

TAJKISTAN
COMMUNITY AGRICULTURE WATERSHED MANAGEMENT

GEF Project Brief

Europe and Central Asia Region

ECSSD

Date: February 09, 2004	Team Leader: T.V. Sampath		
Sector Manager/Director: Marjory-Anne Bromhead	Sector(s): General agriculture, fishing and forestry sector (100%)		
Country Manager/Director: Dennis de Tray	Theme(s): Other environment and natural resources management (P), Environmental policies and institutions (S), Water resource management (S), Civic engagement, participation and community driven development (S)		
Project ID: P077454			
Lending Instrument: Specific Investment Loan (SIL)			
Global Supplemental ID: P081159	Team Leader: T.V. Sampath		
Sector Manager/Director: Marjory-Anne Bromhead	Sector(s): Crops (30%), Irrigation & drainage (25%), Animal production (25%), Forestry (20%)		
Lending Instrument: Specific Investment Loan (SIL)	Theme(s): Land management (P) , Water resource management (S), Other social development (S), Rural non-farm income generation (S)		
Focal Area: B - Biodiversity			
Supplement Fully Blended? Yes			
Project Financing Data			
[] Loan [X] Credit [X] Grant [] Guarantee [] Other:			
For Loans/Credits/Others:			
Total Bank Financing (US\$m): 10.0			
Proposed Terms (IDA): US\$ 5 million Standard Credit and US \$ 5 million Grant			
Commitment fee: 0.00-0.50%			
Financing Plan (US\$m): Source	Local	Foreign	Total
BORROWER	0.9	0.0	0.9
BENEFICIARIES	2.4	0.0	2.4
IDA	5.0	5.0	10.0
GLOBAL ENVIRONMENT FACILITY	3.5	1.0	4.5
Total:	11.8	6.0	17.8
Borrower/Recipient: REPUBLIC OF TAJIKISTAN			

Responsible agency: MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

Project Management Unit

Address: 145-147, No: 44 Rudaki Street, Dushanbe, Republic of tajikistan.

Contact Person: Mr. T.Ostonaev, Director for PMU.

Tel: (992-372)+ 21-0021; 21-85-66; 21-13-67 Fax: (992372)+ 51 01 17 Email: r_center <r_center@tajnet.com>, fpasp <fpasp@tojikiston.com>

Estimated Disbursements (Bank FY/US\$m): IDA Credit

FY	06	07	08	09	10	11			
Annual	0.3	0.66	0.8	1.0	1.2	1.4			
Cumulative	0.3	0.0	1.4	2.4	3.6	5.0			

Estimated Disbursements (Bank FY/US\$m): IDA Grant

FY	06	07	08	09	10	11			
Annual	0.3	0.66	0.8	1.0	1.2	1.4			
Cumulative	0.3	0.0	1.4	2.4	3.6	5.0			

Project implementation period: Six Years

Expected effectiveness date: December 2004 **Expected closing date:** June 2011

CURRENCY EQUIVALENTS

(Exchange Rate Effective 10-01-2003)

Currency Unit = Somoni
3.1 Somoni = US\$1
US\$ = SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Community Action Plan
AKF	Agah Khan Foundation
CAP	Community Action Plan
CBO	Community Based Organization
CDF	Community Development Fund
CAWMP	Community Agriculture and Watershed Management Project
DDC	District Development Committee
GRT	Government of the Republic of Tajikistan
IDB	Islamic Development Bank
JDC	<i>Jamoat</i> Development Committee
LG	Local Government (<i>Oblast</i> , <i>Raion</i> or <i>Jamoat</i> level)
MOA	Ministry of Agriculture
MIWR	Ministry of Irrigation and Water Resources
MSDSP	Mountain Societies Development Support Program
NSIFT	National Social Investment Fund of Tajikistan
PEC	Project Executive Committee
PCU	Project Implementation Unit (based in river basins)
PMU	Project Management Unit (based in State Head Quarter, Dushanbe)
PPAP	Pilot Poverty Alleviation Project
RIE	Rural Infrastructure Engineer
RIRP	Rural Infrastructure and Rehabilitation Project
RRDP	Rehabilitation, Reconstruction and Development Program
SAC	Sub-Project Approval Committee
SPAP	Second Poverty Alleviation Project

LOCAL TERMS:

<i>Dehkan Farm</i>	Private Farm	<i>Raion</i>	District
<i>Hakumat</i>	<i>Raion</i> Administration	<i>Jamiyat</i>	Community/group
<i>Jamoat</i>	Village Administration	<i>Sovkhoz</i>	State Farm
<i>Kolkhoz</i>	Collective Farm	<i>Ziroat</i>	Agriculture

Vice President:	Shigeo Katsu
Country Director:	Dennis de Tray
Sector Manager:	Marjory-Anne Bromhead
Task Team Leader:	T.V. Sampath

**TAJIKISTAN
COMMUNITY AGRICULTURE AND WATERSHED MANAGEMENT
PROJECT**

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A. STRATEGIC CONTEXT AND RATIONALE

1. Country and sector issues

GDP growth, poverty, and agriculture. Tajikistan is a small country in Central Asia, bordering China to the East, Afghanistan to the South and Uzbekistan and Kyrgyzstan on the East and North East respectively. The country has an area of some 141,000 Km² of which some two thirds form the foothills and high mountains of the Pamirs. Several regional ethnicities are represented in its 6.3 million (m) population. Independence turmoil and civil war left it among the poorest countries in the world, but the economy is now developing. As of 2000 annual per capita income was only around US\$180, and some 83% of the population were poor, but during 2000-2003, real GDP growth has ranged from 6% to 10.2% per year. Tajikistan is an agrarian society and agriculture is critical to alleviating this poverty. Some two thirds of the population is directly dependent on Tajikistan's 4.6 m ha of agriculture land, of which only about 850,000 ha are arable lands, and the remaining 3.86 m ha are pasture, fallow lands and meadows.

Highland areas and land degradation. About twenty percent of the population lives in hilly and mountain areas where access to most government services is limited. Most of the 2.5 m ha agricultural land they farm is pasture, only 206,000 ha are in perennial crops and orchards, and there are few significant irrigation systems. Rural poverty, shifts in land management responsibilities, lack of integrated land management, inappropriate agriculture, and poor access to technical support are causing increasing land degradation. Much of the population are now using steep hillsides to grow cereal crops. In turn, land degradation contributes to further impoverishment through mudslides (ruining villages, roads and farmland, and irrigation and water systems), soil-erosion (undermining agricultural productivity) and silting of waterways used for drinking water and irrigation. However, highlands have good productive potential if appropriately farmed. In addition to improving life for people in the highlands, utilizing this potential in sustainable ways will also prevent downstream damage and relieve pressure on the lowlands.

Mountain ecosystems. Tajikistan has globally important mountain ecosystems with diverse flora and fauna, including many of economic importance, and under threat. Pastures, for example, host over 3000 plant species, but face threats from localized over-grazing. The wild-growing fruit plants of Tajikistan represent a unique genetic resource for agriculture. The mountain territories of southern and southeastern Tajikistan are the major regions for conservation of wild-growing fruits (apples, pears, apricots, mulberries, cherry plums and plums, among others), nuts (walnuts and almonds), grapes and berries (currants, sea-buckthorn berries). Forest areas that cover only 3 % of the country's territory, decreased by about 15% due to the need for firewood.

Farm privatization. Officially, some 55% of all arable land has been converted into lease farms, joint stock companies and *dekhan* farms. However, in lowland cotton growing areas, farmers are still not free to make their own management decisions, while in highlands they lack the capital needed to exploit the productive potential. Furthermore, there are also large tracts of pasture, formerly under the control of state farms, which are now under the control of *jamoats*¹. These pastures face problems of

¹ The *jamoat* (sub-district) is lowest official government unit, and usually comprises a number of villages.

inadequate maintenance as well as arbitrary and inequitable access to grazing rights and land use.

Government strategy. The key elements of Tajikistan's Poverty Reduction Strategy Program (PRSP) emphasizes accelerated growth, provision of basic social services, targeted support for the poor, and improved governance. For the agriculture sector, the Government's strategy supports the efficient use of, and access of the poor to land, water, financial and other resources, and eliminating government intervention in private farm decision making. The PRSP also highlights the regional dimension to poverty, with the highlands facing special difficulties, especially in the south-east. For the environment, the PRSP emphasizes addressing natural disasters, water pollution, soil degradation, deforestation and biodiversity conservation. Specific measures related to afforestation, pasture improvements and protection, development of the institutional frameworks, and mainstreaming of sustainable land management and biodiversity conservation in agriculture and forestry are considered government priorities as evidenced in the National Strategy for Combating Desertification (2002), and the National Biodiversity Conservation Action Plan (2003). Tajikistan is an active party to the United Nations Conventions: (a) to Combat Desertification (1997); (b) on Biodiversity Conservation(1997); and (c) on Climate Change(1998).

Government actions. The Government is trying to implement its agriculture strategy through programs of farm privatization, irrigation and other rural infrastructure, improve technical support services, and improved access to rural finance. However, problems of past reliance on, and vested interests in, top-down control, lack of accountability, lack of familiarity with incentive frameworks (which could address shortcomings of regulatory approaches where enforcement capacity is inadequate and ineffective), and severe fiscal constraints are limiting the extent and the nature of overall program impacts. Bank projects are directly supporting the implementation of the Government's programs focused on agriculture, with particular attention to developing new, replicable approaches that address the key implementation and sustainability constraints. Based on this experience, the Government requested the Bank to extend its support to highland areas.

2. Rationale for Bank involvement

Bank experience and potential for scaling up. Bank support will build upon the project experience, analysis, policy dialogue, and relationships already established under projects and sector work. The Bank has more operational experience in local demand-driven approaches to agricultural development than other official donors. Past Bank support has also demonstrated the use of field level pilot experience to constructively influence crucial policy and legislation. Bank-financed projects within Tajikistan have already established culturally appropriate community managed models for (a) allocation of land use rights in ways which ensure transparency, with participation of the community in the allocation of parcels, legitimacy (through involvement of traditional local institutions), conflict management, and land tenure security; (b) management of investments in irrigation infrastructure and their subsequent operation through Water User's Associations; (c) establishment of efficient technology transfer mechanisms through Farmer Information and Advisory Services and (d) establishment of a credit mechanism for seasonal agricultural needs through revolving funds via Non-Banking Financing Organizations. In addition, the Bank is applying best practices and lessons developed by

international NGOs, such as the Agha Khan Foundation (AKF), Mercy Corps International (MCI), German Agro Action (GAA), ACTED, and Care International. The Bank is also building on United Nations Development Program's (UNDP's) Rural Reconstruction and Development Program (RRDP) initiatives to strengthen governance at the jamoat level. The project provides an opportunity to scale up these models in highland areas, and to strengthen linkages with local and national government. The Bank is also able to share a wide range of relevant international experience, e.g., business and market development relevant to rural livelihoods, micro finance, feasibility and operation requirements for rural infrastructure, incentive structures for watershed management, knowledge generation and dissemination, and development of community institutions.

Value of World Bank support. The Bank's comparative advantage relative to other donors comes from its ability to work at all levels of the Government, conducting policy dialogue at the top, and implementation assistance at the line ministry, and local level. The Bank's ongoing support to farm privatization and the social fund also complement the CAWM. The Bank's value added to CAWM comes from (a) providing capital for productive investments at a scale beyond what other donors in the area could mobilize on their own, (b) encouraging community participation in the project design, implementation, operation, monitoring, and evaluation, building on the experience of projects financed by the Bank as well as other donors; and (c) involving government and developing its capacity to play appropriate roles that foster the desired outcomes, (d) experience in implementing similar projects in other countries (e.g., Turkey, Armenia).

3. Higher level objectives to which the project contributes

Borrower's Objectives. The project is consistent with the PRSP, and responds to the Government request. Investments will directly contribute to accelerated growth. The geographical focus targets the disadvantaged. The community driven approaches, integration with local government, capacity development, and project administration address governance. The project is also consistent with the borrower's agriculture and environment strategies. The bottom-up approach improves the site-specific allocation and use of resources (land, biological, water, and financial). The project helps foster the enabling environment and avoids inappropriate and ineffective government interventions. The land management subcomponent will improve land access and tenure security, creating an incentive structure that links rights to responsibilities.

Bank Country Assistance Strategy. The proposed project is a priority in the 2003-2005 Country Assistance Strategy. It meets the Bank's three strategic engagement principles.

- It responds to a "strong client pull" and interest in reform, especially from the district and raion government levels, and targets some of the country's poorest areas.
- It uses a programmatic approach focused on transfer of knowledge and capacity by having communities identify and undertake their own development priorities,
- It works in partnership with NGOs that have acquired significant experience in working in the difficult environment of rural mountain communities.

The project addresses the CAS objective of furthering the Governments poverty reduction and development agenda by (a) improving access to services, especially among the most vulnerable, (b) promoting community based activities to encourage

empowerment and social cohesion, and (c) strengthening the framework for agriculture and related agri-business development. It forms a key element of the Bank's vision for community-linked development. The project is also consistent with the Bank's Biodiversity Strategy for ECA, which includes a priority on combining improved ecosystem management with local income generating activities. It addresses the Global Environment Facility (GEF) Operational Program (OP) 12: "Integrated Ecosystem Management", combining the concerns of Land Degradation OP 15: "Sustainable Land Management" as well as Biodiversity OP 4: "Mountain Ecosystems".

B. PROJECT DESCRIPTION

1. Lending instrument

The specific investment project will be financed by US\$ 5 m International Development Association (IDA) Credit and US\$ 5 m IDA grant, and US\$ 4.5 m GEF grant.

2. Program objective and Phases

The long-term vision is to build the productive assets of the population in Tajikistan's rural highlands. Intended results include increased agricultural productivity and associated household incomes, and land and ecosystem rehabilitation. The six-year project would take place in four highland watersheds covering catchments of over 36,000 km², with agricultural areas covering about 390,000 ha, with a population of about 550,000 people (42% of Tajikistan's mountain population). The project would cover 47 of the 64 jamoats in these watersheds, and would expand to the remaining jamoats if additional financing from other donors becomes available, as anticipated, after project inception. Project activities and funding would be distributed relatively evenly within the 47 jamoats, and directly benefit at least half their population. Even before the end of the project, it may be possible for donors and/or the government to provide support for comparable programs in the additional watershed. Within the project area, reinvestment of earnings and the revolving financing mechanism will enable sustainability and further deepening of the program after project completion.

3. Project development objective and key indicators

Project objective. The project objective is 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.

GEF Objective. The global environmental objective will entail protection of globally significant mountain ecosystems by mainstreaming sustainable land use and biodiversity conservation considerations within agricultural and associated rural investment decisions. This integrated management approach will also provide replicable models for comparable areas throughout the country. The GEF objective is mainstreamed into the overall development objective and outcomes.

Outcome indicators. The key outcome indicators will comprise

- High proportion of farm productivity, land management, and rural infrastructure investments are successful according to agreed economic, financial, social, and environmental standards, and are being sustained.

- At least half the households where the project is operating directly participate in some part of the rural production component.
- Reduction in proportion of project participants who are living below the poverty line.
- Women's influence increases, as perceived by local inhabitants
- Land and mountain ecosystem degradation trends halted (GEF)

Output indicators. Implementation will be assessed mainly on the basis of output indicators including:

- Total cumulative investment in agriculture production among project participants (from initial grant, local contributions, and reinvestment) significantly exceeds projection of project-financed grants and capital infusions (implying high participation, desirable social and environmental impacts, high rate of commercial success, high repayment, and high revolving funds use).
- Land management investments cover a significant area and benefit very poor at least in proportionate to their numbers in a community (GEF)
- Number of improved public facilities, disaggregated by type of investment (e.g., village drinking water, roads, and electricity)
- Number of Jamoat Development Committees (JDCs) mobilized and overseeing preparation/ implementation of rural production investments
- Significant proportion 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 (GEF)
- Satisfactory project administration as indicated by Bank supervision ratings and public reputation of integrity

4. Project components

Project costs total about US\$17.8 m over six years. The project begins in one watershed, expanding to all four areas within three years. Project activities comprise:

Component I: Rural Production Investments. (US\$ 11.7 m)

A. Farm Productivity Improvement. Individuals, and groups of farming households will invest in commercially viable enterprises of their choice. Investments may include:

- Improvements in the productivity of field and horticultural crops
- Small scale processing facilities and developing of distribution mechanisms
- Promote improvements in livestock production and animal husbandry
- Establishing small-scale farm machinery leasing units.

B. Land Resource Management: This subcomponent enables local people to adopt more sustainable use of sloping lands that are currently under the jurisdiction of the jamoat, and provide land use certificates after three years of maintenance, subject to continued good land use. Groups of nine or more households working on adjoining areas will invest in:

- Contour planting of nut or fruit trees, with soil and moisture conservation structures

- Establishment of fast growing woodlots for fuel, building materials and windbreaks. and including micro-structures for soil erosion and gully control.
 - Development of pasture lands with improved fodder production capacity
- Blended financing from GEF (US\$3.5 m) will almost quadruple the land area covered beyond the level that will be supported by the government on purely national grounds.

C. Rural Infrastructure: Investments to rehabilitate rural infrastructure will be made to community groups. Typical investments may include:

- Provision of safe drinking water and small irrigation systems
- Limited rehabilitation of access and feeder roads to improve access to markets.
- Community owned mini-hydropower or wind driven power generation

Contribution Requirements and Budget Constraints. Beneficiaries have to contribute their own resources in the form of labor, material and cash, for at least 20% of the total value of any investment. Investment proposals will be prioritized within formulaic fixed budgets for villages based on population. The per household share of all one-time start-up grants would not exceed \$290. Farm productivity financing in subsequent years will be provided either through reinvestment of retained earnings, or through credit or revolving funds². Rural infrastructure is restricted to productive investments that provide immediate benefits, include operations and maintenance financing arrangements, and cannot be funded other donor programs such as NSIFT.

Component II. Institutional Support and Capacity Building.

A) Support for Scientific Research Development and Dissemination: This subcomponent helps scientific institutions and line ministries to provide technical services including training to communities. It will include support for seed and seedling production, livestock breeding and animal health and husbandry improvements, and market and enterprise analysis and development. Participating agencies include the Tajikistan Agricultural Research System (for research and extension and including preservation of live plant specimens in collaboration with the Consultative Group For International Agricultural Research's Central Asia and Caucasus unit in Tashkent). The Farmer's Training Center, Ministry of Agriculture and other Ministries and the State Committees such as Statistical Service, and Land Committee will also benefit. Blended GEF financing (US\$0.25 m) supports the preservation of indigenous crop and other specimens.

B) Community Mobilization and Preparation of Investment Plans: This subcomponent includes training for Jamoat Development Committees (JDCs) as well as households and common interest groups with support of local facilitators (contracted through international NGOs). It also includes support for small confidence building investments for each village, plus information and experience sharing. Blended GEF financing (US\$0.25 m) enables the planning and sharing associated with the additional land resource management investments.

² From the newly created Micro-finance Bank of Tajikistan, existing interest bearing revolving funds operated locally with donor support, or newly created member owned revolving funds building on the model developed under the World Bank financed Farm Privatization Support Project (FPSP)

Component III. Project Management:

This subcomponent supports project coordination, procurement, disbursement, financial management, reporting, monitoring, and evaluation, at both the national level and for each of the four project watershed areas. It builds on project administration capacity and arrangements that already exist for ongoing Bank financed projects. The component also supports the secretariat services provided to the State Level Steering Committee (SLSC) and the Watershed Development Committees (WDCs). The component supports:

- *National Project Management Unit,*
- *Project Coordination Units for the four watershed, and*
- *Evaluation*

Blended GEF financing (US\$ 0.3 m) enables evaluation of mountain ecosystem degradation trends, as well as exchange of experience both within the country and with other countries, thus further strengthening replication impact. Details are in Annex 4.

5. Lessons learned and reflected in the project design

The project design reflects major lessons from past and ongoing projects (e.g., the FPSP, Rural Infrastructure Rehabilitation Project (RIRP), Pilot Poverty Alleviation Project (PPAP), Second Poverty Alleviation Project, and also from the recently completed ICR of the Eastern Anatolia Watershed Rehabilitation program and other Bank projects involving mobilizing the community for ensuring sustainable agriculture and land management investments. The project also builds on community development programs of AKF, UNDP/RRDP, and other donors working in Tajikistan's mountain areas.

- *The participatory process cannot be target driven.* Communities should identify and choose their own priorities, and solve their own problems.
- *Design and implementation should build on existing mechanisms with suitable external TA.* The project strives wherever possible to use local resources, in terms of knowledge and capacity, and provides training to further strengthen that capacity;
- *Training should be timely and appropriate.* Much preparatory work providing training and institutional capacity to local communities and local government will be provided before any investment in community proposed projects is undertaken.
- *Long term sustainability requires community involvement early on* and full awareness of the level of operating expenses that will be required to maintain the investment;
- *All stakeholders need to be included.* The project works at all levels of government and reaches out to vulnerable people including women.

6. Alternatives considered and reasons for rejection

Several alternatives were considered and rejected:

- As opposed to the lowlands, a focus on highlands inherently targets the poorest yet also builds on: strong cohesion within communities, reform initiatives (e.g., land privatization, jamoat governance) and significant agricultural potential. The highlands focus also addresses important land degradation and biodiversity threats.
- The project involves jamoats, rather than just focusing on the village level into order to strengthen the sustainability of community initiatives, build the accountability of local government to its citizens, and to facilitate scaling up.
- Because experience elsewhere shows that a community-led approach engenders cost-effective investment, local ownership, improved O&M, and sustainability, site

specific investment choices are not determined through top-down government decisions.

- Because some land parcels will include a variety of land (e.g., rainfed, garden, pasture, woodlots, and cropland and orchards receiving supplemental irrigation), with management of one type of land affecting production practices on the others, the project will not be limited to an exclusive focus on rainfed land.
- Because farmers will not engage in soil conservation without receiving immediate benefits, the project combines soil-conservation with income-generating investments. These indirect long-term methods enhance the organic content of the soil and create incentives for sustainable land use by better addressing interests of local people.
- The project is providing one-time start up grants rather than relying on credit for rural production investments because the project areas are not well monetized (local trade uses potatoes in lieu of currency), access to banks is poor, environmental “public good” benefits are significant, and subprojects are small relative to transaction costs.

C. IMPLEMENTATION

1. Partnership arrangements

The project will use international NGOs to provide facilitation support, using mostly local personnel. These NGOs and other donors have established community driven programs in the project area, many of which have influenced the project design. However some details vary from donor to donor. In communities receiving such support, care will be taken consult with these donors to ensure that the project and other support are complementary, do not exceed the absorptive capacity of the community and are not in competition. The project will also collaborate with the UNDP and the Urban Institute who are working on local governance. The project also will foster ongoing exchange of relevant comparable experiences both within the country and in other countries.

2. Institutional and implementation arrangements

The project uses and strengthens an existing local institution, the JDC. JDCs comprise the elected representatives of villages plus the government’s jamoat official. For the project period, contracted NGOs will (a) help JDCs mobilize households and common interest groups to develop proposals, and villages to develop action plans (b) guide and assist JDCs in compiling and considering these proposals in consultation with line agency and other specialists, and (c) develop local capacity to manage the implementation of rural production sub-projects. They will help develop local skills, including skills in bookkeeping, infrastructure operations and maintenance, consideration of social and environmental issues, and monitoring. Transparency will be maximized to discourage corruption, and planning and review procedures will be kept simple to address capacity limitations. Even before the project is completed, it is anticipated that the JDC will apply its new found capacity in participatory planning and implementation to non-project activities such as locally initiated and line agency development programs. Further details are in Annex 6.

3. Project management

Above the JDC, two committees will oversee and coordinate the project for its duration.

- Watershed Development Committees (WDC), with raion administration(s) representative(s) and elected representatives from the jamoats, will approve or

reject subproject proposals which require no more than US\$ 5,000, and make recommendations on larger subprojects. Line agency staff will play an advisory role.

- A State level Steering Committee (SLSC), headed by the Deputy Prime Minister and including representatives for line ministries and committees, will be responsible for review and approval of the annual work program and budget, decisions on sub-projects requiring more than US\$ 5,000, and coordination of inter-ministerial activities and international linkages. It will also consider policy issues that arise.
- Support for secretariat services and project administration will also be provided:
- Project Coordination Units (PCUs) will be established for the project duration in each of the four project areas, with four specialists. The PCUs will provide secretariat support the WDCs, interact with the JDCs and NGO facilitators, foster linkages between JDCs and technical agencies, ensure quality control of subprojects (with expert assistance), organize training programs, and compile progress reports.
- The capacity of the Project Management Unit established for the Farm Privatization Support Project and Rural Infrastructure Rehabilitation Project, located in Dushanbe, will be strengthened. In addition to secretariat support to the SLSC, it will prepare the overall project work plans and budgets, update operational manuals, facilitate inter-ministerial coordination, and carry out project administration (e.g., procurement, specialist recruitment, disbursement, accounts, audits, monitoring, evaluation, and reporting). The Director of the PMU directly reports to the Deputy Prime Minister.

4. Monitoring and evaluation of outcomes/results

The Results Framework is in Annex 3. Monitoring and evaluation will make use of existing data sources, supplemented by data collection within the project and special survey and assessment updates undertaken by contracted specialists. It will include assessment of mountain ecosystem degradation trends (based on satellite and other data) and of project processes used to consider ecosystem issues. The evaluation of outcomes will make use of baseline measurements from poverty assessments, the social assessment, environmental assessment and analysis of satellite data, and biannual updates data from the project monitoring system, special assessments, and data from other sources. The monitoring of outputs will relay mainly based on simple, participatory quarterly project monitoring and reporting undertaken by JDCs with the support of NGOs, and aggregated by the PCUs and the PMU. A key feature of the system is an emphasis on the use of findings by the entities responsible for project management decisions and oversight.

5. Sustainability and Replicability

The project design addresses sustainability and replicability. Institutional sustainability will be addressed through capacity building of the participating rural population, JDCs, and technical support agencies, and relevant line ministries. The project also introduces an appropriate incentive framework for improved land use to enable replication beyond the project area. Financial sustainability and replication within communities is addressed through community managed investments involving full cost recovery arrangements for ongoing O&M, and in the case of the farm productivity investments, through linkages

with credit or revolving funds. In later project years, communities will begin to pay for community and technical services when needed, as part of a strategy to ensure client oriented services and post-project sustainability. Environmental sustainability is addressed through the environment management framework and attention to land and biodiversity management. The project as a whole, and land resource management in particular, establishes a replicable model relevant for other mountain ecosystems. Social and cultural sustainability at the community levels will be addressed by building on existing community institutional structures and ensuring representation of all key groups in participatory decision making.

6. Critical risks and possible controversial aspects

Risks	Risk Mitigation Measures	Risk Rating with Mitigation
To project development objective		
Present institutional capacity not adequate	Project design includes in-service training to support program during initial years. Gradual phasing in of watersheds over 3 years	M
Farm productivity investments are not commercially viable	Indicative rates of return assessed, proposals screened for viability, and implementation monitored	M
Households and common interest groups do not take initiative	Project will include information dissemination and training, as well as arrangements to address external constraints	L
Government officials force top-down approach and do not allow communities to drive investment choice	Government officials have role in project but project design grounded in government's decentralization policy, with agreements on well-specified participatory processes and facilitation support.	M
To component results		
Government does not have sufficient funds to provide counterpart budget	Government counterpart minimized, requirement for inclusion as budget line item, and ongoing monitoring by Bank of quarterly releases.	M
Lack of household savings precludes required contribution, retained earnings reinvestment, or access revolving funds or credit	Significant portion of contribution provided in form of labor. Project training in cash mobilization skills and opportunities. Beneficiary control creates strong sense of ownership and trust, building willingness to contribute. Training and feasibility criteria foster reinvestment.	S
Arrangements to channel funds to local levels do not function in a timely and transparent manner	Detailed budget and fund flow arrangements specified and applied in ongoing projects, with clear accountability. Credit Agreement will specify financial management system, including fund flow.	L

[Risk ratings: L <25%; M 25-50%; S 50-75%; H > 75% likelihood]

7. Credit conditions and agreements

Conditions of project effectiveness include :

- Deposit of an amount of US\$50,000 (fifty thousand dollars) equivalent in local currency in the project account in a local commercial bank, acceptable to IDA to meet the initial requirement of counterpart funds for project implementation;
- PMU to additionally recruit one Accountant for the CAWMP in the PMU

Conditions of Disbursement include:

- Submission of the first six month work program and budget for the project to IDA for review and approval, at least one month before the commencement of the proposed civil work program.

Other Conditions:

- *Auditing.* Standard auditing covenants will apply;
- *Special account.* The Borrower will open and properly maintain separate special account for (i) IDA Credit; (ii) IDA Grant ; and (iii) GEF Grant. In addition open independent special account for each of the Donors financing project activities.
- *Counterpart funds and budget.* A line item will be provided in the annual National Budget beginning 2005 for funds required for implementation of each project component. By September 30 of year, the Government shall review the provision for counterpart funds and confirm that an adequate allocation for project implementation will be included in the budget for the following calendar year.
- *Management.* The PMU and PCUs would be maintained, adequately staffed, and provided with performance based incentives.
- *Monitoring, Review, and Reporting.* Standard reporting covenants will apply; the PMU will report to IDA on a half-yearly basis its monitoring and evaluation reports and the status of the agreed key monitorable indicators; and a project design and implementation review would be undertaken, by IDA in June 2006, to determine the lessons learnt and make appropriate changes, if needed, in the project objectives, scope and components.
- *Rural production component.* Rural production investments will be prepared, cleared, and implemented in accordance with organizational arrangements and operational procedures agreed with the Bank.
- *Usufruct for land resource management.* The government shall promptly register land usufruct rights in the name of the groups or households who have preformed in accordance with agreed land resource management subproject parameters
- *Land access restrictions.* No human settlements will be displaced as a result of project activities, and any adverse impacts on vulnerable people of any other restrictions of access to land resulting from project activities will be mitigated by project investments directly benefiting the affected people.
- *Environmental management.* The project shall be implemented in accordance with the agreed environmental management framework and pest management plan.
- *Land degradation status.* The status of land degradation in the project areas shall be monitored in accordance with arrangements agreed with the Bank and the findings made publicly available.

D. APPRAISAL SUMMARY

1. Economic and financial analyses

The project is economically and financially viable. At full development, annual incremental gross margins are estimated to increase by about US\$210 per household for farm productivity investments and US\$622 per household for land resource investments, both of which are significant increases above the current household income levels, 97% of which fall below the US\$1125 poverty line. The overall financial internal rate of return (IRR) is estimated at 24% and economic IRR is estimated at 22% (after taking into account a standard conversion factor of 0.9 for non-tradable commodities), with net present values of US\$ 29 m and 24 m respectively. Sensitivity analysis indicates that an ERR below 12 percent would require significant deviations from base estimates such as a decrease in all benefits of 30% together with an increase in recurrent costs of about 30%. Given Tajikistan's economic growth, even without the project the proportion of project area population below the poverty line is estimated to decrease from 97% to 74% by 2011. With the project the proportion of project participants below the poverty line is estimated to decrease further to 55% by 2011. The project would also further increase the average incomes of those above the poverty line, cushioning their vulnerability. Environmental benefits include area of land saved, soil fertility improved, and prevention of downstream flood damage, and biodiversity preservation. Further estimates of household income impacts by subproject and other poverty impacts and environmental benefits are detailed in Annex 9.

Viability is further ensured through a sub-project preparation and screening process, (not only taking into account economic and financial considerations, but also inclusion of the poor in public good investments, and other technical, environmental and social criteria). The contribution requirement and the selection of subprojects by communities within fixed budget constraints also provides an incentive which encourages prioritization of investments with maximized marginal returns within a site specific context.

The project's net fiscal impact will be positive over the longer term. At prevailing average tax rates the present value of incremental fiscal revenues generated by the project are estimated to be over US\$5 m. The project design also includes provisions for cost recovery of O&M costs; and the reliance on grant financing and contributions of local people makes the immediate expenditure burden on government small, only US\$0.9 m total over the six years. The post project increase government O&M is only minimal since communities will be responsible for O&M of rehabilitated structures. Anticipated net tax revenues of US\$2 m per year would more than offset this plus the repayment of the IDA Credit starting after the 10 year grace period.

GEF financing will catalyze and expand land resource management and other project activities beyond what would be supported by government on purely national grounds. Annex 15 presents the Incremental Cost Analysis associated with GEF financing.

2. Technical

The project promotes a number of simple, durable, replicable, cost-effective and intensive technologies that are adapted to the conditions prevailing in the project areas. For infrastructure works existing national standards are being applied where possible, and the

selection of technologies takes into consideration the need to for simple maintenance that can be undertaken by the groups themselves.

The project will build skills of line ministry and technical agency staff to enable them to provide improved technical guidance and assistance. The project will develop manuals and training services. The project will also include infrastructure support for improved planting stock and seeds, and improved livestock management, building on indigenous knowledge and technologies as well as international experience and good practice.

No significant technical challenge is expected. Instead, the key issue is the successful extension of improved technologies in remote areas. There is evidence that most of the communities are willing to adopt improved farming technologies, although local technical capacity needs to be strengthened through training.

3. Fiduciary

Financial management. The existing PMU within the Ministry of Agriculture for two current projects, the FPSP and RIRP, will be responsible for financial management and will make use of proven arrangements. An experienced financial management specialist is already working on the preparation activities. The new project will also benefit from the recent installation of the "1C" software program. The FM arrangements will include a simple system for tracking cash receipts and payments. The Operational Manual available prior to appraisal will describe the FM arrangements (staffing, system, reporting format, maintenance of records, controls & segregation of duties, petty cash, auditing, etc.). Training and technical assistance from the PMU and PCU finance staff will be provided to address the capacity limitations at the community level for accounting. Audit expectations of the World Bank will be clearly specified during appraisal. Since Treasury lacks capacity in internal audit, at the time of negotiations, the Bank will obtain from the Borrower, adequate assurance that the trained PMU staff perform audits on the JDCs over the life of the project and establish a series of "internal audit-like" procedures in lieu of an Internal Audit (IA) arranged by the Government.

Procurement: The Project Management Unit (PMU) for FPSP and RIRP will have the main responsibility for all procurement except for small items procured at the community level, and for ensuring that even this community procurement meets good practice. The PMU local staff have been well trained in the procurement of goods, works and services for the activities under the other projects and will be continued to assist the proposed CAWM project also. Project Coordination Units (PCUs) along with the NGOs will assist JDCs in procurement activities at the community level. A draft procurement manual including a procurement plan for the first year of the project, will be reviewed at appraisal and confirmed at negotiations. The first year procurement will mainly comprises items required for increasing the capacity of the PMU, establishment of one PCU, mobilization of 19 JDCs within that PCU's watershed, and technical infrastructure and training. It will also include small-scale site specific rural production investments selected by communities. Since these rural production investments won't be specified until after project inception they will be subject to procedures outlined in the operational manual. See Annex 8 for details.

4. Social

Social and political context. Traditional mahalla/jamiyat institutions are the most important organizing force in project area hamlets. Their leaders are selected somewhat democratically, although about half typically make decisions by themselves, while the remainder make decisions through councils or hamlet-wide discussions. Women are often excluded from decision making. Official local government officials are appointed by the national government, but these appointees and the JDCs use the legitimacy of the mahallas or jamiyats to mobilize local support for government programs and policies. Apart from state and collective farms, local special interest associations are not common. Households are willing to collaborate in group subprojects by providing labor, but are reluctant to provide in-kind or financial contributions. However, where they are active, donor organizations have been able to overcome this lack of trust in money management.

Social development issues. About 97% of the project population are poor. More than 70% of the project households are very poor - they have problems obtaining enough food to eat and enough clothes to protect them from Tajikistan's difficult climate. Subsistence agriculture is the most important activity for local people. Although 90% of the people have land, more than 80% have less than half a hectare. They also lack seeds and irrigation. Problems in community infrastructure are widespread, creating problems in agriculture production and processing, and other employment income-generation, as well as in health and education. Among such infrastructure, stakeholders often accord household water supply the highest priority. Landslides are an important issue for stakeholders in areas where they occur. Health and education are second-tier priorities of project area stakeholders. Annex 17 contains further social analysis.

Stakeholder participation. Key stakeholders include community leaders and members, women, raion and jamoat officials, technical government and institute staff, NLSC members, and staff of the PCUs and PMU. Stakeholders have been consulted during preparation through informal discussions, formal workshops, and the social assessment. During project implementation local people will take the lead in investment decision making and collective action, although other stakeholders will also play a role. All stakeholders will participate in extensive training and capacity-building activities. The project involves close collaboration with NGOs and other donors.

Consideration of women and other vulnerable people. The procedures for planning and screening rural production investments include consideration of issues faced by women and other vulnerable people, and involve them in decision-making, receipt of a share of project benefits, and associated monitoring. The project does not involve physical displacement of people. There is no encroachment of human settlements in the public lands or transhumance movement of livestock in the project area. Possible restrictions of access associated with improved land management activities are not anticipated to adversely affect vulnerable people because those people will be participating in and benefiting from these activities, as well as other rural production investments. The relatively homogeneous social structure of these mountain communities also helps ensure the avoidance of adverse impacts on vulnerable people. Nevertheless, the community planning procedures will include a few simple questions to consider restrictions of access issues, the biannual impact evaluation will review actual project experience in this regard, and additional mitigation measures will be incorporated in the project if required.

5. Environment

The environmental impact of the proposed project is expected to be largely positive. The rehabilitation of the pasture and degraded fragile lands in the mountain slopes including greater tree and ground cover will enhance soil and moisture conservation efficiency.

The reduction in soil erosion losses will also reduce silt loads in the rivers, with a beneficial effect for the down stream area. Biodiversity degradation in these unique mountain ecosystems will be halted, and live specimens of indigenous varieties preserved. Provision of clean potable water in the problem hamlets will reduce waterborne disease incidences. The proposed project does not include any investment in dams or resettlement nor construction of new canals or head works that will increase water abstraction from main sources. It does not involve the construction of new roads. The project area does not include parks or sanctuaries.

The Environmental Assessment (EA) comprises an Environmental Management Framework (EMF) and a Pest Management Plan. The EMF identifies the procedures for subproject environmental assessment, the roles and responsibilities for implementation, the environmental management guidelines, the environmental monitoring and supervision arrangements, and institutional strengthening steps. Potential adverse impacts such as inappropriate fertilizer or pesticide application, improper food processing waste disposal, or improper animal manure handling will be addressed through guidelines and mitigation measures that protect water supplies, assure population health and safety, and promote sustainable land use. Temporary minor impacts from small works will be addressed through enforcement of proper design standards. The Pest Management Plan includes provisions of integrated pest management assessment, development, training, and networking as well as replacement of harmful pesticide regimes with environmentally friendly alternatives.

6. Safeguard Policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[x]	[]
Natural Habitats (OP/BP 4.04)	[]	[x]
Pest Management (OP 4.09)	[x]	[]
Cultural Property (OPN 11.03, being revised as OP 4.11)	[]	[x]
Involuntary Resettlement (OP/BP 4.12)	[]	[x]
Indigenous Peoples (OD 4.20 , being revised as OP 4.10)	[]	[x]
Forests (OP/BP 4.36)	[]	[x]
Safety of Dams (OP/BP 4.37)	[]	[x]
Projects in Disputed Areas (OP/BP/GP 7.60)*	[]	[x]
Projects on International Waterways (OP/BP/GP 7.50)	[]	[x]

The safeguard screening category is S1 and the environmental screening category is FI. The Environmental Management Plan addresses the environmental issues, including pest management, as described above. The measures are simple to ensure they are within the country's implementation capacity, and will be integrated into the overall operational guidelines and monitoring system. Consultations on the EMP are completed and it was made available to the Info Shop and released within Tajikistan on January 20, 2004.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

7. Readiness and Compliance

Subject to the following written assurances as a condition of negotiations, the project is ready for implementation.

- Rural production investments will be prepared, cleared, and implemented in accordance with organizational arrangements and operational procedures agreed with the Bank.
- The government shall promptly register land usufruct rights in the name of the groups or households who have preformed in accordance with agreed land resource management subproject parameters
- No human settlements will be displaced as a result of project activities, and any adverse impacts on vulnerable people of any other restrictions of access to land resulting from project activities will be mitigated by project investments directly benefiting the affected people.
- The project shall be implemented in accordance with the agreed environmental management framework and pest management plan.
- (The status of land degradation in the project areas shall be monitored in accordance with arrangements agreed with IDA and the findings made publicly available.
- The government provide assurance to IDA that the audit contract already concluded with the PMU in respect of the FPP and RIRP to include additionally the CAWMP on the same terms and conditions.;
- The government will take steps to establish a procurement management system satisfactory to IDA, in the Project Management Unit.

The project does not use the standard disbursement percentage, but instead designs the disbursements in accordance with the upcoming expenditure eligibility reforms. The alternative expenditure eligibility framework will allow the Bank to finance expenditures needed to meet development objectives of the operations it supports, within the overall framework that addresses country risks to fiscal sustainability and appropriate use of Bank resources. The new framework is expected to increase the Bank's flexibility to allow the use of Bank loan proceeds for a number of expenditures. It rests on three guiding principles, namely: (a) expenditures financed from Bank loan proceeds are productive; (b) impact of operations financed under such loans on the borrowing country's fiscal sustainability is acceptable; and (c) oversight arrangements on the use of Bank funds are acceptable.

Annex 1: Incremental Cost Analysis

Incremental Cost Analysis and Global Environmental benefits

Overview

The project objective is to build the productive assets of rural communities in selected mountain watersheds, in ways which sustainably increase productivity and curtail degradation of fragile lands and ecosystems. It would undertake this in four watersheds and cover a population of about 360,000 people, or about 29% of the rural people living in Tajikistan's highland areas, with the intention of establishing the foundation for comparable support eventually reaching all the rural people living in Tajikistan's highland areas.

The GEF Alternative intends to protect globally important Tajikistan mountain ecosystems and preventing land degradation by applying an integrated approach and mainstreaming sustainable land use and biodiversity conservation considerations within agricultural and associated rural investment decisions. The total incremental cost will be approximately **US \$ 4.5 million** above the estimated baseline.

Context and Broad Development Goals

Mountain land use and degradation. Tajikistan is a mountainous country covering some 141,000 Km². Independence turmoil and civil war left it among the poorest countries in the world, but the economy is beginning to grow again. About twenty percent of its 6.3 million population lives in hilly and mountain areas where access to most government services is limited. Most of the 2.5 m ha agricultural land they farm is pasture, only 206,000 ha are in perennial crops and orchards, and there are few significant irrigation systems. Rural poverty, shifts in land management responsibilities, lack of integrated land management, inappropriate agriculture, and poor access to technical support are causing increasing land degradation. Much of the population are now using steep hillsides to grow cereal crops. The breakdown of the irrigation systems so necessary in some areas, farmers' limited access to inputs, and uneven distribution of land has led to a collapse of crop yields. This complex of issues has led farmers to attempt cultivation of wheat for subsistence on steeply sloping land. Cultivation has extended to fragile and unsuitable lands; overall, it has extended about 45,000 ha recently as trees have been removed and steep lands cultivated. Some good-quality spring pasture has been converted to crop production. These changes have made soils vulnerable; 60-70 percent of agricultural land is now considered to be affected by severe soil erosion resulting from poor agricultural practices and localized overgrazing. An increase in gullying is evident, as well as in incidence of landslides and increases the risk of flash flooding in downstream areas. While poverty contributes to land degradation, land degradation contributes to further impoverishment through mudslides (ruining villages, roads and farmland, and irrigation and water systems), soil-erosion (undermining agricultural productivity) and silting of waterways used for drinking water and irrigation. However, highlands have good productive potential if appropriately farmed. In addition to improving life for people in the highlands, utilizing this potential in sustainable ways will also prevent downstream damage and relieve pressure on the lowlands.

Mountain ecosystems. Tajikistan has globally important mountain ecosystems with diverse flora and fauna, including many of economic importance, and under threat. The Republic's vegetative cover is very diverse and includes deciduous, tugai, small-leaf, juniper and xerophilous light

forests; thickets of bushes; semi-forest deserts with saxaul, cherkeznik vegetation, semi-bush deserts, thorny-grass steppes, semi-savannas, and meadows.

- Pastures, for example, host over 3000 plant species, of which more than 1000 species contribute to the national forage reserve. The most widespread fodder land in Tajikistan is summer pasture, more than 50 percent of all natural pasturable land. These pastures are located in mountain subalpine and alpine zones and are widely represented by tall grass and steppe, meadows prick grasses and deserted pastures. Localized overgrazing, conversion to cereal crops, cutting of interspersed trees and shrubs for fuel has degraded pasture areas near villages.
- The wild-growing fruit plants of Tajikistan represent a unique genetic resource for agriculture. The mountain territories of southern and southeastern Tajikistan are the major regions for conservation of wild-growing fruits (apples, pears, apricots, mulberries, cherry plums and plums, among others), nuts (walnuts and almonds), grapes and berries (currants, sea-buckthorn berries).
- About 1500 of Tajikistan's herb species are used in traditional medicine, and more than 70 in its official medical practice. Medicinal plants face indiscriminate, unscientific, unregulated harvesting, cull and sale.
- Forest areas that cover only 3 % of the country's territory. Starting from the early 90s, there has been substantial cutting of trees for firewood, including fruit trees
- Tajikistan's diversity of fauna is also very rich. Among mammals, the Bukhara red deer, Menzbir marmot and moufflon (urial) are endemic species to Central Asia. The main game species are the wild boar, Siberian ibex, hare and porcupine, as well as the red marmot, muskrat, nutria, fox, stone marten and badger, and some of these species are being over-exploited. Altogether, Tajikistan's Red Data Book includes 58 invertebrates, 4 species of fish, 21 of reptiles, 37 birds, and 42 mammals. Threats include game hunting of wild mammals.

Threats. The major threats to the Tajikistan mountain lands and ecosystems can be summarized as follows: (a) inappropriate and unsustainable cropping practices on sloping lands; (b) localized overgrazing; (c) deforestation; and (d) over exploitation of biological resources. Rural poverty, lack of integrated land management, inappropriate agriculture, and poor access to technical support are contributing to these threats.

Downstream waters. Tajikistan retains some 10-12% of the water that falls/melts/flows within its territorial boundaries. The great majority of the water is then consumed by the much larger and thirstier agricultures in Uzbekistan, Turkmenistan and Kazakhstan, reducing to a trickle the Amu Darya and Sir Darya. The analytical work conducted under the recently completed GEF-financed Aral Sea Water and Environment Management Project confirmed the role that improved management of the upper watersheds played in better management of the overall river basin. Under the Bank's Farm Privatization and Support Project, the government is drafting legislation and regulation that will encompass all aspects of water use, its extraction, and release back into the system. This project will complement this initiative.

Institutional capacity. In addition to these problems, institutional capacity to appreciate and manage these problems is extremely weak. At both the local and the national levels, the institutions responsible for biodiversity, land management, and community-oriented sustainable development need to be re-oriented and strengthened.

Project Area Watersheds. Specific information of the four project area watersheds (Surkhob, Zarafshan, Toiru, and Vanj) are in the Detailed Project Description Annex. Key features include:

- *Land use.* The project would take place in four highland watersheds mostly above 750 meters covering catchments of over 36,000 km², with agricultural areas covering about 692,000 ha, of which about 597,000 ha is pasture. The watersheds have a population of about 550,000 people (42% of Tajikistan's mountain population). The project would cover 47 of the 64 jamoats in these watersheds, and would expand to the remaining jamoats if additional financing from other donors becomes available, as anticipated, after project inception. Project activities and funding would be distributed relatively evenly within the 47 jamoats, and directly benefit at least half their population. Much of the agriculture has shrunk down to subsistence levels. Three of the four rivers merge into the Amudarya River which then flows into the Aral Sea. Sediment runoff varies between 30 to 2200 t/km²/yr. Mudflows and downstream floods have become more common.
- *Biodiversity.* The pasture lands and wider watershed basins contain a rich mix of plants including rare and genetically valuable grasses, herbs, bushes, and trees. Red book plants in the four watersheds include the Persian binium, Rozenbakh wild leek, Gissarsky rhubarb, Vavilov almond, and Kayon pear. Other important genetic resources include walnut, plum, Sogdiysky nut, Anzyrsky wild leek, Sievers apple, barberry, Zeravshansky nut, black currants, Altai mountain sheep argali, Pontiysky hawthorn, Real pistachio, Lukovichny barley, Pherula kukhistanskaya, Rea nut, Bukharsky almond, Thick-stalked vetch, Borodavchataya cherry, and blackberry. They also provide habitats for rare and endangered animals such as the Dough eagle, Tien Shan sparrow-hawk, Redheaded peregrine, Middle-Asia otter, kadan, weasel, snow leopard, Siberian wild goat, Zeravshansky pheasant, Black stork, Bearded partridge, Indian porcupine, urial, Marco Polo wild sheep, keklik, boradach, desert partridge, kustarnisa, and Golden eagle.

Tajikistan has committed itself to preventing soil degradation and desertification and to conserving biodiversity in its sovereign territory. It is a signatory to several international Conventions: to Combat Desertification (1977); on Biodiversity Conservation (1997); on the Conservation of Migratory Species of Wild Animals (Bonn, 1979), on Climate Change (2000); and, on Wetlands(2000). Soil and biodiversity conservation generally, as well as specific measures related to afforestation, pasture improvements and protection, are considered as priorities for the Government of Tajikistan as evidenced in National Strategy for Combating Desertification (2002) and National Biodiversity Conservation Action Plan (2003). Furthermore, the country's Poverty Reduction Strategy Paper (2002) emphasized the need for adoption of sound agricultural practices, restoration and rational use of natural resources, as well as better management of water resources, as national priorities.

Baseline Scenario

The Baseline Scenario includes: (a) on-going and planned activities undertaken by the Government, in order to improving livelihoods of rural communities while reversing degradation of fragile lands and ecosystems; and (b) the associated contribution by beneficiaries, proportion with this level of external support, and (c) activities and resources being financed by IFIs and other donors.

Government. The Government is trying to implement its agriculture strategy through programs of farm privatization, irrigation and other rural infrastructure, support services for improved agricultural technologies farm and sustainable land management, and improved access to rural finance. However, lack of accountability, inexperience with incentive frameworks and severe fiscal constraints are limiting the extent and in some cases the nature of overall program impacts. Due to very severe budgetary constraints, currently, the Government has not been financing any investment activities in the project area aimed at improving livelihoods or biodiversity and land conservation. It was agreed that the during the project implementation period, Government will cover only a part of the recurrent costs, taxes and duties at the level of **US \$ 0.9 million**.

Beneficiaries. It is expected also that the private farmers will contribute to the project financing 20% of subproject costs and to cover the operational and maintenance expenditures of community structures established under the project. In the absence of GEF support this would amount to about **US \$ 1.5 million**.

Donors and IFIs. A number of international NGOs (e.g., Agha Khan Foundation, Mercy Corps International, German Agro Action, ACTAED), and other donors (e.g. UNDP multi-donor Rehabilitation, Reconstruction and Development Program) have established small scale community driven programs in the project area. Some level of support is likely to continue, although information on the total value of this support is not readily available, and the existence of the project is not expected to affect the level of this support. Recently IFAD, SIDA and CIDA have also expressed interest in providing co-financing to the Bank/GEF project although they cannot make specific commitments within the current project processing schedule. If such support is forthcoming, the scope of the project (i.e., number of highland jamoats covered) would be expanded retroactively. The IDA financed components of the current Tajikistan Agriculture and Watershed Project it is proposed to be at the level of **US\$ 10 million**.

Baseline Costs. The full Baseline Scenario is therefore estimated to cost **US\$ 12.4 million**. It is based on a realistic assessment of financial resources allocated or to be allocated for activities related to livelihoods improvements as well as for the biodiversity conservation and land degradation prevention, and is consistent with the current national development goals and institutional capacity.

Baseline Benefits. The Baseline Scenario outside the social and economic outcomes with regard to land degradation prevention and biodiversity conservation can provide the following:

- Provide support for farm productivity improvements
- Provide support for land resource management covering 21,000 ha. The scale of gully and landslide prevention would be smaller
- Provide rural infrastructure investments
- Support for scientific research, including support for nurseries, field trials, and line agency capacity building. However there would not be sufficient funding to restore Tajikistan's capacity to preserve specimens of indigenous crop varieties.
- Facilitation and planning support necessary to mobilize communities and ensure the feasibility of the rural production investments. Feasibility and eligibility guidelines include communications, group process, organizational and administrative arrangements, contribution requirements, budget limits, institutional capacity, social, financial, commercial, technical, and environmental considerations. However training and dissemination efforts would be limited.

- Project management and coordination, including evaluation. While evaluation would include environmental elements, but the main focus will be on the social and economic indicators. The evaluation of land use trends would be more limited.

The focus of Government and beneficiaries efforts in the above activities would be on those productive activities that improve livelihoods and have clear and immediate poverty benefits, although they would also encourage more environmentally friendly natural resources use. These Baseline Scenario activities would not be sufficient to halt the negative trends of land and biodiversity degradation trends in the project area.

Global Environmental Objectives and GEF Alternative.

Scope. The project global environmental objective is protecting globally important Tajikistan mountain ecosystems by mainstreaming sustainable land use and biodiversity conservation considerations within agricultural and associated rural investment decisions, providing replicable models for comparable areas throughout the country. This GEF objective is mainstreamed into the project overall development objective and outcomes. The project will take an integrated ecosystem management approach to ensure sustainable land and water use and protect Tajikistan important biodiversity, while contributing to improving livelihoods and reducing rural poverty in selected watersheds of the country. It supports the three GEF strategic priorities, creation of an enabling environment, institutional strengthening, and investments. It aims for synergy among several GEF focal area issues, especially those of land degradation and biodiversity, but also including climate change and international waters. Optimizing benefits by providing opportunities to address these issues within the context of sustainable development, and thus it addresses the Global Environment Facility (GEF) Operational Program (OP) 12: “Integrated Ecosystem Management”, combining the concerns of Land Degradation OP 15: “Sustainable Land Management” Biodiversity OP 4: “Mountain Ecosystems” and OP 13: “Conservation and Sustainable Use of Biological Diversity Important to Agriculture”, International Waters OP 9 “Integrated Land and Water Multiple Focus Area”, and Climate Change OP 6: “Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs”.

GEF Alternative and Benefits. The GEF Alternative will be build on the Baseline Scenario by substantially increasing the land area (and number of households participating in the subprojects) covered under the land resource management subcomponent to 78,000 ha, or about 10% of the total pasture area in the project jamoats. Incentive frameworks will be strengthened by linking conservation activities with livelihood benefits, and by linking usufruct rights with stewardship responsibilities. The GEF Alternative will also restore Tajikistan’s capacity to preserve specimens of indigenous crop varieties, in collaboration with the Consultative Group For International Agricultural Research’s Central Asia and Caucasus unit in Tashkent. It will strengthen technical and institutional capacity. In addition it will address the public awareness and participation issue by supporting a participatory approach to preventing further land and biodiversity degradation, and improving access to information. Experience will be shared at the local and international levels. The higher quality monitoring of land degradation trends will improve accountability and knowledge. The GEF Alternative provides a channel for field level issues to be identified, and if necessary addressed by senior policy makers in the National Level Steering Committee. It will provide a means to integrate site specific and feasibility considerations into small investment subprojects in ways that also address broader landscape consideration. The project will have a positive impact on the environment and natural resource

base of the project area: increase of soil moisture, leaf litter, grass biomass and organic matter of soils; reduction of sediment loads to the rivers and streams; and a decrease of run-off and soil losses. The reduced run-off from the catchment areas will reduce river siltation and damage to the downstream irrigation works and water reservoirs which are so important to the livelihoods of not only Tajikistan's population, but also the people in other Central Asian countries. The GEF alternative will provide the necessary funds to catalyze a series of coordinated activities addressing mountain ecosystems and in particular sustainable land management and biodiversity conservation beyond the level that would be supported by the government purely on national grounds. Under the GEF Alternative incremental resources will accelerate and expand the investments beyond what could be supported under the baseline scenario.

Cost. The total GEF Alternative cost is estimated for the 6 years period at the level of **US \$ 17.8 million.**

The GEF Alternative components are:

- Rural Production Investments (US\$ 11.8 million; GEF financing – US \$ 3.7 million). This component comprises support for subprojects in farm productivity improvement, land resource management, and rural infrastructure. Financing from GEF, blended with the IDA financing, will accelerate and expand land resource management subcomponent. It will address biodiversity conservation and soil protection through vegetative cover restoration to 78,000 ha, some 57,000 ha above the level that would be supported by the government on purely national grounds. It will promote biological conservation and moisture retention techniques which make the best use of in-situ water and recharge profiles, increase vegetative cover and generally improve soil structure and water holding capacity. In addition, because of the requirement that beneficiaries contribute at least 20% of the subproject investment costs, GEF financing leverages an additional US \$0.9 in beneficiary contributions for land resource management subprojects, which would not be forthcoming in the absence of the additional GEF financing.
- Institutional Support and Capacity Building (US\$ 3.4 million; GEF financing – US \$ 0.5 million): This component will strengthen scientific institutions, and include the restoration of Tajikistan's capacity to preserve specimens of indigenous crop varieties, in collaboration with the Consultative Group For International Agricultural Research's Central Asia and Caucasus unit in Tashkent. It will strengthen the capacity for seed and seedling production.. It will include training for communities, community based organizations, interest groups and the Jamoat and Watershed Development Committees. It includes initial trust building investments for each participating village. It would also include information and experience sharing on a wide variety of institutional, technical, environmental, financial, and management topics, including monitoring and evaluation. Blended GEF financing will enable additional funding for the extra support required to increase the extent of land resource management investments, information sharing and awareness raising on land degradation and biodiversity conservation topics, as well as specimen preservation of indigenous crop varieties.
- Project Management: (US\$ 2.6 million; GEF financing – US \$ 0.3 million) The project management component would support the project coordination and administration staff, procurement, disbursement, financial management, reporting, monitoring, and evaluation activities, at the national level and for each of the four project watershed areas. The component would also support the secretariat services to be provided to the national Steering

Committee, and support the Watershed Development Committees to enable them to appraise Jamoat proposals for financing from rural communities in a manner consistent with good practice. Blended GEF financing supports the increased management activities associated with the increased amount of land resource management investments, enables more extensive evaluation of mountain ecosystem degradation trends, as well as exchange of experience both within the country and with other countries, thus further strengthening replication impact.

Incremental cost

The project's incremental cost is **US \$ 4.5 million**, - the difference between the Baseline Scenario (**US \$ 12.4 million**) and the GEF Alternative (**US \$ 17.8 million**). The details of the Baseline and the GEF Alternative are presented in the attached Incremental Cost Matrix.

Incremental Cost Matrix

Component sector	Cost Category	US\$ Million	Domestic benefits	Global benefits
<i>A. Rural Production Investments</i>	Baseline	7.2	Increased agricultural production and incomes Increased wood and horticultural products; Increased livestock production; Improved rural infrastructure	Slowing down of negative trends in land and biodiversity degradation, and associated downstream damage in project jamoats
	With GEF	11.8		
	Incremental	4.6³	Improved soil fertility Increase moisture availability and improved water quality Reduced soil loss and restoration of agricultural land Reductions in damage caused by excess runoff and siltation and accompanying reductions in remedial expenditures Increased horticultural, wood, and pasture-based livestock production and income	Halting of negative trends in land and biodiversity degradation, and associated downstream damage in project jamoats. and replicable model relevant for extension in additional areas
<i>B. Institutional Support and Capacity Building</i>	Baseline	2.9	Improved access to know-how, agricultural inputs and suppliers; Improved access to livestock services Mobilized and strengthened communities organizations; Increased capacity for environmentally friendly alternative productive activities;	Raised awareness on globally important mountain ecosystems and on sustainable land and biodiversity conservation management
	With GEF	3.4		

³ Includes US \$ 0.9 million beneficiary contribution leverage by GEF financing

Component sector	Cost Category	US\$ Million	Domestic benefits	Global benefits
	Incremental	0.5	Enhanced capacity as required to achieve benefits outlined under component A described above.	Preservation of live specimens of indigenous plant varieties Enhanced capacity as required to achieve benefits outlined under component A described above.
<i>C. Project management</i>	Baseline	2.3	Capacity for successful project management and implementation	Limited monitoring of degradation trends
	With GEF	2.6		
	Incremental	0.3	Increased management activities associated with the increased amount of land resource management investments	Increased capacity for monitoring trends in land and biodiversity degradation Increased exchange of international experience
Total	Baseline	12.4		
	With GEF	17.8		
	Incremental	5.4⁴		

⁴ Includes US \$ 0.9 million beneficiary contribution leverage by GEF financing

Annex 2: Results Framework and Monitoring

TAJKISTAN: COMMUNITY AGRICULTURE AND WATERSHED MANAGEMENT PROJECT

PDO	Outcome Indicators	Use of Outcome Information
<p>Build the productive assets of rural communities in selected mountain watersheds, in ways which sustainably increase productivity and curtail degradation of fragile lands and ecosystems</p> <p>GEF Objective: Protect globally important ecosystems by mainstreaming sustainable land use and biodiversity conservation considerations within agriculture and associated rural investments decisions, providing replicable models for comparable areas throughout the country</p>	<p>At least 80% of rural production investments are successful according to agreed standards⁵ and are being sustained.</p> <p>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</p> <p>In communities that are participating in project, proportion of people above poverty level increased from 3% to at least 30%</p> <p>In communities that are participating in project, percentage of household heads who perceive that women have some influence in village affairs increased from 43% to at least 60%</p> <p>Negative trends of land and mountain ecosystem degradation halted in project area jamoats</p>	<p>Gauge realism of proposals and effectiveness of selection processes and support, and adjust project design if necessary</p> <p>Gauge scale of coverage and extent of changes in poverty levels, women's influence, and watershed degradation associated with project activities in order to demonstrate impact and to inform plans for extension of program to additional households and in remaining highland areas.</p>

⁵ Taking into account economic, financial, social, and environment parameters, and weighted by value of investment

Arrangements for results monitoring

Outcome Indicators	Baseline	Target Values						Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
% of rural production investments are successful according to agreed standards ⁶ and are being sustained.	NA	-	-	60%		-	80%	Periodic report on cumulative investments that have been completed	Independent evaluation based on sample study and review of project records	Specialist team contracted by PMU and reporting to SLSC
Number of households participating in some part of the rural production component	0	300	1900	4400	14,000	23,000	32,000	Quarterly reports with data ⁷	Project records	Collected by JDCs with NGO support, and aggregated by PCUs and PMU
Proportion of population above poverty level in villages that are participating in project	3%	-	5%	-	15%	-	30%	Biannual report	Independent evaluation based on sample study of participating villages	Specialist team contracted by PMU and reporting to SLSC
% of household heads in participating communities perceive that women have some influence in village affairs	43%	-	48%	-	54%	-	60%	Biannual report	Independent evaluation based on sample study of participating villages	Specialist team contracted by PMU and reporting to SLSC
Negative trends of land and mountain ecosystem degradation halted in project area jamoats	YR1 Past 10 year trends	Base-line	-	-	Degradation trends halted	-	Restoration evident	Periodic report	Satellite data on vegetative cover in project area, ⁸	Specialist team contracted by PMU and reporting to SLSC

⁶ Taking into account economic, financial, social, and environment parameters, and weighted by value of investment

⁷ Disaggregated by investment type, value, and location

⁸ Supported by sample ground survey data, data on landslide incidence, and community anecdotes

Results Indicators for Each Component	Baseline	Target Values						Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Component IA: Total value in US\$ m of farm production investments (regardless of financing source) to date in villages where project is operational	NA	-	0.2	0.6	1.5	2.6	3.8	Quarterly reports	Project records	Collected by JDCs with NGO support, and aggregated by PCUs and PMU
Component IB : Area in ha covered by land resource management subprojects and benefiting very poor at least in proportionate to their numbers in a community	NA		4,500		35,000		78,000	Quarterly reports	Project records	Collected by JDCs with NGO support, and aggregated by PCUs and PMU
Component IC: Number of improved public facilities, disaggregated by type of investment (village drinking water, roads, and electricity).	NA	*	*	*	*	*	*	Quarterly reports	Project records	Collected by JDCs with NGO support, and aggregated by PCUs and PMU
Component IIA % of project financed farm production and land management investments applying improved technologies, and receiving good access to necessary inputs and knowledge.	NA		5	10	20	30	40	Quarterly reports	Project records	PMU, in collaboration with input and service providers
Number of varieties preserved as live specimens	NA	* ⁹	*	*	*	*	*			

⁹ * indicates target not appropriate but numbers will be monitored

Results Indicators for Each Component	Baseline	Target Values						Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Component IIB Number of JDCs that have been established and are overseeing implementation of rural production subprojects	NA		19	37	45	45	45	Quarterly reports	Project records	Collected by PCUs and aggregated by PMU
Component III Bank supervision ratings	NA	S	S	S	S	S	S	Semi-annual reports	Bank supervision mission review of project	Bank task team
Reputation for integrity as perceived in public opinion surveys	NA	-	S	-	S	-	S	Biannual survey	Public opinion survey of project stakeholders	Specialist team contracted by PMU and reporting to SLSC

*=target not appropriate but numbers will be monitored

S=satisfactory rating

Annex 3: STAP Review and Bank's Response

STAP Roster Technical review

Project Title: " Community Agriculture and Watershed Project"

Country/ Region: Tajikistan/ Central Asia

Reviewer: German Kust

Date: 24 December 2003.

Introduction and general effect of the project.

The main idea of the GEF full-size Community Agriculture and Watershed Management Project in Tajikistan is to provide the indirect influence on the degraded lands and ecosystems in hilly and mountains regions of Tajikistan through support of local communities to increase their ability to reduce critical barriers in rural economy and use of natural resources (land, water, biological). The present overexploitation of natural resources is a result of poverty that in the turn has been resulted after civil war and transition economy. It is necessary to understand that before the break of the Soviet Union Tajikistan as a former soviet republic has been the region with a subsidy economy and after getting independence the domestic activity came down. So, nowadays state authorities are seeking for a new forms of sustainable development that mainly are rooted in the past and traditions and based on the rural activities.

The establishing and development of these new forms during relatively short period of time is impossible without additional financial and technical assistance from the outside. Otherwise, the natural resources of the country will be completely exhausted over extensive economy and lead to the destruction of the ecosystems, most of which are of macro-regional and global importance.

So, the project does not provide scaled direct interventions in the rural activities but more supports capacity buildings for local communities and NGOs in order to make them positive of themselves through the strengthening of local communities, implementation of the community developed local action plans (or management plans), which take into account the local environmental issues as the main conditions for sustainable development. New capacity buildings will promote (at the level of local model) more balanced exploitation of natural resources, reduce the human impact due to the new environmental friendly technologies of land management and create conditions for their conservation and rehabilitation.

In this case, I consider the project to be eligible in the framework of GEF activities (OP 12 and OP 15), even taking into account the possible risk of the negative environment impact as a result of the increase of rural activity in future.

Key issues

Scientific and technical soundness of the project

Scientific and technical background of the project sounds well. It includes the results of studies of natural and social conditions for project designing, implementation, sustainability and replicability as well as grounds for the engaging of environmental and land management specialists in the PIU and PMU activities.

I did not find in the project document several things that I think to be important to be reflected:

- As the project is oriented on the experience and knowledge of local communities, the scientific soundness of the prospective activities at this level is weak. Probably, the project team hopes that communities can find the most acceptable decision themselves. Sometimes it could be so especially in the cases of traditional technologies which historically are environmentally oriented. But in cases of use of new techniques and equipment this approach is not right. The better way is if NGOs that work with local communities will offer them to choose appropriate approaches for development from the number of scientifically (ecologically and economically) valid models (desired to be successfully used in resembled conditions). This point proposed a big work on the seeking and verification of such models at the preparatory stage or during the first phase of the project. And here the GEF assistance might be of great importance. Although project contains the mentioning of the "improvements in the productivity of field and horticultural crops... through adoption of advanced technologies developed by CGIAR/TARS", but the mechanisms of their adoption as well as environmental soundness are not clear.
- Here it is necessary to add that scientific soundness of the project could be strengthened if its text (or annex) contain the description of the natural and social mechanisms which help to reduce the impact on the environment. The example of such mechanisms can be cited in the form of principle scheme or in the form of the description of positive effect in similar conditions.

Identification of the global environmental benefits and/or drawbacks of the project

Main global benefit sounds as the improving of mountain ecosystems soil and biodiversity in the ecoregion of global importance. But the direct global environmental benefits of the project seem not to be large either through baseline scenario or GEF alternative. Nevertheless, as the GEF multifocal area project it is supposed to bring regional or local environmental benefits in:

- Reducing land degradation and biodiversity conservation beyond the level that would be supported by the government purely on national grounds
- Protection of natural habitats, especially more effective conservation of globally-significant grassland wild fruit trees species, and of soils
- Contribution to carbon sequestration through conducted afforestation, planting of new fruit trees, mitigating further degradation of vegetation cover and reducing soil erosion.

- Contribution to conservation of regionally important Amu-Darya water basin through reduction of sediment loads to the rivers and streams and a decrease of run-off and soil losses in the upper reaches as a result of the increase of soil moisture, leaf litter, grass biomass and organic matter of soils;

At the same time the special targeted efforts made on conservation and protection issues are poorly described in the project, although there are pointed in the GEF alternative as: rehabilitation of the pasture and degraded fragile lands in the mountain slopes, enhancing of soil and moisture conservation efficiency with greater wood lot and ground cover, further explore of the possible assistance in ensuring that areas of significant biodiversity importance within the watersheds including existing parks remain preserved with the necessary institutional support to ensure safeguard, etc.

How the project fits within the context of the goals of GEF, as well as its operational strategies, programme priorities, GEF Council guidance and the provisions of the relevant conventions

As it was mentioned above, the project is closely corresponds to the main GEF objectives, and especially to the Land Degradation focal area. At the same time it follows the goals of the Biodiversity, International Waters, Climate Change and Multifocal focal areas. Proposed activities are mainly under the operational programmes # 12 (Integrated Ecosystem Management) and # 15 (Sustainable Land Management) as well as associated with the purposes of OP#1 (Arid and Semi-Arid Zone Ecosystems), OP#4 (Mountain Ecosystems), and correspond to OP # 13 (Conservation and Sustainable Use of Biological Diversity Important to Agriculture), OP#9 (Integrated Land and Water Multiple Focal Area Operational Program).

The project expected the GEF assistance to strengthen public policy and enabling environment for addressing land degradation, including facilitating integrated and cross-sectoral approaches to natural resource management. As the project formally meets the requirement of generating global environment benefits in two of the GEF focal areas addressing land degradation, it could be considered to be eligible (especially if the global benefits requirements would be strengthened and emphasized in the project proposal).

The project meets the goals of several relevant international Conventions and the country is a signatory to them: UNCCD (1997), CBD (1997) and UNFCCC (2000).

It is necessary to underline, that GEF participation in the project will mainstream the environment importance of the baseline scenario, that is more socially and economically oriented as well as promote the more careful monitoring and evaluation of land management practices. In other words, the attracting of the GEF incremental costs obliges the project itself to be more environmentally oriented. And this is very important in such kind of the investment projects.

Regional context

The project document contains very good description of political, economical, social and legislative specifics of the country. This ensures the prospective success of the proposed activities. As I've mentioned above, the project is more regionally oriented and in this case regional context of the project is the most attractive field for GEF activities. GEF

activities will support project component focusing on land conservation techniques and activities as well as integrating sustainable biodiversity management into community priorities. A major focus of the GEF regional activities is to ensure that soil and land conservation techniques are mainstreamed in local agricultural practices. Also GEF component will study the possibility to assist the protection of the regions of significant biodiversity importance including existing protected areas.

The proposed role of regional NGOs in the project is very high. They proposed to be responsible for monitoring and evaluation, for training and gathering on-ground information and for many other things. But the capacities of NGO community in Tajikistan are not described. What are their positive and negative experiences? Are they ready to play the provided role?

Replicability of the project (added value for the global environment beyond the project itself)

Firstly it is necessary to underline that the project approaches themselves replicate the positive Bank's experience in Armenia and Turkey that promote the execution and adaptation of these approaches through their application to the new territories. In Tajikistan the project will involve up to 40% of population of mountain regions. Future replication of the programme helps to extend the programme to other mountain areas in the country and abroad (e.g. in Kazakhstan, Kyrgyzstan, Uzbekistan et al.). Implementation of farm productivity improvements activities, of community plans on land improvements, as well other successful investments in rural infrastructure, ensures that the results and conclusions of this project will go beyond the experimental sites.

Sustainability of the project and risks.

The proposal contains enough information to analyze project sustainability and risks. Mainly they are connected with the specifics of government at different levels and with unstable economy, lack of banking facilities. For example, the authors of the project proposal understand that "Community involvement needs to be inclusive to minimize the risk of capture by the local elite". Although sustainability analysis takes the big part of the proposal and sounds in different forms throughout the text, I think it is necessary to enlarge it, taking into account all possible negative alternatives. It is more important for such country as Tajikistan, as there has been negative experience during implementation of another endorsed GEF project in the former Soviet Central Asian republics (e.g. "Water and Environmental Management in the Aral Sea Basin").

I see the following *additional* organizational and environmental causes of those possible risks that have not been pointed in the table of risks or in the commentary:

- 1) "There is no coherent national water strategy" (may cause the risk of unsustainable water management at the local level in future. Can project build capacities for the creation of the strategy?)
- 2) "CAP proposals serve to decentralize government services, and increase the capacity of local communities to take an active role in local development... ..This concept reduces the role of government line agencies to that of serving farmer interests, rather than controlling resources from a centralized and distant

- location. This concept is in accord with the Government's policy on decentralization and poverty alleviation" (may cause the risk of the delay of the development of mentioned government's policy in comparison with the increase of local communities independence. What are the governmental obligations and insurance arrangements on this issue? Is it possible to include them in the project agreement? How project will "reduce inappropriate and ineffective government interventions"?)
- 3) "Community involvement needs to be inclusive to minimize the risk of capture by the local elite" (this idea sounds in differing forms in the different parts of the project text). Elite and local officials may not be ready for that the project will bring additional funds and facilities for communities. This may cause the risk that local elite representative will be elected as the chairperson of the community and get "official permission" to spend loans non-purposely. From the other hand, local superiors potentially can counteract project activities and its main idea – to work using community capacities – as it would decrease the abilities of their influence over the decision making. As it is pointed in the project, the Bank has an experience to work in these conditions in the country and first steps are effective. But it is not clear from the project text that the scheme of financing is clarified and local communities and NGOs have a possibilities to control disbursements.
 - 4) In this case the suggestion to organize the "micro-grant" system limited by 200-250 US dollars per family looks very attractive as it helps to plan expenditures. But I did not understand if this sum is a real money for distribution among participating families or it will be a kind of voucher which can be used only for community activities. Both variant seem to be risky as the first does not exclude the spending of money for personal current objectives, and second does not exclude the creation of CAPs under the pressure of local authorities.
 - 5) I think that in the whole the project suggestions to minimize the risks of the category discussed in the above pp. 2-4 are satisfactory. But I want to make 2 additional suggestions which can help this. First is to create the Internet based Information and Analytical Centre under PMU, which should gather and represent all the information about project implementation in available form. After finalization of the project such centre can support governmental and community structures on the follow-up issues. Also such centre can be responsible for the dissemination of the project results and organize current discussions (not only in the Internet). Second is to establish the position of independent and internationally selected General Consultant who can be responsible for the M&E plans and consultation on the minimizing of risks during project implementation. My own experience shows the efficiency of this kind of work

Secondary issues

LINKAGES TO OTHER FOCAL AREAS

As it was said above, the project is closely corresponds to the main GEF objectives, and especially to the Land Degradation focal area. At the same time it follows the goals of the Biodiversity, International Waters, Climate Change and Multifocal focal areas.

LINKAGES TO OTHER PROGRAMMES AND ACTION PLANS AT REGIONAL OR SUB-REGIONAL LEVELS

The project is closely linked with National Strategy for Combating Desertification (2002), National Biodiversity Conservation Action Plan (2003), and with the country's Poverty Reduction Strategy Paper (2002) that emphasized the need for adoption of sound agricultural practices, restoration and rational use of natural resources, as well as better management of water resources, soil and biodiversity conservation, specific measures related to afforestation, pasture improvements and protection as national priorities.

Degree of involvement of stakeholders in the project

Project defines key stakeholders as village leaders and village members, women, local government representatives, technical staff of the line ministries located primarily at the raion level, National Steering Committee members, staff of the PIUs and PMU and NGOs.

Local people seemed to play the leading role in the project implementation. The role of the governments (state and local) is not clear enough. The project states that their role will be reduced to the end of the project but I am not sure this to be attainable. The role of women traditionally is weak but it hopes to grow.

As I pointed above, the proposed role of regional NGOs in the project is very high. But the capacities of NGO community in Tajikistan are not described.

Capacity-building aspects

The capacity building efforts in different economical, environmental and social aspects are the main idea of the project. So, the project strives in using as much as possible of local resources, in terms of knowledge and capacity, providing training and information to further strengthen that capacity. To my mind, the capacity building aspects description is the best that is made in the project proposal and I can suggest nothing except mentioned above in the upper text. All possible sides of capacity lack and ways to increase it, including:

- developing skills in bookkeeping, infrastructure operations and maintenance, consideration of social and environmental issues, and monitoring,
- capacity building of local common interest groups, local development committees, development of government capacity in providing advice and oversight, and existing administrative and organizational structures to manage activities, as well as acquisition of land use rights and the capacity development in community mobilization and decision making
- strengthening of local technical capacity through training, improvement of farming technologies, providing of improved economic infrastructure to stimulate

- production, marketing and trading, strengthening the capacity of local Research Center for seeds and seedlings improvement
- greater support for development and capacity building for more remote communities, preserving environmental conditions and conservation measures to ensure sustainable livelihood to the local population, etc.,
- are well thought over and developed.

Innovativeness of the project.

I did not find any peculiar innovations in the project concerning environmental facilities. Nevertheless, the project proposes to find new approaches in the management of degraded mountain regions in arid and semi-arid conditions that hope to be used in similar regions in other countries.

On the other hand, the suggested mechanism of disbursement in the conditions of weak developed banking system can be consider as innovation for the application in the countries with transition economy.

Other comments and questions:

A number of acronyms are missed in the list of them. A few of them are not defined completely: PIU or PCU? Implementation or coordination unit? What is correct?

Annex 4, part "Zarafshan Valley.Land use", 1 Para.

Milk is not a crop. Dark gray sierozem soils are not "desert soils". They are specific loss soils on the hills

Questions to the annex 6

- How many PIUs will be organized? Four or two? The organizational diagram describes 4 and the text – only 2 of them. I think 4 are better because although some districts are close to the capital, somebody must work “in the field”.

Questions to the organizational diagram:

- What do different arrows mean? Management, subordination, transfer of the information?
- Lateral contacts are not anticipated.
- Where are VDC, which are mentioned in the text?

Prof. German S. Kust. Deputy Director.
Institute of Soil Science of Moscow State University
and Russian Academy of Sciences



Bank's response to STAP Reviewer

#	STAP reviewer comments	Responses
<i>A. Key issues</i>		
1.	As the project is oriented on the experience and knowledge of local communities, the scientific soundness of the prospective activities at this level is weak. <i>(page 2, bullet 1, first sentence)</i>	Communities will be supported by facilitators (NGOs) to prepare technically viable and environmentally sound project proposals. They will also be receiving guidance and support from the government line ministries and scientific institutions that are expected to comment on each proposed project. This mechanism will ensure that the technical (scientific) aspects are given adequate attention and longer-term sustainability of the investments is assured.
2.	Although project contains the mentioning of the "improvements in the productivity of field and horticultural crops... through adoption of advanced technologies developed by CGIAR/TARS", but the mechanisms of their adoption as well as environmental soundness are not clear. <i>(Page 2, bullet 1, last sentence)</i>	The CGIAR is an international agricultural research body that has vast experience in researching and promoting environmentally sustainable cropping and farming practices with a half dozen research centers spread across the globe covering most agro-climatic and environmental variations. CGIAR's most recent emphasis under its CAC program has been in developing sustainable agro-practices in dry areas with a focus on minimization of biomass loss and maintenance of landscapes and preservation of local species and varieties. Dissemination of the new technologies will be undertaken by training of participating farmers, the adoption of demonstration parcels. Dissemination will be tied into the RIAS (Rural Information and Advisory System that has been established under the FPSP. The mechanisms of environmental assessment are stipulated in two special papers, attached to the project documents: (a) Environmental Management Framework; and (b) Pest Management Plan.
3.	Scientific soundness of the project could be strengthened if its text (or annex) contain the description of the natural and social mechanisms which help to reduce the impact on the environment. <i>(Page 2, bullet 2)</i>	The project Environmental Management Framework identifies the likely activities to be financed within the project, and specifies simple mitigation and monitoring measures to be applied for each type of anticipated activity. Temporary minor impact (dust, minor soil loss) can be expected from planting activities, building construction and other works, and where such works are contracted this will be addressed through standard contractual guidelines. Care will be taken to preserve indigenous crop and livestock varieties. Since some of the potential agricultural investments will involve pest management a special Pest Management Plan was prepared that contain sustainable pest control strategies and skills.
4.	The special targeted efforts made on conservation and protection issues are poorly described in the project, although there are pointed in the GEF alternative. <i>(Page 3, first Para)</i>	Since this is a CDD project, at the initial project implementation stage local communities will prepare their own Action Plans, describing all activities, including conservation measures that will be reviewed on environmental soundness and technical feasibility. The project facilitators will support communities in developing adequate activities in this regard.

#	STAP reviewer comments	Responses
5.	<p>The proposed role of regional NGOs in the project is very high, but the capacities of NGO community in Tajikistan are not described. What are their positive and negative experiences? Are they ready to play the provided role? (Page 4, second para)</p>	<p>The selection of participating NGOs will be based on a set of demonstrated technical qualifications and capacity criteria. In our view, at the very least in the early stages, it is quite likely that facilitators will be mostly in international NGOs that have already the required experience and proven mechanisms in working with communities and access to the necessary technical know-how. Qualifying criteria have been developed that will be part of the operational manual for this project.</p>
6.	<p>It is necessary to enlarge the sustainability analysis, taking into account all possible negative alternatives, including the negative results of the WB “Water and Environmental Management in the Aral Sea Basin” project. (Page 4, forth Para)</p>	<p>The sustainability analysis is build upon the experience (both positive and negative) gained under several project in the country and in the region(see P. B. 5 of the PAD), including mentioned project. In this regard among proposed risk mitigation measures are the following: (a) timely and appropriate information dissemination and training; (b) early on community all other interested stakeholders involvement.</p>
7.	<p>There is no coherent national water strategy” (may cause the risk of unsustainable water management at the local level in future). Can the project build capacities for preparing of a such strategy? (Page 4, fifth Para, point 1)</p>	<p>Tajikistan already has a national water strategy, which was developed with the support of the GEF financed Water and Environmental Management Project for Central Asia. The Bank financed Farm Privatization Support Project is now providing support for the development of a national water code that will encompass all aspects of water use, its extraction, and release back into the system. In addition to complementing these efforts, the project is consistent with the Aral Sea Basin Program, which identified upper watershed management as a priority for its second phase. However, it is important to keep potential impacts in perspective. The Tajikistan retains only about 8-10% of the water that falls/melts/flows within its territorial boundaries. The rest flows into the Syr Darya in the north and the Amudarya in the south, where the water is consumed by the much larger and thirstier agricultures in Uzbekistan, Kazakhstan, reducing these two rivers to a trickle when reaching the Aral Sea. While having a coherent water strategy is important, the net benefit of Tajikistan’s water strategy for the recharging of the Aral Sea can almost be considered negligible, especially in the current and foreseeable socio-economic context. With increasing prices of water, and the energy necessary to pump it (the government’s strategy), the abuses of water as they were practiced under the old system are likely to die out by themselves</p>

#	STAP reviewer comments	Responses
8.	<p>What are the governmental obligations and insurance arrangements on this issue(decentralize government services, and increase the capacity of local communities to take an active role in local development) (?) Is it possible to include them in the project agreement? How project will "reduce inappropriate and ineffective government interventions"?) (Page 4, fifth Para, point 2)</p>	<p>The management of financial resource will take place between the PMU and the communities exclusively. No money will flow through the government administration, precisely for the reasons mentioned here. However, while government will not be directly be handling the money, line ministries will be involved through consultation, and will benefit from some capacity building through TA and some minimal goods to help officers better perform their services. To a large extent the project will help local government and line ministries to develop a customer service attitude responsive to the local population yet representing national government policy. The clearing system at various levels (JDC, WDC, SSC) is expected to help resolve problems of inappropriate holding back of proposals by public officials and ensure that proposals adhere to national policy.</p>
9.	<p>It is not clear from the project text that the scheme of financing is clarified and local communities and NGOs have possibilities to control disbursements. (Page 5, point 3)</p>	<p>As indicated above, the communities will be expect to open their own project accounts where project money will be deposited in accordance with schedules and milestones submitted along with proposals. Communities will receive payments in tranches paid out against performance milestones.</p>
10.	<p>The suggestion to organize the "micro-grant" system limited by 200-250 US dollars per family looks very attractive as it helps to plan expenditures, but it is not clear if this sum is a real money for distribution among participating families or it will be a kind of voucher which can be used only for community activities. (Page 5, point 4)</p>	<p>This is an average sum that the project expects to disburse by household. The mechanism is not the same for each activity. For productivity improvements such as small scale processing a maximum up to this threshold may be provided to an individual family. In the case of natural resources management and introduction of new cropping models, the project foresees that at least 9 families would have to agree to work together to reach a critical mass before they can jointly apply make a proposal. This is meant in particular in the case of contour planting, orchards, and in the case of pasture land management.</p>
11.	<p>Propositions : (a) to create the Internet based Information and Analytical Centre under PMU, which should gather and represent all the information about project implementation in available form and be responsible for the dissemination of the project results. After finalization of the project such centre can support governmental and community structures on the follow-up issues; (b) to establish the position of independent and internationally selected General Consultant who can be responsible for the M&E plans and consultation on the minimizing of risks during project implementation. (Page 5, point 5)</p>	<p>This could be envisaged. At present under two previous World Bank projects, an information dissemination unit (RIAS) has been developed. It may be possible to expand this unit, that currently mostly focuses on agricultural productivity improvement to include sustainable mountain range land management, including species preservation and developing an understanding of the value of biodiversity among the local population.</p>

#	STAP reviewer comments	Responses
<i>B. Secondary issues</i>		
12.	The role of the governments (state and local) is not clear enough. The project states that their role will be reduced to the end of the project but I am not sure this to be attainable. <i>(Page 6, second para)</i>	The project aims to work with JDCs that are elected registered bodies the local government level. The WDCs and SSC are bodies that will be established for the duration of project. The purpose of these bodies is the project clearance process, and to a large extend, and to get ownership by the various government authorities in the project concept. They are co-terminus with the project. Once the project ends the line ministries, who will have received TA during the course of the project, will take on their regular role in providing guidance, supervising and reporting on local activities.
<i>C. Other comments and questions</i>		
13.	A number of acronyms are missed in the list of them. A few of them are not defined completely: PIU or PCU? Implementation or coordination unit? What is correct? <i>(Page 7, first Para)</i>	They should be all PCUs, there is some inconsistency in our text that we are in the process of correcting.
14.	Annex 4, part "Zarafshan Valley.Land use", 1 Para. Milk is not a crop. Dark gray sierozem soils are not "desert soils". They are specific loss soils on the hills <i>(Page 7)</i>	As above – will revise!!!
15.	Questions to the annex 6 How many PIUs will be organized? Four or two? The organizational diagram describes 4 and the text – only 2 of them. I think 4 is better because although some districts are close to the capital, somebody must work “in the field”. <i>(Page 7)</i>	There will be one PCU in each watershed to serve as secretariat to the WDCs and help with general project coordination. This in part explains the relatively high project management costs of this project.
16.	Questions to the organizational diagram: What do different arrows mean? Management, subordination, transfer of the information? Lateral contacts are not anticipated; Where are VDC, which are mentioned in the text? <i>(Page 7)</i>	Arrows represent flow of information There will not be many lateral contacts across watershed unless a specific issue would require it. The watershed as the name suggests is the geographic limitation of project activities. JDCs were bodies organized with the assistance of a UN program, the Aga Khan Foundation that is another major donor in this country has organized similar bodies but calls them Village Development Committees – for our intents and purposes they are the same.

Annex 4: Detailed Project Description

TAJKISTAN: COMMUNITY AGRICULTURE AND WATERSHED MANAGEMENT PROJECT

Overview

The proposed project areas in the Surkhob, Vanj, Zarafshan, and Toirsu river valleys are located in various parts of the country. These watershed areas suffer from a number of constraints at the bio-physical level, mostly related to climatic variations, soil erosion and poor water quality. In addition, there is no concerted effort to manage the natural resources in the areas. Each watershed encompasses a number of administrative districts or raions and a number of jamoats, the smallest administrative unit in Tajikistan consisting of a cluster of villages. The total rural population of the project area is an estimated 550 thousand people comprising little short of Ninety three thousand households. This implies an average household size of nearly 6.2. The population, number of households, administrative units and types of farms for each area are presented in Table 1.

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

<i>River basin</i>	<i>Raion</i>	<i>No of jamoats</i>	<i>No of villages</i>	<i>Rural population ('000)</i>	<i>No of rural households</i>	<i>No of dekhan and cooperative farms</i>	<i>No of kolkhozes and sovkhazes</i>
Surkhob Valley	Darband (30%)	2	26	16.0	2,133	11	5
	Jirgital	9	49	51.6	10,072	143	12
	Rasht	12	117	80.6	12,515	263	4
	Tajikibad	4	43	32.0	5,107	197	11
Vanj Valley	Vanj	6	57	28.3	28.55	19	2
Zarafshan Valley	Aini	8	62	77.4	15,411	31	3
	Matcha	2	30	12.0	2,628	14	12
	Pendjikent	14	134	170.3	34,048	59	13
Toirsu Valley	Danghara	8	75	81.7	11,059	120	10
Total	9	64	593	549.9	93,002	857	72

Number of households for Vanj Valley have been estimated using regional family size averages

The project has sufficient financing to cover 47 of the 64 jamoats in these watersheds, and would expand to the remaining jamoats if additional financing from other donors becomes available, as anticipated, after project inception. Project activities and funding would be distributed relatively evenly within the 47 jamoats, and directly benefit at least half their population.

Table 2: Administrative Units, Population, Number of Households and Types of Farms to be Covered by the Project, Based on Financing Available at Project Inception

River basin	Raion	No of jamoats	No of villages	Rural population ('000)	No of rural households	No of dekhan and cooperative farms	No of kolkhozes and sovkhoses
Surkhob Valley	Darband (30%)	2	26	16	2,133	11	5
	Jirgital	9	49	51.6	10,072	143	12
	Rasht	4	42	10.2	1,596	263	4
	Tajikibad	4	43	32	5,107	197	11
Vanj Valley	Vanj	4	42	21.6	18.95	19	2
Zarafshan Valley	Aini	6	38	58.5	11,647	31	3
	Matcha	2	30	12	2,628	14	12
	Pendjikent	10	82	104.8	20,990	59	13
Toirsu Valley	Danghara	6	52	56.7	7,676	120	10
Total	9	47	404	363.4	61,868	857	72

Number of households for Vanj Valley have been estimated using regional family size averages

Physical Characteristics

Surkhob Valley

The Surkhob valley is located about 200 km East-Northeast of Dushanbe, covering the Raions of Rasht, Tajikabad, Jirgital as well as approximately 30% of Darband. The Surkhob river, running through the valley, runs up the central portion of Tajikistan's territory bound by mountain ranges to the west, east and north, but open to the south, through which warm and wet winds blow into valley. As it flows southwards, the Surkhob River becomes the Vakhsh river, feeding several large reservoirs along its trajectory.

Seven main tributaries comprise the Surkhob valley. The Kizilsou and Moukou tributaries on the east side are the longest rivers (254 km and 88 km, respectively) occupying the largest area (8 380 km² and 7 070 km², respectively) of the Surkhob valley (see Table 3). The eastern tributaries empty into the valley at an elevation of 1 835 m and have average slopes of 8-10%, while the western tributaries empty into the valley at elevations of 1 242-1 246 m and have average slopes of 29-51%. The 30 km long Yasman River has an average slope of 60%.

Temperatures in the valley range from 20°C-28°C in July, to about -12°C in January. Precipitation ranges from 400-800 mm/year for most of the valley and estimated annual runoff ranges from 15-50 l/sec/km². The main sources of water for all the tributaries originates from snowmelt, glacier melt and rainfall runoff.

Table 3: Main characteristics of the Surkhob Valley tributaries

Characteristics	Tributaries							
	Kizilsou	Moukou	Koksou	Yarkhich	Yasman	Sorbog	Sangikor	Total
Length (km)	254	88	11	48	30	81	42	554
Basin Area (km ²)	8380	7070	1290	1170	208	1780	291	20189
Altitude (m):								
Headwaters	3800	2714	1823	3309	3400	3580	3400	
End	1835	1835	1705	1570	1568	1246	1242	
Sediment Runoff (t/km ² /year)	380	2200	600-800	600-800	600-800	600-800	600-800	380-2200
Precipitation (mm)	200-400	400-800	200-400	400-800	400-800	400-800	400-800	200-400
Air Temp (°C):								
July	20-28	20-28	20-28	20-28	20-28	20-28	20-28	20-28
January	-8 to -12	-12 to -16	-12 to -16	-12 to -16	-12 to -16	-12 to -16	-12 to -16	-12 to -16
Runoff (l/sec/km ²)	20-25	20-30	15-35	15-35	15-35	40-50	40-50	15-50
Hydropower Capacity (1000 kW)	244						550	

Source: Data compiled by Project Management Unit, Farm Privatization Support Project

Land Use. A summary of the general land use for each of the four Raions in the Surkhob valley is provided in Table 4. Pasture land is predominant covering 86% of the land area. There is approximately 17 980 ha of irrigated land in all four Raions and arable lands make up 9% (17 155 ha) of the land area. Much of the local agriculture has shrunk down to subsistence levels, formerly a significant livestock producing area, much of the livestock has disappeared during the civil war and flocks/herds remain depleted.

Table 4: Land use (ha) in the Surkhob Valley

Area, ha	Raion				Total	% Ag Land	% Total Land
	Darband	Jirgatal	Rasht	Tajikabad			
Total Agricultural Land	14064	101390	65015	21231	201700		10%
Irrigated Area	810	7794	6169	3207	17980	9%	1%
Arable Land Area	1200	6189	6139	3627	17155	9%	1%
Irrigated Arable Land Area	400	4831	3464	2247	10942	5%	1%
Perennial Plantations	220	346	1324	437	2327	1%	0%
Pastures	12500	93596	50392	17044	173532	86%	9%

Source: Data compiled by Project Management Unit, Farm Privatization Support Project (some data discrepancies may be present).

Bio-diversity in this watershed is very rich by its visible composition. *Vegetation* is fairly mixed and diverse. This is a habitat of about 1,2 thousand species of high plants of which

more than 80 species are rare edemic types making 40% of species registered in the Red Book including ostrovskaya velichestvennaya, honeysuckle, the Persian bunium, iskandera gissarskaya and the Darvazzsky iris.

A number of vegetation zones are distinguished due to miscellaneous altitude and presence of hemorphologic areas.. There are fourteen types of vegetation categories in Tajikistan such as white forests, xerophilous forests, black forests, timmaynnik, chalnik, meadows, semi-savannoids, steppes, deciduous trees, archa-trees and others. The most common vegetation species are wild forage species, fruit and medicinal plants.

Up to the altitude of 2000 meters the most common types are wood and bush species with dominating deciduous species. The most frequent species are maple, wild almond tree, willow-tree, birch-tree and poplar. Along the valleys and river terraces the most common trees are walnut trees, cherry-plum trees, apple-trees, pear-trees and hawthorn; grape-trees, cherry-trees and sweet cherry trees are less common. As for bush species, the most common are dog-rose and barberry. Above 2700 meters the dominating species is the archa tree.

Alluvial valleys are occupied by rare mulberry trees (oleaster, trebenshin, sea-buckthorn). Grasses are represented by cynodon, orach and veynik. Sow-thistle formation is well developed here which is represented by nostrovo-osochkovaya association. Walnut trees are cultivated in the middle mountain valleys. Small-leaved eco-systems are also frequent (birch-trees, poplar-trees and sea-buckthorn trees).

The Sukhob valley is home to most fauna species of Central Tajikistan – about 5 thousand species. The Red Book species are ring-dove, kustarnitsa, Venus’ flytrap, belonozhka, blue bird, porcupine and others.

Table 5. Biodiversity of the Surkhob Valley

Rare and endangered species	Genetic resources
1. Dough eagle	1. Walnut
2. Tien Shan sparrow-hawk	2. Plum tree
3. Redheaded peregrine	3. Nut sogdiysky
4. Middle-Asia otter	4. The anzyrsky wild leek
5. Kadan	5. Sievers apple-tree
6. Weasel	6. Barberry
7. Snow leopard	
8. The Siberian wild goat	

Vanj Valley of Gorno-Bodakshan

The Vanj and Yazgulem are the main two rivers in Vanj Raion, located about 300 km Southeast of Dushanbe. The Vanj river valleys that will be covered under this project is some 103 kilometers long and encompasses a catchment area of some 2070 km². Flowing on a Southwesterly course, the Vanj merges with the Pyandzh river flowing South, towards the Afghani border. Further West, along the Afghani border, the Pyandzh river merges with the Vakhsh river (with its headwaters located in the Surkhob valley) to become the Amudarya river. The average annual water discharge from the Vanj River is about 51.1 m³/sec, while the rate of runoff of suspended silt is estimated to be 5 g/sec/km². Around 88% of the annual runoff occurs between the end of February and end of June, mostly from snowmelt and rainfall.

Table 6: Main characteristics of the Vanj Valley tributaries

<i>Characteristics</i>	<i>Vanj</i>
Length (km)	103
Basin Area (km ²)	2070
Altitude (m):	1790
Sediment Runoff (t/km ² /year)	N/A
Precipitation (mm)	316
Air Temp (°C): July	22.8
January	-7.9
Runoff (l/sec/km ²)	30-40
Hydropower Capacity (1000 kW)	36* atTekharv

The Vanj area is characterized by a continental climate with a sunny summer and a moderate winter, with temperatures ranging from -7.9 in January, to 19 to 22°C during the hottest months (June-August) (see Table 7). The mean annual precipitation averages 300-500 mm, most of which occurs in winter and spring, and only 5% during June-October. The average wind speed is relatively constant throughout the year, at about 2.3 m/sec, except for the month of June, when wind speeds can reach up to 2.6 m/sec.

Table 7: Monthly climatic data for Vanj Raion

<i>Month</i>	<i>Temperature (Celsius)</i>	<i>Sunshine (hrs/day)</i>	<i>Wind speed (m/sec)</i>	<i>Rainfall (mm)</i>	<i>Humidity (%)</i>
January	-7.8	9.3	1.6	11	70
February	-5.8	101	1.8	15	68
March	0.8	144	2.6	34	62
April	9.2	168	2.7	57	50
May	14.9	218	2.3	56	43
June	19.0	266	2.6	41	40
July	22.8	299	2.8	28	38
August	22.6	282	2.8	14	30
September	18.3	244	2.4	9	29
October	10.9	188	2.0	23	38
November	3.4	119	1.9	16	50
December	-3.8	95	1.8	12	62
Annual	8.7	2217	2.3	316	48.3

Source: Statistics of Chorog

The low lands of the Vanj valley are moderately sloping changing gradually into relatively steep, to very steep, mountain flanks. The valley bottom offers the possibility to cultivate grains, orchards, vegetables and fodder, sloping moderately to rolling foothills with mainly pasture, intersected by adjacent narrow valleys with steep, to very steep, mountain flanks. The lowland soils are predominately dark sierozems with instances of meadow sierozems, while mountain brown soils are prevalent in the highland patches.

Land Use. The total land area of Vanj Raion is 443047 ha of which 50284 ha is forest and shrubs and bush, and around 10053 ha is agricultural land. The remainder is wilderness areas. Of the agricultural land, about 7465 ha or 1.7% is pasture land, while 0.4 % is rainfed arable land and 0.6 % is irrigated land (see Table 8). The main crops grown are cereal, grapes, walnuts, almonds, apples, pears, plums, potatoes, melons,

pumpkin, and vegetables like eggplant, beans, cabbage and carrots. Since independence agriculture in the area has reverted to mostly subsistence and very little agricultural products are exported to the capital. The area used to be a significant producer of orchard fruit, but ever since independence the necessary maintenance reinvestments have not been made leading to declining productivity.

Table 8: Land Use (ha) in the Vanj Raions of GBO

Items	Area in Ha	% of total land area	% of agric. land
Total Agricultural Land	10053	2.3	100.00
Pastures	7465	1.7	73.62
Irrigated Area	2662	0.6	26.48
- Irrigated Field Crop Area	- 1717	- 0.4	- 17.08
- Irrigated Orchards & Plantations	- 637	- 0.1	- 6.33

Source: "Land Fund of the Republik of Tajikistan. Situation 1.01.2002."Materials of Land Registration Committee"

Bio-diversity of the water catchment is very rich in terms of species. This is a habitat of one thousand seven hundred flowers including more than hundred and twenty rare endemic species representing more than 50% of species registered in the Red Book. The sizeable proportion of the Bafakshan fauna (more than 4000 species) can be found in this area.

Vegetation is fairly diverse and is distributed by zones depending on the altitude. Eastern regions and upper river zones are generally characterized with alpine meadows; the mountainsides are covered with typical plants such as teresken, tipchak pamirsky, tipchak alaysky, kovyl badakhshansky; groupings of teresken and solyanka are also present. The areas lower to the alpine meadow are covered with archa-trees, birch-trees, dog-roses, tall sea-buckthorn, barberry and etc. Along the river, at the bottom of the valley, local villagers have planted apricot trees, apple-trees, pea-trees and mulberry-trees.

Fauna in the Vandjob river basin is characterized by Red Book mammals such as arkhar, Tien Shan brown bear, snow leopard, Siberian wild goat, Indian crested porcupine, certain species of rodents which have global importance for sustaining a balance.

Table 9: Biodiversity of the Vanj Valley

Rare and endangered species	Genetic resources
1. Dough eagle	1. Walnut
2. Tien Shan sparrow-hawk	2. Plum
3. Red-headed peregrine	3. Pea
4. Middle Asian otter	4. The anzyrsky wild leek
5. Kadan	5. Sievers apple-tree
6. Weasel	6. Cherry бородавчатая
7. Snow leopard	7. Blackberry
8. Marco Polo wild sheep	8. Black-currant
9. The Siberian wild goat	

Zarafshan Valley

The Zarafshan valley is located between the Northern Turkestan Ridge and the southern Hissar Ridge and covers three Raions: Pendjikent, Aini and mountainous Matcha. Yearly rainfall averages 200-350 mm, while the average annual river basin flow is 18-30

l/sec/km². Salinity levels in the water are low between 0.2-0.3 g/l, and the main water sources originate from snow and glacier melts.

Table 10: Main characteristics of the Zarafshan Valley tributaries

Characteristics	Tributary						
	Iskandar-darya	Yagnob	Fondarya	Matcha	Kishtut-darya	Magiyan-darya	Total
Length (km)	21	120	25	200	53	67	486
Basin Area (km ²)	974	1650	3230	4650	863	1100	12467
Altitude (m):							
Headwaters:	2500	4000	2000	4000	3000	3500	
End	2000	2500	1500	1500	1250	1000	
Slope (%)	3.3	1.7	2.04	1.25	5.05	3.76	
Sediment Runoff (t/km ² /year)	40-80	80-100	420	400-500	80-100	120	
Suspended Sediments (grams/l)	0.26	0.26	0.26	0.8-1.2	0.41	0.41	
Precipitation (mm/year)	400-800	161-500	161-500	161-500	200-400	200-400	
Air Temp. °C							
July	14-18	14-18	16-20	16-20	20-24	20-24	14-24
January	-8 to -12	-13 to -18	-4 to -8	-4 to -8	0 to -4	0 to -4	-12 to 0
Runoff (l/sec/km ²)	30-40	30-40	10-20	15-25	10-20	10-20	

Source: Data compiled by Project Management Unit, Farm Privatization Support Project (some data discrepancies may be present).

Land Use. The Zarafshan valley may be divided into three agro-ecological regions:

- *Arid Foothills* – include lands within 660-1750 m elevation, which can be used for gardening and vineyards. The valley is characterized by high temperatures, abundant sunlight and mild winters. Farmers in this region specialise in the cultivation of crops such as tobacco, cereals, potatoes, vegetables, fruits, grapes, milk, and silkworm cocoons. The soils in the lower valley are dark gray sierozems (desert soils) while meadow-sierozem soils are distributed on the valley's terraces. About 72% of this area is subject to water and wind erosion.
- *Mid-Altitude Mountains* – includes lands within 1700-2900 m elevation with a wide rainfall range (161-500 mm/yr). It is mainly used for pastures, limited coniferous forests, and has some irrigation-field husbandry. Temperatures and sunshine will allow grain crops and peas to grow at an elevation of up to 2900-3 000 m. The soils are light brown to brown mountainous soils with 92% of the area subject to erosion.
- *High-Altitude Mountains* – includes lands at an elevation of above 2900 m, used mainly as summer pasture. Annual precipitation is 400-800 mm. The soils are steppe sub-alpine and alpine and include fragments of meadow, marshy meadow and peat bog.

A summary of the general land use for each of the three raions in the Zarafshan valley is provided in Table 11. Pasture land is predominant covering 86% of the land area. There are approximately 28000 ha of irrigated land in all three Raions, consuming about 400

million m³/year of water. Irrigated lands and rainfed arable lands make up 7.9% and 6.3% of the land area, respectively.

Table 11: Land Use (ha) in the Raions of Zarafshan Valley

Area, ha	Raion			Total	% Ag Land	% Total Land
	Pendjikent	Aini	Matcha			
Total Agricultural Land	153948	91329	88340	333617	1005	27%
Irrigated Area	20575	4314	3299	28188	8%	2%
Arable Land Area	17664	2853	2021	22538	7%	2%
Irrigated Arable Land Area	11459	2808	2008	16275	5%	1%
Irrigated Perennial Plantations	4781	634	437	5852	2%	0%
Pastures	129159	87782	88617	305558	92%	25%

Source: Data compiled by Project Management Unit, Farm Privatization Support Project

Bio-diversity of the watershed is rich in composition and structure. It is home to some two thousand five hundred species of high plants and about six thousand species of animals.

Vegetation is fairly mixed and diverse. Up to the altitude of 2000 meters the most common types are wood and bush species dominated by hardwood trees. The most frequent species are maple-tree, wild almond tree, willow-tree, birch-tree and poplar. Along the valleys and river terraces the most common trees are walnut trees, cherry-plum tress, apple-trees, pear-trees and hawthorn; man planted grape-trees, cherry-trees and sweet cherry trees are less common. As for bush species, the most common are dog-rose and barberry. Archa is widely found in the area above 2700 m . The most common vegetation species are wild grasses, fruits and medicinal plants.

Table 12. Biodiversity of the Zarafshan Valley

Rare and endangered species	Genetic resources	The Red Book plants
1. The Zeravshansky pheasant	1. Walnut	1. The Persian binium
2. Tien Shan sparrow-hawk	2. The Persian binium	2. The Rozenbakh wild leek
3. Redheaded peregrine	3. The Rozenbakh wild leek	3. The Gissarsky rhubarb
4. Black stork	4. The Gissarsky rhubarb	4. The Vavilov almond
5. Bearded partridge	5. The Vavilov almond	5. The Kayon pear
6. Weasel	6. Nut zeravshansky	
7. Snow leopard	7. The Kayon pear	
8. The Indian porcupine	8. Black currants	
9. The Siberian wild goat	9. Altai mountain sheep argali	
10. Urial (<i>Ovis orientalis</i>)		
11. Yellow ground squirrel		

Toirsu Valley

The Toirsu River is the main river in Danghara Raion, located about 100 km South-East of Dushanbe. The Toirsu River is 118 km long and encompasses a catchment area of 1860 km². It merges with the Kzilsu River to the south, eventually becoming the

Pyandzh River on the Tajikistan-Afghanistan border. Further west along the Afghan-Tajik border, the Pyandzh River merges with the Vakhsh river (with its headwaters located in the Surkhob valley) to become the Amudarya river. The average annual water discharge from the Toirsu River is about 1.09 m³/sec, while the rate of runoff of suspended silt is estimated to be 80-120 g/sec/km². Around 60-80% of the annual runoff occurs from the end of February to the end of June, mostly from snowmelt and rainfall. Mudflows are prevalent in the spring months.

The Danghara area is characterized by a dry continental climate with a sunny summer and a moderate winter, and with temperatures ranging from 0°C in January, to 25°C-29°C during the hottest months. The mean annual precipitation averages 569 mm, most of which (87%) occurs in winter and spring, and only 5% during June-October. The average wind speed is relatively constant throughout the year, at about 1.0-1.7 m/sec, except for the month of June, when wind speeds can reach up to 21 m/sec. Strong dust storms can be expected from June through October, lasting up to five or more days, after which it can take another 10 days for the dust to settle.

Table 13: Monthly climatic data for Danghara

<i>Monthly Averages</i>	<i>Temperature (Celsius)</i>	<i>Sunshine (hrs/day)</i>	<i>Wind speed (m/sec)</i>	<i>Rainfall (mm)</i>	<i>Humidity (%)</i>
January	-0.3	3.3	1.2	75	76
February	3.5	4.1	1.6	81	73
March	9.2	4.8	1.7	121	73
April	14.9	7.3	1.4	96	72
May	20.0	9.2	1.3	60	67
June	25.4	11.2	1.4	12	40
July	28.7	11.9	1.2	1	28
August	27.3	11.0	1.2	0	28
September	21.6	9.8	1.1	1	32
October	14.8	7.5	1.0	16	46
November	8.4	5.3	1.0	44	65
December	3.5	3.5	1.3	62	77
Annual	14.75	7.4	1.28	569	56.416

Source: Danghara Valley Irrigation Project – Tajikistan: Final Report (June 2000)

The bottomlands of the Danghara valley are relatively flat, but grade into moderately sloping arable lands with grains and pasture, then to moderate and steeply rolling foothills with mainly pasture, adjacent to the steep mountainous valley walls. Top-soil is diverse and is distributed according to the various mountainous zones. The prevailing soil types in the valleys and foothill zones are sierozems (light and standard, sometimes with low salinity). The most common soil types in river flood plains are alluvial-meadow and meadow-boggy soils with different degree of salinity. Dark sierozems prevail in the upper part of mountains.

Land Use. The total land area of Danghara Raion is 198 610 ha of which 3 778 ha is forest, 17 226 ha consist of shrubs and bush, and around 146 390 ha is agricultural land. The remainder are wilderness areas. Of the agricultural land, about 107 000 ha (73%) is pasture land, while 18% is rainfed arable land and 5% is irrigated land (see Table 14).

Table 14: Agriculture Land Use (ha) in Danghara Raion

Land Category	Irrigated	Rainfed	Total	% Ag land	% Total Land
Arable	6560	26263	32823	22%	17%
Orchards and Vineyards	520	2469	2989	2%	2%
Abandoned Land	5	144	149	0%	0%
Forage for Hay		3538	3538	2%	2%
Pastures		106889	106889	73%	54%
Total Agricultural Land	7085	139303	146388	100%	74%

Source: *Hukumat* administration, Danghara Raion.

Bio-diversity of the watershed is very rich in terms of species, it is home to one thousand eight hundred high plants and about three and a half thousand animals.

Vegetation in this area is quite even with low-herb semi-savannoids (fowl-grass and sow-thistle) and xerophilous forests (pistachio trees) are located in the foothill zone; some fragments of archa-woods remain in the higher areas of the mountains. The vegetation has been affected by anthropogenic pressure. Hawthorn pontiysky, pistachios, rosarium groupings are common in the valleys. About 20 species registered in the Red Book can be found in this area.

Fauna in this area is rich with insects, birds, reptiles and small mammals due to its relatively warm and dry climate. Numerous xerophytic and mezophyte animals can be found making a total of 3000 species. There are about 120 species of birds and 25 species of mammals. The Red Book species are bryzgun sphinx, gissarsky grape brazhnik, Eastern small boa, Central Asian cobra and others.

Table 15. Biodiversity of the Toirsu Valley

Rare and endangered species	Genetic resources	Red Book plants
1. Keklik	1. Hawthorn pontiysky	1. The Rozenbakh wild leek
2. Borodach	2. Real pistachio	
3. Redheaded peregrine	3. Barley lukovichny	
4. Desert partridge	4. Pherula kukhistanskaya	
5. Kustarnitsa	5. Rea (nut)	
6. Indian porcupine	6. The Rozenbakh wild leek	
7. Golden eagle	7. Almond bukharsky	
8. Urial (<i>Ovis orientalis</i>)	8. Thick-stalked vetch	
9. Central Asian Cobra		
10. Eastern Small Boa		

Current land use and degradation related issues in the four watersheds:

Tajikistan's mountains are relatively recent geological formations. The soil structures are generally loose and highly prone to erosion which is reflected by deep gullies throughout the hill and mountain sides in the areas. Recent surveys of soils, pastures, forests and biodiversity suggest that the lands in the selected watersheds are affected by all types of erosion to a various degree.

Under the Soviet Union, some attempts had been made to protect crucial infrastructure such as roads by afforesting a number of hillsides with fast growing tree species and

bushes. In the mid-altitude mountains there are some natural forests remaining, but just as with the planted areas, these small forests have been largely depleted by illegal cutting following the collapse the civil war and the former subsidy system. Firewood has become an extremely important commodity in mountain areas to replace the former seasonal coal quotas that had been provided to each household for heating and cooking. To some extent electricity has filled this gap, but in winter, electricity production is scarce due to the need to recharge dam reservoirs for the summer irrigation season.

The consequence of this deforestation has been a loss of top-soil through landslides and mudflows especially in the spring when the soils defrost and with abundant rains. The loss of top soil is dramatic since the denuded areas lose most vegetative cover and their use, even for pasture, is lost. In addition, the soils that erode away contribute to very heavy siltation of the stream and rivers, filling river beds and rendering the course of the stream unpredictable. The Surkhob and the Zarafshan rivers in some areas have eroded away significant portions of highly fertile land plateau at the valley bottom displacing farmers to cultivate increasingly on hillsides thus further contributing to the problem. The loss of precious arable river bed land is only one aspect of the problem, further down the valley the heavy silt loads clog up waterways and fill up dams, as well as irrigation structures greatly reducing the life of power generation facilities as well as dramatically increasing the costs of maintaining water management structures such as irrigation canals as well as drinking water systems in Tajikistan but also all the neighboring countries in the Aral Sea basin, that are dependent upon Tajikistan's water for irrigation and drinking purposes.

Another angle that affects land deterioration is the collapse of the former grazing agreements that were signed between the regions in the valleys and the mountains. Under these agreements, livestock was brought by truck from the valleys for summer grazing, and then during the winter the livestock farms in the mountains had access to winter pastures in the valley. With the collapse of the state farms, increased transportation cost due to the shortage of vehicles and deteriorating roads, this exchange does not take place anymore. Most livestock is now held in private hands, by almost all households and grazing has become a haphazard affair that sometimes is organized by the jamoat, sometimes villagers, and often not at all. In spite of smaller livestock numbers, the lack of organized grazing and lack of responsibility for sustaining pasture lands has lead to significant overgrazing in areas around settlements, which is compounding the erosion from hillside cultivation. Unsurprisingly, over the past couple springs there have been devastating mudslides during thunderstorms burying several houses of villagers, destroying roads and cutting off drinking water supply lines and irrigation canals.

Establishing livestock owners associations integrated with effective pasture management of all available pastures will only bring one part of the solution. An important aspect that also needs to be addressed is to tie the responsibility for maintenance of the pastures with its users. In their present unclear ownership situation, where formally the pastures are the ownership of the Jamoat, no reseeding, or fertilizing, or rotation is taking place. Villagers collect the dung mostly for heat, they have little interest in leaving manure for fertilization, or take the pain to go farther away from the village to maintain sustainable grazing patterns, on an asset in which they have little or no stake. The project therefore would provide for the privatization of lands that have been managed in accordance with

an agreed plan by issuing to the members of the livestock association the land with corresponding land certificates and maps of parcels registered with the State Land Committee as undertaken under the Bank's FPSP.

To ensure the sustainability of mountain farming, as well as to ensure efficient and reliable supply of water for irrigation for agriculture in the valleys, it is crucial that land degradation is stopped, erosion through run-offs, landslides, and mud slides, are reduced, and a vegetative cover be maintained on agricultural land in the mountain areas. This is only possible with the introduction of more modern, efficient and sustainable, cultivation, and livestock husbandry models. These will include an intensifying of the use of arable land on the valley floors and foot hills, and a more extensive agriculture in the steep high mountain areas with a diversification of crops and cropping techniques. In addition to providing immediate benefits to the farmers themselves, this will also ensure that the pressure on more sensitive areas is reduced and rarer species affected by the intense cultivation will be able to recover and thrive. In Tajikistan, this link between improving productivity and thus incomes will be the only way for ensuring economic and environmental sustainability in these mountain areas.

An additional important issue is that these valleys of Tajikistan, are some of the richest in the world for basic genetic material for several types of important food and fodder crops such as wheat and grasses and a number of fruit and nut trees. The poor land use practices currently applied in these areas, represent a serious threat to these species. Although governmental institutions and programs exist to maintain and sample this material, they are in great difficulty due to lack of financial resources that were cut along with the rest of the government's budget. Some collaboration has taken place with the CGIAR in this context, but investments are needed to rehabilitate the facilities of these institutions and programs to permit them to fully assume their role as keepers of Tajikistan's genetic plant wealth.

Project Activities

The proposed project will have three components:

Component I: Rural Production Investments. Communities would select from a menu of farm-related income generation, land restoration, and infrastructure activities.

A. Farm Productivity Improvement Activities. Individuals, and groups of farming households will invest in a range of commercially viable productive enterprises of their choice on their lands. Investments may include:

- Improvements in the productivity of field and horticultural crops (fruit and nut trees, vineyard, vegetables, potatoes, wheat, barley), medicinal plants, mulberry for sericulture, etc. through adoption of advanced technologies developed by CGIAR/TARS¹⁰.
- Small scale processing facilities and developing of a distribution mechanism for products such as milk and milk products, fruits, meat, including, grading & packaging of goods, establishing of storage and/or marketing facilities, etc.;

¹⁰ TARS -Tajikistan Agricultural Research System,

- Establishing livestock owners associations to promote improvements in livestock production, organize buying or producing fodder and feed, organizing vaccination campaigns, building of enclosed pens, or fencing of parcels, and introduction of pasture rotation or any other new technology or mechanism that would help facilitate the development of livestock in the area; and
- establishing small scale farm machinery leasing units

B. Land Resource Management: This subcomponent enables local people to adopt more sustainable land use on sloping lands that are currently under jurisdiction of the jamoat. The land resource management subcomponent further addresses livelihood interests and create an incentive for sustainable land management by issuing land use certificate to the land user after three years of good maintenance, on the condition that the improved land use be maintained. Typical investments will be for groups of nine or more households working on adjoining areas and might include:

- Contour planting of trees, especially those with economic value such as walnuts or pistachios to protect rain-fed arable sloping land. Such activities could be coupled with appropriate soil and moisture conservation structures such as mini-terracing using natural hedges and basin and contour drainage channels.
- Establishment of poplar, willow, or other fast growing woodlots for fuel, building materials and windbreaks. This would include introduction of micro-structures and tree planting specifically for soil erosion and gully control.
- Development of pasture lands with improved fodder production capacity for enhanced carrying capacity on a sustainable basis and enhancing the income.

Blended financing from GEF (US\$3.5 m) will almost quadruple the land area covered beyond the level that will be supported by the government on purely national grounds.

C. Rural Infrastructure: Investments to rehabilitate rural infrastructure will be made to community groups. Rural infrastructure investments will be restricted to productive investments that provide immediate benefits and include operations and maintenance financing arrangements. Typical investments may include:

- Provision of safe drinking water by rehabilitating or improving existing drinking water supply systems owned by the community.
- Limited patching and rehabilitation of access and feeder roads to facilitate transport and improve access to markets.
- Community owned mini-hydropower or wind driven power generation, to improve quality of life and enable income generating activities.

Contribution Requirements and Budget Constraints. Beneficiaries have to contribute their own resources in the form of labor, material and cash, for at least 20% of the total value of any type of rural production investment. Investment proposals will be prioritized within formulaic fixed budgets for each subcomponent for each community as a whole. About 50% of the project area residents will participate in at least one type of investment. Each participating household can receive a one-time start up grant of up to \$240) for farm productivity investments, or up to \$200 for land resource management investments. If households want a combination of both farm productivity and land

resource management investments, the combined total of investments per household must not exceed \$200, not counting the local beneficiary contribution. Rural infrastructure investments will not exceed \$50 per benefiting household and will only be made if no alternative funding is available from other donor programs such as NSIFT. Beneficiaries of rural infrastructure investments will have to contribute at least 5% of the total costs in cash at inception. Grants under this component would be disbursed in tranches directly to beneficiaries or groups either through JDC subaccounts or through their own bank account with Amanatbank that has branches in most Jamoats.

Financing. Financing in subsequent years will be provided either through reinvestment of retained earnings, or through credit or revolving funds¹¹. The absence, or underdevelopment, of financial services is a salient problem within the project area, and will threaten the viability of the productive and land management investment. To address this problem, the project will, where appropriate and where there is enough demand, help communities in establishing member owned credit facilities following the Non Bank Financing Organization (NBFO) model already developed under the FPSP project in collaboration with ACDI/VOCA. In some cases, adoption of a NBFO may be able to build upon and help institutionalize JDC revolving funds which already operate on a more informal basis. Establishing member owned credit facilities could take place once a first round of grants has been provided to participating residents and interest groups with the expectation that a portion of the surplus produced through the grant and the project activity would be reinvested by the community to establish an NBFO. These bodies would then help under the project to provide seasonal credit and investments for farm related productivity improvements. There is also the possibility to link up the credit services with the newly registered First Micro-Credit Bank that would begin operations in the second quarter of 2004. This new bank has been sponsored by the Aga Khan Foundation (AKF) in collaboration with IFC and EBRD that provided some initial capital. Depending on how the development of the First Micro Credit Bank progresses, it is envisaged that in certain regions, this new bank could be linked to become the credit provider for the participating NBFOS under the proposed CAWM project.

Component II. Institutional Support and Capacity Building: (US \$ 4.5 million - 16%)

This component ensure that a sustainable institutional and organizational environment is created to ensure that investments are sustainable beyond the project life. Significant investments will be made in training the benefiting communities and local government as well as respective line ministries.

A) Support to Scientific Research for Development and Dissemination. This subcomponent strengthens scientific institutions to help provide necessary technical services including training to communities. It includes strengthening the capacity for seeds and seedlings production improvement, and for improved livestock breeding and animal health and husbandry. Analytical support and training on market and enterprise development will also be provided. Participating agencies include the Tajikistan Agricultural Research System (for research and extension and including preservation of

¹¹ From the newly created Micro-finance Bank of Tajikistan, existing interest bearing revolving funds operated locally with donor support, or newly created member owned revolving funds building on the model developed under the World Bank financed Farm Privatization Support Project (FPSP)

live specimens in collaboration with the Consultative Group For International Agricultural Research's Central Asia and Caucasus unit at Tashkent (CGIAR)). The Farmer's Training Center, Ministry of Agriculture and other Ministries and the State Committees such as Statistical Service, and Land Committee will also be included. Blended financing from GEF (US\$0.25 m) ensures appropriate conservation of indigenous crop varieties.

B) Community Mobilization and Preparation of Investment Plans: (US\$1.6 million)

This subcomponent includes training for Jamoat Development Committees (JDCs) as well as households and common interest groups with support of local facilitators (contracted through experienced local specialists along international NGOs). It also includes support for small initial confidence building investments for each hamlet, plus information and experience sharing. Blended GEF financing (US\$0.2 m) enables additional local information sharing on land management and biodiversity conservation.

Component III. Project Management and Implementation: (US \$2.9 million – 14%)

The project management subcomponent would support the project coordination and administration staff, procurement, disbursement, financial management, reporting, monitoring, and evaluation activities, at the national level and for each of the four project watershed areas. It would build on project administration capacity and arrangements that already exist for ongoing projects. The component would also support the secretariat services to be provided to the national Steering Committee, and support the Watershed Development Committees to enable them to appraise Jamoat proposals for financing from rural communities in a manner consistent with good practice. The component would support the:

- National Project Management Unit
- Project Coordination Units for the four project areas
- Evaluation

Community-Driven Development

The project would follow the concept of community lead 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. Villages would allocate 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 Agha Khan Foundation, Mercy Corps International, German Agro Action and other international NGOs already active in Tajikistan) and JDC representatives. This allocation would be called a community action plan, and may evolve over time. The investments in any one village would take place over a three year period. Specialists from Government line agencies and NGOs would then assist common interest groups in developing feasible and eligible proposals. Guidelines include communications, group process, organizational and administrative arrangements, contribution requirements, budget limits, institutional capacity, social, financial, commercial, technical, and environmental

considerations. After review and approval¹², the project will provide resources directly to the common interest groups (and in the case of farm productivity subprojects, households) undertaking the subprojects. The common interest groups would have ownership of completed installations, and responsibility for their subsequent operation and maintenance. Community involvement needs to be inclusive to minimize the risk of capture by the local elite. This community-based approach will promote multi-sectoral partnerships amongst all agencies working with communities, including line ministries, local government and NGOs. Interventions would be planned and implemented as part of agreements between the implementing household or common interest group undertaking the investment, and the JDC. These agreement would be drawn up through an integrated and consultative process involving beneficiaries and relevant implementing agencies and facilitators. This would include line ministries at *jamoat* level for those interventions that serve more than one community, for example water supply or small hydro-power schemes. However, this would be the choice of the recipient communities to pool their entitlement for project resources, and would not be influenced by the *jamoat* administration.

The basic concept of project design is to facilitate the delivery of appropriate interventions, which respond to the felt needs of poor rural communities in the project area. This requires a participatory approach, aimed at assessing priorities in partnership with communities and NGOs that are active in these areas. For community-led activities, a yearly plan at both the village and the JDC level would provide the basis for receipt agreed interventions, requiring contributions from the beneficiaries. This approach is fundamentally different from many rural development projects, in which community activities respond to demand, without the framework, focus and integration necessitated by an agreed development plan at village level.

The process is expected to assist local government to view government services as something that is driven by local needs, and it will increase the capacity of local communities to take an active role in local development. Ultimately the communities should decide and prioritize the interventions considered appropriate to them, and control the required resources to plan, supervise, and implement them. This concept reduces the role of government line agencies to that of serving farmer interests, rather than controlling resources from a centralized and distant location. This concept is in accord with the Government's policy on decentralization and poverty alleviation.

¹² JDCs could approve subprojects requiring financing of less than US \$500 each up to a cumulative maximum of \$5000 per year, WDCs would approve subprojects requiring financing of less than US \$5,000 each, while the NLSC would approve all other subprojects up to a maximum of US\$ 50,000 each subproject.