the production of honey. Some participants were able to generate additional income through the manufacture and sale of beehives. Men received one third of loans and male household members tended to be actively involved even when the loan was given to the woman.
- *Poultry production:* Many women already had experience with raising poultry and the project focused on introducing new breeds, brooding chicks, rearing chicks and improving egg production. Training and credit (over 92% of the loans went to women) were also provided. The project was made more affordable by providing day-old chicks, with training on how to raise them, at a fraction of the price government agencies charge for more mature birds (3 birr vs. 17 birr per bird).
- *Sheep and goats:* The intent of this activity was to purchase either breeding stock for reproduction purposes or to purchase animals for fattening and sale. These are traditional women's activities and the loans and training on improved animal husbandry techniques were provided exclusively to women.
- *Coffee:* Coffee production was only supported in Yem and Gimbo. Seedlings were distributed and training was provided on improved methods of cultivation and disease control. Although coffee plants require several years to mature, some income was generated by the cultivation and sale of seedlings. Men were actively involved and over 40% of loans were given to men.
- *Oxen:* Although oxen were one of the popular secondary investments that families made with the earnings from vegetables, poultry and other products obtained with the credit, only in Enebsie were loans given directly for the purchase of oxen. The disease Trypanosomiasis also limited the adoption of oxen in the Southern sites. Access to oxen not only provided a way to prepare one's own land but they could be rented out for additional income generation as well.

- *Fruit seedlings*: These were distributed to large numbers of target and non-target farmers with one third of the loans given to men. Although several years are required before fruit can be sold, some revenue was generated through the cultivation and sale of seedlings.
- *Irrigated cultivation*: A pump was provided for a group irrigated rice production project in Libokemkem. Training was given on operation and maintenance, and a group credit (50% men) was provided through a revolving fund.
- *Fishing*: Training, technical assistance, credit and marketing assistance was provided to a group fishing project in Libokemkem. This involved teams of men and women (25% women) involved in lake fishing and in the processing of fish, which was sold to a wholesaler with assistance from the wereda.
- *Rice dehulling*: Training, equipment, technical assistance and credit were provided to one group of women as a rice dehulling project in Libokemkem.

C. Assessing Impacts

C.1. Economic Impacts

C.1.1. Problems in assessing impacts

Many of the income generating activities had only been operating for two years or less at the time the project closed. Therefore, it really is too early to provide a firm assessment of project impacts. Although WI staff attached a high priority to the careful monitoring and documentation of project implementation and outcomes, information collected on the income earned by every participant is difficult to interpret. Most of this information was collected during visits to each family and the quality of the information is quite good. However, there are several factors limiting the utilization of the data for comparative purposes:

- There is no standard method of data presentation for the four project areas so it is difficult to aggregate data or to make comparisons across sites.¹³
- The tables present the number of new families starting IG activities in a given year and how much they earned during that year. Unfortunately, no information is provided on, for example, the earnings in 2003 of the families who entered a particular IG activity in 2002. Consequently, it is not possible to estimate how much families earned from a given activity over the life of the project.
- Data is given separately for each IG activity and it is not possible to estimate the total family earnings from all of the IG activities in which they were involved.
- As no baseline data is available, it is not possible to estimate how much family income has changed over the life of the project. It is likely that many of the families were earning some income before the project began so that the impact of the project will be less than the earnings reported in the tables.

¹³ For example: in Yem (EOP Table 5) and Gimbo (EOP Table 12) the number of new participants and their earnings from each activity are given for each year; in Enebsie (EOP Table 6) and Libokemkem (EOP Table 6) the total number of participants is given for 2002 and 2003 but the number of participants is not given for each year.

C.1.2. Estimates of direct income generation

Over the course of the project, slightly over 2,000 families participated in one or more IG activities, with the average family participating in 2.5 activities.¹⁴ It is difficult to estimate the total income generated because of the way in which the data are presented, but over the life of the project IG activities generated at least 380,000 birr and probably considerably more.¹⁵ This represents approximately 180,000 birr in a typical year (Table 2.1).¹⁶ There are considerable variations in the average family earnings per activity in each project area, ranging from an annual 120 birr per activity in Yem to 502 birr in Libokemkem (Table 2.2) mainly because of the lucrative rice irrigation project. The average earnings for all project areas from a typical IG activity are 150 birr per year.¹⁷

Table 2.1: Preliminary Estimates of the Number of Male and Female Beneficiaries and the Earnings from Income Generation Activities

	Project areas ^a	Total participants in each activity	% women	Total earnings during project [birr]	Annual earnings [birr]	
					Total for all projects	Weighted average for participating households ^c
Vegetable production	All	1704	88	100,952	38,592	59
Beekeeping	All	442	64	7,554	3,105	17
Poultry production	All	600	92	47,752	18,213	80
Sheep and goats	All	947	99.7	82,786	35,964	87
Coffee	Y, G	654	67	3468	1156	9
Fruit seedlings	Y,G,E	190	65	1984	950	10
Sale of improved seed	Y,G	79	49	53,324	17,774	675
Sale of maize from improved storage	G	377	46	38,024	12,674	101
Irrigated cultivation	L	18	50.0	44,748	44,748	2,486
Fishing	L	33	27.2	4,620	4,620	140
TOTAL		5044	79.0	385,212	177,796	150
Total families ^b		2057				

Notes:
^a Projects: Y=Yem, G=Gimbo, E=Enebsie, L=Libokemkem
^b Families involved in the IG program participated on average in about 2.5 activities.
^c See Technical Notes for description of the methodology.
Source: End of Project Reports for each project.

¹⁴ The total number of families involved in at least one IG activity is obtained from the list of participating families given in the annexes to the four End of Project Reports. The average number of activities per participating family is obtained by dividing the sum of families involved in each IG activity by the number of participating families.

¹⁵ The tables only present the earnings of new families starting an activity during a particular year and do not report the earnings of families who started an activity in an earlier year.

¹⁶ This is obtained by dividing total earnings by the number of years that each activity was operating in each project area.

¹⁷ This is estimated as the weighted average for all project sites of the number of new participants involved in a typical year. It should be noted that the figure of 2057 refers to all participants involved throughout the life of the project and this figure must be adjusted according to the number of years each project has been operating to estimate the number of new participants involved in a typical year.

It is difficult to compare earnings from different IG activities as many activities were still very new and families were still consuming most of their produce. Also, activities such as coffee and fruit trees do not start to produce revenue for a number of years. With these reservations in mind, the activities which are currently generating the greatest earnings to households in all project areas are listed in Table 2.1. The highest earnings currently come from the irrigated agriculture and fishing cooperatives, which are only being implemented in Libokemkem.

Project	Total estimated annual earnings from income generating activities	Average annual earnings per activity ^a
Yem	20,059	120
Gimbo	62,583	131
Enebssie	38,208	178
Libokemkem	59,946	502
Total for all projects	177,796	150

^a This is a weighted average of earnings from all IG activities in each project.

The earnings potential of poultry, beekeeping and goats/sheep to a typical family once these activities are fully operational is illustrated below. For a typical family poultry can generate 70-100 birr/per year, goats/sheep can generate 100-600 birr and beekeeping can generate 400-1400 birr.

2.3. Illustration: Potential Earnings from Different Income Generation Activities

The following figures, based on information from Yem and Gimbo, indicate the potential earnings which typical families can earn from different income generating activities.

Poultry: During a year a typical family might sell 50-100 eggs (4 eggs = 1 birr) and a maximum of 4-5 birds (around 15 birr per bird). *Potential annual earnings:* 70-100 birr.

Bees: There are two production seasons per year. A typical family will own 2-5 hives, each of which produces 10-15 kg per season (20-30 kg per year). The average family consumes at least 20% of their total production so that 35 – 120 would be sold. *Potential annual earnings:* Assuming a sale price of 12 birr/kg families can earn between 400-1440 birr.

Goats: An average family would sell 1-2 goats per year at prices ranging between 100-300 birr depending on the season and the size of goat. *Potential annual earnings:* 100-600 birr.

C.1.3. Estimated household consumption of produce

No precise data is available on the proportion of the produce consumed rather than sold. However, the End of Project reports and the evaluation field visits both confirm that home consumption accounts for a significant proportion of the output. For example:

- In Gimbo farmers consumed approximately 25% of eggs produced.
- In Libokemkem families consumed about 20% of vegetables produced.
- In Enebsie families consumed about 12% of vegetables and fruit.
- In Enebsie farmers consumed 89.5 kg of honey.
- During the field visits it was also confirmed that families consume a significant proportion of eggs, poultry, coffee, fish, sheep and goats.

Given the fact that home consumption is probably under-reported, it is reasonable to assume that on average households have been consuming at least 20% of their production from income-generation activities. The proportion is probably higher for many of the poorest families. Thus, although these products are not available for sale, they do represent a considerable contribution to improved nutrition and health. A goal of the project was to diversify production both as a risk-diffusion technique but also to improve dietary habits. Families reported growing and eating more vegetables, and of having access to eggs and meat which was not possible earlier.

C.1.4. Investment of earnings in productive assets

Most households try to re-invest a proportion of their profits in productive assets. Families showed their willingness to make sacrifices to keep these assets during the hungry season (June/July to October/November) but inevitably some or all will be sold or consumed. Illustration 2.4 documents the significant accumulation of assets by families involved in vegetable and poultry production in Gimbo.

2.4. Illustration: Using the earnings from income generating activities to accumulate productive assets in Gimbo

In Gimbo, the EMPOWER monitoring reports were able to document the significant accumulation of productive assets with the earnings from the income generating activities:

- 1. Using earnings from the sale of vegetables, 256 farmers bought 80 sheep, 59 goats, 18 cows, 76 heifers, 15 oxen, 1 lamb, 5 chicks and 9 calves.*
- 2. Using the earnings from the sale of poultry, 158 farmers bought 52 sheep, 37 goats, 1 heifer, 2 cows, 3 oxen and 11 chicks.*

A typical pattern is to use the profits from vegetables or poultry to buy goats or sheep and then to sell these to cover part of the cost of an important asset such as a cow or an ox.

Illustration 2.5 presents the story of a widow with two small children who used the profits from poultry acquired with a Winrock loan to purchase an ox and to recuperate the land she had previously rented as she did not have labor to farm it. This is one of several cases where improved economic status enabled a woman to remarry.

2.5. Illustration: Using income generation earnings to accumulate assets and acquire a husband

A widow with two small children previously had to rent out her land for a very small share of the harvest as she was not able to farm it herself and she was too poor to hire a laborer. She obtained loans from the EMPOWER project to buy poultry. Over time, with the earnings from poultry combined with other assets, she bought an ox. With her ox and that of a neighbor she could farm her own land. With the increased harvests she sent her children to school and attached a metal roof to the house. She has now reached an agreement with her neighbor, and they rent out the pair of oxen to other families. With the earnings from the oxen she has been able to make the first two payments on the four-year loan, and her improved social standing created an opportunity to remarry. Although she consults with her husband on farming matters, the ox and the land are registered in her name.

Source: Interview conducted in Enebssie Sar Midir by Evaluation team.



C.1.5. Covering other basic household expenditures

The most frequently cited benefit of additional income was being able to send children to school and to buy the necessary clothing and books. Probably the second most frequent benefit was housing improvement or the construction of a new house. In addition to better health and an improved quality of life that the house represents, the improved security is important given the frequent reports of robbery of property and grain. One of the respondents had recently had a donkey stolen and many complained about the theft of grain, vegetables and chickens.

C.2. Assessing the Total Economic Impacts of the Income Generating Activities

While the data currently available does not permit precise estimates of the economic impacts of the IG activities, there is sufficient information to estimate the potential impacts on a typical family. The estimates are based on the following assumptions:

- In Gimbo, the only project for which this information is available, the average IG participant was involved in 2.5 activities.¹⁸ Assume conservatively that for all projects the average IG participant is engaged in at least 1.5 projects.

¹⁸ Calculations based on Gimbo End of Project Report, Annex Table 2.

- Assume, based on the limited data given in the End of Project reports, that households consume at least 20% of their own production of vegetables, poultry, goats/sheep, honey, etc.
- Data from Gimbo shows that the average IG participant used the proceeds from vegetable and poultry sales to purchase at least two animals. Assume that all IG participants generate an additional 100 birr per year from using their earnings to purchase animals.

Using these assumptions, the potential economic impact of the IG activities on an average participating household could be estimated as:

- Average annual income from a typical project: 150 birr/year (see Table 2.1).
- Assume families participate in 1.5 activities: $150 \text{ birr} \times 1.5 = 225 \text{ birr}$.
- Assume additional 100 birr income from using IG earnings to purchase animals: $225 + 100 = 325 \text{ birr}$.
- Add 20% for value of own consumption: $325 + 65 = 390 \text{ birr}$.

It should, however, be emphasized that these figures are only based on the experience of the small proportion of households who participate in the projects. It is likely these families will have more initiative; resources and probably more access to local markets, so it should not be assumed that the same level of impacts could be achieved if a much larger proportion of farmers were involved.

As a reference point for assessing the significance of these figures, Winrock estimates that in the North a farmer can expect to earn an average of between 1 and 2 birr per day from agricultural activities (350 – 700 birr per year) while in Yem and Gimbo the average is probably around 2 birr per day (700 birr per year).¹⁹ Consequently, the projected *potential earnings from IG activities are equivalent to between 50 and 100 per cent of normal earnings from agricultural production.*

D. Providing Credit for IG Activities through Savings and Credit Cooperatives

A key element of the project was the provision of credit. This was particularly important for women, most of whom had previously had no access to credit. During the Derg regime the concept of cooperatives had become discredited as many cooperatives were politically inspired and poorly managed and there were many examples of misuse of funds or of farmers being pressured to join. The cooperative movement has been slow to become reestablished and in the project areas there was still very little experience with cooperatives and considerable confusion concerning rules and regulations. This created very specific barriers for the provision of credit to women.

In Gimbo the cooperative development office in the wereda denied that it was legally possible to organize a cooperative exclusively for women, and the process of legalization of the new women's savings and credit cooperatives was paralyzed for some time.

¹⁹ These figures are consistent with the estimates given by farmers in the discussions with the Independent Evaluation team.

Although the misunderstanding has been resolved, most of the cooperatives are still completing the legalization process. The current status of the credit and savings cooperatives is summarized in Table 2.6. In the two Southern projects, the existing service cooperatives were found to be unwelcoming to women and were not deemed reliable to the women in EMPOWER. Consequently, Winrock helped create new savings and credit cooperatives exclusively for women.

Table 2.6 The Status of the Savings and Credit Cooperatives in the Four Project Areas

<p>Yem Five women’s credit and savings cooperatives with 524 members (95% women) had been created in seven Peasant Associations. Loans had been given for all of the different kinds of income generation activities and 25,399 birr of savings had been generated. Legal certification had been obtained from the Regional Government Service Cooperative Promotion Bureau.</p> <p>Gimbo Women’s savings and credit cooperatives with 587 members (95% women) have been organized in six Peasant Associations. The associations are still in the process of legalization. A problem that exists is that they lack of a safe means to carry funds that have to be taken for deposit to a bank in Jima 150 Kms away. The project has provided a safebox, but these funds are still vulnerable.</p> <p>Enebsie Three savings groups have been organized in four Peasant Associations and 289 loans have been approved for beekeeping, sheep, poultry and oxen. Many of the approved loans had to be cancelled due to the cutback of the budget and the early closing of the project. As the savings groups are organized through the service cooperatives, women must join to be able to borrow. This is a constraint as the registration fee, and in some cases the monthly savings contributions, are too expensive for many women.</p> <p>Libokemkem Nine savings groups with 410 members have been organized in seven Peasant Associations. Each group has opened an account in a local bank. Training was provided by Winrock who also contributed resources for a revolving fund to be used exclusively to provide loans to women. The same issues concerning service cooperatives exist.</p> <p>Source: End of Project Reports for Yem, Gimbo, Enebsie and Libokemkem and Summary EOP for all projects.</p>

In the North, the decision was made from the beginning to work through the existing government cooperatives. Funds were transferred to these units to create the revolving funds needed to support loans to EMPOWER participants.

Although these processes of securing access to credit were long and tedious, almost all of the 2,000 participants in the IG activities were able to obtain at least one, and often several, loans. The provision of these credit mechanisms was absolutely essential to the success of the IG activities.

E. Assessing the Social Impacts of the IG Component

The interviews conducted during the Independent Evaluation confirmed the findings of the EMPOWER reports that the project had a significant impact on women's economic and social empowerment. The following are some of the key indicators:

The project opened up opportunities for women to earn income, start their own businesses and accumulate productive assets:

- The IG activities provided women with new income earning opportunities. Prior to the project women had almost no opportunities to earn income while in other cases the project greatly enhanced their earnings.
- The project provided women with credit so that they were able to purchase seeds, plants and animals and the required inputs to launch a small agriculture enterprise.
- Women were able to reinvest part of their earnings in the accumulation of productive assets such as goats, cows and oxen and hence create a base of long-term improvement in their economic situation. The acquisition of oxen proved particularly critical as this enabled women to farm land which they had previously rented or share-cropped to male farmers.
- The way in which the project was organized gave women control of the enterprises and the assets while at the same time ensuring that the activities had the approval and the active support of male household members.
- Training provided women with the necessary skills, as well as the psychological support to launch their businesses.

Women's economic empowerment also gained them recognition as equal partners with men in farming activities:

- The income earned by women gained them the recognition that they were equal partners with men in the household economy. This made it much easier for women to become actively involved in ONFARM activities such as seed trials and decisions on agricultural production. Previously, women had not been recognized as farmers and had not been consulted on farming decisions.

The recognition of women's role as farmers also gained them the right to participate in community decision-making:

- Women's successful involvement in both economic activities and household technologies changed the perception of wereda officials about the capabilities and decision-making roles of women. As a result, they began inviting women to wereda meetings for the first time, in many cases. Also, the gender awareness and technical training provided to wereda officials created greater acceptance of the need for women to be involved in various agricultural and economic development programs.
- Women's participation in credit cooperatives had important effects beyond the provision of credit. For many women this was the first time that they had been involved in any kind of formal organization. The EMPOWER project training that they received about managing credit also included gender awareness and assertiveness training. In several cases the women encountered opposition from

the wereda or cooperative officials who opposed the creation of special cooperatives for women. In these cases the women had to fight hard, often with the support of the Women's Affairs Office, to establish their rights to create the cooperatives. This process of organization and lobbying provided a very valuable experience for them. Another benefit of this activity was changing attitudes among these poor households about saving. Wereda officials mentioned the spread of a "culture of saving" as being one of the important outcomes of EMPOWER.

Women's enhanced economic status gained them greater equality within the household and community:

- Women's economic empowerment also enhanced women's attractiveness as marriage partners and the evaluation team met with several women who specifically claimed that their ownership of an ox (an important asset in the farming community) raised their status and thus remarriage prospects.
- The gender awareness training which complemented the skills training and provision of credit also made women and men more aware of harmful traditional practices such as child marriage, female circumcisions, kidnapping women to force them to marry and domestic violence. Many examples were cited where women, with strong support from male family members, organized to oppose practices such as female circumcision.

F. Assessing the Implementation of the IG Component

Almost all of the farmers visited had a generally positive attitude to the income generation projects and to the way they were organized. The wereda officials also had a generally favorable attitude. The major criticism encountered in every meeting was that Winrock is withdrawing before most of these activities have had time to become established and there was a general concern that many of them might collapse without Winrock's continued support. Support was needed not just to help with specific technical issues but also to provide moral encouragement to continue with what are very new and challenging activities for many farmers, and particularly for many women. Some of the most positive aspects of the activities include:

- The participatory methods used to identify and implement the projects.
- The close personal contact Winrock staff have maintained with the target and non-target families.
- Making available new technology (for example bee-hives) while at the same time being willing to adapt this to local conditions and making maximum use of local materials to reduce the costs.
- The provision of practical training in support of all income generation activities.
- The provision of credit to permit families to invest in these activities.
- The creative way in which training per diems were used to generate investment resources for these activities.
- To date the informal promotion and dissemination of the different income generating activities has worked well. The project has created "champions" in the

communities who have promoted the different activities with almost missionary zeal.

Some of the criticisms heard include:

- The withdrawal of Winrock is by far the most serious problem as many groups are concerned that they do not have the experience or confidence to address the many problems which are likely to arise in the early stages of their projects. One example is the concern of the irrigation group in Libokemkem about how to arrange for the repair of their pump.
- Very little assistance was provided on marketing. This refers both to the selection of enterprises for which there was limited demand, and also the lack of assistance in bringing products to market. Many of the communities are very remote and in some cases farmers have to carry their produce for six hours over very difficult terrain to get to market. The lack of access to markets forces farmers to sell to traders at very low prices, or in local markets with limited demand.
- The arrangements made for the continued provision of credit to most of the participants is uncertain.

G. Assessing the Sustainability of the IG Component

Most of the project activities, particularly in the North, are still at an early stage, so it is only possible to present a very preliminary assessment of potential sustainability.

Some of the *positive indicators* of sustainability are the following:

- Over 2,000 families have successfully launched income generating activities.
- At least 10 different activities have been successfully implemented so that families are able to choose from a variety of income generating activities. The range of options also makes it easier for families to start more than one activity.
- Many of the activities are very simple and use skills and resources with which most families are already familiar. This makes it possible for women who have no experience with income generation to start with a very small and simple activity and then gradually work up to larger and more complex activities.
- After receiving the initial training most families have been able to continue the projects on their own without the need for continued assistance. Activities were designed to be self-sustaining and to not require external support
- Participants have been able to find markets for their produce (keeping in mind that the quantities they are selling are still very small).
- The program has developed effective gender mainstreaming strategies; thus, male family members have been very supportive and often actively involved in the activities started by women. The Independent Evaluation Team was not able to detect any evidence of the activities having created domestic conflicts. This is a very positive sustainability indicator because in many African countries husbands often feel threatened when their wives begin to earn money and they may oppose, sometimes violently, the wife's economic initiatives.

- Field visits also revealed that most women are able to retain control of the productive assets and the income that they generate (again in contrast to other African experiences).
- Mechanisms were established for providing credit, and almost all of the IG participants received loans. This was a critical element as most women previously had no access to credit.
- Winrock offered training to local government development agents (DAs) on the IG activities and Winrock DAs worked closely with their government counterparts in the design and implementation of these activities. Consequently, there are government DAs in all of the project areas with the experience to continue to support these activities.
- As part of the phase-over agreements in each project, specific agencies made commitments to continue to manage the IG, as well as the ONFARM components. Funds were transferred to the local cooperatives to provide revolving funds to continue to provide credit to women for future IG activities.

Despite all of these conditions conducive to the continuation and sustainability of the IG activities, there are a number of potential issues and challenges:

- The project ended before most of the IG activities had been operating long enough to become well established.
- The high turnover of government DAs means that many of the staff who have received training and on-the-job experience will soon move to other areas. Since there is no mechanism for training new staff, much of the experience and institutional memory will soon be lost.
- A potential weak link is the continuing status of cooperatives, which remain women's only source of credit. In Gimbo, opposition to the creation of a special cooperative for women delayed the set-up of the credit mechanism and some of the cooperatives had still not been fully legalized when the project closed. In other areas the IG activities were a new departure for the established government cooperatives and it is not yet certain whether they will continue to provide support or whether they have incentives to continue to give priority to women borrowers.

F. Summary

The income generation component had a very successful beginning and helped large numbers of people, mostly women, to start and manage new IG activities which significantly increased family income and diets. Families were able to manage the activities on their own and there are strong indications that most families will continue to manage these activities successfully. The component also had an effective strategy for involving the wereda officials and other local agencies (such as cooperatives). The gender mainstreaming strategy also ensured strong support from male household members, creating a very favorable environment for the continued operation of the activities. The main challenge is that due to the termination of the project (particularly in the North) the activities did not have time to become institutionalized. And despite having done everything possible within the project timeframe, the continued operation of the credit mechanisms remains in doubt.