of horticulture and introduced them in their own work.

1. Farmer Best Practices – examples of competition winners

Pasture management

With Project funds our CIG members improved pasture conditions in 2 ha. We sowed summer cypress on land that was farmed intensively and was highly eroded. Today the shrubs grow very well, and we hope to collect some 200 seeds and increase its sowing area. All year round (any season) the summer cypress is used for fodder. In cases of adequate care - this shrub produces good fodder for 25 years.

Activity benefits:

Sowing summer cypress
Cattle fodder availability, especially for small cattle
Pastures restoration
Good crops of cypress and perspective increase of sowing areas

Vanj rayon, Muminshoev, B., Chairman of the farm "Mukhamad"

To improve pastures a 3km long waterway was built and sowed alfalfa on 14 ha. Climatic conditions allowed for 3 crops per season; with a yield of 14 centers per hectare. The activity of Muminshoev was pasture improvement – but they were also able to stock fodder for winter from high-quality alfalfa. Under local conditions domestic cattle only graze 6 months a year on pastures, and another 6 months should be kept in winter enclosures. The farm members intended to increase alfalfa sowing on pastures in future.

Activity benefits:

Water available for animals
Cost effectiveness on water supply
Pastures restoration which for years were not irrigated, and animals in search for water had to travel big distances and they were losing weight

Modern plant protection methods

Nabotova Makhvash, leader of the farm "Mekhnat", Jamoat Vanj

Nabotova's experience in plant protection and cultivation methods is rather interesting and extensive, and neighbors use this experience. On an area of 1.2 ha they planted an orchard of 0.3 ha and the remaining 0.9 ha was used for other cultivation. The Nabotova's orchard is well managed, and for pest control is using traditional methods (traps) with visible results. In other areas she is growing potatoes, vegetables and other cultures for fodder. Using such a sowing method is good for crop rotation; the harvest yield from trees and other cultures is high. She is using modern technologies to grow cultures.

Activity benefits:

Rational and effective use of plants protection

Land and crop rotation
Receiving 2-3 harvests per season
Marketing studies

Nabotova's area of 0.5 ha have sown various vegetables, used advanced technologies and popular methods of plant protection. During the work - the sowing calendar was observed.

Activity benefits:

Effective use of plants protection methods
Experimenting with growing different agricultures
Organized sowing
Manpower attraction, including women to work in fields

Modern plant protection methods in the Ivan-Tojik Jamoat. Kuhistoni Maschoh district

Koziev Mullonemat, CIG leader form the Ivan-Tojik Jamoat, **Niezov Niezbobo**, leader of "Dobbukov" farm, Jamoat Ivan-Tochik, and **Junusov Junus**, leader of "Revomtuk" farm, Jamoat Ivan-Tochik, were introducing popular plants protection methods and received good results.

Activity benefits:

Staged use of known methods in own business
Observing sowing terms and methods and tree protection
Awareness raising and improved economy through training
Use of modern methods in the mountains

Executive summary from the World Bank

Farmer and Farm Worker Perceptions of Land Reform and Sustainable Agriculture Study

Farmer's decisions are largely shaped by their perception of how exposed they are to different social, economic and environmental impacts. Chief among these are limited management control over farmland, land degradation and low levels or sources of other assets. Previous farmer assistance in this area has focused on building capacity to cope with these factors and create incentives for better land management. The experience from former state-directed economies undergoing transition has shown that what works best is to create 'incentive frameworks' that link land tenure (or security) and asset accumulation along with building farmer's capacity to respond to shocks and stresses. This increases farmer confidence or 'resilience' and can lead to greater entrepreneurial behavior or even the adoption of more environmentally-friendly and sustainable land management practices. Discovering these linkages and the underlying conditions of success still requires further field-evidence – especially in countries under transition.

This is a summary of a report that presents the findings of a recent study in Tajikistan that examined farmer perceptions in Project areas that supported farmland restructuring and sustainable agricultural land management practices among rural households. The findings are expected to be of value to government decision-makers at all levels, civil society organizations, donors and other practitioners interested in practical recommendations for improving current and proposed projects in land reform, agricultural production, sustainable land resource management and related fields.

The study was a collaborative effort of the British Department of International Development (DFID), World Bank and United States Agency for International Development (USAID), and focused primarily on sites where these agencies were supporting projects. This report also draws on an earlier 2007 assessment by the World Bank and USAID that examined knowledge, attitudes and practices toward land restructuring among farmers and farm workers (World Bank and USAID, 2008).

Two thirds of Tajikistan's population is engaged in agriculture that falls into two broad farming systems: upland areas characterized by wheat, potatoes and certain types of horticulture along with large tracts of rain-fed pasture; and lowland areas where irrigated cotton in rotation dominates. Unlike other countries in the Europe and Central Asia region, Tajikistan has not completed the reform process of allocating and registering land use rights for independent farmers so that they are better able to manage their farmland in response to market forces. "Freedom to Farm" without government interference is unevenly practiced in the country. At the same time environmental degradation and unsustainable use of natural resources are important constraints to rural growth, and as a consequence, the country's overall agricultural productivity remains low.

Fieldwork for the study was conducted between March and July 2011, and included a quantitative survey of 1,800 farmers in 18 raions (districts), supplemented by focus groups, in-depth interviews and case studies in eight raions. Due to the modest sample size the study cannot claim to be representative of all farms and farmers in the country, however for the areas covered it does describe the results of interventions from the farmer's viewpoint (or perception). While the knowledge, attitudes, and real and perceived assessments are critical in shaping behavior, it should be noted these may not accurately reflect the actual legal situation or official government data.

Changes and Results in the Process of Farmland Restructuring

Under the World Bank financed Land Registration and Cadastre System Project (LRCSP), there has been significant acceleration in the issuance of land use rights certificates for family farms (25 or fewer shareholders), with 36,911 issued since 2009. This acceleration is an important outcome of the 2009 Government decree. Qualitative results show that farmers acknowledge speedier, more transparent, and no-fee processing of applications compared to the regular Land Committee channels in which farmers might encounter delays, mistakes, and resistance to restructuring by local officials.

The study indicates that rural people have basic knowledge about their rights, but do not fully understand the details of the farmland restructuring process. Both the 2007 and 2011 surveys documented that respondents are aware of having heritable rights and freedom to choose what to plant. However, despite educational efforts by projects, few farmers know about specific differences between farm types, and the steps needed to fully restructure farms.

Key ***perceived barriers*** to undertaking restructuring include ***a lack of machinery, lack of experience managing a farm, lack of access to irrigation water, process costs, and the associated tax and debt burden*****,** all of which contribute to an overall lack of confidence in farming independently. Those who work on farms yet to be restructured into units of less than 25 members are the most concerned about these barriers. However, ***perceived benefits, such as the ability to farm independently and make money are also rated as being very important incentives to restructure.***

Freedom to Farm

The confidence of farmers that they control use of their land has increased significantly since 2007. In 2011, close to half of all respondents strongly agree that farmers can make farming decisions, compared to slightly more than 25% in 2007. Exceptions can be found, however, in cotton production, where only 29% of women strongly agree compared to almost half of men. In collective farms with more than 25 members/workers, farm heads continue to be the decision-makers. Upland farmers are more likely to say they are able to make independent farming decisions than farmers in lowland areas where cotton predominates. Yet areas still remain, such as Tojikobod and Konibodom, where local authorities pressure family farms to grow a fixed percentage of key crops such as potato and cotton.

Gender Issues and Social Tax

Conservative attitudes and practices which are still maintained in some regions of the country limit women's access to information about restructuring and agricultural operations, even though it is widely acknowledged that women comprise the bulk of agricultural labor. In 2011, 25% of women still report having no sources of information on restructuring. Women also are much less likely than men to have either advanced general education or specialized agricultural training.

The long-term rights of women are affected by their omission from certificates. Survey respondents confirmed that women were omitted from certificates in one of every ten cases. Cultural norms and practices attach more importance to including men's names; however, in about 40% of the excluded cases, the social tax was cited as a somewhat important or very important reason.

The social tax of 15 somoni (about $3) per month also results in other family members being omitted from certificates, e.g., young adults. Other difficulties with the social tax include payments that are due when members are not working, and having to pay twice if someone works on two farms. ***The burden of the social tax and associated transaction costs can be substantial for small, labor-intensive farms.*** Failure to pay the social tax can result in the farmer losing rights to the land.

Rural Organizations

Mechanisms are needed to resolve problems and take advantage of opportunities that extend beyond the farm and family. Examples of problems include access to irrigation and canal maintenance, machinery, and credit. Coordinated efforts necessary for watershed management and other activities to sustain and protect the environment and resources should also be included. A mix of approaches are being used and tested, including Mahalla Councils, *hashars* and other traditional practices, commercial services by private vendors, and non-governmental and donor organization activities. The Community Agriculture and Watershed Management Project (CAWMP), which used farmer common interest groups, is an example of donor-sponsored activities. With the exception of Vanj, where the Aga Khan Foundation/Mountain Societies Development Support Programme has set up village organization activities as a regular practice,

mechanisms to resolve these problems are often either lacking or unable to successfully address issues.

Agricultural Operations, Livelihood Outcomes and Aspects of Vulnerability

Compared to 10-15 years ago, more than half of men and 44% of women say they are better off. When asked about conditions 10-15 years ago, only about 10% of men and women say they are worse off, with the rest saying they are the same. Qualitative results indicate that migrant remittances played a key role in the improved status of many households. Comparing the results between the 2007 and 2011 surveys, farmers indicated a 10% decline in the number of households where farming was the only source of income, and a 10% increase in the number of households where agriculture was no longer a significant source of income.

For farmers in both lowland and upland areas, financial concerns such as access to credit, access to markets, and farm debt are key sources of risk and problems in agriculture and rank in the top five out of 20 problems. Pasture access and rotation also rank in the top five for both regions. In the uplands, the major problem was bad roads, bridges and infrastructure, whereas for lowlands, landslides/mudslides were one of the top five natural resource-related problems. Generally, lowland respondents and those on family farms expressed more concern about environmental issues. Water conservation, integrated pest management and erosion control practices had the lowest adoption rates and levels of knowledge among farmers, with intercropping and windbreaks the highest.

To examine the sensitivity of households as a factor in rural vulnerability, four variables were assessed to indicate the susceptibility of livelihoods to risks. Upland farming could be considered more sensitive overall than lowland farming, due to higher numbers of respondents growing only one crop, and reporting lower income and education levels. However, more lowland farmers reported agriculture as their sole source of income. Farmers on restructured family farms with 25 or fewer members are more likely to have only one crop and limited educational levels, but slightly more income sources. Women tend to have less income and education, but show more crop diversity and income sources.

To examine the potential to adapt to risks and problems, a number of variables were assessed across types of farmers. Results indicate that lowland farm households are more likely to receive migrant remittances and some cash savings. Upland households are more likely to invest in livestock and slightly more likely to adopt sustainable environmental practices. Family farms with 25 or fewer members are more likely to invest in livestock, make investments in farm improvements, and have two or more income sources. ***Family farms,*** while being more sensitive in some aspects than collective farms to economic and environmental stresses, do ***show* more *potential to adapt.*** These farms made ***more investments, adopted more environmental management practices*** and between 2007 and 2011 ***grew a greater diversity of crops***. Women are less likely to report investments in livestock, but slightly more likely to report income from migrant remittances.

The findings indicate that a combination of farmland restructuring and freedom to farm, although necessary for the incentive framework for agriculture and economic transition, is not sufficient. The experience of other transition economies highlights a package of key reforms: (a) creating macroeconomic stability; (b) reforming property rights; (c) hardening budget constraints on

collective and similar farms; and (d) creating institutions that facilitate exchange and develop an environment within which contracts can be enforced and new firms can enter. Family farms need support through this transition in building livelihood assets that help reduce vulnerability.

Recommendations

Strengthen and expand farmland restructuring in order to increase beneficial livelihood outcomes and potential to adapt. In addition to providing donor support, efforts should incorporate as much as possible the Land Registration and Cadastre System for Sustainable Agriculture Project (LRCSP) "good practice" on certificate issuance into other government programs. Although it may not be feasible for the regular government program to adopt the no-fee arrangement or the spatial technology in the short term, ways to address these factors should be considered in the development of the longer-term government strategy. Continued commitment to the issuance of family land use rights certificates is imperative. Future legislation, including proposed amendments to the Land Code, would create conditions for marketable land rights, and those without legal rights are likely to be particularly vulnerable to land grabs, etc.

Although there has been progress in Freedom to Farm, government interference in agriculture needs to be further reduced. Freedom to farm independently and without interference does, however, need to take into account the constraints of the country's resource base and environmental fragility. Family farms will need continued support and guidance to manage land resources responsibly through efforts similar to those, such as CAWMP, LRCSP and others that supported the environmental management of agriculture and other measures that can reduce sensitivity and increase adaptive capacity.

Improve awareness raising and training activities on farmland restructuring, and give more attention to gender inclusion. Local mass media, seminars, etc. should be used to increase awareness of possibilities and the benefits of acting independently. Efforts should focus on new project areas and test to ensure that people are learning and making informed decisions. The curriculum should include realistic case studies illustrating the consequences of land restructuring in each local area and be gender-inclusive. Education efforts should raise key issues such as land debt and taxes, the social tax and the consequences of not being listed on certificates, and alternative planting strategies. Activities should also focus on building skills to solve common problems rather than just trying to increase knowledge about laws.

The burden and implications of the social tax on farm members, especially on family farms, is a serious issue, and warrant immediate attention and further investigation. Study findings indicate that the current social tax policies appear to discourage the inclusion of women and other adult family members other than the household head from being listed as shareholders on family farm certificates. Qualitative findings indicate that the social tax can even discourage poor households from seeking family farm rights altogether. However, a full analysis of the social tax was beyond the scope of this study. Analysis is now required to explore alternative approaches to social protection. For example, good practice from elsewhere uses policies of income-based taxation rather than a flat rate per head. Any analysis should consider not only issues of social tax policy but also of implementation. In Tajikistan, for example, are there differences between various groups (including family farms versus larger farms versus various forms of non-agricultural enterprises) in social tax collection rates (e.g., enforcement, compliance) and actual access to and flows of social protection benefits.

Strengthen farmer-to-farmer learning about agriculture and access to resources and markets. Informal farmer networks are effective in promoting innovation and replication and help build farmer confidence in operating independently. Conventional methods of communication and learning (e.g., advice through fee-for-service, Jamoat Development Committees) should be complemented with farmer field schools, competitions that highlight good practice, innovation and early initiators, and farmer exchanges.

Support local empowerment through associations and groups. Promoting informal and formal groups, examples of which are already active (e.g., Water User Associations, machinery or pasture user groups) can help farmers access and maintain machinery, infrastructure, pasture, credit and other inputs. Producer associations and groups provide similar opportunities for farmers to access markets and obtain fairer prices for their products.

Annex 6. Stakeholder Workshop Report and Results

Communication and information sharing activities

Several types of publications and directories, magazines, leaflets, informational posters were published and distributed to PCUs, CIGs, JDCs, and WDCs. These materials contained information about environmental protection, rational use of natural resources, better crop production technologies, effective usage of water resources and other information which promote advanced knowledge to improve the capacity of local residents to enhance their income.

№	ITEM	Issued
1	Agriculture Magazine "Zamindor" with different contents and topics	23,300
2	Agriculture Magazine "Kishovarz" with different contents and topics	28,300
3	Information leaflets	6,000
4	Color Informational Posters (different types)	30,000
5	Pamphlet (Information about Project districts and watersheds)	14,000
6	Pamphlet (Information on agricultural pest management)	3,000
7	Books (biogas system, composting, pasture management and livestock breeding, Project achievements, methodological guidelines, etc.)	13,100
8	Leaflets of Project concept and subproject preparation	12,000
9	Methodological recommendation for horticulture in Vanj region	3,000
10	Other publications (Video materials, VCD, CD, calendars, banners, posters, maps, etc.)	17,160
	Total:	**149,860**

Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR

Project Context, Development Objectives and Design

1.1.Context at appraisal

Tajikistan has an area over 143,000 km² of which more than 93% are located in mountainous regions. In the period 2000-2003, barely a decade after independence and during a period of stabilisation after the civil war, Tajikistan moved its development efforts from humanitarian aid and reconstruction to more long term development activities. During that period poverty decreased substantially from over 85% to 60% in 2004 with still over 20% of the population considered as **very** poor (1.18$/day/person). Government of Tajikistan action was guided by the PRSP and the national development strategy which emphasize growth, provision of basic services, supporting the poor and improving governance. Within this context and as a follow-up to the successful farm privatisation project, GOT, World Bank and GEF designed in 2004/2005 a project focussing on both poverty and environment in mountainous regions where 20% of the population lives and where poverty and land degradation are highest.

The Community Agriculture Watershed Management Project (CAWMP) is addressing 2 major challenges in Tajikistan: poverty reduction through agricultural development and income generation, and environmental degradation through integrating sustainable land management practices. Both issues are closely linked, in particular in mountainous areas where inadequate land management practices due to lack of investment and/or knowledge lead to serious environmental degradation such as mudslides, soil erosion, silting of rivers. Still, highlands in Tajikistan have good agricultural and livestock potential if only managed appropriately. In addition, mountainous ecosystems, some of which are under threat like pastures and forests, constitute a unique pool of genetic diversity of wild-growing plants which is worth conserving. In Tajikistan the breakdown of the Soviet agricultural system after 1990 and the production decline pointed to the need for land reform. The first legal acts on land reform and farm restructuring in Tajikistan were issued in 1992, but land reform began actively only in 1995, with a presidential decree allocating additional land to household plots – always a highly productive sector in all of the former Soviet Union. In the uplands, farmers lacked capital to exploit the productive potential of their lands.

At the time of Project design, in rural areas a lot of development aid was focussed on humanitarian responses rather than activities to support rural agricultural production. This Project was a departure with its focus on agricultural production and sustainable natural resource management plus its community driven decision-making on the types of investments to be made by villagers.

Table 1: Administrative Units, Population, Number of Households and Types of Farm in the Four Watersheds

Watershed	Districts	Number of Jamoats	Number of villages	Rural population ('000)	Number of rural households	Number of dehkan and cooperatives farms	Number of kolkhozes and sovkhozes	Number of Jamoats covered by Project	Number of Villages covered by Project

Surkhob	Darband (30%)	2	26	16.0	2,133	11	5	0	0
	Jirgatol	9	49	51.6	10,072	143	12	5	24
	Rasht	12	117	80.6	12,515	263	4	0	0
	Tajikobod	4	43	32.0	5,107	197	11	3	23
Vanj	Vanj	6	57	28.3	2,855	19	2	6	71
Zarafshan	Ayni	8	62	77.4	15,411	31	3	7	62
	Matcho	2	30	12.0	2,628	14	12	2	51
	Panjakent	14	134	170.3	34,048	59	13	10	109
Toirsu	Dangara	8	75	81.7	11,059	120	10	6	62
Total :	**9**	**64**	**593**	**549.9**	**93,002**	**857**	**72**	**39**	**402**

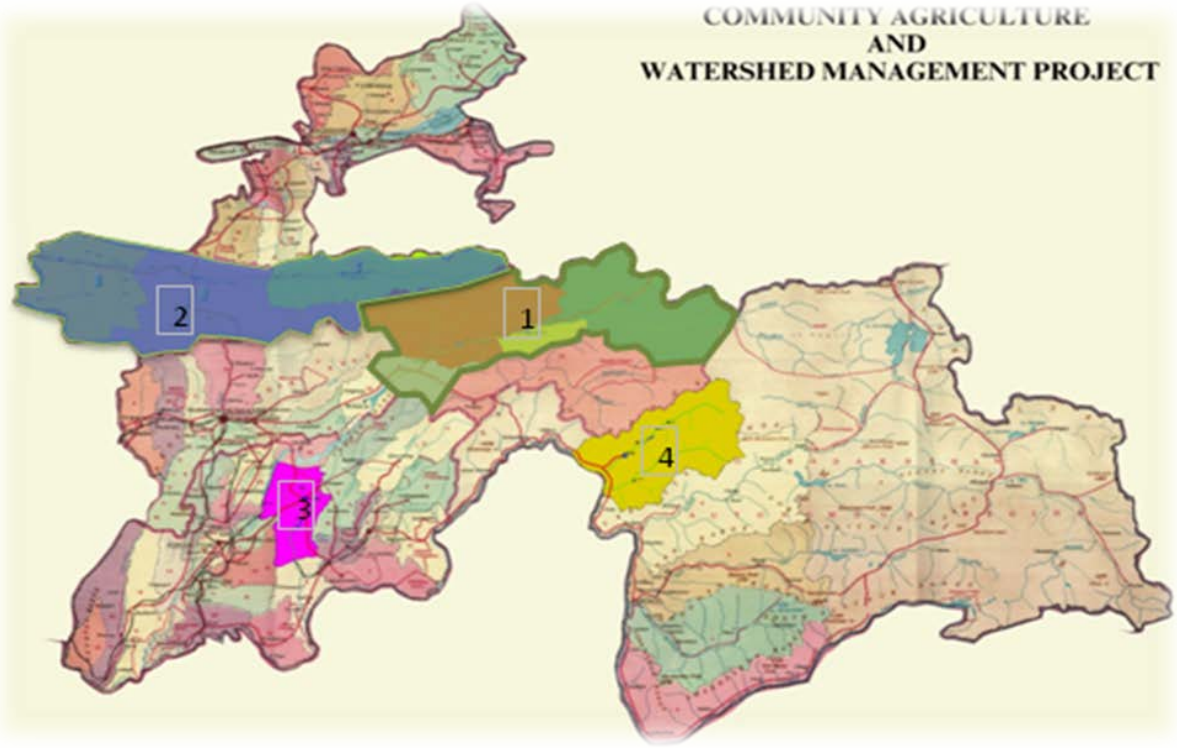


Figure 1. Project Sites (1. Surkhob; 2. Zarafshan, 3. Dangara, 4. Vanj)

1.2.Project Development

Objectives (PDO) and Outcomes

The Project objectives are twofold, reflecting WB and GEF contributions:

- Build the productive assets of rural communities in selected mountain watersheds, in ways that sustainably increase productivity and curtail degradation of fragile lands and ecosystems.
- GEF Objective: Protect globally important ecosystems by mainstreaming sustainable land use and biodiversity conservation considerations within agriculture and associated rural development decisions, providing replicable models for comparable areas throughout the country.

At the time of Project Appraisal, the performance indicators for the Project outcomes were:

At outcome level:

- At least eighty percent of rural production investments are successful according to agreed economic, financial, social, and environmental standards, and are being sustained;
- Number of participating households in at least one of the types of rural production investment is at least 50% of total Project area population and being replicated elsewhere;
- In communities that are participating in the Project, proportion of people above poverty level increased from 3% to 30%;
- Negative trends of land and mountain ecosystem degradation trends halted in Project area Jamoats.

At intermediate results level:

- The total cumulative investment in agriculture production among Project participants (from initial grant, local contributions, and reinvestment) exceeds US$3.8 million, i.e. more than the projection of Project-financed grants and capital infusions (implying high participation, desirable social and environmental impacts, commercial success, use and repayment of revolving funds);
- Land management investments cover 78,000 ha and benefit very poor at least in proportion to their numbers in a community;
- Number of improved public facilities, disaggregated by type of investment (e.g., village drinking water, roads and electricity);
- 47 JDCs overseeing rural production investments;
- 40% of farm production and land management investments apply improved technologies, and receive good access to necessary inputs and knowledge;
- Number of indigenous crop varieties from Project area preserved as live specimens;
- Satisfactory Project administration as indicated by Bank supervision ratings and Project's public reputation for integrity.

At the time of Project appraisal, these objectives and targets were considered relevant to conditions in Tajikistan as mentioned in the previous section. However, achieving these targets would be dependent on capacities among project management and partners since the Project design was significantly different to previous projects implemented in Tajikistan.

1.3.Adjustments in Project Outcomes and Intermediate Results

By the time of and during the Mid-Term Review in May 2008, the following adjustments were made.

Outcomes

a) Proportion of people above poverty level participating in the Project: The means of verification for this outcome indicator was changed given that the baseline assessment of poverty levels in the Project sites was unable to provide primary data of adequate quality. This outcome was measured through analyzing qualitative data gathered from sample subproject reviews during project assessments;

b) Halting of negative trends of land and mountain ecosystem degradation in Project Jamoats: This outcome indicator related to land degradation was revised, since the original indicator, an aggregate spatial assessment of land degradation trends, could not easily capture the impacts of the small-scale Project-financed subprojects. A replacement indicator instead measured the number of hectares positively affected by practices, which contributed to sustainable land management. In 2009 monitoring formats were developed for subprojects that have served as the basis for assessing sustainable land management benefits.

Intermediate Results

c) Credibility investments: An outcome indicator was added to measure participation in credibility investments since these served important functions of building interest in the Project and awareness of new concepts such as natural resource management. This indicator also provided useful information for the initial period of Project implementation, when other results could not yet be measured;

d) Percentage of Project-financed investments having access to and applying improved technologies: This result indicator for the component on technical dissemination was replaced with the number of persons trained, which was more practical and easier to measure than adoption rates;

e) Number of Jamoats: At inception, the Project planned to cover 47 Jamoats, but by Year 2 it was clear that this target needed to be reduced. Beginning with the first FO contract in 2005, it was evident that the unit costs per Jamoat and village for facilitation assistance, even with co-financing from the FOs, had been significantly underestimated during Project design. Experience also showed that it was necessary to provide additional resources to support JDC/JRC establishment and operations and ensure that they could play the critical facilitation and financial roles envisaged in the Project. Corrections also needed to be made to the base number of households in the Project Jamoats since these had also changed since appraisal. At the MTR, the following adjustments were therefore made based on more accurate data and available resources:

- The Project will cover 9 raions containing 39 Jamoats and 402 villages; and
- The base number of households would be 57,375 of which at least 50% would be Project beneficiaries.

f) Bank supervision ratings: A small modification was made in the indicator for Project management to a more logical measure based on implementation timeliness rather than Bank supervision ratings.

g) Project reputation for integrity: This indicator was dropped since there was inadequate in-country capacity to conduct and analyze the necessary surveys. The Project's implementation and

fiduciary arrangement shad the intended effects of lessening the opportunity for inappropriate capture of project resources and increasing transparency. Such measures included public disclosure of subproject costs, community consensus on investment choices and direct transfers of funds to Jamoats.

h) New gender indicator added at the time of Project restructuring in April 2011.

Table 2. Summary of modifications to the Results Framework Indicators at the time of the MTR, May 2008

Original Indicator	Revised Indicator	Explanation
Did not exist	Cumulative number of villages which have participated in credibility investments	Useful, especially during initial implementation when other results not yet achieved.
Negative trends of land and mountain ecosystem degradation halted in Project Jamoats.	Areas in ha covered by land resource management subprojects and other project activities that directly and successfully address land and mountain ecosystem degradation.[21]	Original indicator will not be able to measure impacts due to problems of scale.
Area in ha covered by land resource management subprojects and benefiting very poor at least in proportion to their numbers in a community.	Total value in US$ of land resource management subprojects designed and funded.	Avoid duplication with revised outcome indicator above.
Project participants have access to and adopt improved agricultural technologies.	Cumulative number of rural people who have received technical training from TAAS, FOs, or other project partners.	Original indicator not feasible to measure.
Bank supervision ratings and reputation	Project management ensures project implementation timeliness.	Original indicator not practical because of inadequate capacity to

[21] Confirmation that land resource management subprojects and US$ value of other project expenditures (e.g., farm productivity subprojects, rural infrastructure subprojects, specific training programs, specific consultancies, etc.), in concept and then in implementation, include at least one of the following results on fragile lands:

- Prevent or reduce soil erosion by water or wind
- Increase vegetative cover through perennial crops and pasture
- Provide soil and moisture conservation
- Improve soil quality
- Improve water use efficiency
- Increase sustainable fodder or wood supply
- Increase sustainable renewable energy supply
- Increase integrated pest management
- Indigenous plant preservation

Original Indicator	Revised Indicator	Explanation
for integrity as perceived in public opinion surveys.		conduct surveys, and emphasis on integrity addressed through other mechanisms.
Did not exist.	Number of Project beneficiaries.	Added by World Bank as core indicator at the time Project Restructuring
Did not exist.	Number of female beneficiaries.	Added by World Bank as core indicator at the time of Project restructuring

At the time of Project completion the objectives and outcome indicators are still considered to be relevant. The GOT continues to recognize the importance of addressing land degradation (see reference to UN Assembly September 2011) in the country. Project objectives are relevant to current GOT programmes in food security, poverty reduction, horticulture development, sustainable pasture management and adaptation to climate change. Emerging challenges to the objectives including employment generation include market development, the need to continue building the rural knowledge base and advisory services to support production, processing and land management.

1.4.Project Components

The Project was funded through a GEF grant, IDA credit and grant, GOT counterpart financing and beneficiary contributions investments estimated costing 19.8M$ at PAD stage. At the time of the MTR, this figure was revised to 18.77M$ that took into account exchange rate changes, as well as changes in GOT counterpart financing levels and estimates of co-financing by facilitation organisations.

1.4.1. Funding sources and disbursement/expenditure (‘000 USD)

№	Funding sources (Credit (s), Grant(s), Government co financing, beneficiary contribution etc.)	No and Date of Credit (Grant) Agreements	Total Sum	Actual disbursement	Actual expenditure	Balance	% of expenditure
1	IDA Credit №3928-TJ	3928-TJ 25.11.04	5,000,00	5 171,45	4 947,14	224,31	99%
2	Government of Tajikistan contribution	3928-TJ 25.11.04	2,000,00	591,25	590,45	0,80	30%
3	IDA Grant; №H097-TJ	H097-TJ 25.11.04	5,800,00	5 942,18	5 896,36	45,82	102%
4	GEF Grant №053572-TJ	053572-TJ 25.11.04	4,500,00	4 499,90	4 498,73	1,17	100%
5	Beneficiary contribution		2,400,00	-	3 400,00	-	
	Total:		**19,700,000**	**16 204,780**	**19 332,680**	**272,10**	98%

Component 1: Rural production investments

These investments were to benefit the population through access to small grants

A. ***Farm productivity improvement*:** individuals or groups of households invested in specific activities providing income on a short term basis (within 1-3 years). These included provision of inputs for cropping systems, horticulture, livestock, processing, leasing, etc.
B. ***Land Resource Management (environment):*** this subcomponent enabled local people to adopt more sustainable use of fragile lands and provided Right of Use of Land Certificates after three years of maintenance, subject to continued good land use (this provision was changed during Project implementation to issuance of certificates according to the schedule of issuances in the Land Registration and Cadastral Survey Project for the CAWMP locations). Most activities combined long term income-generating investments (3-4 years and on) in order to enhance sustainable land use. Activities included horticulture, woodlots, pasture management, soil and water conservation measures, etc.
C. ***Rural Infrastructure*:** these investments rehabilitated small-scale rural infrastructure intended to benefit community groups and complement the above subcomponents. Activities included drinking water, small irrigation, minor transportation rehabilitation, small power generation, etc.

Beneficiaries organized as Common Interest Groups (CIGs) accessed grant money by providing a 20% minimum contribution for the total subproject costs. Their proposals had to follow fixed budgets based on village population as long as any household does not exceed US$290 grant money while group members applying for a rural infrastructure grant cannot excess US$50/HH.

Component 2: Institutional Support and Capacity Building

A. ***Research and Demonstration:*** scientific institutions and line ministries provided technical services including training to communities in the following areas: seed and seedling production, livestock breeding and animal health and husbandry improvements, and market and enterprise analysis and development. Activities were financed to support the preservation of indigenous crop and other specimens.
B. ***Community Mobilization and Subproject Preparation:*** including training and facilitation for *Jamoat* Development Committees (JDCs) as well as households and common interest groups with support of facilitating organizations. It also included support for small confidence building mobilization grants ($1,000) for each village.

Component 3: Project Management

This component supported all functions related to project management (project coordination, procurement, disbursement, financial management, reporting, monitoring, and evaluation) and supports the secretariat services provided to the State Level Steering Committee (SLSC) and the Watershed Development Committees (WDCs) which are to approve the grants.

There were no significant changes made to the Project components. Some changes were made to strengthen Project activities in sustainable rangeland management through additional technical assistance including a dedicated PMU specialist, and a decreased emphasis on rural infrastructure. Indicators and the Project cost estimates were adjusted during the Mid-term Review in 2008.

1.5.Project Implementation

The Project followed the concept of community-linked development, a participatory process which involves communities in identifying their needs, and provides for their direct involvement in resource allocation, decision making, implementation, and monitoring at the local level, with Jamoat Development Committees (JDCs) playing a key role. Villages allocated resources within fixed budget constraints among the subprojects sponsored by common interest groups or households, through a process a participatory analysis facilitated by Project-contracted NGOs (such as Aga Khan Foundation, WeltHungerHilfe, FAO and UNDP which were NGOs and agencies already active in Tajikistan) and JDC representatives. The subproject investments in any one village would take place over a three year period. Specialists from Government line agencies and NGOs assisted common interest groups in developing feasible and eligible proposals. Guidelines include communications, group process, organizational and administrative arrangements, contribution requirements, budget limits, and institutional capacity, social, financial, commercial, technical, and environmental considerations. After the review and approval process, JDCs provide resources directly to the common interest groups undertaking subprojects. The common interest groups had ownership of completed installations, and responsibility for their subsequent operation and maintenance. To avoid misuse of grants or misunderstandings of Project's objectives, each FO had to present at the start of their contract, a limited number of subprojects directly to PMU (and the donor) whatever the amount for approval, after which the Project's procedure could be followed: this was an efficient procedure and enabled PMU to rectify FO and JDC support to CIG whenever necessary in terms of subprojects funding criteria.

Table 3 below summarizes the various partners and key stakeholders in the Project, their function and plus assessments of their roles in Project implementation.

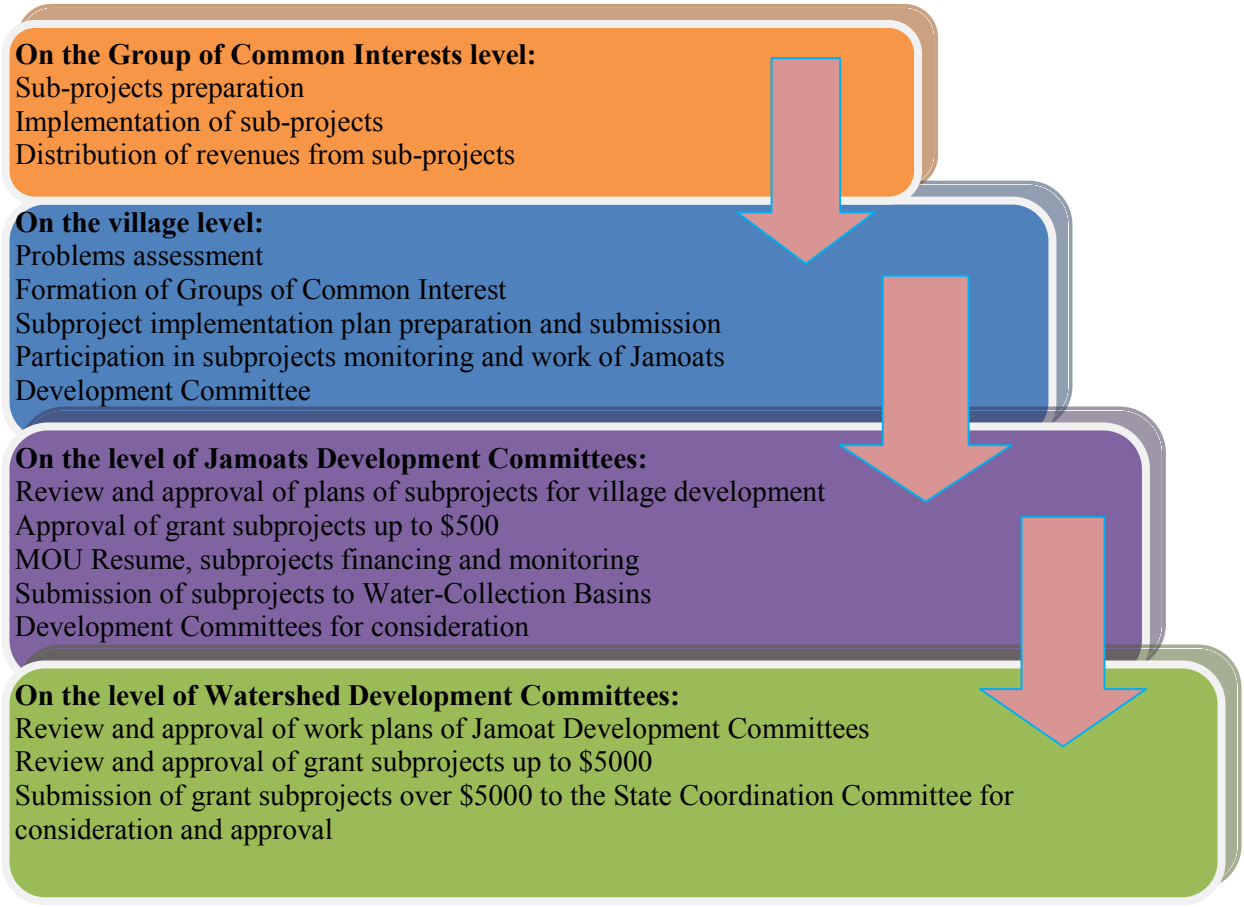
Table 3. Project Partners and Stakeholders –Roles and Assessment

Project Stakeholders	Key Roles	Positive	Negative
GOT	Provide conditions for project operation, counterpart financing	*See Borrower performance*	
PMU	Project administration, coordination, M&E, technical support		
PCUs	Field coordination and support	Field presence, local knowledge, gained skills through the project	Limited initial skills and understanding for project. Weak on M&E, esp. project outcomes

Project Stakeholders	Key Roles	Positive	Negative
FOs	Facilitation in community mobilization, capacity building, and technical support to JDCs and CIGs	Experienced and staff relevant to project sites. Took initiative to exchange experiences across project sites, e.g., FAO	Early FOs did not fully understand project design and role of GOT and WB. Projected themselves as implementers and financing bodies.
Scientific Institutes	Research, demonstration of technologies, dissemination to farmers	Some effective results shown in live specimen conservation, soil rehabilitation and IPM strategies	Limited experience in demand-driven, small-scale upland agriculture requirements
JDCs	Fund transfer to CIG, CIG support, rural investment review and approval, M&E, WDC members	Worked effectively to transfer funds to CIGs, Local presence and knowledge was effective and valuable. Skill levels increased.	Weak monitoring of subprojects – lacked facilities, e.g., vehicles and skills
CIGs	Design and implementation of investments	Exceeded minimum beneficiary contribution requirements, capable of implementing subprojects	Variable skill levels and knowledge led difficulties in design and M&E of subprojects
Line Ministries (inc. regions)	Institutional support, technical advice, review of investments		
Raion Authorities	Review of investments, technical support, WDC members		
WDCs	Review and approval of investments		Did not perform uniformly
SLSC	Review and approval of investments over $5000		Functions conducted by other bodies, few proposals over USD 5,000
Local NGOs	Technical support		

The overall process and relationships between key players is outlined in the figure below.

Figure 2. Preparation and Implementation of Rural Production Investments



Given little prior experience of working together and the project's innovative and complex processes and mechanisms, e.g., household and village budget limits and the community-driven approach, these partnerships have been effective in community mobilization, in designing, supporting, appraising and monitoring subprojects and in providing related training and technical assistance. The partnerships with international organizations (AKF/MSDSP, FAO, UNDP and WHH) generated both benefits and challenges for the project; while different approaches and competencies have resulted in some opportunities to learn from a range of good practices, somewhat independent watershed approaches did initially result in inconsistent (and sometimes incorrect) interpretations of project design and procedures.

1.6. Monitoring and Evaluation (M&E) Design and Implementation

M&E design: A monitoring and evaluation manual was prepared for the project in 2004 and revised in 2008.

M&E implementation: Most monitoring activities were focused on results: it culminated in the design of a comprehensive project database for all project grants after swaps of various databases designs produced by both PMU and each FO.

The PAD suggested the contracting of an M&E and financial specialist at JDC level. These functions were separated: financial monitoring of results was effectively carried out by the financial and M&E JDC specialist.

In the context of the overall monitoring and evaluation approach, assessing and reporting on outputs has, as expected, been easier and more effective than similar activities regarding outcomes. A number of the activities planned to assist in evaluating outcomes have not been possible or practical, e.g., analysis of satellite imagery due to lack of in-country capacity while for others such as baseline socio-economic surveys in-country capacities were not fully developed for project purposes. The Results Framework has been revised to reflect implementation experience. On the other hand, the planned monitoring of outputs using reports, simple databases and field visits has been effective and more suited to Tajik conditions where communications can be difficult, IT facilities were limited and project sites are scattered and remote. Monthly reporting by all major project partners allowed project management to aggregate data and findings.

M&E was carried out by all stakeholders with site-specific approaches. By project's end some efforts had been made in order provide continued monitoring; in particular, the relationship between the project partners and *hukumat* authorities could have been strengthened both for on-going support and monitoring. FO follow-up has resulted in additional support through new interventions– replication of similar types of subprojects or entire approach with grants (e.g., Aga Khan in Vanj) and/or additional support for increased impact (e.g., WHH in Zarafshon).

Two phases of assessing environmental impacts of rural investments have been undertaken that provided possibilities to assess primary and secondary environmental benefits (refer to table with details of environmental impacts in Annex 2).

2. Project Outcomes and Results

Table 4. Project Results Framework

Development Objective: to build the productive assets of rural communities in selected mountain watersheds, in ways that sustainably increase productivity and curtail degradation of fragile lands and ecosystems. Global Environment Objective: Protect globally important ecosystems by mainstreaming sustainable land use and biodiversity conservation considerations within agriculture and associated rural investment decisions, providing replicable models for comparable areas throughout the country.			
Outcome Indicator	**Pre Project Baseline**	**Actual Apr 2012**	**Final Target**
% of rural production investments are successful according to agreed standards[22] and are being sustained.	NA	85%	80%
Cumulative number of villages which have participated in credibility investments	0	402	402

[22] Taking into account economic, financial, social, and environment parameters, and weighted by value of investment.

Cumulative number of households which have participated in some part of the rural production component	0	43,513[23]	32,000
Proportion of population above poverty level in villages that are participating in project	3%	50%	30%
Area in ha covered by land resource management subprojects and other project activities that directly and successfully address land and ecosystem degradation[24].	0	96,600[25]	78,000
Number of project beneficiaries		238,000	192,300
Number of female beneficiaries		91,304	88,000

Intermediate Indicator for Each Component	Pre Project Baseline	Actual Apr 2012	Final Target
IA : Total value in US$ m of farm production investments (regardless of financing source) to date in villages where project is operational	0	$3.85 million[26]	$3.8 million
IB : Total value in US$ m of land resource management subprojects designed and funded.[27]	0	$6.20 million	$5.39 million[28]
IC: Number of improved public facilities, disaggregated by type of investment (village drinking water, roads, bridges, and electricity).	0	422[29]	*[30]

[23] This indicator now reported by number of households participating in each type of rural investment. Since households participate in more than one type of investment, a breakdown by investment provides more useful assessment of project impacts

[24] Confirmation that land resource management subprojects and US$ value of other project expenditures (e.g., farm productivity subprojects, rural infrastructure subprojects, specific training programs, specific consultancies, etc.), in concept and then in implementation, include at least one of the following results on fragile lands:

- Prevent or reduce soil erosion
- Increase vegetative cover through perennial crops and pasture
- Provide soil and moisture conservation
- Improve soil quality
- Improve water use efficiency
- Increase sustainable fodder or wood supply
- Increase sustainable renewable energy supply
- Increase integrated pest management

[25] Updated estimate based on August 2010 review of rural production investments

[26] Funds in JRC/JDC accounts, beneficiary contribution, revolving funds, and reinvestments

[27] Funds in JRC/JDC accounts and beneficiary contribution

[28] Based on estimated project costs as revised at MTR

[29] Completed and under implementation

[30] *Indicates target not appropriate but numbers were monitored

Intermediate Indicator for Each Component	Pre Project Baseline	Actual Apr 2012	Final Target
IIA: Cumulative number of rural people who have received technical training from TAAS, FOs, or other project partners	0	9175	8,000
Number of varieties preserved as live specimens	0	300	*[31]
IIB: Number of JDCs that have been established and are overseeing implementation of credibility and rural production subprojects	NA	39	39
III: Project management ensures project implementation timeliness	NA	Completion on schedule	On schedule or prior delays being overcome and completion on schedule possible

Project outcomes and outputs by component are detailed in Annex 2.

Communication and Information Sharing activities

See Annex 6.

3. Financial Management and Procurement

3.1. Overview:

There was a one-year delay in project start-up. Facilitation support proved to be difficult to procure. UNDP was the first FO contracted but there was a misunderstanding about the project concept with the result that implementation was delayed as operational guidelines were clarified and agreed. UNDP was also the only FO to transfer funds to JDCs rather than the PMU. This was not an ideal arrangement and subsequent transfers in other project sites were made by the PMU. Thereafter the phased introduction of watersheds proceeded as mostly as planned and disbursement rates to subprojects were at the time of the completion of this component were at target values.

The primary reasons for the initial delays included inexperience within the PMU and in the WB in contracting facilitating organizations and within the PMU unfamiliarity with the project's concepts and implementation arrangements. The PMU was not familiar with managing output-based contracts with FOs and faced challenges in reconciling these arrangements with Tajikistan's accounting methods, as well as with direct fund-flow mechanisms to Jamoats. But the growth in PMU capacity to manage these aspects of the project has been a significant achievement. Arrangements were worked out with FOs on financial reporting that would meet GOT requirements. The project's fund flow arrangements required building capacity especially for the

[31] Indicates target not appropriate but numbers were monitored

PMU and JDCs who played critical roles in financial management. Initially, it was difficult to find technical assistance in this area and this delayed implementation, but once this was found, financial management staff and systems were put in place to disburse and report on subproject funds in a timely and transparent manner. A fiduciary field visit conducted in May 2008 which checked financial management and procurement on a random sample at the local level in Vanj, Toirsu and Surkhob found no problems in fund flow to beneficiaries and JDCs, nor in local procurement.

Regular annual national and international audits raised no significant concerns. Similarly a review of the project by a Commission of the Presidential Administration of Tajikistan conducted in early 2008 raised no major issues regarding project management. A detailed review of financial management arrangements of the project was carried out by the World Bank team under Tajikistan Portfolio Fiduciary Review during April 28- May 10, 2008. No major concerns were raised and all issues were addressed.

3.2. Some Key Challenges:

Requiring the use of financial management software (1C) meant that frequent technical support was needed in order to meet Bank reporting requirements. The project only finally met Bank requirements at the end of the project.
Difficulties were experienced in fund transfer from the PMU for JDC operations. Payment of the JDCs through the PCUs was not efficient and it would have been better to have deposited funds directly into JDC bank accounts.

3.3. Beneficiary contributions:

At the time of completion of Component 1 implementation, it was estimated that beneficiary co-financing had on an average exceeded the minimum requirement of 20% of the total value of the rural production investment to 31% (i.e., 45% match for project financing). In numerous cases, beneficiaries absorbed increases in costs that have occurred since subproject preparation due in some part to delays in transferring funds to JDCs/JRCs as well inflation. Although almost all of this contribution is usually as labor, materials, etc., the level of contribution demonstrates strong ownership and commitment, and thus a critical contribution to subproject sustainability. As of September 2011, the value of beneficiary contributions was approximately US$3.4 m.

4. Assessment of Bank and Borrower Performance

4.1. Bank Performance

Bank performance in Ensuring Quality at Entry:
At the time of project start-up, the roles of the various project partners was not fully explained and understood, especially by those at the local level. The Operational Manual for Community Mobilization and Rural Production Investments was complicated and not very clear including the guidelines for subproject proposal preparation. This lack of clearness created difficulties, particularly at the local level. Initially there was a lack of experience in the Bank and the PMU on how to contract the FOs and the type of contract proposed – output based – was one that the PMU had not previously managed. Project partners did not also fully understand the concept of the GEF alternative.

Quality of Supervision:

In comparison with other donors, the supervision of the WB has been effective. For example, efforts were made to explain and clarify GEF alternative and FO roles and contracts. Generally, within the overall framework of the project, and in comparison with other donors the WB was flexible in assisting project partners to implement activities given the constraints and possible opportunities, e.g., reducing the number of subprojects for prior approval from 10 to 3 per investment category thus saving time, adjusting staffing in PMU to accommodate important issues such as rangeland management, market development. While the number of missions per year was adequate, the timing could have been better coordinated with peak periods of rural activities in project sites. Overall the working relationship with the Bank team was collegial.

4.2. Borrower Performance

Government performance:

The GOT provided the necessary facilities for project management and coordination, including field facilities. The estimated counterpart funding at completion is US$591,000. Government bodies continue to pay attention to the project and its outcomes. The Ministry of Agriculture, State Land Committee, State Committee on Environmental Protection and State Committee on Investments provided regular assistance to support the implementation of project activities. The State Land Committee provided assistance to the project for the issuance of Land Use Rights certificates for project beneficiaries. The project also collaborated closely with the Land Registration and Cadastral Survey Project on this issue as well.

5. CAWMP Actions to Help Ensure Sustainability and Replicability of Project Outcomes

5.1. Sustainability of rural production investments

The overall concept and process of community-driven development contributes to the sustainability of rural investments. Villagers made decisions on what investments to implement, who should benefit and the distribution of financial resources across the three categories thus building ownership and contributing to the sustainability of these activities. Villagers were also responsible for financial management and procurement for investments. Proposals for these investments required villages to consider economic, environmental and social/institutional sustainability, e.g., cash flows and cost recovery arrangements for 3-10 years depending on the type of investment, environmental conservation and mitigation measures, and establishing organizations such as water user associations to support long-term operations. Furthermore, the requirement of beneficiary contributions (including cash contributions for rural infrastructure) helped build ownership and also contribute to the sustainability of these investments.

Other key actions that contributed to sustainability are given in section 2.5 of the PAD's main text.

6. Additional Activities

When the project was extended in spring of 2011 until April 2012 it allowed for additional activities in project pilot districts. Project activities included the following areas: "Creation of

gravity irrigation in small watersheds", "Sustainable pasture management at the Jamoat level" and "Assistance in market development and fruit processing":

6.1. "Creation of gravity irrigation in small watersheds".

The overall objective of this component was to assist in the implementation of initiatives related to water resources management in areas where gravity irrigation is used; as well as farmers' awareness raising living in the upper and lower reaches of rivers; rational use of water resources and operation of water systems. Project activities were carried out in the Mogien watershed in the Zarafshan valley in four Jamoats of Panjakent district. Seven Water User Associations (WUAs) were covered by project activities as well as other water and land users living upstream of the river. To achieve these objectives the following was carried out: (a) identification of effective applications of perspective water saving technologies on the ground; conducting training and workshops; study tours based on the examples of the best local achievement with the involvement of trainers among farmers; and (b) organizing and conducting tenders for small works of advanced water-saving technologies between water users. As a result of these activities recommendations were developed on the establishment of a multilateral cooperation between the WUAs and other water users in small watersheds, including the evaluation of existing and potential opportunities, risks and conflicts, standard diagnostic methods, dissemination of positive practices of water and soil conservation technologies with a description of typical efficient water saving technologies.
A model project implemented in small watershed of Mogien river of Panjakent district achieved the following results:

- Recommendations and offers were described on improving the relationship between water users of the upper and lower reaches of Mogien River with regard to use and water resources management;
-
- Activity water users associations gained the necessary additional knowledge in the field of water saving technologies and rational use of land resources;
-
- Through tendering support was rendered to the best farmers and attention was paid to the following key aspects of water saving techniques: effective use of innovative and traditional water saving technologies, economic efficiency through water saving, the increase of the crop yield and efficient use of water resources;
-
- Environmental aspects of effective regulation of water supply were identified in small watersheds along with their associated economic efficiency.
-

6.2. "Sustainable pasture management at the level of Jamoat".

The overall objective of this activity was to assist in the development of a pasture management plan for pilot Jamoats. For this purpose, Dar-Dar Jamoat was selected, which is located in Aini district in the Zarafshan Valley. Despite the fact that the project always focused on the importance of grazing issues in Tajikistan, active work on pasture issues only started in the second half of the project period. The project held a series of interventions to stimulate offers for organizing pasture subprojects; the study of mountain pastures and their management system; training of rural residents in rational methods of pasture use; and breeding and maintaining livestock. To achieve these goals, circumstances and the experience gained by the project were taken into account during

- **Although it was not in the project objectives to address broader policy and legal issues related to pastures and rangelands, sustainable rangeland management will require policy and legal support informed by practical, field-based examples and experiences such as those implemented in CAWMP.** The project has reduced overgrazing pressure locally within villages' territories through several types of subprojects and demonstrated activities that contribute to sustainable rangeland management. Grazing rights are a sensitive topic because it involves several types of farmers with potentially conflicting interests (family farmer, sheep farmer, *Dekhan* farms, and commercial private stock breeder) and might require new legislation and /or law enforcement.

- **Research and demonstration of appropriate technologies can be integrated differently at project design.** The success of the Farmers Competition shows that agricultural innovation and good practice can be demonstrated and shared in an efficient and effective way. While research institutes have shown limited practical skills for small-scale applications, new technologies in upland farms remains a high priority as it increases the value of subprojects even though this may be risky in terms of adoption.

New technologies / varieties can be tested first on farmer's plots, their added value demonstrated before sharing with local authorities and other interested parties. A more practical approach and different from the focus on research institutes can be considered at *raion (Jamoat*) level through Farmer Field Schools - reproducing farming real conditions. In that case, a strong linkage should be established between the Research (NGO, institute) – Demonstration (farmer's plot with the assistance of FO & *Hukumat*) – Dissemination (FFS[32]) (demonstration by farmers and FO).Linking these activities with government programs or priorities may help to some extent to encourage *Hukumat* authorities to keep engaged at the end of a project. It should be noted that these types of activities will require international assistance of the type that was planned under CAWMP from IFAD and ICARDA but which unfortunately did not materialize.

A similar approach can be adopted when considering preservation of rare endemic species (inventory –demonstration (preservation / conservation garden) – dissemination (of species of interest): a new role for demonstration farmers might also be devised in preserving rare / endemic species (which would on-site strengthen farmer's awareness on environment degradation through FFS).

- **An additional project component (e.g., value chain development, association formation) to serve successful beneficiaries would have been beneficial to support market development for subproject products**. This would be of benefit when production levels for certain items such as fruit, vegetables, honey, etc., are enough to sell more commercially. Not all CIGs have the capacity to understand marketing opportunities and how these might be exploited.

- **Female participation can be strengthened through additional processes during planning**. Women beneficiaries were positively represented in CIGs with 40% of beneficiaries listed as female but the approach from the beneficiaries' point of view seemed at times to be more like filling 'quotas' than reflecting women's concerns. Taking into account local cultural circumstances, it may be possible to focus on gender specific credibility grants, gender oriented participatory planning resulting in a more integrated community action plan and subprojects focusing on women's strengths.

[32]Farmer Field Schools