

**Conservation and Sustainable Use of Dryland Agrobiodiversity
in Jordan, Syria, the Palestine Authority and Lebanon**

**GEF/UNDP/ICARDA/IPGRI/ACSAD
RAB/97/G32/A/1G/71**



Terminal Evaluation

DRAFT FINAL REPORT

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Acknowledgement

The regional coordinator, Dr. Ahmed Amri, coordinated the overall evaluation in collaboration with UNDP, the UNDP GEF regional coordinator and the national project managers for each country. In addition, Dr. Amri provided numerous insights, information and candid observations and accommodated the evaluators' detailed and wide-ranging requests for documents, reports and data. Manager of all of the project implementing and executing agencies took an active interest in the evaluation, they were very open and generous with their time and arrange the itinerary for the evaluator's visits to each country. Tim Clairs, UNDP/GEF regional coordinator, played a senior advisory role in the evaluation, and UNDP managers from each country assisted with field visit logistics and most participated in meetings in their country. The Agrobiodiversity project was primarily a learning project, and we appreciate the enthusiasm and insights shared by the many scientists, consultants and project participants that we met. We learned a lot about agrobiodiversity, *in situ* conservation and the 16 target species through this evaluation. Submission of the final report was delayed by several months because the comments on the draft report were extensive and required much more time than budgeted or than the evaluators had available. We thank everyone for their patience, it was important to address the comments properly as conservation of agrobiodiversity in the Fertile Crescent is of such global significance.

Glossary of Acronyms and Abbreviations

ACSAD	Arab Center for the Studies of Arid Zones and Dry Lands
APR	Annual Progress Report (for UNDP)
CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization
GCASR	General Commission for Agricultural Scientific Research
GEF	Global Environment Facility
GIS	Geographical Information Systems
ICARDA	International Center for Agricultural Research in the Dry Areas
IPGRI	International Plant Genetic Resources Institute
JES	Jordan Environment Society
LARI	Lebanese Agricultural Research Institute
LFA	Logical Framework Analysis
M&E	Monitoring and Evaluation
NCARTT	National Center for Agricultural Research and Technology Transfer
NGOs	Non-Governmental Organizations
PAPP	Programme for Assistance to the Palestinian People
PARC	Palestinian Agricultural Relief Committee
PIR	Project Implementation Report (for GEF)
RC	Regional Coordinator
RSCN	Royal Society for the Conservation of Nature
UNDP	United Nations Development Programme

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Executive Summary

Introduction

The objectives of this final evaluation were to investigate:

- achievement of project outcomes – both successes and weaknesses
- sustainability of the project's initiatives
- appropriateness of the project's monitoring and evaluation systems (M&E)
- lessons learned related to design and implementation of the project.

The evaluation was designed to conform to GEF M&E guidance for terminal evaluations¹, which asks evaluator to concentrate on: project achievements and shortcomings regarding outcomes, sustainability, and project M&E systems. Lessons learned were investigated to inform the GEF body of knowledge about project lessons and also to help with design of a follow-up project to the agrobiodiversity project.

Achievement of Project Outcomes

Almost all the project objectives and outputs as defined in the approved LFA have been achieved or overachieved. The evaluators however, investigated more than the LFA to establish the project's achievements because the LFA did not identify properly the project's outcome results. We concluded that progress, generally speaking, has been more than moderately satisfactory, and the project promises over the long term to have a positive effect on agrobiodiversity in the region.

The project focused on the issues and the solutions to agrobiodiversity threats for 16 target species and was mainly a learning project. Its primary results and objectives were awareness raising, capacity building and knowledge creation. For these objectives, good results have been achieved and the foundation has been laid to make more substantial progress in both capacity and on the ground in the next few years. The secondary objectives of the project related to achieving some material on-the-ground changes in land use practices of farmers and ranchers (by adopting new technical and management practices), and changes in income and usage of certain target species by community groups, women and farmers (by supporting alternative livelihood enterprises/community groups and promoting local production and processing of medicinal, herbal and food products). Although there are early indications of success in some areas (related to reforestation and land races for crops), in general not a great deal of concrete progress is evident so far. Many of the alternative livelihood initiatives and land use methods were introduced in the last two years of the project, and it is too early to know whether they will succeed or not. We estimate that it will take at least five more years of effort to achieve noticeable impacts on the ground in land use and conservation of some target species.

Using GEF's six point ranking system, we ranked the project's achievement of outcomes as 4.5 out of six, or moderately satisfactory to satisfactory. We base this

¹ See Annex 3 of "GEF Guidelines to Implementing Agencies for Conducting Terminal Evaluations", which contains the most recent guidance from GEF.

assessment on:

- the achievement of outputs, output results and broad changes; we assessed the achievement of all three of these to get a full picture of outcome achievement;
- the fact that the project already has four major results noticeable at the country and regional level (awareness, capacity building knowledge building and raising of commitment);
- the fact that in the context of a long-term program this project has laid a solid foundation;
- the fact that almost all the output indicators as planned have been achieved, and despite the complexity of the project the activities have been implemented largely within the project timeframe and budget;
- the fact that although this was primarily a learning project, the research and demonstration work undertaken has not produced adequate solutions for wild races and overgrazing, both of which were foci of the project;
- the finding that the project had largely achieved its primary objectives which relate to capacity building and awareness raising; and
- the finding that the secondary objectives of the project have only been partially achieved. The secondary objectives relate to achievement of some real changes on the ground (i.e. development results).

Sustainability

The existence of considerable co-financing and the project's success in raising awareness suggest that some of the research, institutional development and policy work will continue. Moreover, staff has been trained and the value in regional networks has been established. In all countries, the concept of agrobiodiversity has been or will soon be introduced to academic programs in schools where it will continue to inform future generations of workers and decision-makers. Also, agrobiodiversity is now being included in some university courses in the region (especially Jordan). Very little of the project's efforts at the community and farm level are likely to be sustainable without continuing support, though there are some encouraging achievements in this area. The demonstrations to promote use of land races of field crops in drought conditions have succeeded in the target areas and have registered with farmers. Some work was done to promote alternative livelihoods (e.g., bee-keeping, nurseries, medicinal plants). However, generally speaking, progress was not sufficient at project's end to support sustainability in that area. Only in a few areas, where very strong markets exist and the products are exceptionally viable, will the new businesses survive without further support. Overall, our ranking for sustainability was moderately satisfactory.

Lessons Learned

The project has the potential to provide lessons and models of success for other areas where GEF is active and to provide guidance for other national governments. Numerous lessons have been learned through the project about *in situ* conservation of agrobiodiversity in drylands. Some key lessons are:

- *in situ* conservation of genetic agricultural resources needs to be looked at in the context of sustainable development

- the objectives of alternative livelihood and agrobiodiversity are not always win:win
- Where agrobiodiversity does not immediately improve the welfare of participants, incentives beyond knowledge and advice will be needed to promote conservation practices
- Conservation of genetic resources must take a community-based approach and be managed in the context of overall human/natural system.

Recommendations

1. The successful agrobiodiversity initiatives started by the project should continue, the long-term program started by the project is only one-third done and it is critical to build on the momentum generated by the project. GEF, UNDP and the national governments all need to continue supporting agrobiodiversity work to achieve long-term benefits from the project.
2. National governments or regional institutions should find ways to continue to support and spread demonstration activities that show promise (e.g. demos related to landraces for field crops, local species for reforestation and to alternative livelihood enterprises for medicinal and herbal plants that have market viability).
3. Work to solve the following agrobiodiversity issues should continue: degradation of grazing and forestlands and *in situ* conservation of wild relatives of food crops.
4. The policy work initiated by the project needs to be continued and adopted by National governments.
5. Further investigation of incentives and the link between incentives and agrobiodiversity benefits is needed.
6. The role of UNDP and the nature of future implementation arrangements should be re-considered. In particular, a way must be found to make UNDP country offices more able to collectively support and benefit from regional projects.
7. Partners should develop a strategy for finishing, sharing, distributing, financing and accessing the knowledge developed by the project.
8. Project partners should consolidate lessons learned from the project that have potential applications for national governments and GEF.
9. Lebanon and the Palestine Authority need to provide funding for professional staff at a level attractive enough to ensure the recruitment and retention of expert personnel.
10. The implementation arrangements for evaluations of GEF/UNDP regional projects in future should be reconsidered.

1. Introduction

Objectives

In accordance with GEF M&E policies, a final evaluation of the Agrobiodiversity project was required. The objectives of the evaluation were to investigate the following:

- Achievement of project outcomes – both successes and weaknesses
- Sustainability of the project's initiatives
- Appropriateness of the project's monitoring and evaluation systems (M&E)
- Lessons learned related to design and implementation of the project.

The evaluation was designed to conform to GEF M&E guidance for terminal evaluations², which asks evaluator to concentrate on: project achievements and shortcomings regarding outcomes, sustainability, and project M&E systems. Lessons learned are being investigated to inform the GEF body of knowledge about project lessons and also to help with design of a follow-up project to the agrobiodiversity project.

Work Plan and Terms of Reference

The final approved work plan and terms of reference (TOR) for the evaluation have been appended to this report (Annexes 1 and 2). Also included with the TORs is the addendum to the TORs developed by the evaluation team to specify details not included in the TORs, including the specific roles and responsibilities of each team member. The actual work done by each team member varied from his or her TORs as explained below.

Project Team

Three individuals carried out the evaluation, each did the following:

Joan Freeman, International Co-lead, designed the evaluation project, developed the methodology and work plan, guided the team during the implementation phase and did the bulk of the synthesis and report writing.

Sawsan Mehdi, Regional Co-lead, reviewed the work plan, collaborated in development of preliminary findings and provided the inputs for the general lessons section of the report as well as the country reports for Jordan, Lebanon and Syria contained in the annexes.

M Duwayri, Senior Advisor and Agrobiodiversity Expert, reviewed all preliminary drafts of evaluation findings and reports and provided technical assessment of project reports, databases and methodologies. He also provided inputs and comments for the Jordan case study.

Scope

The evaluation focused on outcomes or the overall effects of the project rather than the specific effects related to particular activities or outputs.

² See Annex 3 of "GEF Guidelines to Implementing Agencies for Conducting Terminal Evaluations", which contains the most recent guidance from GEF.

In keeping with good evaluation practice, the TORs for the evaluation specified that the evaluation be broken into thirds, with the front third for work planning, document review and preparation, the middle third for data collection and the back third for analysis and report preparation. Unfortunately, the late start of the evaluation, and the need for UNDP to have preliminary evaluation findings by May 30th prevented the first third of the work from happening before country visits started. The initial evaluation mission was held between April 18 and 28, during which the TORs and contracts for the consultants were finalized, the consultants attended an international conference on the project³ and visited project activities in two countries – Syria and Jordan. The country visit for Lebanon and Palestine were held May 3-7, and May 17 to 20 respectively. Between May 22 and 30, the regional work was reviewed, gaps in the data were identified and preliminary findings by component were developed. Data verification and review of the preliminary findings by component was done with component project managers, UNDP task managers and GEF/UNDP representative at a debriefing in Amman on May 30th.

Because work planning was done at the same time as the team visited Syria and Jordan, the evaluation findings for these two countries were less detailed and focused than for they are for the Lebanon and Palestine, which were visited later. Another constraint the evaluator faced was that that the initial 1/3 time allocated for document review largely was cut. As a result, document review was limited to what could be done at the same time as the country visits are ongoing.

The evaluators were asked to use the GEF Tracking Tool⁴ to the extent possible, given that this is a new tool and it should be completed at the beginning, mid-point and end of projects. The tracking tool was to be completed by the ICARDA/National Project Directors and UNDP. The tracking tools data for each country was unavailable during the evaluators' visits to the countries, so these were not verified by the evaluation but are appended.

The evaluators were asked by M&E unit of UNDP/GEF (NY) to include a table on co-financing in the final evaluation. This table was to be completed by the Project Managers, these arrived to late to be analyzed or verified by the evaluation but are appended.

Organization of the Evaluation Report

Section 3 outlines the background and context for the project. The overall outcome and sustainability findings for the entire project are presented in Section 4 (detailed findings by country are provided in Annexes). Section 5 discusses the appropriateness and quality of M&E systems, and Section 6 details general lessons learned (as opposed to lessons from specific countries, which are provided in country reports in Annexes). Finally, conclusions related to findings are summarized along with resulting recommendations in Section 7.

³ International Conference on Promoting Community-driven Conservation and Sustainable Use of Dryland Agrobiodiversity. ICARDA, Aleppo, Syria, April 15-21, 2005.

⁴ Tracking Tool for GEF Biodiversity Focal Area Strategic Priority Two: "Mainstreaming Biodiversity into Production Landscapes and Sectors.

2. Methodology

2.1 Evaluation Issues and Framework

As explained above, the evaluation focused on four issues (outcome achievement, sustainability, monitoring and evaluation, lessons learned). The analytical framework we used to investigate these issues is provided in the workplan in Annex 2, along with the interview guides and the general agenda for country visits.

2.2 Impact Assessment Approach

The project relied on an impact assessment methodology to address outcomes and sustainability. A full assessment of impact begins with a thorough understanding of the project and of local or national conditions related to the project. Following this, assessment focuses on identifying the changes/impacts caused by the project and their importance. In this case, time and budget did not allow for an in-depth review of project details or its context. Instead, the evaluation team relied on project documentation and briefings by participants to gain an overview, and it concentrated its efforts on:

- (i) identifying noticeable changes (or results) at local, national and regional levels; and
- (ii) determining the values to use to understand the importance of these changes.

In addressing sustainability, the main question was this: are the enabling conditions in place to lead to the desired long-term impact?

2.3 Synthesis

The evaluation relied on “synthesis” (i.e., the integration of information from many sources) rather than “analysis” (i.e., the breaking down of a broad picture into component parts for detailed examination). This approach is valuable in that it allows many different kinds of data (including opinions gleaned from interviews) to be knitted together to provide a broad and realistic overview of achievements, sustainability and lessons learned. In addition, spot-checking of outputs was performed, to ensure accuracy of the documentation. The challenge of synthesis lies in the balancing of numerous perspectives and data from various disciplines. The way this was achieved was through group discussion, verification of facts and reviewing our preliminary findings with the key partners.

2.4 Verification

The project is supported by a great deal of documentation (e.g., PIRs, APRs, a mid-term evaluation, a related evaluation by DFID (the genetic resources unit of ICARDA), as well as regular monthly progress reports. Although the focus was on outcomes, the evaluation team investigated outputs to the extent needed to confirm the accuracy of the reports and to identify output results. Data for output indicators was found to have numerous inaccuracies for some countries (especially Syria and Jordan); as a result the evaluators had to spend considerable effort checking and confirming indicator data.

2.5 Data Collection Methods

The following data collection methods were adopted for the evaluation:

- (i) rapid appraisal (including stakeholder consultation, key informant interviews, document review, site and activity observation in each country and small group meetings);
- (ii) technical review of documentation (to investigate quality of key documents);
- (iii) review of GEF/UNDP policies and practices for agrobiodiversity;
- (iv) use of GEF Tracking Tool (completed by project coordinator/national project manager and UNDP);
- (v) Literature review and email communications (to identify best practices and to obtain insight from technical experts – many of whom attended the Aleppo⁵ conference); and
- (vi) Team work and brainstorming (for the sharing of information and refinement of thinking as the evaluation progressed).

2.6 Ranking

GEF required the evaluation team to rank outcomes for achievements, sustainability and quality of M&E systems according to six values (i.e., Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory and Highly Unsatisfactory). In light of the lack of guidance from GEF on the specific criteria to use to rank outcome achievement, sustainability and M&E, the team developed project-specific criteria for the rankings, taking the following into consideration:

- (i) the general considerations given in GEF guidance for assessing outcomes sustainability and M&E systems⁶
- (ii) a wide range of stakeholder opinions;
- (iii) varying contexts and delivery challenges from country to country;
- (iv) relevant information from project documentation (including the GEF Tracking Tool);
- (v) best practices documentation; and
- (vi) project team experience.

Details on the criteria used for rankings are given in Sections 4.3 and 5.2.

⁵ International Conference on Promoting Community-driven Conservation and Sustainable Use of Dryland Agrobiodiversity. ICARDA, Aleppo, Syria, April 15-21, 2005.

⁶ The GEF guidance for assessment of outcomes is to consider the focal area questions for biodiversity, which are based on biodiversity program indicators as well as the tracking tool. GEF guidance for assessment of sustainability is to consider the key conditions that are likely to contribute to the continuation or detraction of benefits after the project ends, including financial resources, stakeholder ownership and institutional framework and governance. GEF guidance for assessment of M&E is to consider the appropriateness of the M&E system including whether it allows for tracking progress towards objectives, it includes a baseline, clear/practical indicators and data analysis systems/studies for assessing planned results, the capacity and resources are in place to implement the M&E system and whether the M&E system was used for project management. See Annex 3 of “GEF Guidelines to Implementing Agencies for Conducting Terminal Evaluations” for further details.

2.7 Definition of Outcomes and Results

The agrobiodiversity project was designed before Logical Framework Analysis (LFA) or specification of results was required. Consequently, in the project documents the outcomes were not defined nor was a LFA developed. Instead, one broad development objective was defined, along with eight immediate objectives (five related to the national level and three to the regional level). Also, the anticipated end-of-project situation and the broad categories of beneficiaries were identified. (See Annex 3 for further details).

An LFA was developed for the project in 2001, after the first year of implementation. Although the LFA did not define outcomes, it specified nine outputs and accompanying indicators that were used for the remainder of the project⁷. The LFA is provided in Annex 3. Essentially the immediate objectives were converted into outputs, seven of which are national and two are regional. The indicator and activity level of the LFA was very detailed for some outputs (i.e. output 4), but not others and the reach for the outputs was not defined. Consequently, we clarified the reach and intended scope for each output, as is shown in Table 2.1. We used this table as well as the specific indicators developed for each output to review achievement of outputs. The output indicators are too numerous to include in table 2.1, but a full listing of them is provided in the Summary Output Achievement Tables in Annex 4.

Weaknesses in the LFA are described in Section 5, however, one weaknesses in particular caused challenges for the evaluation: the lack of focus on results (not only were outcomes undefined, many of the output indicators did not relate to results). These weaknesses were not surprising given the vintage and retrofit nature of the LFA; nevertheless the difficulties in identifying outcome results for the first time at the end of the project should be recognized.

Outcomes are the broad results caused by the project on society and the environment⁸. In terms of the LFA, outcomes are the results associated with the project objectives, which are the second highest level of the LFA. As outcomes were not defined in either the project documents or LFA, and the evaluation was required to assess outcomes, the evaluators identified and assessed outcome achievement on the basis of the following:

- achievement of the nine project outputs and their results⁹
- identification of the overall changes of the project to date on the environment and society at the country or regional level. The evaluators identified these broad results during the mission through a variety of methods (document review, stakeholder interviews, site observation, technical document review, etc.).

For further details on the methods used to identify and assess outcomes see Sections 4.1 and 4.3.

⁷ The indicators were slightly sharpened in 2004 for the PIR, but the expected targets/outputs were generally not changed.

⁸ A more precise definition for outcomes is: the proposed changes to and effects on the environment and society caused by the project.

⁹ Although the outputs were at the third level in the LFA we investigating them because output results should lead to achievement of higher order results – if the LFA is correct.

**Table 2.1: Outputs for National Components
(Description Used for the Evaluation)**

Output	Reach	Key Initiatives Planned
1. Causes of agrobiodiversity degradation of target species in the project sites are better understood.	Key targets: project team, national/regional implementing agencies. Others: farmers on site, individuals and consultants hired from NGOs and universities.	Develop standard survey methodology. Conduct annual eco-geographical, botanical surveys. Develop national and regional databases, GIS for botanical, eco-geographical data. Conduct socio-economic surveys of target farmers, communities. Conduct surveys of local knowledge of target species, livestock grazing patterns.
2. Monitoring and impact assessment are established.	Key targets – implementing agencies Others – UNDP/GEF, project teams	Develop standard indicators, methodology for impact monitoring. Train staff from implementing agencies in impact monitoring methodology. Establish impact monitoring system (2002). Conduct mid-term and final impact assessments. Monitor and review project progress.
3. National capacity for human resource development is strengthened.	Key targets – project team, staff from national implementing agencies, university graduate students, school teachers and students Others – farmers and extension workers	Train farmers, technicians on agrobiodiversity survey methods, plant breeding, water harvesting, nursery development, rangeland management, alternative livelihoods, policies and legislation, etc. Develop resource materials for teachers, school curriculum for elementary and high school students. Conduct scientific research (e.g. taxonomy). Develop technical manuals (e.g., water harvesting). Finance PhD, MSc students in agrobiodiversity. Involve NGOs, universities in project activities.
4. Current land use practices are improved.	Key targets: farmers, herders. Others: staff of project, NGOs, implementing agencies, universities.	Develop, demonstrate practices that conserve land races of field crops and fruit trees, conserve wild relatives of field, forage and fruit tree crops, improve quality of rangelands. Promote these practices to other farmers, herders to increase area planted with land races to 10%.
5. Relevant policy/legislation is proposed to government for consideration and adoption.	Key targets: agriculture and environment decision-makers of national governments. Others: individuals hired to do the work.	Develop common framework for policy development of analysis, options identification, option selection and promotion of recommendations to government authorities. Test policies with local communities and include “bottom-up” community issues/realities in policy development. Develop policy and legislation options and submit these to decision-makers.
6. Public awareness is raised.	Key targets: public, farmers, school children. Others: extension workers, NGO staff, university consultants and government personnel.	Increase awareness of agrobiodiversity issues among the public and farmers. Introduce agrobiodiversity into education system. Develop range of media releases (television, newspaper, radio, films, newsletters, rural theatre, etc.).
7. Additional sources of income are identified and promoted.	Key targets: women’s groups, farmers. Others: project staff, NGO staff, implementing agencies	Identify potential alternative livelihoods (e.g., bee-keeping, food processing, medicinal/herbal plant production, eco-tourism, etc.). Mobilize resources for income generation activities. Establish links, agreements with NGOs and other local groups to work on alternative livelihoods. Assess financial feasibility of at least two alternative livelihoods.

Table 2.1 continued: Outputs for Regional Components (Description Used for the Evaluation)		
Output	Reach	Key Initiatives Planned
8. Regional coordination, integration and networking are enhanced.	Key targets: national implementing agencies, project staff. Others: participants in regional meetings, UNDP and GEF personnel.	Coordinate regional work plans, APRs/PIRs, regional steering committee meetings. Coordinate regional meetings on methodologies, approaches, analysis. Coordinate visits, exchanges of information and germ plasm between countries. Develop regional databases from available national data. Prepare regional analysis for GIS, agrobiodiversity status, threats and socio-economic data.
9. Technical backstopping and training are provided on request.	Key targets: national implementing agencies, project staff. Others: participants in regional training courses including government and NGO staff, farmers, university professors, etc.	Organize regional training courses. Recruit qualified international, regional specialists in response to needs of national partners.

2.8 Stakeholder Involvement

In addition to interviewing the major national and regional stakeholders, the evaluators consulted with them to verify data (mainly output information), to review preliminary findings and to comment on the draft report. In addition, the evaluators provided a short briefing note (4 pages) of the preliminary findings before the draft report was done for the final steering committee meeting on June 26. The evaluation team synthesized the many disparate views provided by stakeholders and to the best of our ability balanced these views to provide a realistic picture. Much of the assessment information and almost all the lessons come directly from stakeholder interviews and consultations (lessons were identified by stakeholders suggesting what they would change “next time”).

2.9 Baseline

The initial conditions were established for the botanical and ecological conditions in the target areas in 1999 and 2000. In addition, socio-economic surveys were undertaken of targeted farmers and rapid appraisals were done at the household level for targeted community groups, early in the project as well, although the quality of this early socio-economic data was variable. Thus baseline was available for some outputs (e.g. 1, 2 and 4). The starting point for capacity building, awareness raising and policy development was not defined, but during the mission, the evaluators developed a general understanding of the levels for these through discussions with stakeholders and reviews of technical documents.

2.10 Team consensus

This evaluation report is a team report; it reflects the views of the three evaluation team members. Although the international consultant wrote the main text of the draft final report, the other team members reviewed, corrected and agreed with the draft report. The

International Consultants prepared this revised and final report in response to review comments, but due to time and budget constraints, the report was not reviewed by the other evaluation team members before submission. Nevertheless, the responses of other evaluation team members to the comments on the draft were taken into account in the final revisions.

3. Context and Background

3.1 Project Background

The agrobiodiversity project was approved by GEF in November 1997 and implementation started in July 1999. This \$8.18 million USD project¹⁰ was originally designed as a five-year project to end June 2004, but was extended for one extra year at no additional cost to end June 30, 2005. The project aims to promote community-driven in situ/on-farm conservation and sustainable use of landraces and wild progenitors of 16 agricultural crop species of global/regional importance which have their centers of diversity in the Western Asia region.

The project has applied a holistic approach across a broad spectrum of issues and stakeholders in the four countries. It has involved: development of the scientific aspects of *in situ* conservation of agrobiodiversity, participation of major stakeholders in project activities, building of national capacity, legislation and policies to support agrobiodiversity conservation, integration of ecological factors into farmland management practices, raising of public awareness, use of alternative livelihood approaches and coordination and sharing of learning across the region.

3.1.1 Objectives and Expected Results

As described in Section 2, the agrobiodiversity project documents did not include an LFA but did define the following broad development objective for the project:

The promotion and sustainable conservation and utilization of agrobiodiversity in the Near East through farmer based in-situ conservation of significant endemic wild relatives and land races.

When the LFA was developed in 2001, this development objective was modified slightly and became known as the Global Objective. The LFA contains four levels: 1) Global Objective, 2) Immediate Objective (which we take to be the project objective), 3) Outputs, and 4) Activities. The project objective (second level of LFA) for the four countries is the same and is:

Globally significant agrobiodiversity is conserved in situ in Syria/Lebanon/Jordan or the Palestinian Authority.

The expected results for the project are not explicitly defined in either the project document or the LFA. The project document, however, describes 15 conditions anticipated for the end-of-project situation and also defines eight immediate objectives, both of which provide a sense of the expected results. The LFA on the other hand, defines specific indicators for both the project objectives and the outputs. In our view

¹⁰ \$8.18 million is GEF financing; in addition the project has financing from all four governments and also co-financing from UNDP and the regional implementing agencies (ICARDA, IPGRI and ACSAD).

some of these indicators relate to results and some do not, (e.g. many output indicators relate to activities or products). For the project objective, two indicators are defined:

- Diversity of all wild species of the 16 target species is at least maintained *in situ* in the two target areas
- Acreage of all farmer names varieties (landraces) enhanced by 10% in the two target areas by the end of the project.

See Annex 3 for further details about the objectives and the results contained in the project documents and LFA.

Although project documents and the LFA do not identify the expected results well, the project was clearly intended to focus primarily on understanding agrobiodiversity issues and solutions better and on capacity building. However, the project also secondarily encompassed certain pilot approaches designed to effect real change (i.e., development results), though the specific type and extent of these results were not defined.

3.1.2 Project Components and Budget

The agrobiodiversity project is divided into five components – four nationally executed components and one regional one – each executed under a separate UNDP project documents and contract. (See Table 3.1.) Four components are the nationally executed components for Jordan, Lebanon, Syria and the Palestinian Authority, one component is a regional component executed by ICARDA. Because of Palestine’s unique situation, UNDP undertook a more direct execution role in the Palestine components. Also, UNDP has been involved in implementation of the Lebanon component. UNDP’s role for the other components is typical of UNDP office involvement in nationally executed projects and involves finances and reporting.

Project Component	Agencies	GEF/UNDP Contribution US(\$)	In-kind Contribution US(\$)
Lebanon	Agricultural Research Institute (LARI)	1,500,000	571,800
Jordan	National Center for Agricultural Research and Technology Transfer (NCARTT)	1,500,000	1,000,000
Syria	Scientific Agricultural Research Directorate (SARD), later the General Commission for Scientific and Agricultural Research (GCSAR)	1,998,960	585,302
Palestinian Authority	UNDP/PAPP and the Ministry of Agriculture, the Palestine Authority	2,000,000	646,800
Regional Component	ICARDA in cooperation with IPGRI and ACSAD	1,123,979	5,809,829

3.1.3 Project Co-financing and Leveraged Resources

Co-financing tables for each component of the project are provided in Annex 5. In addition, information on resources leveraged is provided for Palestine, Lebanon and the Regional components. As can be seen by comparing the tables with the expected in-kind contribution in Table 3.1, all components have received substantial in-kind contributions and the in-kind funding provided for the four countries has met or exceeded what was originally promised¹¹. The co-financing provided for the regional component by ICARDA, IPGRI and ACSAD was less than originally budgeted, but very substantial and exceeds the budget provided by GEF for the regional component. We believe that the original in-kind budget of \$5,809,829 for the regional component was overly ambitious relates to the total in-kind contribution intended for the entire \$8.18 million project¹². Although we did not verify these financial numbers¹³, it is clear that this project has received considerable co-financing support as well as leveraged resources – both of which have contributed to its success.

3.1.4 Target Species and Target Areas

The project focused on 16 target crops (or crop groups) of global or regional significance and their wild relatives. All target species originated long ago in the Near East or Central Asian region and all are suffering significant loss in genetic diversity. In each country, all activities except the policy work were implemented in two areas. These target areas were selected for the variety of target species present, the representation of major ecosystems and their suitability for work. The target species and their distribution within the each target area are shown in Table 3.2.

Crop	Germ Plasm	Jordan		Lebanon		Palestinian Authority		Syria	
		Ajloun	Muwaqqar	Aarsal	Baalbek	Jennin	Hebron	Al-haffe	Sweida
Wheat	Wild <i>Triticum</i>	X			X	X	X		X
	<i>Aegilops spp.</i>	X	X	X	X	X	X	X	X
	Land Races	X		X	X		X	X	X
Barley	<i>H. spontaneum</i>	X	X		X	X	X	X	X
	Land Races	X			X		X	X	X
Lentils	Wild <i>Lens</i>	X			X				X
	Land Races	X			X				X
Vetch	Wild <i>Vicia</i>	X	X	X	X	X	X	X	X
Lathyrus	Wild <i>Lathyrus</i>	X		X	X	X	X	X	X
Medics	Wild <i>Medicago</i>	X	X	X	X	X	X	X	X
Clovers	Wild <i>Trifolium</i>	X		X	X	X	X	X	X

¹¹ Note that the Jordan co-financing table understates the amount of co-financing received. In addition to the \$806,500 US reported in the table as the in-kind contribution from NCARTT, the project also received substantial in-kind contributions from the University of Jordan (JU) and the Jordan University of Science and Technology (JUST). When the contributions of JU and JUST are included, we believe that the initial co-financing commitment of \$1 million US would have been met.

¹² From our meetings during the mission we were led to believe that the regional in-kind budget was not reduced when the project was broken into 5 separate contracts.

¹³ Co-financing information was not available until after the country visits were over.

Olives	<i>Olea oleaster</i>								X
	Local Varieties	X	X				X	X	X
Apricots	Local Varieties	X		X				X	X
Cherries	Local Varieties			X				X	X
Plums	Local Varieties						X	X	
Almonds	Wild <i>Prunus</i>			X			X	X	X
	Local Varieties	X		X			X	X	X
Pears	Wild <i>Pyrus</i>			X	X		X	X	
	Local Varieties			X			X	X	X
Pistachios	Wild <i>Pistachio</i>	X		X		X	X		X
	Local Varieties			X				X	
Figs	Local Varieties	X		X	X		X	X	X
Allium	Wild <i>Allium</i>				X			X	
	Local Varieties	X	X	X				X	X

3.2 Context

3.2.1 New Concepts

When the project started, the concepts of managing dryland agrobiodiversity and mainstreaming were new to GEF and UNDP. The idea of conservation of agrobiodiversity *in situ* was also new to the national implementing agencies and to many project partners in the four countries. This was one of the first such projects at GEF, and the international donor community (including GEF) was unclear about the meaning of agrobiodiversity in drylands and how to implement an agrobiodiversity conservation project for genetic resources in the agricultural sector.

3.2.2 Changes in Project Design and GEF Expectations

The concept and design process for this project began in 1993. At the time, there was no requirement for or general understanding of the importance of including the following elements in project designs (all of which are now required for GEF projects):

- (i) LFA and specification of results
- (ii) policy work should produce policy changes
- (iii) alternative livelihood and community development proposals should address financial feasibility, market analysis and viability
- (iv) biodiversity projects should produce changes in behavior of targeted communities and changes in land area for biodiversity by the end of the project
- (v) projects should achieve sustainability, on-the-ground impacts and replication of activities by the end of the project, and
- (vi) outcomes of biodiversity projects should be evaluated in terms of GEF's biodiversity program indicators.

3.2.3 Alternative Livelihoods and Agrobiodiversity

For the past ten years, alternative livelihood approaches have been included in biodiversity projects, the assumption being that farmers, herders and forest users who are over-exploiting biodiversity resources will, if given alternatives, reduce pressure on

biodiversity. Until recently, GEF/UNDP considered that alternative livelihood approaches created a win-win situation for people and biodiversity. This thinking has started to change, and in the past six months some GEF/UNDP articles have suggested that there may be trade-offs involved between alternative livelihoods and biodiversity. In terms of agrobiodiversity, the issues of financial compensation and benefit sharing for farmers have not yet been included in donor policy and guidance documents.¹⁴

3.2.4 Access and Benefit-Sharing for Agrobiodiversity Genetic Resources

The 2004 FAO International Treaty on Plant Genetic Resources for Food and Agriculture includes financial compensation for local users to encourage conservation. However, some senior officials estimate that it will take ten years to establish mechanisms needed for transferring money to farmers.

3.2.5 Implementation Arrangements

The national implementing agencies designated a national coordinator, responsible for overall implementation, and selected a project manager responsible for day-to-day conduct of the work. However, the work was implemented differently for each component, specifically:

- (i) Syria: GCASR headquarters and staff in the project target areas implemented many of the project activities, in cooperation with the agricultural directorates in the two target areas. In cases where GCASR lacked expertise, it relied mainly on international expertise, especially from ICARDA, which is located in Syria (e.g. GIS was sub-contracted to ICARDA). Some national experts from universities have also been involved. The project is managed by GCASR staff.
- (ii) Jordan: the implementing agency, NCARTT, sub-contracted almost all activities to University of Jordan or Jordan University of Science and Technology (JUST), except for public awareness, which was sub-contracted to a NGO (Jordan Environment Society). However, project activities, particularly fieldwork, were done in collaboration with NCARTT staff. A project manager and two assistants were hired to manage the project and also were actively involved in the alternative livelihood, public awareness and training activities.
- (iii) Palestinian Authority: A project manager and seven-member project team were established within the implementing agency (Ministry of Agriculture) to implement the project. Four of the seven project team members are MOA staff who were seconded to the project, also the National focal point is from MOA. Salaries of all project staff are paid by the project. Some technical project activities were sub-contracted to national institutions and NGOs. The project team did many of the training and field activities and worked together with the sub-contractors to implement others.

¹⁴ The evaluators reviewed the recent literature on links between agrobiodiversity and alternative livelihood in policy and guidance for GEF, UNDP and other donors.

- (iv) Lebanon: the project manager and four-person project team that was established within the implementing agency (LARI) did most of the work, but some activities (e.g., GIS/RS, policy and legislation) were sub-contracted to national institutions and national experts. Salaries of the project team were paid for by the project.
- (v) Regional: ICARDA implemented the regional component in cooperation with IPGRI and ACSAD. ICARDA's regional coordinator both managed the component and provided technical assistance. ICARDA did most of the regional coordination work; IPGRI coordinated two regional technical groups (on policy and public awareness) while ACSAD provided trainers on request, mainly related to fruit trees.

3.2.6 Changes in Project Concept and Design

From the time the project idea was initiated in the mid-1990s, the concept and design evolved considerably in terms of scope and type of final results possible. The five most important design changes were:

- (i) The original design focused on wild relatives of field crops (especially wild progenitors of wheat) and at the level of habitat and farming systems (i.e., community). Also, the initial concept covered the entire Fertile Crescent and included Turkey, Iran and Iraq. At the request of GEF and UNDP, early in the design stage these three countries were dropped and the concept was shifted to 16 specific crops¹⁵, and included landraces and wild relatives of fodder and fruit trees as well as field crops. In addition the scope was narrowed to the level of field and farm.
- (ii) During development of the project document, the original single project was broken into five separate components (four countries and one region), each contracted separately, and the regional role was reduced to coordination and technical backstopping.
- (iii) No results were originally defined for the project. An LFA was developed in the second year of the project, but it lacked outcome and output results, and the indicators focused on activities and products more than results. Thus, the project has no commonly agreed upon expected outcome results.
- (iv) The budget for national components was reallocated in 2003 to include local incentives for demonstration activities.
- (v) The project was extended for a sixth year at no additional cost. This allowed for completion of certain demonstrations, database development and preparation of project final reports for each country. Also, a few pilot community and management plans were started.

¹⁵ Some of the target species are of regional rather than global significance.

3.2.7 Expectations for Another Phase

Up until the last year of the project, most implementing agencies expected the project to have a second phase that would closely follow and continue the work started by this project. In 2003 a preliminary proposal for a second phase was discussed and developed by the GEF regional coordinator, ICARDA and the national implementing agencies. This proposal has not gone further due to changes in GEF priorities, the untimely death of the UNDP-GEF regional coordinator, Dr. Daraghma, and lack of GEF funds for a project of this type. However, a new regional project titled “Applying agrobiodiversity knowledge for effective up-take in the Near East” is in preparation now. This project is expected to focus mainly at the regional level and on making material changes related to policies and alternative livelihoods.

3.2.8 Changes in Key Personnel

Changes in key project personal (see Table 3.4) also affected results through changes to implementation priorities and schedule.

Number of Personnel in Key Positions	Number of Incumbents (by Component)				
	Jordan	Lebanon	Palestine Authority	Syria	Region
Project Manager	1	2 (with gap of several months between)	1	4	1
National/Regional Coordinator	1	2	2	2	2
UNDP National task manager	2	2	3	2	2 (Syria UNDP)
UNDP-GEF Regional Coordinator	2 (with gap of several months between)				

3.2.9 External Changes

The project took place in a period of structural adjustment in the region, with WTO negotiations affecting Jordan, and agricultural sector reforms underway in the Palestine Authority and Jordan. Conflict between Israel and the Palestine Authority since October 2000 have resulted in restrictions in movement, water usage and market access.

4. Achievement of Project Outcomes and Sustainability

This section presents our findings for the overall project for outcome achievement and sustainability. As many findings are common to all countries, the analysis focused on overall findings. The overall findings presented in this section are based on detailed analysis by country and component. The detailed analysis is presented in annexes 7-10.

4.1 Outcome Achievements

4.1.1 Assessment Approach

Assessment of outcomes required the evaluators to identify the outcomes to review and also the standards to use to evaluate outcome achievement. Both of these tasks were challenging and interrelated, as explained below.

Outcomes Evaluated

As explained previously, the expected outcomes of the project were not defined in any documentation. Also, stakeholders' views about what the outcomes were varied; some considered the outputs to be outcomes, some felt that outcomes had never been defined, and some felt that it was too early to assess outcomes or the changes caused by the project, as this was the first phase of what should be a much longer project. We reviewed the project documents, LFA, PIR/APR and GEF guidance for M&E carefully and concluded the following:

- Although outcome results were not initially defined, project documentation makes it clear that the project was intended mainly as a capacity-building exercise (i.e., training, development of information and organizations, development of technical tools and approaches). However, as a secondary objective, it also expected to pilot approaches to effect some real changes (i.e., development results) on the ground, though their specific type and extent is unclear.
- During the design phase, the original project – intended to be a single integrated project – was broken into five components with reduced scope and budget. It seems that the original objectives and expected end-of-project situation were not properly modified to reflect these changes. In our view, the immediate objectives and projected end-of-project situation provided in the project documents are unrealistic for a five-year project (later extended to six years) of this scope. Evaluating the project's achievements against the end-of-project situation given in the project documents would be unreasonable.
- The project outputs and their indicators as specified in the LFA do not represent outcomes. Although some stakeholders felt that the outputs could be considered outcomes¹⁶ we do not agree. The indicators for outputs tell specifically how the project's outputs were viewed and implemented by the project partners – and these indicators mainly relate to

¹⁶ It was suggested by the UNDP/GEF regional coordinator and UNDP/GEF M&E advisor (NY) after the draft report was submitted that the lack of outcome results was simply a matter of confused LFA terminology and we should evaluate outcomes using the LFA outputs and indicators.

activities and deliverables, few focus on results and even less focus on changes beyond the project. If the indicators had focused on results and especially enabling results beyond the project then yes the outputs could have been considered outcomes, and the evaluation could have focused on them. But they do not, and evaluating using the LFA outputs and indicators as they are would provide little information about the project's results or changes caused by the project.

- If the results and enabling changes caused by some of the outputs were known, this would provide outcome level information. However, such information was not available in existing progress reports.
- The two indicators for the project objective given in the LFA (see Section 3.1.1 for these) do not capture the full range of changes the project was expected to achieve (as described in the project documents). Focusing on these two indicators only for outcomes would be a mistake – many significant achievements of the project would be missed.
- Project managers began discussing and identifying impacts of the project at project management meetings starting in 2004. Although called impacts information, in our view, it is similar to outcome information. This information was preliminary and not comprehensive.

Accordingly, to identify and assess outcomes we looked at:

- (i) Output achievement – since outputs are expected to lead eventually to broader changes in society and the environment, it was essential to establish what outputs had been achieved. This was done by spot-checking and verifying the reported data for the output indicators given in the LFA.
- (ii) Output results – since the output indicators did not provide adequate information about results it was necessary to identify the results associated with outputs. As explained above some of these results could be considered outcomes (i.e. any enabling changes that have happened that are beyond those directly funded by the project). Collection of this result information was done during the mission¹⁷ and consequently it is not as detailed as it would be if it had been collected as part of regular progress reporting by the project.
- (iii) Overall changes, or “impacts” of the project to date at the country or regional level – since these broad changes are clearly outcomes. As with the output results, this information was collected during the mission¹⁸ and is therefore not as detailed as it would be if it had been collected as part of regular progress reporting by the project.

By combining the information from these three sources we believe we have identified properly both the intended and unexpected outcome results of the project. This complete picture of outcome results was needed to provide a realistic evaluation of the project's

¹⁷ This data was collected through stakeholder interviews, technical review of documents and site observation.

¹⁸ This data was collected from documentation of project managers, stakeholder interviews, site observation and the tracking tool.

results and how satisfactory the progress has been. Section 4.1.2 summarizes our findings from these three sources; Section 4.1.3 presents findings for output achievement, Section 4.1.4 presents findings for output results and Section 4.1.4 presents findings for overall changes to date, or the broad outcomes/impacts of the project.

Evaluation of Outcome Achievement

The GEF guidelines for terminal evaluations expect evaluators to consider the following questions when evaluating outcomes for biodiversity projects:

1. How has the project contributed to establish and extend protected areas, and improve their management?
2. How has the project contributed to conserve and ensure sustainable use of biological resources in the production environment (landscapes and seascapes)?
3. Has the project contributed to improve the enabling environment through effective policies, institutional capacity building, increased public awareness, appropriate stakeholder involvement, promoting conservation and sustainable use research, leveraging resources and providing incentives for conservation?
Explain.
4. How has the project facilitated fair and equitable sharing of the benefits arising from the use of genetic resources?
5. What is the project contribution to replication or scaling up of innovative practices or mechanisms that support the project objectives?

These questions are based on GEF's biodiversity program indicators and except for enabling results (question 3 above), in our view they relate to results that are largely beyond the scope and timeframe of this project. But to fulfill the GEF guideline requirements we have ranked the project using criteria related to these questions, we refer to these as "GEF Criteria for Ranking".

We also developed criteria for evaluating the project's achievement's against its planned objectives and results – as they were given in project documents (including the LFA), revised during implementation and clarified during the evaluation. We ranked the project using these criteria as well, and refer to them as "Stakeholder Criteria for Ranking".

Both rankings are presented in Section 4.1.5.

4.1.2 Summary

In terms of capacity building, the project has had a noticeable impact nationally and regionally (see Sections 4.1.4 and 4.1.3) in terms of:

- awareness-raising;
- capacity of individuals and organizations to understand and solve agrobiodiversity problems;
- knowledge; and
- commitment.

The agrobiodiversity project should not be considered just a project; it should be viewed as the start of a 15-20 year program. Viewed in the context of a long-term program, the agrobiodiversity project has made satisfactory progress, in the areas of capacity development generally (i.e., training, development of information and organizations, development of technical tools and approaches). However, in terms of on-the-ground development changes (i.e. the secondary objectives of the project), very little impact is noticeable to date in light of the following considerations:

1. It is too early to see the results of many community-based initiatives: trees take five to ten years to grow before guaranteeing real change in land use. Many of the alternative livelihood demonstrations are still in the start-up phase, and their viability is unknown.
2. More work is needed to improve rangelands and *in situ* conservation of wild species, and the technical solutions piloted address only part of the problem. Issues that remain to be faced include poverty, inequitable land ownership, destructive land reclamation, inappropriate herd sizes and a lack of community empowerment and necessary policies.
3. Changes in land races for field crops are succeeding in target areas in the Palestine Authority and may eventually be adopted by farmers outside the target areas. (Similar work for field crops landraces was initiated in Lebanon during 2004)
4. None of countries have enacted policy and legislative changes so far, and additional work is needed.
5. The countries or UNDP offices so far has made limited changes to their land reclamation projects and policies to reflect agrobiodiversity considerations¹⁹. However, agrobiodiversity is now taken into consideration in national reforestation programs of Syria as well as the other countries (e.g. Syria has decided to include 20% of the target species in the National Reforestation Plan).
6. Project documents are often in draft form, and these need to be finalized for distribution to policy-makers, extension workers, farmers, community groups, NGO staff, academics and donors.

¹⁹ Some policy changes are starting in UNDP. For example, in Palestine, the Food Security project funded by the Government in Spain in Tubas only used local landraces. The new project on Land Development has included Agrobiodiversity considerations on the set of criteria to select intervention area. Also in Lebanon, the UNDP officers stated “Maybe not all the projects/portfolio have changed but the project has definitely contributed to change some policies and design of project”.

4.1.3 Achievement of Outputs/Activities

Annex 4 contains detailed tables of the output achievements by country. The information in these tables was provided by project managers and verified by the evaluators²⁰. As can be seen from these tables, almost all of the planned output indicators and activities of the project have been achieved or over-achieved. However, the outputs and output indicators in the Logical Framework Analysis (LFA) have weaknesses and do not properly identify the type and range of output results. Specifically, most of the indicators are activities or products rather than results²¹. (See Section 5, for further discussion of the LFA and other monitoring tools and for detailed specification of the weaknesses in the LFA see the Gaps section of the outputs tables in Annex 4). Thus, we concluded from these tables that most of the planned activities have been implemented, and indeed a number of extra activities not included in the LFA have also been implemented. Implementing the number and range of activities involved within the timeframe and budget is an impressive accomplishment; this is a complex project and nothing was in place when it started – all the managers and management arrangements had to be established.

Some of the outputs indicators relate to results (e.g. At least 10% of farmers in target areas adopt the technical packages offered by the end of project) and generally speaking the tables confirm that these results have been achieved, with some exceptions. The shortcomings in achievement of activities and results, as defined by the output tables and their indicators were:

- Adoption of technical packages for grazing and water harvesting are uncertain at present
- Work on patches and borders to conserve wild races has not gone as far as intended (e.g. sites not designated as protected yet). On the other hand, conservation of wild races is very challenging; more work than what was planned will be needed to solve this issue.
- Adoption of management plans by collaborating farmers and herders has not happened because draft plans were only recently developed and several additional years would be needed to implement these properly.
- Financial and market analysis for alternative livelihood options (some studies have been done, but generally fewer than intended and most of these studies do not provide cost-benefit evaluations of options, as was intended).

Generally, the output indicators do not provide information about results or provide an understandable picture of the output achievements for the full six years of the project. Thus we identified the results associated with these outputs, to the extent possible during the evaluation mission. These findings follow.

²⁰ Verification took considerable effort (much more than the spot-checking originally intended) as there were numerous inaccuracies in the initial data from some countries

²¹ A result is a change in condition – such as adoption of technical packages for land management, change in level of awareness or a change in land reclamation policies and procedures.

4.1.4 Output Results

The key output results for the agrobiodiversity project are highlighted in this section. For more details, see our observations in Table 4.1 and Annex 4. We focused on the results associated with the nine outputs that we believe are similar to outcomes, in that they extend beyond immediate project participants and are broad reaching, these are as follows:

1. Increased understanding and awareness of the importance of dryland agrobiodiversity and of threats to it among farmers, teachers/students, NGOs and community leaders in target areas, among agricultural researchers and institutions nationally and regionally, among officials of Agriculture, Education and Environment departments nationally and among GEF and UNDP officials regionally.
2. Increased understanding and awareness among technical, scientific, policy and management personnel of socio-economic issues and the need to involve farmers and affected people in the development of practical solutions for agrobiodiversity conservation. Personnel involved in the project have new knowledge of one and two-way communication approaches²² for working with farmers and communities.
3. Development of workable conservation solutions for some target species under specific contexts and conditions (specifically, for land races for field crops, medicinal or herbal plants and local trees for reforestation).
4. Development of institutions and individuals from government, universities, research institutes and NGOs who were involved in delivering the project. In general, capacities both for agrobiodiversity and project management have been built.
5. Development of informal regional and national networks among researchers, institutes and government agencies involved in the project.
6. Implementation of collaborative working arrangements among individuals and groups involved in the project.
7. Establishment of long-term programs for raising public awareness through inclusion of agrobiodiversity in the school curriculum.
8. Establishment of long-term changes in reforestation practices to promote use of local species in all four countries.

²² One-way approaches involve giving to or receiving information from people, while two-way approaches involve consultation with people.

Shortcomings in Output Results

Although most of the activities have been carried out, for a few outputs the associated results fall short, as summarized below. (For further details, see Table 4.1.)

Output 2: Monitoring and impact assessment are established. The purpose of this output is unclear. If it was to establish an ongoing impact and monitoring system, it has been partially achieved. Annual botanical and eco-geographic surveys have been ongoing since 1999/2000, but socio-economic analysis was limited mainly to surveys in December 2004. Also, ongoing monitoring after the project ends will require financial support and qualified specialists for which no arrangements have been made. On the other hand, if the aim was establishment of internal project management processes for the life of the project (e.g., PIR/APR, work planning, steering committee meetings), this was achieved.

Output 4: Current land use practices are improved. Demonstrations involving financial incentives (e.g., water harvesting or feed blocks) did not start until funding for local incentives was provided by the project in 2003, so it is too early to tell whether farmers and herders will adopt most of these solutions. Also, the solutions are technical and small scale (targeted to farmers or small co-operative groups), so that, though they appear to work in some circumstances for land races of field crops, they will not be enough on their own for the conservation of wild races and rangeland improvements. Policy, institutional, land ownership and community empowerment issues will also need to be addressed.

Output 7: Additional sources of income are identified and promoted. Alternative livelihood demonstrations required financial incentives and started late, and it is generally too early to tell whether they are viable. Moreover, the financial viability of these demonstrations has not been determined. Also, project involvement was modest (typically, a “self-sufficiency” strategy of funding a single production cycle or year of activity was used). Many of these alternative businesses are at a very early stage and will need several years of development before they are established, as well as additional resources and capacity building in the area of marketing, business management and micro-credit. Resources have, in fact, been mobilized in some cases (e.g., through GEF Small Grants Programme, national NGOs and other international projects). In sum, at present the viability of many of alternative livelihood demonstrations is uncertain because it is too early to tell, their financial viability is unknown or the capacity of the target group/business is limited and needs strengthening.

4.1.5 Broad Results of the Project

This section identifies the broad changes caused by the overall project to date. The evaluators identified these results during the mission. All of the broad changes identified to date relate to improvements in the enabling conditions, these are changes that could lead to long-term changes in environmental conditions or societal behavior if continued. So far the project has not had noticeable changes in land patterns on the ground, although

local changes have been noted in the target areas of the project and these were reported by country in the GEF tracking tool.

The project has been responsible for four major changes, nationally and regionally, as follows:

1. It has raised awareness from local to national and regional levels and has involved a variety of interests, including farmers, community leaders, NGO staff, university scientists, members of women groups and government officials from ministries of Education, Agriculture and Environment, as well as the staff of UNDP and other donors. Agricultural agencies now recognize the importance of agrobiodiversity: although it is not yet central to their programs, it is on the agenda.
2. It has built capacity to understand and in some cases solve agrobiodiversity problems. Agrobiodiversity units have been established in the implementing agencies in all four countries, and trained staff and graduate students are now working in the field of agrobiodiversity in all four countries. Multi-disciplinary and collaborative approaches have been introduced to the agricultural research community. Key partners from government, NGOs and research institutes are adopting the adaptive management and participatory approaches demonstrated by the project.
3. It has built knowledge. Many studies, reports and databases have been produced. These contain data and lessons that will be of lasting value if they were finished, consolidated and disseminated. Many of the project's technical lessons were discussed at the International Conference in Aleppo in April 2005,²³ and there are plans to publish the proceedings in 2006. In addition, the agrobiodiversity project could be viewed as one big demonstration that has succeeded in *mainstreaming awareness* of agrobiodiversity into an important productive sector – agriculture research community . The project would provide useful lessons on how to mainstream awareness into agriculture – if its capacity development and delivery approaches and lessons were documented.
4. It has built commitment. Even with the project ending, many people – including senior decision-makers in Jordan, the Palestine Authority, Lebanon and Syria – are committed to continuing the policy work needed to enact agrobiodiversity policies and legislation. They recognize the value of regional networks, and some national governments (e.g., Jordan) are discussing the establishment of regional networks for agrobiodiversity. ICARDA has integrated agrobiodiversity into one of its six program areas and is considering publication of regional project reports.

²³ International Conference on Promoting Community-driven Conservation and Sustainable Use of Dryland Agrobiodiversity. ICARDA, Aleppo, Syria, April 15-21, 2005.

With respect to land changes, these have been generally restricted to the project's target areas, with the possible exception of reforestation. So at this point in time, changes in land use due to the project are only noticeable at the local level. The land changes reported in the GEF Tracking Tool for Lebanon, Jordan, Syria and the Palestinian Authority are summarized below. Further details of changes in land use are provided in the GEF Tracking Tools for the four countries (see Annex 6).

Country	Change in field crop area planted in local races	Change in forest area planted in target species	Other Changes
Palestine	Increase from 2 ha to 278	More than 30 ha planted in Wild fruit trees, MoA committed to reforestation using 15% local species. Distribution of more than 10.000 seedlings of fruit trees	-2 genebanks of 10 ha - 500,000 medicinal plants seedlings introduced on 8.5 has -Rehabilitation of degraded rangeland through planting fodder plants with water harvesting techniques, introduction of Alley cropping and feedblock technology used
Lebanon	70 ha planted in local races	More then 40 ha planted with targeted species propagated by the local nursery established by the project MoA and MoE committed to include targeted species in national reforestation program	- 3 genebanks (>8ha) - local nursery supplying indigenous species at national level - rangeland fodder introduced at project site
Jordan	50% of 50 ha demonstration site planted in local races	More than 50 ha planted with wild fruit trees by Forestry department, MoA committed to use of indigenous species in at least 10% of forest area.	-9 genebanks, 2 ha @ -4 nurseries for fruit trees - medicinal plants and rangeland fodder introduced at project site
Syria	11 ha sown in land races	Ministry of Agriculture committed to using wild relatives and land races in at least 20% of reforested area	-2 genebanks of 2 ha each -12 ha of rehabilitated rangeland - 250 ha of rangeland in Sweida indirectly affected.
Source: Tracking Tools provided by National Offices. The evaluators did not verify the information in the tracking tools			

Table 4.1: Summary of Output Achievements for National Components

Output	Achievements	Evaluation Observations
1. Causes of agrobiodiversity degradation of target species in the project sites are better understood.	63-87% of farmers in target areas are aware of agrobiodiversity issues (2004 survey finding ²⁴). Implementing agencies, project staff and academic, NGO staff and university people involved in the project are now aware of main causes of agrobiodiversity loss. Established methods and databases for surveying.	Additional data/indicators may be needed to understand issues and scale up for broader community/ecological levels as surveys are mainly at farm, field or household level (e.g., no data on institutional and decision-making processes that affect land use). Users, institutional home and dissemination modes for data not clear.
2. Monitoring and impact assessment are established.	Carried out impact monitoring, December 2004; preliminary results given at International Conference in Aleppo (April 2005). Thematic meetings and project manager consultations are effective for regional (see Output 8).	Ongoing impact monitoring will require financial support and qualified specialists. Intent of this output is unclear; the project documents and LFA emphasize impact monitoring, but implementation has stressed internal project review processes (APR, PIR, evaluations, etc), training on LFA, etc. Tracking tool is not based on establishment of monitoring and impact assessment systems nor are its data requirements related to the data produced by this project's monitoring system.
3. National capacity for human resource development is strengthened.	Built individual and organizational capacity in implementing agencies, NGOs, universities and other groups involved in implementing project. Introduced agrobiodiversity into school curriculum and some university curricula (Jordan and Lebanon). Enhanced MSc and PhD training and created additional scientific and technical knowledge. Trained some farmers, local group members and extension workers in target areas in technical, participatory and survey approaches.	Not all trained project staff in Palestine, Jordan and Lebanon are likely to stay with the implementing organizations. Agrobiodiversity units have been created/approved for establishment in all countries but these are new and need institutional development to make them fully functional. More training of extension workers will be needed to spread ideas. Users, institutional home and dissemination modes for new knowledge are not clear. Use of MSc and PhD resources not clear for some countries. (Jordan and Lebanon.). In most cases students remain in the country, and often work in areas related to Agrobiodiversity, but they may not be working directly for the government institutions supported by the project (e.g. Lebanon).
4. Current land use practices are improved.	Proved success of approaches for land races of field crops in the Palestine Authority and transferred them to Lebanon. Reforestation policy approach for local species of trees was successful (unexpected result, not originally in project design).	Too early to tell whether technical approaches for land races of fruit trees and improvement of rangelands will work; some low cost approaches may succeed but farmers will need financial incentives for most approaches. Approaches for improving rangelands and for protecting wild relatives of field crops and fruit trees need more work to address land-ownership, poverty, land reclamation and other policy issues.

²⁴ "Status of On-farm Agrobiodiversity and Rural Livelihoods in Dry Areas." Presentation at Aleppo Conference, April 18-21, 2005. Prepared by K. Shideed, A. Mazid and A. Amri, M. Martini, M Ajlounis, M. Munther, N. Attawneh, and A. Khnifis.

Table 4.1 cont'd: Summary of Output Achievement for National Components

Output	Achievements	Evaluation Observations
5. Relevant policy/legislation is proposed to government for consideration and adoption.	<p>Ministers of Agriculture from Jordan, Syria, Palestine and Lebanon on 29 June 2005 signed MOU for Promoting the Conservation of Agrobiodiversity and the Exchange of Genetic Resources.</p> <p>Has not yet effected changes in policy or legislation, but authorities in Syria and Palestine are considering policy options, and in Jordan ministers of Environment and Agriculture have committed to developing agrobiodiversity policy.</p>	<p>Policy work did not go far enough for decision-makers to adopt it. In addition to options analysis, detailed analysis of legal changes and implementation actions are needed. Also, to promote adoption, involvement of decision-makers, lobbyist and senior officials with institutional and implementation experience are needed.</p> <p>Favorable climate now for policy development in Palestine, Jordan and Syria as Ministers are all aware and supportive of agrobiodiversity.</p> <p>Election and formation of new government in Lebanon now underway; policy enactment difficult until these changes are finished</p>
6. Public awareness is raised.	<p>Raised awareness among farmers, women's groups, some school children and community groups in target areas, and within implementing agencies, universities, NGOs, UNDP, GEF and regional institutions (ICARDA, ACSAD, IPGRI) involved in the project.</p>	<p>No measures or targets defined for changes in awareness or behaviour.</p>
7. Additional sources of income are identified and promoted.	<p>Increased understanding of complexity of alternative livelihoods for agrobiodiversity and conditions for success within implementing agencies, among people working on project and in UNDP/GEF.</p> <p>Some demonstrations likely to continue; others are uncertain because it is too early to tell, their financial viability is not known or the capacity of the target group/business is limited and needs strengthening in marketing, business management or micro-credit.</p>	<p>Most of these activities started in last 1-3 years, as financial incentives were needed to engage people.</p> <p>Success of demonstrations varies depending on local context and capacity of targeted community group/small business.</p> <p>Links between conservation of agrobiodiversity and alternative livelihood schemes not always clear or win-win.</p>

Table 4.1 cont'd: Summary of Output Achievement for Regional Component

Output	Achievements	Evaluation Observations
<p>8. Regional coordination, integration and networking are enhanced.</p>	<p>National implementing agencies, decision-makers and project participants actively participated in regional meetings and are aware of the benefits of regional coordination and networking. Established regional working groups and held participant meetings for standardization of methodologies, approaches and analysis. Visits were coordinated information exchanged between countries. Developed regional databases and synthesized national data into regional picture for GIS, with agrobiodiversity and socio-economic data. Coordinated workplans, PIRs/APRs, and regional steering committee meetings.</p>	<p>Regional networks established for project are informal, there is no agreement, institutional set-up or funding for them beyond the project. Thematic working groups were effective at sorting out concepts and general approaches; however, these were voluntary. There were no follow-up mechanisms to ensure standardization of implementation approaches and methodologies in countries (weakness of project design). Large effort placed on reporting and work planning; national project managers did national planning and reporting first, then regional coordinator summarized and finalized most of APRs, PIRs. Also, new UNDP/GEF planning and reporting requirements were responded to, which took effort. At time of evaluation mission, regional databases/reports were in different stages of completion, and it was unclear how the information would be finished, who its users were, or how it would be stored, accessed and distributed. Regional coordination role of ACSAD and IPGRI limited (weakness in design/implementation arrangements).</p>
<p>9. Technical backstopping and training needs are provided on request.</p>	<p>Delivered 15 regional training courses (four originally planned) and contributed to 35 national workshops. Provided international and regional experts in response to national requests.</p>	<p>Overachievement of training (originally only four regional training courses were planned). Technical backstopping depended on countries recognizing the need for external experts, at the start of the project, some countries did not want to hire international experts (e.g. Jordan) Quality of consultancies variable. Improvements in TOR specifications and establishment of review procedures (e.g., regional coordinator reviewed reports) were implemented to deal with this.</p>

4.1.6 Rankings for Achievement of Outcomes

As described in section 4.1.1 two separate sets of criteria were developed, as follows:

- Stakeholder criteria relate to the expectations defined during design and implementation of the project
- GEF criteria relate to the expectations outlined in the current Guidance for terminal evaluations.

The stakeholder criteria mainly relate to capacity development, which we understand to be the main objective of the project, whereas the GEF criteria relate mainly to on-the-ground changes in development conditions, which we view as secondary and long-term objectives of the project. We have provided the GEF criteria for completeness sake and to comply with GEF's guidelines, however, in our view the evaluation of the project at this date should be based on the rankings for stakeholder criteria.

Each team member ranked the outcome achievement separately, according to stakeholder and GEF criteria, and the average is presented below. A 6-point ranking system was used, as follows:

HS = Highly satisfactory
S = Satisfactory
MS = Moderately Satisfactory
MU = Moderately Unsatisfactory
U = Unsatisfactory
HU = Highly Unsatisfactory

Our rankings for stakeholder criteria and for the GEF criteria are given at the end of the section.

Our Overall Ranking:

The overall project in our view has made between satisfactory and moderately satisfactory progress. We base this assessment on:

- our ranking for stakeholder criteria below – these criteria relate to the objectives of the project as defined by the project partners²⁵
- the fact that the project already has four major results noticeable at the country and regional level (awareness, capacity building knowledge building and raising of commitment)
- the fact that in the context of a long-term program this project has laid a solid foundation
- the fact that almost all the output indicators as planned have been achieved, and despite the complexity of the project the activities

²⁵ Since the project documents and LFA were vague about the objectives/outcomes of the project, we confirmed the focus and intent of the project documents/LFA through consultation with a wide range of stakeholder (including stakeholders involved in the initial design, its refinement and its implementation).

have been implemented largely within the project timeframe and budget

- the fact that although this was primarily a learning project, the research and demonstration work undertaken has not produced adequate solutions for wild races and overgrazing, both of which were foci of the project.
- the finding that the project had largely achieved its primary objectives which relate to capacity building and awareness raising.²⁶
- the finding that the secondary objectives of the project have only been partially achieved. The secondary objectives relate to achievement of some real changes on the ground (i.e. development results).²⁷

In our view it is important to look at this project in the context of a long-term program. The agrobiodiversity project is not just a “project”: it has turned into a long-term program with a 15- to 20-year horizon. Though much remains to be done in terms of the four stages of a program cycle – issue identification, planning, implementation, and checking and review – considerable progress has already been made, as follows:

- **Issue Identification:** Most project activities focused on issue identification and, as a result, the general understanding of agrobiodiversity threats and causes has greatly improved. More work is needed, however, to develop in situ conservation solutions for wild relatives of crops, overgrazing, deforestation and land degradation.
- **Planning:** Two planning activities were started recently – specifically, those dealing with management and community development plans – but much more work and stakeholder collaboration is needed before the plans can be implemented.
- **Implementation:** The upscaling and mainstreaming of agrobiodiversity solutions by government and donor organizations has not yet started. However, awareness of agrobiodiversity issues and their importance has been mainstreamed to a degree in some government ministries, UNDP and other donors. Also, some potentially significant on-the-ground changes are likely to occur from the following actions:
 - (i) use of indigenous species for reforestation in Syria, (and, to a smaller degree, in the other countries);
 - (ii) increasing use landraces for field crops by Palestinian farmers; and
 - (iii) inclusion of agrobiodiversity in school curriculum in Syria, the Palestine Authority, Jordan and Lebanon²⁸.
- **Checking and Review:** Some baseline data for impact monitoring at the target areas have been developed.

²⁶ Capacity building (i.e., training, development of information and organizations, development of technical tools and approaches) was confirmed as the primary focus of the project by the evaluators.

²⁷ Piloting of approaches to effect real changes on the ground was confirmed as the secondary focus of the project through review of the project documents, the LFA and interviews with stakeholders

²⁸ In Lebanon curriculum changes won't happen until 2007.

Our Rankings for Specific Criteria

Stakeholder Criteria For Ranking	Rankings
Awareness raised on relevance of agrobiodiversity at all levels	S – HS
Capacity built within agriculture research and government organizations and other project partners to tackle agrobiodiversity issues.	S
Demonstrations/options for conserving target species understood by targeted farmers	MS
Usefulness and viability of alternative livelihood sources of income tested at community level (not farm level)	MS
Quality and usefulness of knowledge and information transfer produced by the project	MS
Causes of agrobiodiversity degradation identified, extensive database produced	S
Quality and usefulness of regional connections, networks and approach	MS – S

GEF Criteria for Ranking	Rankings
Institutional behavior changes introduced at various levels in implementing and partner organizations	MS – S
Mainstreaming of agrobiodiversity into agriculture development agenda of national governments, UNDP and other donors	MU
Land management project results adopted by farmers and spread to other areas	MU – MS
Changes made to policies and legislation	MU
Level of income increased at community level from alternative livelihood activities and alternative livelihood approaches are spread to other communities	MU
Lands conserved and threatened indigenous species restored and maintained	MU

4.2 Sustainability of Project Benefits

GEF requires terminal evaluations to assess the sustainability of project benefits and to provide ranking for sustainability (see Section 4.2. for rankings). The evaluation investigated the sustainability of the main changes or benefits caused by the project, as follows:

Capacity changes:

- Individuals: farmers, trainees, students, project staff
- Organizations: Ministries of Agriculture, Education and Environment, NGOs, ICARDA, UNDP, and other donors
- Systems: networks, policies/strategies, multi-stakeholder groups, national and regional government bodies

Agrobiodiversity land changes:

- Changes in area of forestry and field crops with target species

Knowledge changes:

- Understanding of the significance and status of agrobiodiversity and threats to it
- Understanding of solutions for agrobiodiversity loss

Equipment infrastructure changes:

- Incentives to locals
- Equipment for project offices, NGOs

Changes in capacity and knowledge are the most significant benefits. Equipment benefits were relatively minor²⁹ and are not discussed further below. For further discussion of the equipment benefits and incentives see Annexes 6-10 and Sections 7.1.8 and 7.2.5.

4.2.1 Sustainability of Capacity Changes

Individual

1. All project team members are likely to remain in the country, and staff from Syria, Jordan and ICARDA will continue to work on agrobiodiversity with the same organizations. However, in Lebanon and Palestine, the situation was less clear at the time of the evaluation: some staff were unlikely to stay due to lack of funds³⁰ or, in the case of Lebanon, are waiting for the government to approve the request for integration of staff into the ministry.
2. Whether farmers and members of community groups (e.g., women) will continue to apply the “agrobiodiversity-friendly” approaches piloted by the project will vary according to country and context. For rain-fed field crops in areas where irrigation is impossible and there is real danger of drought, local land races are likely to expand. Similarly, medicinal and herbal plant cultivation is likely to continue for family or community use. Nurseries growing indigenous species are likely to continue doing so, where they have an assured market (e.g., forestry contracts). However, the continuation of alternative livelihoods or new land use practices is doubtful where the financial viability is uncertain or businesses/farmers need additional funding or capacity-building related to marketing, management and micro-credit.

Organizational

²⁹ Although changes to equipment were minor, the provision of technical advice and training was not on its own enough to recruit farmers for the demonstrations. The delivery of some equipment was necessary, and a small capital investment in the first round of capital costs was needed to overcome the farmers’ risk aversion. For example, land race seeds were provided to targeted farmers for the first year. After this, the farmers repaid the loan of seeds to their co-op and paid for all future seeds themselves.

³⁰ For Palestine, the uncertainty mainly relates to 3 members of project team, the four staff seconded from MOA will reintegrate into the Ministry, most probably under the Agrobiodiversity Unit

1. All of the implementing organizations have created, or propose to create, agrobiodiversity units, and most of these will be staffed by people trained within this project. However, the units are new, and their roles, budgets and relationships with other units are still being worked out. Also, they are mainly technical, and links between the policy and development (i.e., Land Reclamation) units of the agricultural ministries are weak or not yet established. In some countries the units are within the Agriculture Ministry, but in others they are in research institutes separate from the Ministry. A good start has been made, but strengthening and closer links with Agriculture programming are needed before agrobiodiversity will be mainstreamed in national agricultural ministries. On the other hand, financial commitment from the national governments to integrate and strengthen agrobiodiversity within Agriculture Ministries is at least one year away (and possibly many more), depending on the country.
2. The local NGO capacity built by the project – mostly in Lebanon and the Palestinian Authority – is available for other conservation and development projects.
3. Most benefits to farmers, especially in Syria and Jordan, have been at the individual level. Further involvement by a wider range of community groups and benefit-sharing will be needed to make community-based approaches sustainable.
4. ICARDA has integrated *in-situ* conservation into its strategic plan and approach, and these institutional changes will continue. However, IPGRI and ACSAD were not as involved in the project; only their awareness about agrobiodiversity has been changed by the project.
5. Understanding and awareness of agrobiodiversity issues has increased in national and regional UNDP offices, and the process of expansion will continue. However, awareness has yet to translate itself into changes in land reclamation or in other rural development projects of the UNDP. For agrobiodiversity to be mainstreamed in UNDP, the technical information and lessons learned from this project need to be transferred in a way that is useful for project design, selection, approval and monitoring by UNDP. Finally, for Lebanon and Palestine, the GEF/UNDP regional project on medicinal plants is considered to be a direct result of the agrobiodiversity project.

System

1. Policy development is likely to continue in Jordan, Palestine and Syria, as the senior decision-makers in these countries are supportive of agrobiodiversity and committed to making policy changes.

2. Informal agrobiodiversity networks and collaborative arrangements have formed within countries between research institutes, ministries of agriculture, NGOs and universities (e.g. Jordan). These networks were developed for the project and have not been institutionalized. Some national networks will continue through other projects (eg Medicinal Plants) or national support (e.g. Jordan plans to set-up a biodiversity network in the next few months).
3. As the regional component was restricted to coordinating and technical backstopping, the opportunity to develop a strong regional network during the project was lost. Although harmonization of approaches and data was initiated (e.g., through the convening of thematic groups and project manager consultations), these have not been institutionalized, and so far there is no funding for them beyond the project. The regional network, although valuable to the countries, is unlikely to be sustained.

4.2.2 Agrobiodiversity land changes

Many of the changes in land use identified in the tracking tools for each country (see Annex 6 and summary in Section 4.1.4) are likely to continue and in some cases expand, as follows:

- Land races of field crop are likely to expand among rainfed crop areas that experience droughts and have no irrigation water. For example, these conditions apply to 95% of croplands in Palestine, thus the potential for expansion is high.
- Forest areas planted in indigenous species are likely to increase over time, assuming national governments remain committed.
- The amount of land planted in medicinal and herbal species is likely to increase, if the alternative livelihoods based on these species are viable.

4.2.3 Sustainability of Knowledge Changes

1. Most organizations involved in the project have provided considerable co-financing and will continue to work on agrobiodiversity-related activities after project completion. At the time of the evaluation, however, it was unclear how much additional work national and regional partners would devote to completing and consolidating information produced by the project.
2. The knowledge generated through this project is critical for understanding and solving agrobiodiversity problems in the region. However, the benefit of numerous unpublished or draft reports and databases will be lost unless the documents are consolidated, important data preserved and lessons captured and made available regionwide.

3. At the time of the evaluation, discussions were launched on how to finish, publish and distribute reports and databases and on an appropriate institutional home for documents. Without knowing what is proposed, we cannot evaluate whether the knowledge produced by the project will be finished and made available in a sustainable way.

4.2.4 Rankings for Sustainability

The same GEF criteria were used to rank sustainability. However, the GEF criteria were modified slightly to look at the likelihood of on-the-ground changes continuing and spreading. To make these rankings we assumed the following conditions would occur:

- favorable climate and senior level interest in implementing policy and legislation changes in Jordan, Palestine and possibly Syria.
- the agrobiodiversity units of implementing agencies will be staffed with people trained by the project, but resources will be limited and not all project staff will be hired to work in the units of Lebanon, Palestine and possibly Jordan.
- the agrobiodiversity units will be technical and have limited connection to Ministry of Agriculture policy and development programming for at least 2-5 years.
- UNDP country offices will lack technical resources for mainstreaming agrobiodiversity approaches into their agriculture, land development and poverty alleviation projects
- a regional GEF project will be established in 2006 that builds on the project's alternative livelihood and knowledge dissemination work.
- the technical solutions developed by the project for rangeland management and conservation of wild races will not work on their own. More work is needed and funding for this is not in place.
- some of alternative livelihood approaches will work and spread, but many need more development and will fail unless additional resources are mobilized.
- the indigenous species reforestation policy will be implemented in Syria and to a degree in other countries³¹.

The same 6-point scale and averaging of individual team member responses was used to develop the sustainability ranking below.

Sustainability Criteria for Ranking	Rankings
Likelihood of institutional behavior changes being adopted at all levels throughout implementing and partner organizations	MS – S
Likelihood of mainstreaming of agrobiodiversity into agriculture development agenda of national governments, UNDP and other donors	MU – MS
Likelihood of land management results being adopted by farmers and spreading to other areas	MU
Likelihood of changes being made to policies and legislation	MS – S

³¹ It is already implemented in Syria and the other countries but varies in terms of numbers according to the resources available within each country

Likelihood of level of income increased at community level from alternative livelihood activities and alternative livelihood approaches are spread to other communities	MU – MS
Likelihood of lands conserved and threatened indigenous species restored and maintained	MS

5. Appropriateness of Monitoring and Evaluation Systems

GEF required the evaluation to assess whether “an appropriate M&E system was put in place for the project that allowed for tracking progress towards project objectives.” GEF provides general guidance on how to assess M&E.³² The eight criteria used here to evaluate the project’s M&E system adhere to that general guidance but are specific to the M&E systems of the agrobiodiversity project. One of the features of the project’s M&E system in particular was the inclusion of an impact monitoring system to track agrobiodiversity changes (i.e., Output 2). Criteria 7 and 8 relate to this impact monitoring system. Section 6.1 presents the eight criteria and our findings in relation to them. Section 6.2 presents rankings for M&E.

5.1 M&E Criteria and Findings

Quality, usefulness and cost-effectiveness of APR/PIR/Tracking Tool for project management by partners (UNDP/GEF, project managers, executing agencies)

The contents and requirements for the Annual Project Review (APR) for UNDP and Project Implementation Review (PIR) for GEF changed several times over the course of the project. For the first few years, each component was required to provide both APR (for UNDP) and PIR (for GEF). For the past two reporting periods, however, GEF and UNDP requirements have been harmonized for most components, and only one overall PIR is required. However, APRs are still required for some national components (e.g., Syria). At the end of the project, GEF introduced two new reporting requirements: a Tracking Tool to report on the project’s impact on land use and the agricultural sector; and a co-financing table to report on the actual level of co-financing project partners provided. The Tracking Tool was to be applied to each country and the co-financing table prepared for each component (i.e., four countries and the region). The requirement was for project managers to complete these and append them to the evaluation when it was submitted to UNDP-GEF.

The APRs/PIRs have been revised at least three times since the original format was laid out, the purpose being to match the LFA in 2001/2, to harmonize with APR/PIR requirements in 2003 and to respond to the new GEF indicators in 2004. Project managers and UNDP staff invested considerable time revising and working on APRs/PIRs to accommodate the many changes and to produce satisfactory reports. UNDP found that the APRs/PIRs were satisfactory for their management purposes and also compared to other projects. For the country implementing agencies, the APRs/PIRs were mainly used to fulfill contract requirements. Other more technical information was used to track progress. Similarly, project managers did not use the APRs/PIRs much for managing the project, relying instead on measurements of progress in relation to activity and work planning. The GEF/UNDP reporting system was difficult for some managers

³² “Global Environmental Facility Guidelines for Implementing Agencies to conduct Terminal Evaluations,” Annex 3

to understand. As a result, the regional coordinator spent considerable time completing or correcting some country reports.

In terms of cost-effectiveness, the effort spent on reporting for GEF and UNDP has been excessive. Time has been wasted because of unnecessary duplication of APR and PIR work, because of repeated revisions to the format and because of new reporting requirements that were added at the end. In our view, aside from meeting UNDP and GEF's management needs, the huge effort spent on reporting has been largely wasted in terms of managing the project.

We cannot comment on the management utility of the Tracking Tool and co-financing table because they were only introduced at the end of the project. However, some managers observed that the Tracking Tool provides clarity on the type of results GEF wants and, with refinements, it could become a useful reporting tool.

Usefulness of APR/PIR/Tracking Tool for mainstreaming agrobiodiversity (in donors and national governments)

The APR/PIR and Tracking Tool provide general progress information. However, mainstreaming agrobiodiversity into development programs requires detailed information about agrobiodiversity (particularly what and how to consider in the selection of land reclamation sites and the development of program budgets or sectoral policies). The APR/PIR and Tracking Tool may be useful for reporting impact and managing contracts, but they are not useful for mainstreaming: more technical tools and reporting approaches are needed for that purpose. Thus, although UNDP should be mainstreaming agrobiodiversity into its agricultural programs, it lacks the means to do so. In our view, this represents a serious gap and one that UNDP/GEF should address.

Usefulness of project review meetings (project manager consultations, steering committee meetings, thematic technical working groups)

Review meetings were an effective way of harmonizing understanding, methods and implementation activities across the region. The two review meetings considered most effective – thematic meetings and project manager consultations – were not included in the project design but were introduced early in the implementation.

LFA quality, understanding and usefulness for project management, monitoring and review

The absence of a logical framework at the beginning of the project caused delays and confusion. The LFA, which was developed in the second year, clarified the project outputs and activities and made implementation much easier. However, the logframe lacked outcomes, and many of the output indicators did not relate to results.

In terms of providing a roadmap for implementation of activities, the LFA was useful and project implementers have followed it. However, several serious weaknesses in the LFA have affected its usefulness for monitoring and review, as follows:

- (i) generally output indicators did not provide information for monitoring and measuring results;
- (ii) an absence of results in the LFA allowed implementation to focus on activities, which makes it difficult to monitor and evaluate the project's results;
- (iii) misinterpretation of the indicators has caused inaccuracies in M&E data provided by some countries and we found numerous inaccuracies in the project's output data (as a result we had to verify almost all the output data provided); and
- (iv) some managers lacked the capacity to report against the LFA and, as a result, the regional coordinator has been doing most of the reporting for some countries.

Understanding of evaluation scope and requirements (project partners)

GEF requires evaluations that are independent, that are properly planned and funded and that follow their guidelines. Our observations follow:

GEF guidelines – The initial TORs for the evaluation touched on numerous issues and did not focus on the three priorities in GEF's current guidelines (see annex 3 of the guidelines). The international co-lead provided extensive comments about the initial TORs, and the draft TORs in Annex 1 resulted. These draft TORs did not include the agreed-to focus on the three priorities of GEF, and were not finalized before the evaluation began. As a result, the consultants provided an addendum to both the TORs and Work Plan to clarify the work and to ensure that our work was co-ordinated because the evaluation team was contracted through two different agencies (ICARDA and UNDP, Syria). It took considerable effort to clarify and finalize the TORs including the addendum for the national consultants contracted by ICARDA. Finally, the evaluators were asked to provide information for two new GEF tools, the GEF tracking tool and co-financing table. The requirements for these tools was unclear initially, but was clarified during the work planning process.

Independence – If evaluations are to be independent, no team member can be associated with the project or the organizations involved in implementing it. Some of the project's designated institutions may not appreciate the importance of this point.. Furthermore, none of the partners appreciated the implications of having an independent evaluation team in terms of briefing and funding. Unless an independent team is appropriately briefed up front and sufficient time is allocated for the evaluation, there is considerable risk that the evaluators will not understand the project and will reach incorrect and potentially damaging conclusions. The team did not receive any background materials

ahead of time, nor did any partners brief us about the project at the start of the mission.³³ Resources are discussed below.

Need for upfront planning – Although the revised TORs indicated that the evaluation mission would be divided into thirds, this did not occur. As described in the work plan, there was no time to accomplish the first third of the work, mainly because of delays in contracting and the provision of background documents. Although the partners recognized that the evaluation team did not have time to plan the evaluation properly, changes were not made to the scope, schedule or objectives of the evaluation to make up for a hasty and inefficient start.

Adequate funding – The original funding for evaluations was unrealistically low. The partners recognized this, and funds for this evaluation were increased. However, funding for the mid-term review was also inadequate and depended for success on the consultants' willingness to work long hours and to donate over-time. Unfortunately, the same situation arose with this evaluation. Funding would have been adequate if proper upfront planning had occurred and if mentoring arrangements had worked. Given the tight timelines imposed on the evaluation, however, it was impossible to mentor for either the evaluation design or reporting. The mentoring arrangement, if successful, would have saved budget, as the national consultant would have done more of the work and report writing. However, the approach was not successful and the budget was inadequate for the amount of work the international and national co-leads needed to do to complete the evaluation, and both have had to donate time. Depending on the goodwill of consultants to deliver quality work without adequate pay is an unrealistic and risky strategy.

In addition, the partners should recognize that a regional project of this complexity, which essentially involves evaluating five projects, requires more evaluation effort than a national project of similar budget. Also, national offices initially expected detailed analysis and reporting for each country,³⁴ which again has budget implications.

Quality and usefulness of project reports (technical, final, and monthly progress)

The project managers and research institutes used the technical reports produced by the project and monthly progress reports to monitor progress. Generally, the quality of technical reports has improved over the life of the project. However, the quality of some technical reports, especially in the beginning, was unsatisfactory. Quality control has varied by component and to a degree depended on arrangements with partners and sub-contractors. In Jordan, the terms of the contract with the universities made it difficult to have inadequate work redone. As a result, project staff or other consultants were sometimes asked to redo the work. In other countries, sub-contracts were tighter and in a

³³ The evaluation started with attendance at the International Conference in Aleppo in April 2005. This conference provided valuable context and background, but the lack of briefing and preparation ahead of time prevented members of the evaluation team from maximizing the benefits of the conference.

³⁴ Debriefing at the end of the mission suggested that project managers want more emphasis on overall rather than country findings.

few cases, sub-contractors were asked to redo poor work before being paid. At the time of the evaluation, each national office was producing final project reports. These reports are intended to provide a useful technical synopsis of project accomplishments, but they will require further work before they can be published.

Quality and usefulness of agrobiodiversity and socio-economic indicators for long-term monitoring of impacts

Output 2 of the project related to the “impact of project interventions on agrobiodiversity and community measured.” As discussed in Section 4.1.2, this output has been partially achieved. The botanical and eco-geographic indicators have been useful for tracking project changes to date, and this tracking has been ongoing annually since 1999/2000. However, the initial socio-economic work was poor in quality and of limited use. Thus, tracking of socio-economic changes is likely to be limited to the socio-economic survey done in 2004, with little baseline for comparison.³⁵ Finally, only some of the project impact indicators are likely to be useful for long-term monitoring of impact. Additional indicators that encompass a larger geographic and community scale and factors not covered by the project will be needed for long-term impact monitoring. Also, all the indicators developed are quantitative, but long-term monitoring will need to include holistic and qualitative indicators that address broad policy issues.

Long-term monitoring system established

As discussed in Section 4.1.2, the impact monitoring system was established for the length of the project. No funding or institutional arrangements have been made to continue monitoring after the project ends. Also, as explained above, the indicators will have to be significantly revised for long-term monitoring.

5.2 Rankings for Monitoring and Evaluation

Each team member ranked the monitoring and evaluation system separately, according to eight criteria, and the average is presented below. A 6-point ranking system was used, as follows:

- HS = Highly satisfactory
- S = Satisfactory
- MS = Moderately Satisfactory
- MU = Moderately Unsatisfactory
- U = Unsatisfactory
- HU = Highly Unsatisfactory

³⁵ This observation is based on our discussions with the socio-economic team. The final analysis had not been completed at the time of the mission, so we do not know for certain whether any of the initial socio-economic data was usable for a baseline.

Criteria for Ranking M&E	Rankings
Quality, usefulness and cost-effectiveness of APR/PIR/Tracking Tool for project management by partners (UNDP/GEF, project managers, executing agencies)	MS-MU
Usefulness of APR/PIR/Tracking Tool for mainstreaming agrobiodiversity (in donors and national governments)	MU
Usefulness of project review meetings (project manager consultations, steering committee meetings, thematic technical working groups)	S
LFA quality, understanding and usefulness for project management, monitoring and review	MU
Understanding of evaluation scope and requirements (project partners)	MU
Quality and usefulness of project reports (final, field and monthly progress)	MS
Quality and usefulness of agrobiodiversity and socio-economic indicators for long-term monitoring of impacts	MS-MU
Long-term monitoring system established	MU

6. Lessons Learned

6.1 Introduction

The evaluation team interviewed stakeholders to determine what had been learned from the project. Among the many lessons cited, this section focuses on some in particular – specifically:

- lessons useful to GEF and national governments for understanding agrobiodiversity and what to do about it generally in GEF and the region;
- lessons useful to GEF and national governments in terms of future project design and implementation in the region;
- new lessons, as opposed to those previously learned (e.g., those described in Section 3.2: Context, which have already been learned and have changed GEF's approach);
- lessons specific to countries (see Section 4.2: Findings by Component).

The lessons cited fell into four categories as follows:

- project concept;
- project design (i.e., development of detailed project design based on the concept);
- project implementation; and
- *in situ* conservation of agrobiodiversity species in regional drylands.

The lessons are mainly from suggestions of stakeholders about what they would improve if the project were to be started now. It is clear from the number of suggestions that a lot has been learned both about how to design and implement such a project and about *in situ* conservation of agrobiodiversity.

6.2 Project Concept Lessons

6.2.1 Starting Point

Science proved a good strategic entry point for the project.

Agrobiodiversity conservation involves many stakeholders and issues, and there are many possible entry points. Scientists and researchers are not the normal starting point for most resource management projects. However, in this region, scientists are highly respected, and they are linked to the policy and decision-making power structure at both national and local levels. Moreover, scientists are in a position to galvanize the agricultural management and education communities and to encourage commitment and interest in learning. Thus, science did provide an effective strategic entry point for this particular project.

Knowledge about *in situ* conservation for agrobiodiversity was limited; there was a need to build knowledge, awareness and capacity at the outset.

This is one of few projects in the region ever to have dealt with agrobiodiversity conservation. Thus, in the beginning, little was known about agrobiodiversity degradation or how to do *in situ* agrobiodiversity conservation. It follows that, if the project was to develop approaches based on sound science, the first phase had to concentrate on building understanding, communication, consultation, education and training.

Given the lack of awareness and knowledge it was important to start with broad-based, multi-disciplinary approaches at regional, national and local levels. Now that awareness is raised, future projects should focus more narrowly.

Broad engagement at all levels was needed at the beginning to raise awareness and commitment among the many interests and groups (e.g., scientific, community development, policy, GIS, awareness/capacity building and other). However, now that a broad base of awareness has been achieved, future regional and/or national projects need to be more focused to achieve tangible results efficiently. Otherwise, the complexity of projects will make them costly, time-consuming and difficult to manage.

A regional approach is appropriate for agrobiodiversity conservation in the Fertile Crescent, however, starting with a regional approach is challenging.

The project approached agrobiodiversity at three different levels, regional, national and local. Developing an integrated project at three levels from the start was challenging, as it required development of coherent programs for each level as well as the links between them. Not all levels and linkages can be developed properly at once, and a strategy and sequence for developing the different levels would have helped. For instance, development of the national level could have been done first; this would have allowed testing of approaches in a relatively coherent national context before broadening applications and adapting them to varying national conditions.

Inadequate time was allowed in the plan for the achievement of objectives.

The time frame for the project was reduced from the original concept and, compared to similar projects of this scope (e.g., in the Dana Valley in Jordan, which has had several phases of funding) a great deal was expected in a relatively short time. In fact, the project schedule was unrealistic. A minimum of seven years is considered essential for the implementation of new projects of this kind to allow for the concept to be properly understood, organized and delivered.

6.2.2 Multi-Disciplinary Approaches

The concept needed an earlier and broader consideration of broad-based stakeholder needs and perspectives.

Although the starting point was science/researchers, the aim was to develop a holistic and community based approach for agrobiodiversity. Unfortunately the concept did not include analysis of stakeholder or beneficiary needs, so the approach over emphasized scientific views and lacked emphasis of the “non-scientific” perspectives, such as socio-economics, policy development and community and farmer needs. It is generally accepted that, as a pre-condition of success for development projects in general, the needs

and perspectives of stakeholders must be included in all stages of the project from concept to design to implementation and evaluation.

The project should have included community development expertise in conceptualization and design.

It follows that if stakeholder analysis was not done for the concept or design, then expertise in community development was needed. The implementing of *in situ* conservation (i.e., the translation of scientific knowledge into agricultural practices) requires the engagement of farmers in particular through community development approaches.

The project should have included policy development experts in conceptualization and design.

Similarly, the concept would have benefited from stronger policy expertise. Projects that ultimately depend for success on the development of new policies and legislative change should work to raise awareness among national politicians and officials. .

6.2.3 Strategy for Regional and National Components

Projects must develop a regionally harmonized approach.

Target species cross national borders. Therefore, a regional framework is necessary if agrobiodiversity issues are to be addressed in a sustainable way over the long term.

Regional role must be more than coordination and networking

The regional framework needed in the long term would include harmonized approaches, agreement on shared policy issues and sharing of genetic materials, research and data. Much more than the regional coordination and informal networking started by the project needs will be needed.

It is important to build on national strengths in designing regional programs.

In some cases, there is no need to pilot the same demonstration projects in every country (one or two would suffice with successful approaches being broadened to all countries); in other cases, the context differs from one country to another and the spread of successful approaches is not possible without changes to account for the different legal, institutional, cultural and socio-economic conditions. On the other hand, each country in the region has its own strengths (e.g., Lebanon excels at the community development work, while the scientific research is strong in Syrian potency). Designing pilot projects that build on national strengths and then broadening them into regional approaches could foster region-wide cooperation.

6.2.4 Links to Development Activities/Projects

New conceptual projects need to be linked to development solutions and funding to achieve sustainable changes in behaviour.

Conceptual and development programs must be linked from the beginning. This project, for example, needed to approach not just the symptoms but also the causes of land degradation and poor land management (in this case, mostly poverty and poor socio-economic status in local farming communities). Initially, the project proposed alternative rangeland management (a scientific concept) without identifying transitional resources for the people involved (a development project to fund changes). Once incentive funding was made available through the project or partnerships with development programs (such as the GEF Small Grants Programme), farmer participation in the demonstration activities increased dramatically. Clearly, socio-economic constraints had to be addressed before local communities were willing to work towards agrobiodiversity objectives.

6.3 Project Design Lessons

6.3.1 Project concept, management and implementation arrangements need to be designed and thought about at the same time .

During the design phase, implementation arrangements were changed, and a single implementation scheme was broken into five parts with UNDP offices in four countries acting as contractors for different component. At the time, the implications – most notably, the expected links between the regional and national components – were not well thought out. Links between objectives, results and implementation arrangements were not well defined in the project documents, and confusion inhibited progress during the first year in particular. National activities were implemented more independently than had been intended, and concept and activities were fragmented. Also, the roles of the four UNDP country offices were never clarified or harmonized, which led to administrative duplication (e.g., separate APRs for each component). Different rules in those offices caused frustration and delays among the implementing managers and agencies.

6.3.2 A common vision needs to be developed

A common understanding of the project is key to success. A common vision of the concept (in this case, dryland agrobiodiversity, what it involves, how it should be studied and solutions for conservation) was needed. There also has to be agreement on project activities (sequence and types of capacity and community development, scientific, policy and awareness-raising activities). At the start of this project, the vision was not clearly defined or broadly understood. The concepts of agrobiodiversity of drylands and *in situ* conservation were new to almost all of the project partners (including national governments, NGOs, UNDP, GEF and research institutes). There was confusion about what the project intended to achieve at the most basic level, whether it was increasing the productivity of plant breeders or conserving land races. Some managers thought that the project should be split into two sub-projects (one dealing with rangeland management and the second with *in situ* conservation). Moreover, there was no common vision of activities to be implemented. What was unfortunate is that the project design did not take into account the need to build a common vision. As a result, considerable time was lost

at the beginning in trying to define the vision, objectives, targets and expected results; in fact, these had not yet been entirely resolved by the time the project ended.

6.3.3 Projects expected to build project management capacity need to include allowances for this in the design

GEF projects are complicated by the fact that vital management skills are in short supply. The key skills required are:

- (i) experience and understanding of how UNDP and GEF work;
- (ii) multidisciplinary background and management skills (collaborative management and team skills);
- (iii) broad understanding of technical disciplines, community development, capacity-building, policy development, socio-economics and institutional issues; and
- (iv) ability to mobilize resources from other development projects.

Salaries can be offered to attract managers with the necessary skills; alternatively, managers lacking at least some of the skills may be trained. Both national implementing agencies and UNDP expected the agrobiodiversity project to foster project management skills, but no deliberate plan or allowance was made for developing these³⁶.

Consequently, project managers learned on the job, while project implementation suffered from the lack of management support. The project design needs to include allowances for training, coaching/mentoring budgeting and scheduling.

6.3.4 Implementation Arrangements

Roles and responsibilities need to be clearly defined.

This project was complex and had many management layers (GEF, UNDP, ICARDA, National Counterpart, and project management). The various roles and responsibilities of the many managers were not clearly spelled out or agreeable to all at the start of the project. Consequently, there has been inefficiency and some unnecessary duplication of procedures and effort. The creation of separate management structures for each of the regional and national components is not ideal because the regional component needs to develop harmonized approaches for the sharing of data and demonstration lessons from country to country. However, clarification of the regional role, budget control and contracting is needed. In particular, the government institution in charge of administering the project needs stronger involvement during the design of project activities.

The difference and link between results and activities need to clear

³⁶ Development of management capacity was not explicitly stated as an objective in project documents, but the mission interviews confirmed that this was an unstated objective of national partners in several countries (Jordan, Palestine, etc.) and it was supported by UNDP.

Managers need a better understanding of the LFA and its use in progress monitoring. In future, project documents should explicitly define the difference between objectives, results and indicators for an LFA and activities and deliverables used for work planning.

Mechanisms for including non-scientific bodies and experts more directly in project implementation need to be considered.

As scientific institutions were largely responsible for delivering the project, it is not surprising that great emphasis was given to the scientific work. However, this was a multidisciplinary project, and more involvement from institutions with expertise in the non-scientific areas was also needed to ensure non-scientific perspectives on steering committee or in ongoing project planning, work and monitoring.

Technical committees were needed at the national level.

Project activities would have improved if a technical committee had been formed and entrusted with follow up responsibilities at the national level. The lack of such a technical committee prevented consolidation of the plan of action and, as a result, the project fragmented into several sub-projects.

6.3.5 Design of Activities

Better consideration of phasing and scheduling of activities is needed.

The project had three phases:

- (i) Phase I (Years 1 to 3): designing project concept, objectives and activities;
- (ii) Phase II (Years 4 and 5): experimentation and assessing of modalities to determine project activities; and
- (iii) Phase III (Year 6): execution of planned activities (by which time, participants had a much clearer idea of feasibility; this phase is still operational with many planned activities that cannot be accomplished by the end of July 2005).

The project had too many activities relating to one objective. Also, a number of additional activities were added to the project as it went along, so that resources were spread thin. Activities relating to community development plans or demonstrations of alternative land use practices or livelihoods take several years to implement, and implementation needed to start earlier for these. Some objectives (e.g., policy development) were not fully achieved because of the amount of time needed to explore basic concepts and consequently to draft and agree on the policy texts. A complete validation of rangeland management plans would have required another three to four years.

6.4 Project Implementation Lessons

Stakeholders identified numerous implementation lessons, but only those that are new or specifically useful to GEF and to participating countries for future planning purposes are addressed below.

6.4.1 Choice of Target Sites and Partners

Selection of target sites is critical to the success of the project and requires that numerous technical and practical criteria, and not just scientific ones, be taken into consideration.

The selection of target sites within national projects has a major impact on success in the respective countries and consequently on the project as a whole. Therefore, selection should not be based upon the scientific significance alone. Other parameters should include the presence of strong institutional structures, availability of community-based groups, etc.

Communities should be selected that are well organized, have supportive leadership and that already have effective NGOs in place.

Successful community development activities depend on the presence of strongly based NGOs, strong municipal leadership or experience of previous international projects. If GEF hopes for prompt results (i.e., within five years), it should choose implementation sites that promise the optimum prospects of success.

If partners and sub-contractors lack understanding or experience in some areas (e.g. project management), support must be provided or allowance made for their capacity development needs.

For some sub-contracting parties (such as universities) this project represented their first experience in managing projects and, in particular, the process of fund management. Generally, the universities did not properly estimate their in-kind contribution to the project or the implications of this for university staff working on the project. As a result, much of the time university staff devoted to the project was free of charge, which neither the university nor the staff had anticipated in the beginning.

6.4.2 Links to and Knowledge of Other Projects

From the outset, the project must have ready access to information on or knowledge of other projects.

The lack of information on previous or on ongoing projects in the area, in other areas or in neighbouring countries meant that the project had to start from point zero. The difficulty of obtaining information from government institutions delayed the implementation of project interventions. If the needed information is readily available, this will save time and resources and will also help to build an ongoing database.

Links to other projects and national funding sources are useful for implementing and institutionalizing activities.

Some national projects succeeded in pooling resources external to the project, whether in form of technical advice and/or co-sharing, and these will help to ensure the sustainability of the project. The project thus provides a foundation for the development of other agrobiodiversity projects (e.g., a regional project on medicinal plants that includes Palestine and Lebanon).

In accordance with GEF interests, the project and GEF “brand name” needed to be visible.

The project brand was visible on most public awareness products but not on products produced by the projects (e.g., food labels, eco-tourism brochures, etc.).

6.4.3 Timing, Linkages and Budgeting of Activities

The project involved numerous activities; many designed to build on one another. Some activities were delayed due to problems with contracting, quality, lack of experience and unrealistic project scope and timelines, and these delays prevented the work from being as fully integrated as planned. A number of issues were highlighted in the mid-term review, and these have been addressed (e.g., the contracting of international experts). However, the project has suffered overall from a lack of focus on results and from inadequate mechanisms for prioritizing and reallocating resources. As expected in a learning project such as this, various new activities were identified during the project, and many were implemented. However, few ineffective activities (or partners/sub-contractors) were dropped, so the project became unwieldy to manage and its results were skewed towards awareness/capacity building and away from on-the-ground development changes. Some specific activity considerations raised by stakeholders are:

Socio-economic surveys and analysis need to be well designed and implemented at early stages of project implementation.

Delays in performing this work can destabilize other components of the project.

Community development should start in the early stages of a project.

At the time of the evaluation, no community development plans had been done for this project, though initial work on one was planned for June 2005, during the last month of the project. Community development plans require several years to develop. To be successful, they must address community needs and be done in collaboration with communities. Ideally they should be integrated into the overall municipal plan of communities. All of this takes time.

Budget allocations should be linked to results in future projects.

The financial contribution for the main categories of work (database and knowledge development, community development, applied research, scholarships, policy work, etc.) were not related to the level of work needed or significance of the work for achieving

project objectives.³⁷ For instance, although farmer and community involvement is essential for *in situ* conservation of agrobiodiversity, less than 10 per cent of project funds is estimated to have been spent “on the ground.”³⁸ Most of the money was spent on capacity-building, research and data collection for national and regional purposes.

6.4.4 Building Ownership

Ownership can be built by participation.

Some national projects succeeded in mobilizing additional resources. The pooling of external resources, both technical and financial, is very important, as it tends to limit duplication and increases interaction with different institutions and stakeholders.

An ongoing in-kind commitment on the part of beneficiaries would increase the long-term sustainability of the project.³⁹

Some farmers and community groups were asked to provide in-kind contributions during the project (e.g., some of them provided 25 per cent of the labor for stonework for water harvesting demonstrations). However, no ongoing financial or agrobiodiversity commitment was asked from participating individuals and communities for the period after the demonstration. A small ongoing in-kind contribution would help to build ownership. Also, most graduate students supported by the project were not required to continue working with their sponsoring agency or on agrobiodiversity.

Science needs to be translated in order to be useful to farmers and policy-makers.

Scientists have learned the significance of translating research and scientific concepts into simple language and practical ideas that will be useful to farmers. Further work is needed on translation of science for policy-makers.

6.4.5 Development of Regional Approaches

Regional technical working groups represent a good model for harmonizing approaches and project implementation.

Thematic technical working groups made a positive contribution to the project, their role being to support specific activities in terms of proper methodology preparation, etc. The project management meetings were also valuable.

³⁷ The project history was not studied in detail, but the lack of link between results, budget and level of effort required may have result from inadequate budget revision when the project was and broken up during its design.

³⁸ Adequate budget information was lacking for the evaluators to establish the actual distribution of funds.

³⁹ The review comments from the draft report asked us to comment on the role micro-credit could have for ownership. Our response: the alternative livelihood schemes supported by the project will need credit/financing assistance as they evolve, however, most were so new, they were not ready yet for micro-credit. It is too early to assess the link between micro-credit and ownership at this point in time, more time and development of the target enterprises is needed.

6.4.6 Generation of Knowledge, Information and Replication of Approaches

Contractual arrangements should encourage publication and dissemination of information.

The terms of the contract with universities in Jordan prohibited publication until the final report is approved, and this discouraged researchers from publishing the findings. The contract should specifically encourage publication. Financial resources should also be made available, if required, to support publication in refereed journals or technical bulletins.

The project could be better marketed at the regional level through promotion and dissemination of success stories and lessons learned.

The project has generated new knowledge of agrobiodiversity, including data on the economic sustainability of alternative crops and of land reclamation actions that are seriously affecting local agrobiodiversity. Success stories could be disseminated on a website or through the establishment of specialized regional networks. However, efforts to disseminate knowledge could go beyond the writing of papers or construction of websites. For example, a large number of technical reports have been developed, and these – after review and harmonization of agrobiodiversity terminology – could be disseminated and used as the basis for new agrobiodiversity programmes both regionally and nationally.

6.5 In Situ Conservation of Agrobiodiversity in drylands: Understanding and Solutions

This section covers what participants learned about *in situ* conservation of agrobiodiversity – i.e., what are the causes of degradation, along with some of the solutions. General lessons and those for specific aspects of the problem/solution follow.

6.5.1 General Lessons

***In situ* conservation of genetic agricultural resources needs to be looked at in the context of sustainable development.**

Agrobiodiversity objectives cannot be achieved on their own. They need to be combined with socio-economic objectives and managed as part of a country or region's resource management strategy.

Where agrobiodiversity does not immediately improve the welfare of participants, funding for “incremental” conservation costs will be needed.

Farmers, herders and community groups will only participate in agrobiodiversity conservation projects if it improves their socio-economic conditions. If not, funding is needed from national government or global institutions to act as an incentive.

The objectives of alternative livelihood and agrobiodiversity are not always win:win

Alternative livelihood approaches have the potential to conserve agrobiodiversity while providing farmers with socio-economic benefits. However, not all alternative livelihood

schemes provide win-win solutions. In some cases, the alternative livelihood opportunity may not cause participants to protect target species. In other cases, the enterprise may not be viable for financial or market reasons. Thus, the suitability of each new alternative livelihood venture needs to be assessed carefully before it is implemented.

6.5.2 Policy Lessons

Inappropriate legislation and policies are one of the major causes of agrobiodiversity loss.

Examples of inappropriate legislation and policies include:

- land reclamation and rural development policies and practices of countries and donors that do not take into account erosion, long-term sustainability of crops, future availability of water for irrigation and loss of agrobiodiversity;
- private ownership of state-owned forest lands (a practice of allowing encroachers who clear the land to take over ownership);
- overgrazing due to Bedouin settlement policies, lack of policies to restrict herd size and land allocation practices/policies that disenfranchise poor people;
- burning of roadsides and other lands by government ministries (e.g. Transportation); and
- lack of legislation or policies (or policies that are not yet approved) to protect genetic resources that are threatened by overgrazing, land reclamation or deforestation.

The policy work had weaknesses that prevented its adoption; these should be avoided in future:

- (i) work ended at policy options stage, which was insufficient for adoption of policies;
- (ii) lack of detailed analysis of implementation factors, including implementation strategies, action plans and operational factors;
- (iii) limited consideration of some of the key issues, such as quarrying, charcoal production and rangeland management; and
- (iv) lack of lobbying and political activism

6.5.3 Working with Communities to Improve Land Use Practices (Rangelands and *in situ* conservation of Land Races and Wild Progenitors)

National governments need to be involved to conserve wild relatives and land races of species where there is no economic return for farmers and herders from changing their practices.

Not all species can be saved at the community level. Government policy and program changes are needed to conserve wild relatives. Also, target species threatened by rangeland or forestry degradation need policy changes to solve these problems. Fortunately, governments in the region are increasingly aware of the need to conserve

wild relatives of target species, and the wild relatives and land races of targeted fruit trees are being included in reforestation efforts. Also, agrobiodiversity programs are being established now at national research and development institutions.

Farmers and herders are interested if an approach increases their income.

Over the life of the project, farmers and herders showed increasing interest in activities that added value to their livelihood.

Field interventions should be demonstrated at large scale to achieve the objectives of the project.

Implementation of project activities in small field plots with a limited number of farmers will not fully serve the purpose of the project. However, for scaling up, more links to agricultural policy, more donor involvement and better integration of market and financial factors are needed.

Win: win link between improved land management and agrobiodiversity conservation is not certain, therefore demonstration sites need to be carefully selected to ensure success.

A successful demonstration of land management improvements should lead to increases in the income of farmers, and to conservation of target species (win-win). However, the agrobiodiversity link is not always clear or direct. More understanding of this link and the conditions for win: win is needed. Demonstration sites with conditions favourable to win: win should be carefully selected. For example a favorable conditions could be: farming systems in the areas are likely to continue including some traditional/non-intensive agriculture.

Demonstrations should work at the pace and with the tools and skills expected of locals.

The demonstrations should clearly illustrate what locals can accomplish with the tools and resources at their disposal (i.e., demonstrations should not be speeded up with bulldozers if farmers are expected to achieve their own results with hand tools at a future time).

6.5.4 Alternative Livelihood Lessons

Conservation of genetic resources must take a community-based approach and be managed in the context of the overall human/natural system.

The project investigated actions for involving local communities in agrobiodiversity through demonstration of opportunities for alternative sources of income (training on food processing, eco-tourism, honey production and introduction of medicinal plants) and better community organization. These showed the promise of alternative livelihood approaches for conservation – local groups were very interested in activities that would generate additional income.

Fully explaining the ultimate objectives, results and activities of the project to the local communities in the beginning would have increased the project's effectiveness and long-term benefits.

Local communities had high socio-economic expectations for the project in the beginning, thinking that it would dramatically improve their livelihoods. Research and the testing of alternatives was a much lower priority for local communities.

Local communities cannot develop or change their behaviours or practices without both financial and technical support and ongoing assistance for several years.

Community groups needed financial support (or incentives) to start the new livelihood work; they would not undertake the changes without financial incentives. Alternative sources of income were initiated quite late in the course of the project. Hence much of the demonstration activity is unlikely to be sustained.

Rural women were the most active supporters of agrobiodiversity in local communities.

Markets and the financial viability of new enterprises were not investigated before they started, and the viability of many is uncertain.

Most successful community activities occurred with communities and individuals that are already well organized, who are experienced with previous donor projects and NGOs, that have well established local institutional set-ups (municipal) or active civil society (e.g., NGOs, cooperatives) and enjoy basic livelihood requirements (proper infrastructure, etc.).

6.5.6 Community-Based Approaches

Lessons learned and successful participatory methods should be documented for application to other projects and programs in the region.

The most challenging issue relating to implementation involved establishing a participatory approach for working with communities. Also, it needs to be recognized that implementation of a participatory approach takes many years and goes through many stages. Specifically, the five-stage continuum of participation goes from one-way communications with farmers (stage 1) to full empowerment (stage 5). By the end of the project, most participation had reached stage 2 (feedback from the farmers) or stage 3 (two-way communication between farmers and project workers, or consultation).

Extension agents should have been heavily involved from the outset and trained to continue the work after the project ended.

Extension agents will be central to sustaining the work at the community level. However, except for the ones actively involved in project work in the target areas, they will need more training. The capacity of extension agents to provide appropriate technical guidance about agrobiodiversity at the end of the project would have been a good

indicator for the project. Specifically, do we have any extension agent who can recognize all the targeted species?

6.5.7 Capacity- and Awareness-Building Approaches

The focus on broad public awareness may lead to political and public pressure and concern about agrobiodiversity.

The whole project could be seen as a demonstration project whose purpose was to raise awareness about agrobiodiversity. The capacity development model involved training, demonstrations and on-the-job, learn-by-doing approaches, which worked well to get people involved and thereby to raise awareness.

Better selection of trainees for short-term courses was needed.

The project invested heavily in short-term training. However, due to staff changes in national implementing agencies, staff members who received training were not always involved in carrying out project activities.

Benefits of investments in scholarships are not always clear or direct

In some countries, scholarships were granted with the aim of creating expertise in the agrobiodiversity field for later incorporation into the national research institutes. However, some countries (e.g, Lebanon) did not foresee any use for such highly trained personnel once their studies have been completed.

6.5.8 Need to Work with Broad Range of Stakeholders

A variety of national bodies should be identified and involved in order to mainstream agrobiodiversity issues into national policies.

New government agencies (other than Ministries of Agriculture) were involved in agrobiodiversity concept, even though it is not considered part of their mandates. For instance, some Ministries of Environment adopted traditional species as part of their national reforestation programmes. Ministries of Education were heavily involved in incorporating agrobiodiversity into the curriculum.

National and/or local non governmental agencies should be further involved in agrobiodiversity initiatives.

NGOs were found to be effective at community work, especially in Palestine and Lebanon, and they should play a more central role in community level agrobiodiversity projects.

The private sector is a powerful economic national/local stakeholder that could have been more deeply involved in promoting agrobiodiversity.

The involvement of the private sector was very limited, except for very few initiatives involving eco-tours in selected areas.

7. Conclusions and Recommendations

7.1 Conclusions

7.1.1 Overall Achievements

Progress, generally speaking, has been satisfactory, and the project promises over the long term to have a positive effect on agrobiodiversity in the region. Though not a great deal of concrete progress was made to achieve outputs on the ground, good results in the area of awareness- and capacity-building have created the opportunity to make more substantial progress in the next few years. Specifically, changes have been effected at the organizational level in implementing agencies and in some universities and NGOs that provide an excellent foundation for future work. As well, the interest, enthusiasm and commitment created during the past six years promises to energize and support the agrobiodiversity work in years to come. We estimate that it will take at least five more years of effort to achieve noticeable impacts on the ground in land use and conservation of some target species.

While positive results have been achieved – and more are anticipated if similar project interventions continue – it is important to recognize that the issue of agrobiodiversity is not purely technical in character. It follows that non-technical solutions are needed as well (e.g., solutions that address the issues of benefit sharing, land ownership, development policies and so on). To date, most of the solutions experimented with are at best partial, and they will only continue to be relevant until the prevailing political and socio-economic climate changes.

In the meantime, it is critical to keep working, and to recognize that what has been achieved so far is only the first phase of what should be considered a very long-term program. National governments need to expand the successful demonstration approaches to new areas and to work at a larger scale. They also need to work on making policy changes. The approaches adopted for this project need to be mainstreamed to donors and governments. There is a real need to consolidate, to fill gaps in our knowledge and to share lessons learned about what is being done and with what results. More people need to be involved, including all current partners as well as a new range of interests and expertise. Finally, it is essential to build on the commitment created in the past six years to preserve agrobiodiversity.

7.1.2 Building Awareness and Capacity

The project succeeded well in raising awareness of the complex and important issue of agrobiodiversity among a variety of stakeholders, some of whom have the power to effect important changes at the policy and legislative level. Among researchers as well, there has been a marked deepening of understanding. In academic circles – including researchers, project implementers and students at various levels – there is new knowledge of what agrobiodiversity means and its implications for the region. There is also new

awareness of the gaps in knowledge and what is needed to address them. Finally, among those whose concern is primarily with practical solutions on the ground, there is awareness of some of the practical approaches needed to foster agrobiodiversity.

The training aspect of the project was critical and will become even more so as governments in the region require an increasing number of highly trained professionals to undertake policy development. Though numerous staff were trained by the project, it is impossible to predict how many of them will remain directly involved in agrobiodiversity in the future.

7.1.3 Mainstreaming Awareness

It is by no means easy to mainstream awareness of an issue as complex and difficult as agrobiodiversity and the need to conserve it, yet the project has achieved just that. It has engaged a variety of participants – many of them in positions of influence – and has proved to them that the issue is an important one that deserves high-priority recognition in the region. Furthermore, because of the influence exerted by many participants in national politics, that awareness is likely to have important downstream effects in the form of new policies and legislation.

7.1.4 Implementation Challenges

In some areas – notably the building of awareness and capacity – the project went much further than planned. In other areas, it is a long way from accomplishing its objectives. Work was hampered from the beginning by weaknesses in the concept and design, and the character of implementing arrangements made it difficult to achieve regionality. For many partners, this was the first experience with such a project. Thus, it took more time than anticipated to set up procedures and to draft contracts and work plans. In the beginning at least, there was lack of clarity over desired approaches and the various roles and responsibilities of participants. These deficits resulted in delays and fragmentation of effort and, in the final stages, it meant working under severe time pressure in an attempt to complete activities. Finally, during the project, there was excessive emphasis on the science of agrobiodiversity and a corresponding lack of emphasis on multi-disciplinary approaches and on achieving concrete results on the ground (i.e., working with the farmers themselves).

7.1.5 Technical Reliability

Because the project was in large part a learning process – with participants focusing especially in the early years on acquiring new concepts and new ways of working – it is unrealistic to expect a high level of reliability in terms of technical results. Some of the work was very well done; other work, especially in the early stages, is of dubious quality. Before building on past results, therefore, it will be necessary to re-examine the studies undertaken and the information and data collected to determine the level of dependability.

7.1.6 Sustainability

The existence of considerable co-financing and the project's success in raising awareness suggest that some of the research, institutional development and policy work will continue. Moreover, staff has been trained and the value in regional networks has been established. In all countries, the concept of agrobiodiversity has been or will soon be introduced to academic programs in schools where it will continue to inform future generations of workers and decision-makers. Also, agrobiodiversity is now being included in some university courses in the region (especially Jordan). Very little of the project's efforts at the community and farm level are likely to be sustainable without continuing support, though there are some encouraging achievements in this area. The demonstrations to promote use of land races of field crops in drought conditions have succeeded in the target areas and have registered with farmers. Some work was done to promote alternative livelihoods (e.g., bee-keeping, nurseries, medicinal plants). However, generally speaking, progress was not sufficient at project's end to support sustainability in that area. Only in a few areas, where very strong markets exist and the products are exceptionally viable, will the new businesses survive without further support.

7.1.7 Regional Coordination

The regional character of this project means that information and lessons should be shared from country to country. In fact, implementation arrangements for this project prevented development of effective regional relationships and mechanisms. Contracting and implementation arrangements for both national and regional activities need to be revised for future projects.

7.1.8 Incentives

It is widely assumed that the introduction of agrobiodiversity and alternative livelihoods will result in a "win-win" for the nation and farmers alike. In fact, the benefits to farmers are in many cases long-term and indirect. If farmers are to be effectively recruited for these kinds of projects, the governments in question will have to underwrite the projects with effective policies. They will have to pinpoint those demonstration opportunities that are clearly "win-win." They may also have to provide incentives for participating farmers.

7.1.9 Lessons Learned and Success Stories

The project has the potential to provide lessons and models of success for other areas where GEF is active and to provide guidance for other national governments.

7.2 Recommendations

- 7.2.1 The successful agrobiodiversity initiatives started by the project should continue, the long-term program started by the project is only 1/3 done and it is critical to build on the momentum generated by the project. GEF, UNDP and the national governments all need to continue supporting agrobiodiversity work to achieve long-term benefits from the project.
- 7.2.2 National governments or regional institutions should find ways to continue to support at a low level, and spread demonstrations that show promise. The demonstrations to support and spread nationally include: approaches for increasing use of land races for rain fed field crops, nurseries growing plants for reforestation and alternative livelihood enterprises likely to have market viability (e.g., medicinal and herbal plants businesses targeting local/community markets).
- 7.2.3 Efforts should continue to work and investigate concrete solutions for those agrobiodiversity issues that were not solved by the project. These issues include: degradation of grazing and forestlands and *in situ* conservation of wild relatives of target species. These are complex issues, all project partners need to be involved in developing a modality for continuing this work.
- 7.2.4 The policy work initiated by the project needs to be continued and adopted by National governments. A way must be found for doing the additional work (e.g. implementation planning, legal drafting, etc.) and gaining the political support needed for the National Government's to enact agrobiodiversity policies and legislation.
- 7.2.5 Further investigation of incentives and the link between incentives and agrobiodiversity benefits is needed. Most of the incentives tried by the project were at the farm and field level and caused farmers to participate in the project (e.g. seed exchanges and cleaning, help with construction of water harvesting structures, provision of seedlings). Issues needing investigation include:
- the agrobiodiversity benefit from different incentives;
 - the incentives needed to encourage changes in practices at the community and larger land-use scale; and
 - likelihood of farmers adopting agrobiodiversity friendly practices without incentives, once the financial benefits are proven.
- 7.2.6 The role of UNDP and the nature of future implementation arrangements should be re-considered. In particular, a way must be found to make UNDP country offices more able to collectively support and benefit from regional projects. For instance, sharing of tasks across the offices could be considered, with different offices taking the lead on issues common to all such as M&E, technical support, or identifying project lessons/approaches for mainstreaming within other UNDP programs and projects. Also, as a priority, the UNDP should develop

mechanisms for mainstreaming agrobiodiversity considerations into other UNDP programs and projects.

- 7.2.7 Partners should develop a strategy for finishing, sharing, distributing, financing and accessing the knowledge developed by the project. As part of this strategy, all information created by the project should be reviewed and assessed in terms of its usefulness for future work
- 7.2.8 Project partners should consolidate lessons learned from the project that have potential applications for national governments and GEF. This evaluation has identified a number of strategic lessons, however, consolidation of more detailed technical and management lessons is needed still to facilitate implementation of this project's many lessons.
- 7.2.9 Lebanon and the Palestine Authority need to provide funding for professional staff at a level attractive enough to ensure the recruitment and retention of expert personnel.
- 7.2.10 The implementation arrangements for evaluations of GEF/UNDP regional projects in future should be reconsidered. Consideration should be given to development of good practice guidelines that address:
- development of TORs, selection of evaluators and contracting;
 - roles, responsibilities and organization for evaluation management; and
 - standards for design, level of detail/analysis, and for ranking the performance of projects that were designed prior to the current performance expectations of GEF.