



PROJECT EXECUTIVE SUMMARY
GEF COUNCIL SUBMISSION

AGENCY'S PROJECT ID: P078301
GEFSEC PROJECT ID: P087485
COUNTRY: Kazakhstan
PROJECT TITLE: Forest Protection and Reforestation
GEF AGENCY: World Bank
OTHER EXECUTING AGENCY(IES):
DURATION: six years
GEF FOCAL AREA: Land Degradation
GEF OPERATIONAL PROGRAM: Sustainable Land Management (OP15)
GEF STRATEGIC PRIORITY: Sustainable Land Management Targeted Capacity Building (SLM-1)
Pipeline Entry Date: November 2003
ESTIMATED STARTING DATE: January 2006
IA FEE: \$ 450,000

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN: 906,000 hectares of land protected from degradation.

FINANCING PLAN (US\$)	
GEF PROJECT/COMPONENT	
Project	5,000,000
PDF A	0
PDF B	0
PDF C	0
<i>Sub-Total GEF</i>	5,000,000
<i>CO-FINANCING*</i>	
IBRD/IDA/IFC	30,000,000
Government	28,800,000
Bilateral	0
NGOs	0
Others	0
<i>Sub-Total Co-financing:</i>	58,800,000
<i>Total Project Financing:</i>	63,800,000
FINANCING FOR ASSOCIATED ACTIVITIES	
IF ANY:	0
LEVERAGED RESOURCES IF ANY:	
	0

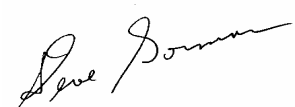
*Details provided under the Financial Modality and Cost Effectiveness section

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT(S):

A. Samakova, Minister, Ministry of Environment

Date: March 15, 2005

Approved on behalf of the World Bank. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion

Steve Gorman 
 GEF Executive Coordinator, The World Bank

Date: March 18, 2005

Project Contact Person:
 Emilia Battaglini, ECA Regional Coordinator
 Tel. and email: (+1-202) 473-3232,
Ebattaglini@worldbank.org

PROJECT SUMMARY

A. Project Rationale, Objectives, Outcomes, Outputs and Activities.

Project rationale

Kazakhstan's forests and rangelands are important. Kazakhstan possesses a significant forest resource, with 11.5 million(m) hectares (ha) of forested land, of which 5.3 m ha are saxaul woodlands and associated rangelands. Kazakhstan's forests and wooded rangelands play an important role, providing key environmental and economic services. They are a key factor in soil and sand retention the face of the country's strong winds, protect watersheds, and reduce siltation of waterways and reservoirs. They also have been a driving force in the country's economy as a source of fodder, food, fuel, medicinal plants, and recreation. About 300,000 people are directly dependent on the forest sector, while an estimated 2.5 million live in or rely on the forests for fuel wood, fodder and other forest products.

Legacy of land degradation. Kazakhstan inherited some of the greatest environmental problems of the post-Soviet republics. Unsustainable conversion of fragile rangelands to agricultural use, and other ecologically risky land use for rainfed and irrigated crop production, livestock production, oil drilling, the space program, and nuclear testing has destroyed valuable land. As a result of these policies and actions large areas have become wasteland. For example, as of 2004, there were over 4 million ha of dry Aral seabed, of which some 2.6 million ha was within Kazakhstan.

Kazakhstan's forest lands and rangelands continue under threat. The generally dry extracontinental climate of Kazakhstan makes the existing forest and rangeland ecosystems particularly susceptible to various threats, including:

- fires (natural and anthropogenic, including agricultural fires)
- pest infestations that often follow fires
- overgrazing
- over-harvesting through illegal and 'sanitary' cutting, and through increased subsistence cutting for fuelwood
- habitat degradation from excessive hunting/tourism development
- desertification

The recent years of political and economic transformation has increased these problems. For example, Kazakhstan's forests suffered dramatic losses from fire in 1997, affecting as much as 2% of the forest area.

Objective

The project objective is to develop and initiate ways of cost effective and sustainable environmental rehabilitation and management of forest lands and associated rangelands, with a focus on the Irtysh pine forest, the dry Aral Seabed, and saxaul rangelands. The development objective is both local and global in nature.

Outcomes

The key outcome indicators will comprise

- Land degradation (specifically, deterioration or lack of tree cover or other vegetative cover) prevented, reduced or ameliorated in
 - Irtysh pine forest, including 41,000 ha of rehabilitated forest and reversal of fire and other degradation trends on the entire 642,000 ha area
 - Dry Aral Seabed, with more than 150,000 ha of current total 2.6 mln ha dry seabed area within Kazakhstan covered by vegetation (from pre-project coverage, project planting, and natural spread)
 - Saxaul and adjoining rangelands covering more than 156,000 ha with sustainable resource-led grazing management
- Capacity and decisions to upscale investment programs for forest lands based improved knowledge of performance, costs, and impacts as demonstrated by decision to scale up post project investment program in Irtysh pine forests and Kzyl Orda and apply experience from competitive grants
- Number of people benefiting through employment
- Improved knowledge of natural resource dynamics and management and capacity for cost effective and results oriented public expenditure on forest lands
- Project reputation for integrity, and public support for improved forest and associated rangeland management, as reflected in public opinion surveys and government budget

Outputs and Activities

Project costs total about US\$63.8 m over six years and include a GEF grant of US\$ 5 m. Project activities comprise:

Component I: Irtysh Pine Forest (US\$41.2 m including contingencies, with a GEF grant contribution of US\$0.4 m)

- ***Component IA: Reforestation US\$ 24.2 m).*** Improved reforestation of 41,000 ha (20,000 ha with seedlings and if feasible, 21,000 ha directly seeded) through re-establishment of seed production areas, applied research on cost-effective nursery, planting and direct seeding technologies (e.g, greenhouses, containers, seed pelleting). Flexible, performance based budgeting and contracting will be used. The combination of new technologies and other practices aims to reduce the costs of replanting by at least 20%, and increase the survival rate from 60% to 85%.
- ***Component IB Improved Fire Management and Other Forestry Support (US\$15.6 m).*** Development and implementation of improved forest fire management of the 642,000 ha through: (i) information, consultation, and training support to further strengthen the fire management strategy, (ii) improved facilities for fire prevention and detection, including lookout towers, communications equipment and rejuvenation of the firebreak network, and (iii) improved facilities for fire suppression including road rehabilitation, fire station equipment, and fast-attack vehicles. This subcomponent would also provide other forestry support including a program of thinning and cleaning that would overcome a 15-year backlog, vehicles for more effective patrolling to reduce illegal activities, and capacity building in integrated pest management
- ***Component ID Forest Partnership Development (US\$1.4 m):*** The project will explore the feasibility fostering forest partnerships benefiting local people by fostering environmentally

sustainable forest-based enterprises and also by testing a participatory forest management (PFM) in a few villages. Through PFM local people would obtain rights to a share of forest products in exchange for undertaking specific protection and/or management responsibilities, and with a provision for the development of livelihoods alternatives.

Component II: Environmental Amelioration in Kyzyl Orda (US\$10.7 m including contingencies, with a GEF grant contribution of US\$3.2 m)

- **Component IIA Planting on the Dry Aral Seabed (US\$8.1 m).** Accelerating the expansion of vegetative cover by planting 79,000 ha (44,000 with seedlings and if feasible, 35,000 directly seeded) using cost-effective nursery and planting technologies and developing cost-effective direct seeding techniques. Flexible, performance based budgeting and contracting will be used. The combination of new technologies and other practices aims to reduce the costs of planting by at least 20%.
- **Component IIB Improvement of Management of Saxaul Rangelands (US\$2.6 m).** Thirty demonstration of a participatory saxaul rangelands program with each demonstration rehabilitating approximately 200 ha, and increasing access to water for grazing animals on an additional area of about 7500 ha . This would include herder agreements to enable restoration and development of degraded saxaul rangelands, community management of grazing pressure, and provision of water resources for associated range lands.

Component III: Capacity Building of National Institutions (US\$11.9 m including contingencies, with a GEF grant contribution of US\$1.4 m)

- **Component IIIA Improvements in Policy, Information, and Human Resource Capacity (US\$6.5 m).** Improvements in policy and public expenditure analysis, information facilities, human resource development, and organizational management leading to improved policy and budget decisions, public consultation, inventory, planning, monitoring, staff knowledge and skills, and organizational effectiveness. This subcomponent also includes preparation support for follow-on projects.
- **Component IIIB Competitive Grant Program (US\$ 2.6 m).** Competitive grant fund for innovative forest development subprojects (e.g. timber usufruct sharing or other measures to address illegal logging incentives, ecotourism, value addition processing of birch, community involvement in reforestation or environmental education, private plantations, tungai floodplain protection, etc.)
- **Component IIIC. Project Coordination and Management (US\$2.8 m).** Project administration and management.

The US\$ 5 m in GEF financing enables the project to increase the scope of international cooperation, capacity development, and monitoring across all of the above components. Further, it will permit the project to adapt participatory natural resource management approaches to steppe forest areas in Kazakhstan, significantly accelerate vegetation of the DAS, expand the scope of sustainable management demonstrations on the saxaul rangelands and undertake additional subprojects for innovative forest management activities through the competitive grants program.

B. Key Indicators, Assumptions, and Risks (From Results Framework)

Key Indicators

The outcome indicators are described above under outcomes and the output indicators are summarized above under outputs and activities. All indicators are further elaborated in the Results Framework (Annex B).

Assumptions and Risks

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
Key stakeholders are not willing to participate and support environmental management measures due to problems in policy framework, or the inability of FHC to find the legal “space” to test new approaches	S	Preparation has identified issues related to the incentive and legal frameworks and the need to adjust and clarify rights and responsibilities of local people, and these issues will be further addressed during the project period through the interactive development of analytical capacity and field level implementation experience
Opposition from vested interests or others is significant and obstructs implementation	M	Preparation supported a stakeholder and institutional analysis which has increased the understanding of this risk, and informed project design decisions on implementation and consultation arrangements
Modern technologies of planting cannot be adapted to local conditions due to climatic extremes, soil conditions or other physical factors	M	Technological innovations will be tested and adapted to local conditions on a small scale and then evaluated during the mid-term review, with subsequent expansion dependent on proven success under local field conditions.
Government officials unable to adopt new approaches to natural resource management	M	Realistic plans taking into account learning by doing, and carefully designed and phased human resource development and human resource management reforms
From Components to Outputs		
Arrangements to channel funds to reserves, lezhozes, and communities and to handle procurement on their behalf do not function in a timely and transparent manner	M	Detailed budget and fund flow arrangements have been carefully assessed and addressed preparation, and include clear accountability measures. The procurement plan includes timeline standards that will be monitored.
Institutional capacity is not sufficient; project staff do not have required technical expertise	M	The Project will provide training, technical assistance, and other capacity building activities to the extent required. Much of the capacity development will be learning by doing.
Procurement arrangements are not timely or not effective	M	Operational arrangements and detailed procurement plans for the first eighteen of the project will be available prior to the completion of appraisal
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

1. COUNTRY OWNERSHIP

A. Country Eligibility

Sustainable Land Management. Kazakhstan ratified the United Nations Convention to Combat Desertification (UNCCD) on July 7, 1997. The Project is consistent with the Operational Program on Sustainable Land Management (OP#15). The biological and climatic impacts would be globally significant. The project would address deforestation, with a focus on two indigenous tree species which are uniquely adapted to Kazakhstan's harsh climatic conditions and are vital to Kazakhstan's desertification control: Irtysh pine and saxaul. It also would address underlying causes of future land degradation through strategic interventions (e.g., changes in incentives, new technologies, planning systems etc.) that integrate economic, environmental and social considerations. . In some areas, it would also help to shelter lands from wind erosion and thereby improve air quality and dune control.

B. Country Drivenness

Borrower's Plans and Strategies. The Government has been revisiting its environmental and natural resource management policies. It initiated the preparation of the *National Environmental Action Plan* (NEAP) for the republic in 1997, with assistance of the World Bank, UNDP, and EU-TACIS. The NEAP has identified seven key priorities problems that include, among others, degradation of pastures and arable lands (most acutely manifested in the south) and lack of forests and protected areas as natural habitats (particularly important in the northeast. On the topic of sustainable land management, Kazakhstan developed a *National Action Plan* (NAP) in 1997 under the United Nations Convention to Combat Desertification (UNCCD), which emphasizes environmental zoning, monitoring, improvement of nature protection, and rationalization of the natural resource use. It has refined and updated that plan in the form of an updated draft NAP which is under discussion by government agencies. This updated NAP specifies main zones of ecological stress and land degradation (including in and around the dry Aral seabed and the Irtysh River) and the main types of degradation (including windblown soil erosion, soil salinization, and forest destruction). The project is also consistent with the action plan for conservation and sustainable use of forest ecosystems in the national *Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity Conservation* (1999). The project takes into account ongoing work on forest regulations and long-term forest prospects supported by FAO. Project preparation has included detailed legal analysis of all relevant legislation, including the Forest Code and the Land Code. The design of the rangeland component of the project takes into account the recently completed analysis on the livestock sector (which was jointly financed by the World Bank and the Government) as well as the earlier analysis of rangelands. The competitive grant program of the project builds on a similar initiative undertaken for agricultural research and extension under the upcoming World Bank Agricultural Competitiveness Project. In his annual state of the union address in February, 2005, the president highlighted the importance of preserving the country's forests and improving natural resource management capacity.

Significant funding. The fact that the Government of Kazakhstan is interested in devoting a large amount of its own government funds, as well as to borrow from the IBRD, for activities

that will not generate revenue in the short-term but rather are premised on public environmental goods, provides further evidence of the importance Kazakhstan attaches to the project.

2. PROGRAM AND POLICY CONFORMITY

A. Fit to GEF Operational Program and Strategic Priority

The project is highly relevant to the GEF focal area of land degradation, and also has some relevance to other GEF focal areas. The project would not address Kazakhstan's entire land degradation agenda; rather focus on addressing key land degradation issues in forest lands under the jurisdiction of the FHC and its subsidiary organizations. In the Kazakhstan context, addressing land degradation and maintaining and/or restoring associated ecosystem integrity and services is the priority forest management agenda, although timber, other economic products, and carbon sequestration are important, albeit secondary considerations. Other GEF focal areas relevant to the project development objective would include climate change, and ecosystem biodiversity in forests and semi-arid zones.

B. Sustainability (including financial sustainability)

Experience from earlier Bank involvement in forestry in the Europe and Central Asia (ECA) region strongly supports the expectation of sustainable impact. Institutional sustainability will be addressed by training and increased hand-on experience to develop long-term management skills in project management, communication, policy analysis. The Project is relying on existing administrative and organizational structures especially at the local levels to implement activities. Financial sustainability will be partially addressed through the overall fiscal structure including taxes and established contractual payments (in the case of environmental services which affect overall economic growth and living standards), and in some cases through returns to local communities arising from participatory natural resource management activities (in the case of participatory saxaul management demonstrations, the piloting of PFM in the Irtysh pine forest, and some of the activities funded by the competitive grants fund). The intention of continued expansion of the government investment program (possibly with donor support) will enable the continuation of incremental field activities beyond the life of the project. Staff and routine operating expenses are already and will continue to be provided by the Government. Environmental sustainability will be addressed through the introduction of environmentally sound forest management plans and detailed environmental protection and monitoring guidelines for the forest plantation and management activities. Social and cultural sustainability at the village level will be addressed by ensuring representation of key groups in developing the participatory natural resource management plans.

C. Replicability

Replicability is fundamental to the project outcomes. The long-term intention of the project is to provide examples of new and efficient, locally adapted managements systems that can be replicated on a larger scale across the country through follow-up investment by Kazakh or international lending sources. As highlighted above outcome indicators include the capacity and decisions to upscale investment programs based on improved knowledge of performance, costs, and impacts. The long-term program objective is to have a significant portion of forest lands and associated rangelands rehabilitated and well managed by 2025. Land degradation (specifically,

deterioration or lack of tree cover or other vegetative cover) would be prevented, reduced or ameliorated. More specifically by 2025

- 180,000 ha burned or deforested area of Irtysh pine forests would be replanted and all 650,000 ha good condition
- 800,000 ha of the dry Aral seabed would be covered with vegetation (through planting and natural spread), out of the current total 2.6 mln ha
- Effective interventions underway to maintain public saxaul rangelands in good condition

Organizational and procedural arrangements facilitating sustainable and cost-effective results would also be applied to the management other forest lands and other public expenditure investment programs.

D. Stakeholder Involvement

Stakeholders. Key stakeholders will include the rural people living in and around the forests, livestock-herder families, forest users, forestry staff, as well as environmental NGOs. Project preparation included a series of stakeholder consultations, and will include additional consultations focused on the summary project documents and the draft environmental assessment report.

Social and Institutional Issues. The social and institutional analysis and the analysis on stakeholder involvement has identified the following key issues:

- Issues in local social capacity in context of past FSU legacy of government dependency, mistrust, requirements of involuntary labor, and inexperience participatory decision-making
- Organizational culture legacies from the Soviet period comprising rigid top-down administrative management styles within forestry agencies, and poor communication within and among forest agencies as well as with external stakeholders.
- Illegal pine logging and saxaul fuelwood harvesting due to strong vested interests, inadequate incentives for local people to take responsibility for forest protection, widespread unemployment, and market pressures.
- Desires by foresters and local inhabitants to return to the former Soviet-style system of forest management with a huge number of jobs, no timber market (and thus no illegal felling), a public awareness campaign on valuing and caring for the forest, and a high level of public financing for forest management.

Participation measures. To address these issues, project preparation included:

- a summary analysis of local stakeholder involvement issues and opportunities
- plans for increased consultation and transparency in forest policy, planning, and financial management activities under the national component
- a draft communications strategy
- plans for activities to support livelihood interventions in the Irtysh Pine Forest area that are linked to improved forest management and protection under the forest partnership subcomponent
- participatory arrangements for the saxaul rangelands component,
- analysis regarding the access restriction process framework

E. Monitoring and Evaluation

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, as outlined in Annex B. The results framework, in accordance with World Bank guidance, highlights the most significant indicators at a summary level, and avoids an elaborate set of indicators that would be expensive or impractical, and would not be used effectively to assess and improve performance. This results framework however, will be backed by evaluation analysis that will provide detailed elaboration. For example, many of the outcomes will be evaluated through a detailed remote sensing, ground truthing, and analysis exercise that will take place in 2005, as well as at the MTR and completion, and which will measure the nature and extent of changes in the conditions of various project areas. Similarly, socio-economic analysis at MTR and completion will assess the quantity and socio-economic status of people benefiting from the project either through employment or in other ways, the changes in knowledge and capacity among forestry staff, and the public reputation of the project for good governance. Outputs such as area covered by project activities, unit costs (indicators for cost-effectiveness) quality factors such as seedling survival will be rigorously monitored through quarterly reports. The Project Implementation Plan includes an annex with detailed guidelines including reporting formats and terms of reference for evaluation studies. In addition to the project monitoring and evaluation, the project will also build the capacity of the Forest and Hunting Committee to monitor and assess the condition of all forest areas through remote sensing, GIS, and associated support.

3. FINANCIAL MODALITY AND COST EFFECTIVENESS

Co-financing Sources				
Name of Co-financier (source)	Classification	Type	Amount (US\$)	Status*
IBRD	GEF Implementing Agency	Loan	30,000,000	Board consideration scheduled for November 2005
Government	Government	Budget	28,800,000	Detailed internal processing underway and expected to be completed by August 2005
Sub-Total Co-financing			58,800,000	

* Reflect the status of discussion with co-financiers. If there are any letters with expressions of interest or commitment, please attach them.

4. INSTITUTIONAL COORDINATION AND SUPPORT

A. Core Commitments and Linkages

Value Added of World Bank. The Bank has been working in forest management in transition countries since 1992, with activities underway in eleven countries. Based on work in these countries and elsewhere, the Bank has gained considerable experience in forest governance and forest management reform issues, and is using this experience in the dialogue with Government

and in helping them to develop the concept for this intervention. Within Kazakhstan, the Bank has collaborated on technical studies of forest policies and investment programs and also helped the Government to review the forest code. The project takes into account and builds upon the experience of other Bank-financed projects including the Syr Darya Control and the Northern Aral Sea Phase I, as well as several Global Environment Facility (GEF) projects (see below). During project implementation, the Bank will be able to further transfer up-to-date practical experience. The Bank is also in a position to ensure that improved technology and other knowledge could be made available in a timely manner, through its linkages with international forestry research organizations and its network with other donors funding forestry operations.

Bank Country Assistance Strategy. The project is consistent with and specifically highlighted by the Bank's 2004 Country Partnership Strategy (CPS). It is most relevant to the fourth CPS pillar: ensuring that future growth will not harm the environment and that past liabilities are mitigated. It is also relevant to other pillars in that it will address increased public efficiency, build a supportive role of the state for private sector development, and strengthen human resources.

Other GEF Programs. Past and ongoing GEF programs have directly contributed to the policy dialogue and design analysis underlying project preparation. These include the Water and Environmental Management in Aral Sea Basin, the Central Asia Transboundary Biodiversity Project, the Drylands Management Project, the GEF Small Grants Program, and the Central Asia Countries Land Management Improvement Initiative. The project will not duplicate GEF support under other programs, but will continue to build on the lessons learned. For example the vegetative planting activities in and around the dry Aral Seabed will complement activities already funded under other Aral Sea projects. The project also compliments the Drylands Project – it will focus on the northern forest-steppe and desert saxaul woodlands while the Drylands Project focuses on current and abandoned agricultural areas in the lowland grass steppe. The project expects to build upon the findings and experience of the Drylands Project, especially in the area of carbon sequestration and biodiversity monitoring. The experience of the GEF Small Grants Program in Kazakhstan is reflected in the design of the Competitive Grants Project and there will be specific measures (including possible representation of an UNDP official on the Grant Fund Board) to coordinate between the two programs the consideration of grant proposals, building on comparable experience elsewhere such as the way the Bhutan Trust Fund coordinated with Bhutan's GEF Small Grants Program.

B. Consultation, Coordination and Collaboration between IAs, and IAs and ExAs, if appropriate.

Multilateral Agencies. The Bank-financed project will also continue to liaise with the Kazakhstan working group on the UNCCD, and with donors, such as the United Nations Development Programme (UNDP), the Asian Development Bank (ADB), and other multilateral donors such as FAO, which are addressing other land degradation issues in Central Asia. Project preparation included consultation with the National Working Group on the UNCCD, and the FHC project deputy director is a member of that working group. The June 2003 discussion paper entitled "Kazakhstan: Issues and Approaches to Combat Desertification" funded under the technical assistance program of the Asia Development Bank and the Global Mechanism, provide invaluable background for the project. The Bank task team and the government has consulted and will continue to consult UNDP staff involved in relevant projects, including those funded by

GEF. The Bank task team and lead implementing agency are also closely collaborating with an FAO Technical Assistance Project on the Forest Regulatory Framework. The project is also taking into account FAO's regional program on long-term prospects for forestry.

Bilateral agencies. The project will work in partnership with German Technical Cooperation (GTZ) on the vegetation of the dry Aral seabed, although this will not be considered formal cofinancing. GTZ plans to support technical cooperation activities of vegetation of the dry Aral Seabed in both Kazakhstan and Uzbekistan in 2005 and 2006. Because GTZ can carry out operations directly without having to wait for Government budgetary cycles, its support may enable the supply of seedlings for the dry Aral Seabed and the participatory saxaul rangelands activities during the initial year or two of the Bank-financed project. The Forest and Hunting Committee and the GTZ have exchanged a memorandum of intention specifying the areas of collaboration between the Bank project and the GTZ project. Project preparation also included dialogue with a range of other bilateral donors including USAID, and EU-TACIS.

C. Project Implementation Arrangements

Implementation. Many of the project activities will be implemented either directly by the FHC itself. The Semey and Irtysh special reserves (Ormandar), which are direct subsidiaries of the FHC, would undertake most the Irtysh pine component. FHC would undertake others would through non-competitive contracts with State Forest Entities (SFEs, or in other words, the former leskhoz), research institutes, or through competitive contracts, depending on the specific activity. Participatory forest management and participatory rangeland management activities would require specially negotiated arrangements with local people. A Project Coordination Unit (PCU) and the Regional Project Offices will provide administrative support for all project activities. A Project Advisory Committee (PAC) will assist FHC in strategic planning and review.

- The FHC special reserves will manage the most of the Irtysh component. There will be increasing emphasis on the use of external contractors for reforestation and fire management works, with oversight provided by the reserves. The reserves will also directly acquire improved firefighting and fire prevention facilities. The Irtysh component will also include contracted consultant studies, and contracted teams and specialists supporting the PFM and other forest partnership development activities.
- On the dry Aral seabed, the initial nursery and field establishment program will be implemented by two SFEs, under contracts with FHC. As the program develops, other SFEs are expected to become involved on a contract basis. Government research institutes will carry out the research and development program as well as the monitoring program.
- On the saxaul rangelands, local herders (mobilized by Rangeland Support Teams) will be responsible for implementation, with support from the contracted support teams, specialists, SFEs, and research institutes.
- The national institutional development activities will be implemented partly by FHC in Astana and partly by associated forest institutes, with contractual assistance for studies and specialists where necessary.
- A Grant Fund Board will govern the competitive grant program with the PCU serving as the secretariat, and grant recipients implementing approved activities.

Although these implementations arrangements are diverse, which will increase the management challenge, a more uniform set of arrangements is not feasible due to the current jurisdictional situation, and the implementation requirements of the various components.

The project encompasses significant, yet incremental experiential institutional reform. This reform will involve

- Increased attention to cost-effectiveness and other accountabilities (with new approaches in assessing alternative options, monitoring coefficients on quality, using performance evaluation results to inform investment decisions, and increased organizational efficiency associated with streamlining of roles and functions);
- improved flows of information, analyses, and decision-making both within forestry agencies, and to and from external stakeholders, and the promotion of a learning culture throughout FHC and associated forest agencies with new staff attitudes, behavior and skills; and
- a more effective incentive framework (with interactive exchanges between strengthened policy analysis at the central level, participatory natural resource management approaches and other local feedback at the field level).

ANNEX A: INCREMENTAL COST ANALYSIS

Background

Irtysk Pine Forest

The Irtysk pine forest in northern Kazakhstan, which occurs on the eastern side of the Irtysk River, along the Russian border, is part of a large area of similar forest that stretches far back beyond the border. The Irtysk pines (Scots Pine - *Pinus sylvestris*) occur on generally flat topography, in sandy soils, in a region with an annual rainfall of about 300 mm. The Irtysk pine forests play an important role in land, wildlife and water shed management, as well as in local recreation and tourism. The forests also provide fuel wood, fodder, berries, mushrooms and hunting game for local populations.

The two areas of this forest covered by the project were designated Special Purpose Natural Reserves in early 2002 and are known as Ertis Ormany and Semey Ormany. The total area of the two reserves is 642,335 ha, of which only about 367,000 is currently covered by forest. Large areas in these two reserves (some 127,000 ha) have been destroyed by illegal commercial logging and wildfires (75 percent of which are manmade) over the last 10 years, and much of the reserve land remains grassland because the harsh natural conditions make natural reforestation processes difficult. The deforestation resulting from this combination of forest fires and illegal logging has contributed to the degradation of these once-forested lands, threatened the structure and functional integrity of the Irtysk pine forest ecosystems and jeopardized the livelihoods of the local populations dependent on legal forest products and services. Furthermore, wind erosion, which may not be a concern in most of the Irtysk pine forest, represents a real concern in the vicinity of Semipalatinsk.

Because only limited areas of the two reserves (200-1000 ha) have been replanted in recent years, there is a real need for a major reforestation program. The vast areas of degraded forest land represent significant lost economic, ecological, and social opportunities, whether for timber production, landscape conservation biodiversity habitat management, or public recreation. The vacant land needs to be reforested with pines, which seem to be the natural climax vegetation for the area.

Project interventions will address land degradation in the Irtysk pine forest by arresting and reversing the process of deforestation caused by illegal logging and forest fires on these lands, as well as by promoting sustainable forest land management through improved fire and forest management systems. Project supported reforestation will have a - positive impact on carbon sequestration in the pine forest, resulting in an estimated total incremental accumulation of about 3.9 million tons of carbon, which is equivalent to approximately 14 million tons of carbon dioxide, over the incremental area of 41,000 ha that would be reforested under the project. As the project seeks to demonstrate cost effective approaches to reforestation, a continuation of the program initiated under the project at a rate of 25,000 ha a year through the planting of seedlings and direct sowing would each year accelerate the addition to the pool of about 2.4 million tons of carbon (equivalent to 8.7 million tons of carbon dioxide). Improved fire management would prevent the release into the atmosphere of about 71,500 tons of carbon dioxide each year that would otherwise be released in the absence of the project. .

Dry Aral Seabed

The decline of the Aral Sea, now about 35 percent of its former size and still shrinking rapidly, is one of the major environmental disasters in Central Asia in the last 100 years. In fact, the catastrophic decline of much of the Aral Sea basin's rich biodiversity (including many endemic species of birds, mammals and fish), coupled with the loss of the sea's tempering effect on the basin's climatic conditions, represents an ecological loss of global significance. (See background report on the dry Aral Seabed prepared for the Environmental Assessment) The sea shore, which retreats 2-4 km a year, is now 150-200 km away from its original shoreline. This receding shoreline has exposed an estimated 4.2 million ha of former seabed, much of it land that is highly saline. Not all this exposed seabed remains bare ground; native halophytic plants cover the newly exposed land to some extent, the first step in a precarious natural vegetative process. These pioneering plants die out as salinity decreases, and unless a more diverse cover of grasses, shrubs and small trees get established in the next few years, the land become a mass of shifting dunes, and a more permanent establishment of plant cover is postponed by decades.

Despite harsh ecological conditions, the Aral Sea lowland is home to surprisingly rich communities of flora and fauna, including gazelles gophers, desert monitors, sand rats, jerboas, lizards and snakes wherever sustainable plant cover has managed to be established. Wild boars, jackals and deer can be found, especially near springs that occur in some places. . A number of fauna of global significance are listed in the Red Data Book of Kazakhstan, such as the wild ass, saiga antelope, goitered gazelle, mountain sheep and roe deer. (See Environmental Assessment and background report on biodiversity)

The degraded dry Aral Seabed (DAS) is an extremely hostile natural environment. Temperature extremes in both summer and winter, desiccating aridity, very high wind strengths and wind-blown particles (dust/salt) make it a stressful environment for small plants. The degraded land uncovered by the receding sea varies in the texture and salinity of its substrates, which in turn governs their potential for natural and man-induced vegetative processes. The sandy substrates exposed in the 1960s and 1970s now contain little salt or dust and have high potential for natural development of vegetation. The movement of these sandy substrates across the landscape in dunes that cover the salty soils actually improves their potential for vegetation. The other areas amenable to planting efforts are the recently exposed areas that have been colonized by native halophytic plants and have not yet reverted to sand dunes. Once vegetative cover is established, it begins to lower the groundwater table and progressively makes the land less hostile.

It is the salty soils, the solonchak substrates exposed in the 1980s and 1990s that pose the greatest challenge for vegetation of the DAS. These soils contain high levels of silt and salt and have low potential for natural vegetation. The solonchak soils are not suitable for saxaul (*Haloxylon species*), only certain species of shrubs and perennial herbs can tolerate the higher concentrations of salt. This retards the natural vegetative processes on the DAS and complicates manmade vegetative strategies. Additional research and careful planning are necessary to identify and tailor the appropriate plant species to the appropriate soil conditions.

In Kazakhstan the total area of degraded DAS that remains to be rehabilitated is about 2.6 million ha, while the estimated total area that has been vegetated over past years either through natural spread or human efforts is only about 80,000 ha. Recent planting efforts have been

minimal, with no planting done between 1993 and 2002 and only 4500 ha vegetated between 2002 and 2004.

At the current rates of vegetation on the DAS in Kazakhstan, it will take well into the next century to turn the degraded seabed into ecologically productive land. Project interventions accelerating the vegetation of the DAS by planting saxaul and other species will accelerate the vegetative cover of lands where natural spread of vegetation would otherwise take much longer. This will help reverse land degradation, introduce new structure and functional integrity into the emerging ecosystem, significantly reduce localized wind erosion and, with potential designation of the lands as a natural reserve, produce long-term global benefits at the site of a global ecological catastrophe. Furthermore, project interventions accelerating the vegetation of the DAS will benefit native flora, including endemic and endangered species (some globally significant) and create new natural habitat for fauna from the surrounding lowlands and steppe, which includes a number of globally significant species, as noted above. Project interventions to plant 44,000 ha and directly sow 35,000 ha of the seabed will accelerate the vegetation of approximately 118,500 ha in total, as natural regeneration will be facilitated on the open areas enclosed by the planting. Project planting on the DAS over the implementation period will result in moving forward by decades the sequestration of about 3.6 million more tons of carbon (equivalent to about 13 million tons of carbon dioxide) than would be accomplished by the current vegetation program. Should the project successfully demonstrate the cost effectiveness of the DAS operations to justify further public expenditure following the completion of the implementation, continued planting at a rate of about 31,000 ha annually would accelerate the addition of approximately 1.4 million tons of sequestered carbon (equivalent to approximately 5.1 million tons of carbon dioxide) to the pool each year.

Saxaul Rangelands

The total area of Kyzyl Orda Oblast is about 15,740,000 hectares, of which about 13,000,000 hectares or about 80 percent of the total area are considered grazing land. The vegetation on these rangelands is in generally good condition, considering the low rainfall and extreme environment of the region. The dominant and most ecologically significant plant species on the rangelands is saxaul, which is found in two species, black saxaul (*H. aphyllum*) and white saxaul (*H. persicum*), remarkably adapted to the Central Asian desert woodland environment. It plays a critical role in the rangelands of Kyzyl Orda in providing fuel wood for local population, regulating hydrological conditions, stabilizing sandy soils and generally protecting rangeland vegetation.

On the whole, the number and range of other plant species, predominantly shrubs and woody herbaceous plants, also appear generally good, with plant cover and physiognomic status better than might be expected. The pastoral species, however, tend to be of lower status within depleted saxaul areas, reflecting the intensity of use compared to the non-saxaul open grazing areas. But, in all, the condition of the vegetation in Kyzyl Orda is currently better than it has been for a number of decades, due to the collapse of livestock production in the 1990s.

The exceptions to the above are the severe signs of localized overgrazing and vegetation depletion around villages and other settlements. In particular, the year-round, unregulated grazing and high concentrations of livestock around former collective farm centers and railway worker settlements have resulted in degradation and depletion of saxaul. Within the project area,

the distribution of saxaul-based rangelands appears to be an irregular patchwork with few continuous stands extending for more than a few tens of kilometers. Often the saxaul is present in a heterogeneous mix of overlapping plant communities. While generally the saxaul plant numbers and height in the project area might be considered good, individual stands of tall, vigorous saxaul suggest the form and quality of a healthy saxaul stand, as well as the level of general depletion of saxaul stock.

Although the human and animal pressures on the saxaul rangelands have been reduced in recent years (which explains their generally good condition), there is every reason to believe that these pressures will return as Kyzyl Orda develops economically and its human and animal populations increase. Project interventions rehabilitating and improving sustainable management of the saxaul rangelands will prevent the long-term degradation of these lands from overgrazing and overcutting and assure the rangeland ecosystem's stability, functions and services for future generations. As far as biodiversity is concerned, the existing low level of degradation suggests that project interventions are unlikely to have a major impact on improving biodiversity habitat, but if project interventions rehabilitating and regularizing communal management of the rangeland resources are subsequently replicated on a larger scale, they should reduce wildlife/livestock competition for these resources and thus result in benefits for rangeland fauna, including several species listed in the Red Data Book of Kazakhstan (i.e. goitered gazelle, mountain sheep and roe deer). (See Environmental Assessment and background report on biodiversity). If successful, the project will demonstrate an approach to maintaining saxaul rangelands in a state that would preserve a higher rate of carbon sequestration than would otherwise be realized, assuming current trends in rangeland degradation continue.

Other Forest Areas of Kazakhstan

The national component of the project will also benefit other forest areas of Kazakhstan. As mentioned in PAD Annex 1, Kazakhstan possesses a total of 11.5 million hectares of forested land, the third largest forest area in the Eastern Europe and Central Asia (ECA) Region, in spite of the fact that forests areas account for a mere 4% of its territory. About 300,000 people are directly dependent on the forest sector, while an estimated 2.5 million live in or rely on the forests for fuel wood, fodder and other forest products. The generally arid, extra-continental climate of Kazakhstan makes the existing forest and rangeland ecosystems particularly susceptible to various natural and man-made threats, including fires, pests, overgrazing, over-harvesting, habitat degradation, and desertification. Forest lands and rangelands have been subject to increased threats of deforestation and other degradation in the recent years of political and economic transformation in 1991. Kazakhstan has a number of very distinct forest and rangelands domains apart from the Irtysh pine forests and the saxaul rangelands described above. Some of the areas with global significance include

- the *Altay Mountains* (home to unique Siberian biodiversity and also a concentration of 75% of the commercial-grade spruce and fir timber in Kazakhstan).
- the *Tien-Shan and Ile-Alatau Mountains* (a globally unique habitat in terms of agrobiodiversity, wild nut and fruit production, a critical water source for the Aral Sea and Lake Balkhash, and an internationally important tourist destination).
- The *riparian forests* along major rivers. These forests play an important water-regulating role in the southern floodplains (tugay forest) and constitute almost the only type of forest in the oil-rich but treeless desert of western Kazakhstan.

The national component, with its support for improved monitoring and planning, human resource development, policy development, and grant program for innovative initiatives, will benefit all of Kazakhstan's forest areas.

Analysis

The Baseline Scenario includes activities undertaken by following parties.

Government. The Government will increase current levels of expenditure for forest management and administration by **US\$ 28.8 million** to cover portions of the planting, fire management and thinning activities in the Irtysh pine forests, as well as a portion of the relatively smaller planting and rangeland management activities in Kzyl Orda, a portion of the national level policy development, human resource development, and information support, and project administration as well as about 1.6 million of competitive grants in innovative forestry subprojects/

Donors and IFIs. The IBRD will contribute approximately **US\$ 30.0 million** to finance a portion of the project activities in Irtysh pine forests, as well as portion of the relatively smaller expansion of its planting programme on the dry Aral seabed and the improvement of saxaul rangeland management.

Baseline Costs. The full Baseline Scenario is therefore estimated to cost **US\$ 58.8 million** (including contingencies). This estimate includes financial resources allocated or to be allocated for activities related to an expansion of activities in the Irtysh pine forests including reforestation of 41,000 ha, fire management, and thinning; a expansion of the planting programme on the dry Aral seabed to cover about 55,000 ha, the improvement of saxaul rangeland management encompassing about twenty one demonstrations, a competitive grant program of distributing US\$ 1.6 m for innovative forestry subprojects throughout Kazakhstan including additional forest areas of global significance, and improvement of the operations of national institutions involved in forest policy, information, human resource development, and administration. This baseline scenario is consistent with the current national development goals and institutional capacity.

Baseline Benefits and Constraints. Under the Baseline Scenario the Government will undertake, as a matter of national priority, a number of measures in the Irtysh pine forests to preserve and rehabilitate what is regarded as a unique natural asset. In doing so the Government will be addressing growing concerns of land degradation related to the loss of forest area near towns and cities in the north-eastern part of the country. Much of the loss in area is due to fire but local economic conditions have also contributed to deteriorating forest stocking and health. Under the baseline scenario the Government will increase its capacity to reforest areas, implement effective fire management and manage existing stocked areas more effectively. It will also endeavour, on a limited scale, to improve local incentives in support of preserving the Irtysh pine forest reserves and facilitating their regeneration. The Baseline Scenario will lead to a decreased threat of encroaching desertification at the edges of the pine forests, an expansion of pine forest resources and option values, improved employment prospects for local populations, and to a limited extent – due to the slow growth rates of the Irtysh pine forest species – will contribute towards increased carbon sequestration.

The Baseline Scenario will also entail an expansion of planting saxaul and other species in some areas of the dry Aral seabed as a hedge against possible adverse environmental impacts of land degradation in the region. Local populations would be the primary beneficiaries of any long-

term benefits; although, there will also be some wider environmental benefits attributable to the expansion of woody biomass in the desert region.

Also, in view of the fact that the Aral Sea region is becoming more sparsely populated and doubts concerning the causal factors behind wind-blown dust from the seabed over distances, the rationale for greatly expanding a planting programme on the seabed on the basis of benefits to the local population is problematic. Under the Baseline Scenario the Government will endeavour to expand current planting targets, but be wary of ambitious targets, especially in still to be proven technologies involving pelleted seed or experimental planting on the problematic solonchak soils.

The Baseline Scenario addresses significant, currently observable issues of land degradation in rangeland areas under forest administration. There are economic factors driving increased use of range resources as employment opportunities in south-west of the country remain difficult, especially in the Aral Sea region, where the collapse of fisheries has forced households to seek other sources of income elsewhere. The threat of rangeland degradation in turn is a threat to Kazakhstan's arid and semi-arid areas, which provide fragile habitats for a number of animal species of biological interest within and outside the country. The demonstrations in improved rangeland management, thereby livelihood concerns of local people as well as beginning to develop the capacity for sustainable natural resource management in the context of new, post-transition institutional roles of government and local people.

The Baseline Scenario, while focusing on certain environmental problems in Kazakhstan, is not particularly concerned with measures involving international interchange, and the scale of activities having appreciable implications for biodiversity is limited to a level appropriate to national priorities and domestic benefits. Efforts at participatory natural resource management are limited due to the limited experience of such approaches in former Soviet Union (CIS) countries and in degraded, temperate desert areas. Compromises may be available but the development of socially acceptable technical options does not have a place on the research agenda.

GEF Alternative.

GEF Alternative and Benefits. The GEF Alternative will allow the project to expand its interventions in several significant areas, including international interchange, capacity building, on-the-ground forest/rangeland investments and targeted research, and environmental monitoring in order to realize the potential global benefits for sustainable forest and woodland management and biodiversity conservation from the existing interventions of the Baseline Scenario. In particular, the GEF Alternative will provide the project with

- expanded opportunities for international cooperation and capacity development
 - on the management of transboundary resources (i.e. the Irtysh pine forest and the DAS)
 - for learning from international experience in innovative forest/rangeland management including participatory approaches (e.g. participatory forest management in the Irtysh pine forests, participatory management of sexual rangelands in Kzyl Orda, and competitive grant subprojects involving participatory natural resource management), and

- environmentally beneficial approaches (e.g., capacity building in integrated pest management, in analysis of geographic information, in incentive and other policy frameworks that improve the effectiveness and sustainability of land management),
- increased investments in accelerated vegetation of the DAS, rehabilitation of the saxaul rangelands and promotion of innovative forest rehabilitation/development through competitive grant subprojects,
- research and demonstration on appropriate species and practices for vegetation of the DAS and sustainable management of the saxaul rangelands, and
- environmental monitoring of land degradation trends.
- incremental support for the additional project administration requirements involved in GEF financing

Under the GEF Alternative the project would still comprise the following baseline components, expanded with GEF financing as explained in the following:

Component 1: Rehabilitation of Irtysh Pine Forest With GEF financing, this expanded component will support initiatives for developing international cooperation on management of the transboundary Irtysh pine forest resources. The project areas in the Irtysh pine forest are part of a larger transboundary natural resource system that extends from Kazakhstan into Russia. The Baseline Scenario involves the national interventions addressing the Kazakh portions of these resources; the GEF Alternative will finance the development of agreements and modalities for international cooperation with Russian foresters in management of these transboundary resources. In particular, this cooperation will focus on the common forest problems of fire, pest and disease management. In addition, the GEF resources will provide expanded training opportunities for the Kazakh foresters working in the two Special Purpose Natural Reserves, Ertis Ormany and Semey Ormany. This training would include sustainable forest ecosystem management, enhanced protection of forest biodiversity and natural habitat, and improved productivity of forest products and services, as well as international experience in participatory approaches for involving local populations in all of the above. To support the latter approaches, the GEF will also support long-term consultancies and additional technical assistance needed to design and implement appropriate participatory approaches to forest management. Finally, the GEF financing will allow additional international and national consultancies to address specific concerns in pest and disease management, fire prevention and control and biodiversity/natural habitat mapping.

Component 2: Environmental Amelioration in Kyzyl Orda Oblast. With GEF financing, this expanded component will also support initiatives for international cooperation on management of the transboundary resources on the DAS. Here again the Baseline Scenario addresses the national interventions dealing with the Kazakh portions of the DAS; the GEF Alternative will finance the development of agreements and modalities for international cooperation with Uzbek foresters in amelioration of these transboundary resources. Further, the interventions will capitalize on existing cooperation between Kazakhstan and Uzbekistan on research, demonstration and investment in vegetating the DAS and ensure close collaboration with GTZ, the other key development partner intervening in this area. In addition, GEF support for this component will expand the scope of on-the-ground investments in both the DAS and the saxaul rangelands. Successful vegetation of the remaining 2.6 million ha of degraded DAS in Kazakhstan will be a monumental undertaking. The Baseline Scenario comprises the substantial national commitment to realizing this undertaking; the GEF Alternative expands the scope of

these investments (by 30 percent) in the vegetation of the DAS, in order to realize the potential global benefits of the undertaking and to demonstrate the international community's commitment to remedying the global ecological loss represented by the Aral Sea. The GEF investments would be designed to demonstrate vegetative processes that could be replicated elsewhere in the Aral Sea basin. It would also enable increased research attention to promoting vegetative cover on harsh solonchak soil conditions in other desert and semi-desert regions, which are probably a more significant source than the sandy soils of the wind-blown dust that crosses international boundaries. Similarly, GEF financing for this component will expand the scope of project interventions (by 30 percent) in rehabilitating the saxaul rangelands, again with the intention of realizing the global benefits of such rehabilitation and sustainable management of productive woodlands. Finally, research capabilities in the forest sector have declined in Kazakhstan in recent years. The Baseline Scenario provides the national investment to restore various research and demonstration capabilities in the sector; the GEF Alternative provides additional support for research and demonstration, particularly in the refinement and adoption of vegetative practices and technologies that will introduce stability and sustain the functions and services of the newly vegetated DAS ecosystem.

Component 3: National Institutional Development and Project Management With GEF financing, this expanded component will support a number of the activities necessary to build institutional capacity within the FHC for improved planning and management of forest and woodland resources, including mapping and surveying needed to better understand and assess forest sector resources, expanded monitoring capabilities and information systems. In addition, GEF resources will finance limited investments in innovative forest rehabilitation and management. Kazakhstan offers a wealth of opportunities for introducing, testing and demonstrating innovative forest management and development that addresses sustainable land management. The Baseline Scenario provides a limited national commitment to supporting innovation in the forest sector through competitive grants; the GEF Alternative expands this commitment by 50% (i.e., covering one third of total value of grants).

Cost. The total cost of the GEF Alternative is estimated for the 6 years period at the level of about **US\$ 63.8 million** (including contingencies). The Baseline Scenario, GEF Alternative and incremental costs, as well as corresponding local, national and global benefits, are displayed in summary form in the following table.

Incremental Cost Analysis Summary

Project Component	Cost Category	US\$ Million	National/Local Benefits	Global Benefits
1. Rehabilitation of Irtysh Pine Forest	Baseline	40.8	Reforestation and improved management of pine forest lands, enhanced protection of biodiversity and natural habitat, increased participation of local communities, increased supply of forest products and services	
	GEF Alternative	41.2	Same as above	Increased capacity and international interchangee (i) to to enable cooperation with Russia on sustainable management of transboundary pine forest resources, (ii) adapt participatory natural resource management approaches to steppe forest areas and the CIS context, and (iii) to further mainstream sustainable land management concerns into forestry activities
	Increment	0.4		
2. Environmental Amelioration in Kyzyl Orda	Baseline	7.5	Vegetation of dry Aral Seabed, extension of natural habitat/shelter onto seabed; rehabilitation and sustainable management of saxaul rangelands, enhanced protection of natural habitat, increased supply of rangeland products and services	
	GEF Alternative	10.7	Same as above	Expanded scope of vegetative planting of the Dry Aral Seabed that creates new biodiversity to compensate for earlier biodiversity losses associated with the Aral Sea degradation, expanded scope of saxaul rangeland rehabilitation that conserves significant biodiversity, international cooperation with Uzbekistan in accelerating vegetation of transboundary dry seabed; targeted research and demonstration on appropriate vegetative practices and technologies, especially on problematic solonchek soils which are a likely source of wind-blown dust that crosses international borders
	Increment	32		

Project Component	Cost Category	US\$ Million	National/Local Benefits	Global Benefits
3. National Institutional Development and Project Management	Baseline	10.5	Enhanced capacity for sustainable management of forest and rangelands; improved knowledge of natural resource systems; experience gained from pilots funded by competitive grants	
	GEF Alternative	11.9	Same as above	Enhanced capacity for sustainable management of forest and rangeland ecosystems; testing, pilot demonstration and replication of innovative forest and woodland-related subprojects through competitive grants
	Increment	1.4		
Totals	Baseline	58.8		
	GEF Alternative	63.8		
	Increment	5.0		

ANNEX B: Results Framework

2025 Vision ¹	2025 Outcome Indicators	Use of Outcome Information
Forest lands and associated rangelands rehabilitated and well managed	<p>Land degradation (specifically, deterioration or lack of tree or other vegetative cover) prevented, reduced, or ameliorated in</p> <ul style="list-style-type: none"> • Irtysh pine forest forests: 180,000 ha burned or deforested area replanted and 650,000 ha good condition • Dry Aral Seabed: 800,000 ha covered with vegetation (through planting and natural spread) • Effective interventions underway to maintain public saxaul rangelands in good condition • Organizational and procedural arrangements facilitating sustainable and cost-effective results applied to the management other forest lands and other public expenditure investment programs 	Set project outcomes in context of long-term vision

Project Development Objective	2012 Outcome Indicators	Use of Outcome Information
Development and initiation of cost effective and sustainable ways of environmental rehabilitation and management of forest lands and associated rangelands, with a focus on the Irtysh pine forest, dry Aral Seabed, and saxaul rangelands	<p>Land degradation (specifically, deterioration or lack of tree or other vegetative cover) prevented, reduced, , or ameliorated in</p> <ul style="list-style-type: none"> • Irtysh pine forest including 48,000 ha of rehabilitated forest and reversal of fire degradation trends on 650,000 ha • Dry Aral Seabed: more than 100,000 ha of current total 2.2 mln ha dry seabed area covered by vegetation (from pre-project coverage, project planting, and natural spread) • 156,000 ha of saxaul and adjoining rangelands with sustainable resource-led grazing management 	<p>Gauge</p> <ul style="list-style-type: none"> • scale of coverage and extent of changes in land degradation and associated environmental and economic impacts, in relationship to overall magnitude of land degradation problem and in comparison to projections of what would happen in absence of project; . • realism of projections and adjust project design or expectations if necessary; • success of new incentive frameworks which would help prevent future degradation and thus make mitigation worthwhile; <p>and inform decision-making on future public investment programs in project areas</p>
	<p>Capacity and decisions to upscale investment programs for forest lands based improved knowledge of performance, costs, and impacts as demonstrated by.</p> <ul style="list-style-type: none"> • Decisions to scale up Irtysh pine reforestation programs • Decisions to scale up vegetative planting of dry Aral Seabed, and • Replication of saxaul rangeland restoration program with non-project funds • Application of lessons learned from competitive grant subprojects 	<p>Gauge success of new operational arrangements and analytic capacities which promote ongoing research and learning culture, responsive adaptation, and improved accountability.</p>

¹ The 2025 vision is indicative only and does not represent a formal view of the Government. It will be further considered and refined under the policy subcomponent of the project.

Project Development Objective	2012 Outcome Indicators	Use of Outcome Information
	<p>Number of people employed under the project, with incremental employment going disproportionately going to those currently living below official poverty line</p> <ul style="list-style-type: none"> • Irtysh pine: 18,900 employed • Dry Aral Seabed: 8150 employed, • Saxaul rangelands: 150 self employed beneficiary households 	Gauge magnitude of social and poverty impacts of project
	Improved knowledge of natural resource dynamics and management, and capacity for cost effective and results oriented public expenditure on forest lands	Gauge extent of institutional impact
	Project reputation for integrity and public support for improved forest and associated rangeland management as reflected in public opinion surveys and government budget	Gauge reputation for integrity and effectiveness

Intermediate Results	Results Indicators for Each Component	Use of Results Monitoring
<p>Component IA: Irtysh pine forest: Improved reforestation through re-establishment of seed production areas, applied research on cost-effective nursery and planting technologies (e.g. greenhouses, containers, seeding), and expansion of program to enable completion of reforestation of 180,000 ha by 2025.</p>	<p>Component IA : 20,000 ha replanted and 21,000 ha direct seeded during project period, and by year 6 unit costs of replanting reduced from US\$240 per ha to less than US\$110 per ha with survival rate increased from 60% to 85%; knowledge of productivity parameters acquired; and revised arrangements for flexible, performance based budgeting and contracting</p>	<p>Component IA: YR1-YR6: Low levels may flag constraints in revised budgeting and contracting arrangements, fund flow, capacity, operational arrangements, methodologies, or unrealistic expectations</p>
<p>Component IB: Irtysh pine forest: Development and implementation of improved forest fire management through improved fire prevention, improved fire detection, and fire suppression to reverse long-term trends in degradation of forest lands from fire.</p>	<p>Component IB: 650,000 ha under improved fire management comprising: (i) effective fire prevention system with bare earth fire breaks and fuel reduced buffer zones accompanied by public education campaigns; (ii) more effective fire detection system with obsolete towers replaced and new towers where needed; (iii) improved fire suppression capability through better equipment, fast-attack vehicles, replacement of obsolete fire trucks and improvement of key forest roads and (iv) Annual program of thinning and cleaning including a 15-year backlog, integrated pest management support provided</p>	<p>Component IB: YR1-YR6: Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations</p>
<p>Component IC: Irtysh pine forest: Forest Partnership Development</p>	<p>Component IC: PFM framework designed and reflected in operational manual, and then under implementation, initially in xx villages and then in yyy additional villages.</p>	<p>Component IC: YR1-YR6: Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations</p>
<p>Component IIA Dry Aral Seabed: Vegetative planting: Increased afforestation through upgraded facilities, improved contracting arrangements, applied research on improved planting methods, and expansion of program to achieve planting rates of at least 31,000 ha per year by 2011.</p>	<p>Component IIA 44,000 ha planted and 35,000 ha direct seeded during project period, with year 6 unit costs reduced from US\$207 to less than US\$175 per ha with survival rate no less than 55% and a natural spread consistent with doubling in ten years, using revised arrangements for flexible, performance based budgeting and contracting</p>	<p>Component IIA YR1-YR6: Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations.</p>

Intermediate Results	Results Indicators for Each Component	Use of Results Monitoring
<p>Component IIB Participatory saxaul rangelands rehabilitation: Herder agreements to enable restoration of degraded saxaul rangelands, and provision of water resources for compensatory rangelands.</p>	<p>Component IIB 30 demonstrations covering a total approximately 6000 ha covered by planting with seedlings and seeds with survival rates no less than 55% and at least 150,000 ha rangelands provided with increased access to water for grazing animals.</p>	<p>Component IIB YR1-YR6: YR1 -YR6: Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations.</p>
<p>Component IIIA: Improvements in policy, information, and human resource capacity</p>	<p>Component IA: (i) analytical studies on policy and public expenditure, (ii) expansion of information facilities and development of information system (iii) HRD plan and in-service training program;</p>	<p>Component IA: YR1-YR6: Low levels may flag....., or unrealistic expectations</p>
<p>Component IIIB: Competitive grant fund for pilot demonstration investments (e.g. timber usufruct sharing, ecotourism, value addition processing of birch, community involvement in reforestation or environmental education, private plantations, tungai floodplain protection, etc.)</p>	<p>Component IIIB : Operational manual approved, and # of grants approved and then implemented with well monitored results</p>	<p>Component IIIB: YR1-YR6 Numbers indicate that this component is functioning</p>
<p>Component IIIC Project administration is satisfactory</p>	<p>Component IIC Bank supervision ratings</p>	<p>Component IIIC YR1-YR6: Flags administrative or communication problems</p>

Arrangements for Results Monitoring

Outcome Indicators	Target Values			Data Collection and Reporting		
	Baseline	2008	2012	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Prevented, reduced or ameliorated land degradation	Degraded area evident on 180,000 ha of Irtysh pine forest and 2.2 million ha of dry Aral Seabed ²	Initiation of restoration evident	Restoration evident in accordance with plans and degradation trends reversed	Baseline, mid-term and completion assessments	Independent evaluation based on remote sensing supported by ground survey	Specialist team contracted by FHC as part of mapping and field survey study
Decisions to scale up programs	Insufficient knowledge of performance, costs, and impacts to justify large scale program	MTR confirms plans to scale up Irtysh forest and dry Aral Seabed program	Post project plans to restore Irtysh forest and dry Aral Seabed along lines of indicative 2025 vision and, replicate saxaul rangeland program, and apply lessons from grant subprojects.	Baseline, mid-term and completion assessments	Project records	FHC
Number of people employed seasonally as a result of project, and analysis on extent to which benefits go to those currently living below official poverty line <ul style="list-style-type: none"> • Irtysh pine: <ul style="list-style-type: none"> ○ # employed by project ○ # Forest Partnership beneficiaries • Dry Aral Seabed: <ul style="list-style-type: none"> ○ # employed by project • Saxaul rangelands: <ul style="list-style-type: none"> ○ # participants • Competitive grants: <ul style="list-style-type: none"> ○ # beneficiaries 	0	TBD	6000 TBD 4500 TBD TBD	Baseline, mid-term and completion assessments	Analysis based on project records, social assessment, and poverty data	Specialist team contracted by FHC as part of socioeconomic study

² Area of dry Aral Seabed to be confirmed by baseline mapping in 2005, which will also provide data on size and condition of Kzyl Orda saxaul rangelands.

Outcome Indicators	Target Values			Data Collection and Reporting		
	Baseline	2008	2012	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Improved knowledge of natural resource dynamics and management, active policy development, and capacity for cost effective and results oriented public expenditure on forest lands	Little knowledge of dynamics, policy development, or results oriented public expenditure	Systems established	Knowledge, policy development, and result oriented public expenditures evident	Baseline and completion assessments	Assessment of specialists	Specialist contracted by FHC as part of socioeconomic study
Project reputation for integrity and public support for improved forest and associated rangeland management as reflected in public opinion surveys and government budget	Original reputation assessed	Improving trend in reputation for integrity and public support	Further improvement in trend	Baseline, mid-term and completion assessments	Public opinion survey and analysis of public investment trends	Specialist team contracted by FHC as part of socioeconomic study

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: Cumulative area of Irtysh pine replanted under project ('000 ha)	0	0	1	4	7	12	20	Quarterly reports	Project records	FHC
Survival rate	50%						85%			
Cost/ha (US\$)	\$210						\$180			
Cumulative area of Irtysh pine direct seeded ('000 ha)	0	0	0	0	1	6	21	Quarterly reports	Project records	FHC
Component IB: %fire management investments implemented in accordance with annual workplan	0	mostly	fully	fully	fully	fully	Fully			
Component 1C: Forest Partnerships Development program designed and piloted			* ³		* ⁴		* ⁵			

³ Forest product use feasibility study completed and PFM framework designed

⁴ Initial training completed and study recommendations and PFM operational.

⁵ PFM program expanded to additional villages.

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 IIA Cumulative area of dry Aral Seabed planted ('000 ha) Survival rate Cost/ha (US\$) Cumulative area direct seeded ('000 ha)	0 55% \$207 0	0 0	5.5 0	11 0	22 5	33 15	44 >70% <\$175 35	Quarterly reports	Project records	FHC
Component IIB Cumulative area of participatory saxaul rangeland restoration demonstrations initiated ('000 ha) Cumulative number of ha with improved access to water for livestock ('000)	0 0	2 50	4 100	6 150				Quarterly reports	Project records	FHC
Component IIIA Improvements implemented in accordance with annual workplan		mostly	Fully	fully	fully	fully	Fully	Quarterly reports	Project records	FHC
Component IIIB # of grants approved and under implementation			* ⁶	* ⁷	*	*		Quarterly reports	Project records	FHC
Component IIIC Bank supervision ratings		S	S	S	S	S		Semi-annual reports	Bank supervision report	Bank

⁶ Grant program design finalized and arrangements established

⁷ Grants issued. No specific target set but numbers indicate grants program is functioning

ANNEX C: RESPONSE TO PROJECT REVIEWS

A. Convention Secretariat comments and IA/ExA response

B. STAP expert review and IA/ExA response

Reviewer: German Kust

Date: 02 March 2005

Introduction and general effect of the project.

The main idea of the project is reflected in its title and sounds as forest protection and reforestation. The project contains three main components: two on the local level 1. Rehabilitation of Irtysh Pine Forest and 2. Environmental Amelioration in Kyzyl Orda and one on the state (regional) level – 3. National Institutional Development, Competitive Grant Program, and Project Management. The total cost of the project is relatively huge for the environmental project and GEF full-size grant of **US\$ 5 m** is less than 10 percent of the cost of baseline scenario. Nevertheless, GEF alternative provides the project with more global effects, because it strengthens the sounding of local and regional activities as a part of global effort on the relevant environmental issues.

The general objective of the full project is to develop and initiate ways of sustainable and cost effective environmental rehabilitation and management of forest lands and associated rangelands that are or suspected to be subjected to degradation in future due to the "jumping" kind of the economic development of the region (when overexploitation of natural forests and related rangelands could be the result either of poverty of the local communities or of the expansion of increasing economy on the natural ecosystems). The project will support field operations, provision of new technology and equipment, as well as staff capacity building. The field operations will take place partly in forests along the Irtysh River, and partly on rangeland and the eastern part of the dry bed of the former Aral Sea.

As it is clear from the Incremental Cost Analysis (Annex 15), the GEF grant seems to be directed mostly on the capacity buildings through the strengthening of local communities, implementation of the community developed local action 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. As well GEF financing will support initiatives for international cooperation on management of the transboundary resources (mainly

with Russia and Uzbekistan) and institutional capacity within the state headquarters for improved planning and management of forest and woodland resources.

The project is relevant mostly to the GEF focal area of land degradation rather focus on addressing key land degradation issues in forest lands, and also has some relevance to other GEF focal areas such as biodiversity conservation and global climate change with focusing on arid and semi-arid lands. So, I consider the project is eligible in the framework of GEF Operational Program on Sustainable Land Management (OP#15) as well as associated with the purposes of OP#1 (Arid and Semi-Arid Zone Ecosystems) and OP # 12 (Integrated Ecosystem Management).

Key issues

Scientific and technical soundness of the project

On the whole the scientific and technical background of the project sounds well. It includes the results of studies of natural, social and economic conditions for project designing, implementation, sustainability and replicability as well as grounds for the engaging of different consultants and specialists in the project activities. Unfortunately, most of these background materials are not included in the PAD text but available through different reports prepared during the PAD development.

As the project consists of separate (in geographic or technical aspects) components and subcomponents, it is necessary to assess their scientific and technical soundness also separately and then to make the common conclusion

Sub-Component IA. Reforestation of fire-damaged pine forest includes:

- improved reforestation of 41,000 ha with seedlings and if feasible directly seeded,
- re-establishment of seed production areas,
- applied research on cost-effective nursery, planting and direct seeding technologies (greenhouses, containers, seed pelleting, forest thinning, etc.).

The scientific and technical grounds of the activities of this subcomponent are sufficient. And it is clear that new technologies can intensify the reforestation after fires or logging. But there are some questions that remain not clear to me and, to my mind needed to be reflected in the PAD or its annexes .

1. How to consider the following text in the PAD: "There is an additional sub-component that will be activated after the MTR, if still considered necessary. This is improvement to the site preparation process. Currently the debris left after salvage harvesting of the burnt forest is heaped by bulldozers, either into heaps and burnt away or pushed into windrows and left to rot. The project provides for the testing of rolling chopper units that shatter the debris and incorporate it into the surface soil, thus facilitating the operation of planting machines and also hastening breakdown of the debris and release of nutrients into the soil. Conservation of the slender nutrient capital of sandy soils in this way is essential to maintain productivity in the long term"?. I mean first of all the words "if still considered necessary". Is there somebody against? What are the arguments? What are the reasons to wait? If there are some needs for special scientific researches on this, previous or similar items, it is necessary to point them in the text of PAD.

2. In the table 4.1. the project level of planting will rise up to 2012 year from 2000 to 10000 ha and of seedling – from 0 to 15000 ha. So, by a combination of improved technology for planted seedlings and direct sowing the entire burnt area will be reforested in 10 years, rather than the 70 years that the current methods will require. The question is what is the follow-up of this improved technology after 10 years? Who will consume the production of nurseries after this period? What local people involved in the process should do if the output of nurseries will decrease? I guess, that it is necessary to include in the activities of the project (e.g. in the component III) the task to assess the total possible consumption of this production in the region and adjacent areas in order to fix the upper level.

Sub-Component IB Improved Fire Management and Other Forestry Support includes development and implementation of improved forest fire management of the 642,000 ha through:

- information, consultation, and training to strengthen the fire management strategy,
- improved facilities for fire prevention and detection, including lookout towers, communications equipment and rejuvenation of the firebreak network, and
- improved facilities for fire suppression including road rehabilitation, fire station equipment, and fast-attack vehicles.
- a program of forest thinning and cleaning,
- improved facilities for more effective patrolling to reduce illegal activities,
- capacity building in integrated pest management

The scientific and technical grounds of the activities of this subcomponent are well-founded. Here is only one debatable point.

1. It has been mentioned in few reports preceding PAD that visual monitoring from aircrafts or helicopters is the most effective method to detect fires. But this method is expensive and, I guess, it was the reason to stay on the lookout towers. Another relatively cheap method could be also a system of space monitoring of fires. But the effectivity of this system is visible at least on the regional level. So, I wish to recommend to think on this methodology in the component III but use certain areas of the Irtysh forest as model testing areas.

Sub-Component IC Forest Partnership Development The PAD pointed that "The project will explore the feasibility fostering of community incentives to reduce illegal logging and supporting improved livelihoods for people around the periphery of the two Ormaneys, in ways that link poverty reduction to improved forest management. This may include the devolution of the responsibility for management of certain areas of the Irtysh forest to communities, under some form of participatory forest management. In return for certain usufruct rights, yet to be determined, and the right to be employed for specified tasks in the nominated forest area, the community would assume responsibility for the protection and ongoing management of the area under some sort of lease agreement. The ownership of the land, as well as the management direction of the forest, would always remain with the FHC. This approach is seen as one possible avenue by which community involvement in forest management could reduce FHC management costs, fire risks and illegal activities, while gaining assured employment and rights for the associated community" . This approach seems to be effective and is very close to former Soviet scheme of so-called "mezhkolkhoz forests" (mezhkolkhoz – Russian acronym for joint venture of several collective farms). But at present economic situation it is a risk that usufruct rights of the community can be usurp by the person or group of persons acting on behalf of the whole

community (even being formally elected). Taking in mind that in conditions of total poverty the forestry is "a sweet piece of cake", it is necessary not to forget that here is a window for corruption, especially in the distribution of "rights to be employed for specified tasks in the nominated forest area". So, I support the idea, but I also support that it might be only a thorough feasibility study conducted by independent consultants with deep involvement of different groups of the local people. The application of this idea must be very careful in order to provide benefits to the local communities entirely. Otherwise project can face with the threat of acts of sabotage.

Sub-Component IIA Planting on the Dry Aral Seabed includes:

- planting 79,000 ha (44,000 with seedlings and if feasible, 35,000 directly seeded)
- developing and using cost-effective nursery and planting technologies and cost-effective direct seeding techniques.

The assessment of scientific and technical soundness of this sub-component is a very complicated thing. From one hand, Aral Sea ecological catastrophe is well-known in the world and each effort of the international community to reduce negative results of sea collapse seems to be positive. From the other hand, the new ecosystems on the dry Aral Seabed (DAS) are very fragile, complicated and are not studied well to organize hasty activities here.

My general conclusion is the following:

- I entirely support the idea that the DAS can be and must be in future used for ecologically friendly economic purposes. It should be either pastures with carefully limited grazing impact or better – some kind of protected area.
- The presented project documents do not convince me completely of the ecological harmlessness of the methods suggested to implement planting on the DAS.

Why so? The main arguments appear from the contradictions between PAD and pre-PAD reports (citations are below):

- "...the preparation team was unable to find evidence of adverse impacts of the dust, salt, and pesticide deposition on human health that could be used to justify the project..."
"Furthermore, the main sources of this dust appear to be from abandoned agricultural fields along the former coastline, and from the salt covered refractory (solonchak) soils of the DAS. To date, vegetation of the DAS at significant scales has not been feasible on the refractory soils, which cover at least 20% of the DAS. This topic requires further research. Natural and human-assisted vegetation is feasible on the portions of the DAS with sandy soils, but these are not a major source of the salt and dust. However, it appears that vegetated areas on sandy DAS soils does help reduce wind erosion on a more localized scale". So, health hazard is not evident, refractory soils do not allow to grow plants, and friendly surfaces are overgrown already being not a source of salt and dust. In these conditions what is the purpose to organize a scaled planting experiment? One can suppose that new planting technologies used in the GTZ project or somewhere else provide more benefits. But there are no arguments in the project documents that these technologies are more effective. Moreover, the Biodiversity report informs that "in the period of 1988 – 1994 afforestation of the dried sea bed on the square of 54795 ha was made. Currently 12920 ha of them are covered with forests. Currently 30% of one and five year sapling can grow". Is 30% an effective share or not? The total expected area planted on the DAS is 79000 ha. Is it an area of new afforestation or expected area of

forest cover? What is the survival rate of those planted with new technology? Why the alternative to assign funds for forest shelterbelts and massives in the areas that suffer from dust storms from the DAS instead of planting on the DAS was not taken into consideration?

- Another point that remains not clear is why the PAD does not take into account the results of the Environmental Analysis. PAD and PIP suggest to use planting machines and tractors with trailers for planting. EA pointed, that "Places, where water or wind action may cause erosion, should be avoided and off-road traffic banned. The sites sensitive to erosion should be studied in the field within the planning work. The environmental expert of the PMU should participate to the site selection of the access roads. He should also make sure that the road planning and constructing staff has maps of ecologically sensitive areas as well as knowledge how to operate in such areas. Field inspection and visual monitoring is required during the planning stage and at the early stages of earthworks (e.g. to control off-road traffic, erosion and excessive damage to nature and landscape)". And further to: "The environmental expert of the PMU should participate to the mapping and zoning of the environment (including ecologically sensitive areas) as well as to the planning of how to operate in such zones. The expert should take care that the results of botanical-geological research will be applied in selecting the species, choosing the patterns to be planted and managing the area. Field inspection is required before the major re-vegetation and forest management operations (to identify protected sites) and during them (e.g. to control nature protection, off-road traffic, erosion, excessive damage to valuable habitats and natural vegetation)". After detailed description of the obvious environmental risks (loss of soils, wind erosion, etc.) the environmental report stressed, that "The planting should take place by local people with hand-tools or by using light machinery. Ploughing should be banned and only rounded small holes can be made to the ground for saplings. It is not believed that the furrows could be enormously beneficial in accumulating more snow watering the saplings or helping to remove salts from the land surface. The field evidence shows that such furrows have increased erosion and initiated dune formation. The main objective of the activities should be to stabilize dunes and stop erosion. Also off-road traffic should be banned. Guidelines for Good Planting Practices are required and these can be developed at the beginning of the Project implementation." It is extremely strange that the risks described in the environmental report and mitigation activities are not stressed in the PAD and PIP. If it will be done, I think it can increase the innovativeness of the project. The "Guidelines for Good Planting Practices" is a very good idea which can mitigate the pointed risks especially if to be added with detailed dendrology plan and field consultations of planting teams provided by a number of experts of high qualification in planting and general ecology.

From the other hand, there are three approaches in this sub-component, that are extremely important for its sustainability and interesting for proposed activities:

- First (described in PIP) is the usage of satellite imagery processing algorithm for mapping. This approach permits an objective evaluation of the environmental changes on the DAS and can become an ongoing requirement for monitoring the condition of the Aral Seabed region.
- The second is the investments in the research station include civil works for buildings, including a dormitory, a laboratory and office, and stores. Besides the general functions,

this station would allow visiting specialists from different institutes to undertake research projects at the station.

- The third is the exploring the potential for using pelleted seed for direct sowing of a range of species. This program can enlarge the list of plants used for DAS and make artificial development of vegetation more close to natural. Moreover, it will reduce the machine impact on the fragile environment of the DAS

Sub-Component IIB Improvement of Management of Saxaul Rangelands includes:

- thirty demonstration of a participatory saxaul rangelands program with each demonstration rehabilitating approximately 200 ha, and increasing access to water for grazing animals on an additional area of about 7500 ha
- herder agreements to enable restoration and development of degraded saxaul rangelands, community management of grazing pressure, and provision of water resources for associated rangelands.

Scientific and technical background of this subcomponent, that is presented in the working paper "Component IIB: Saxaul Rehabilitation and Rangeland Development", is very good. PAD and PIP are more poor (it is not a critical remark but a suggestion not to forget about this paper after the beginning of the work). In fact, this working paper is a detailed background and plan of action on the subcomponent activities. I am sure that all suggested activities, if they follow suggested plan, would be very effective. The only questions, which do not decrease the high evaluation of the total subcomponent, are the following:

- Arguments for the local herders to use distant pastures are not clear also. Why do they agree to go far from their settlements though at present time " about 6 percent of the grazed area is greater than seven kilometres from settlements, about 18 percent are between five and seven kilometres from settlements, and 76 percent is within five kilometres of settlements"? Distant pastures are obviously more productive after natural rehabilitation during last several years. Why they are not in use now and will be used after saxaul rehabilitation and rangeland development? What are attractive – new sources of fresh water or shadow from trees (seems to be unlikely) or smth else?
- There are no descriptions for methods of selection areas for saxaul planting. Newest scientific approaches to such selection demand to take into account the landscape properties. So, the best results of planting with great probability will be get on sandic lowlands, former ravines and gutters, dried river beds etc. I think that special scientific analysis needs to be done for this purpose and included in the framework of the subcomponent.
- In soviet time there were two main causes for saxaul degradation: (a) overgrazing and browsing of young plants; (b) use of saxaul for fuel. Nowadays the natural rehabilitation is more effective exactly in the distant areas with zero pressure. The working paper pointed: "Local communities understand the economic importance of saxaul. Community elders remember the way saxaul was and, despite laws, continue to cut saxaul because there is no alternative". What are the supposed alternatives for saxaul as a fuel far from settlements in future? How to force sheep not to browse plants?
- Two risks of social character of the sustainability of subcomponent outputs and outcomes needed to be explained: (a) "The younger generation members of the traditional livestock in families are not interested in herding, especially if it means traveling long distances to seasonal grazing lands. The young people want a "modern" lifestyle". So, what is the future of saxaul rangelands? Wage herders from backward countries or natural reserves? (b) "At the locations surveyed more than 55% of people are unemployed. These people

were not specifically interested in the project because they are focused on their own survival. However if work opportunities arose then they would definitely be interested. They are desperate to earn money. If they could earn 10,000 to 12,000 Tenge per month they would be willing to help with planting shrubs and seeding. These families are so desperate that men and women are willing to work and, unusually, women are willing to work without their husbands". If the project finishes, is it an assurance that the same people will not cut the saxaul for the same payment or even less but for another purpose (fuel, e.g.)?

As Component III is completely devoted to capacity building activities than its content is discussed in "*Capacity building aspects*" below.

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

The project has no global environmental drawbacks.

Global benefits pointed in the PAD Incremental Cost Analysis Summary do not sound as global after first reading. On the other hand, because of its more regional character, the project considered to get a number of regional benefits in the areas of combating desertification, sustainable land use, reforestation of degraded lands, biodiversity conservation, carbon sequestration. Capacity building activities of the project provide possibility to disseminate its positive results over the whole country and adjacent areas of neighbor countries. Kazakhstan occupies big territory including areas of global importance that makes possible to conclude that regional outcomes may have global benefits.

In particular, it is well proved in the project (taking into consideration the comments made above) that it "would have beneficial environmental impacts including reforestation of degraded lands, improved conservation and sustainable use of biodiversity in selected ecosystems, improved sheltering from wind and associated better air quality, and reduced use of potentially harmful pesticides. Environmental considerations are mainstreamed into the project objectives and components, and will be integrated in planning, implementation, and monitoring at both the local and national levels... Where possible the project will include the development of knowledge and monitoring of good environmental practice".

Thus I agree that "the project will result in certain global environmental benefits, such as reversing significant causes of land degradation and enhancing biodiversity/natural habitat in forest/woodland ecosystems, that justify GEF financing".

The GEF Alternative directs the project activities to expand its interventions in several areas, including international interchange, capacity building, forest and rangeland investments and targeted research, and environmental monitoring in order to realize the potential global benefits for sustainable forest and woodland management and biodiversity conservation from the existing interventions of the Baseline Scenario.

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

The fitness of the project within the goals of GEF is well defined. The project is relevant mostly to the GEF focal area of land degradation, and also has some relevance to other GEF focal areas such as climate change, and ecosystem biodiversity in forests and semi-arid zones.

So, 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, Climate Change and Multifocal focal areas

The Project is consistent with the Operational Program on Sustainable Land Management (OP#15) and associated with the purposes of OP#1 (Arid and Semi-Arid Zone Ecosystems) and OP # 12 (Integrated Ecosystem Management)

The project expected GEF assistance in: expanded opportunities for international cooperation and capacity development on the management of transboundary resources and for learning from international experience in innovative forest/rangeland management including participatory approaches, and environmentally beneficial approaches; increased investments in accelerated vegetation of the DAS, rehabilitation of the saxaul rangelands and promotion of innovative forest rehabilitation/development through competitive grant subprojects; research and demonstration on appropriate species and practices for vegetation of the DAS and sustainable management of the saxaul rangelands, and environmental monitoring of land degradation trends.

The project meets the goals of several relevant international Conventions and the country is a signatory to them: Convention to Combat Desertification (CCD) in 1997, Convention on Biological Diversity (CBD) in 1994

Regional context

The project does not cover the entire land degradation agenda of the state but focus on model regions for pine and saxaul rehabilitation and on addressing key land degradation issues in forest lands. The rejection of a nation-wide project covering field-level activities in all the forests of Kazakhstan and the alternative choice of two model project sites are well grounded. So, the project has a broad regional context and, as it was mentioned above, the project is of more regional and even local importance than global.

In particular, the regional context of GEF alternative concerns primarily the support of initiatives for developing international cooperation on management of the transboundary (Kazakhstan-Russia) pine forest resources and transboundary (Kazakhstan – Uzbekistan) activities on the planting and biodiversity conservation on the DAS. The GEF resources will provide expanded training opportunities for the Kazakh foresters and will also support long-term consultancies and additional technical assistance needed to design and implement appropriate participatory approaches to land management. It would also provide additional support for research and demonstration, particularly in the refinement and adoption of vegetative practices and technologies.

In the regional context I have only one remark. It is desirable to prepare a timetable of the project in the way that would make the outcomes of the components #1 and #2 more advanced. I mean that the program of small grants of the component #3 is desired to take into account the risks and

mistakes as well as positive results of the first two components. In this case the replicability of the project can be proved just during its implementation and local and regional context of these components would be increased up to the state level.

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

The replicability of the technologies used in the first two components seems to be limited as these model sites are very specific in environmental conditions. Otherwise they could be replicable in the similar conditions of pine forests on sand deposits in drought affected areas of Russian Federation, China, and Ukraine and on the dried beds of salt closed lakes. The saxaul planting is also replicable in the conditions of sand deserts.

From the other hand, the replicability of land management practice and capacity buildings is more probable and corresponds to the economic and social conditions of different countries with transitional or developing economy.

One more interesting feature of the project is the testing of the application of the forest and planting practice used in the northern countries (such as those used in Scandinavia) to the drought affected regions.

Sustainability of the project

The sustainability of the project is based mainly on different state and international strategies. Main of them are:

First is the National Environmental Action Plan which identifies seven key priorities problems that include, among others, degradation of pastures and arable lands and lack of forests and protected areas as natural habitats. Within the framework of this plan, a Joint Announcement of the Ministers of the Central Asian countries was signed stipulating the development of Central-Asia Regional Environmental Action Plan.

The second is the “Forest Code of the Republic of Kazakhstan” which regulates the forest use, protection and reproduction. The objective of the Forest Code is closely connected with conservation of biodiversity, regulation of relations in forestry economy with the purposes of maintenance of conditions for sustainable use of wood resources, their protection, safety and reproduction. The Regulation “About state forest protection” (2004) and the Decree “About prohibition of coniferous and saxaul trees cutting” (2004) have emphasized forest protection. Since April 2004 in Kazakhstan there is a 10-year moratorium on the cutting of coniferous and saxaul forests, which belong to the state forest fund. The National Academy of Sciences has prepared a "National Programme of Scientific Research on the Conservation and Sustainable Uses of Biological Diversity," which includes monitoring the state of the environment. National Action Plan (NAP) prepared in 1997 under the United Nations Convention to Combat Desertification (UNCCD) emphasizes environmental zoning, monitoring, improvement of nature protection, and rationalization of the natural resource use. The NAP specifies main zones of ecological stress and land degradation (including in and around the dry Aral seabed and the Irtysh River) and the main types of degradation (including windblown soil erosion, soil salinization, and forest destruction).

These and others governmental document with certainty prove the guaranteeing of the project sustainability on the state level.

The PAD describes the ways to support institutional sustainability and financial sustainability very well. The intention of continued expansion of the government investment program will enable the continuation of incremental field activities beyond the life of the project. Staff and routine operating expenses are already and will continue to be provided by the Government. Social and cultural sustainability at the village level will be addressed by ensuring representation of key groups in developing the participatory natural resource management plans.

Critical risks and possible controversial aspects as well as their mitigation are also well defined through social and institutional analysis and the analysis on community involvement, which were both based on stakeholder analysis and field surveys/

Another sort of project integrated sustainability could be supported by the detailed M&E plan which can be elaborated before project start or at the initial stage. Although PAD refers to that the Environmental Analysis "...identifies a number of actions and mitigation measures to address the potential adverse impacts of the project ..." and "... includes standard measures for addressing the direct physical impacts of project activities (e.g. planting, construction, roadwork, etc.) in environmental management guidelines..." and "...also includes actions/measures that should enhance the environmental and social benefits of the project..." and "...identifies a number of key ecological and social indicators for monitoring project impacts ..." etc., one can find in the presented documents only a general description of the Results Framework and Monitoring. But the project contains a number of activities that have to be realized before starting other activities. In other words the project pipeline bears in some cases a "chain-like" character that needs special evaluation for risks and critical points for decision making. These points do not refer straight to the annual or midterm reports but need to be assessed and predicted in the project framework. The possible way of the creation of such a detailed M&E plan is the beginning with the environmental, social and economic assessment which has to be executed on the base of different exact indicators which should be used in future procedures of M&E. In other words, the project needs some kind of "baseline" to compare expected results with the "zero-point". Another possible way is suggested in the Environmental Analysis as an Environmental Management Plan. The objectives of the EMP are very well defined and correlated with my suggestion. The only objection to this sort of plan is that in the proposed form it is more "environmental" than "management". So it need to be expanded to institutional and management activities.

Secondary issues

Linkages to other focal areas

The project includes clear linkages to biodiversity conservation and to carbon management opportunities

Linkages to other programmes and action plans at regional or sub-regional levels

The project links to the National Environmental Action Plan, which has been prepared in 1997 with assistance of the World Bank, UNDP, and EU-TACIS. National Action Plan to Combat Desertification the CCD. The project is also consistent with the action plan for conservation and sustainable use of forest ecosystems in the national Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity Conservation (1999)

The project would work in partnership with GTZ on the vegetation of the dry Aral seabed. GTZ plans to support technical cooperation activities of vegetation of the dry Aral Seabed in both Kazakhstan and Uzbekistan in 2005 and 2006. The Bank-financed project also continue to liaise with the Kazakhstan working group on the United Nations Convention to Combat Desertification, and with donors, such as the United Nations Development Programme, the Asian Development Bank, and GTZ, which are addressing other land degradation issues in Central Asia.

Reviewer comment:

The purport of annex 2 with the list of projects is not clear. At least the brief analysis of linkages between projects is necessary.

Other beneficial or damaging environmental effects

The project has no negative environmental impacts. On the contrary, it provides significant environmental and social benefits that outweigh any potential risks. The potential adverse impacts identified can be effectively addressed through careful preventive actions or mitigation measures. Moreover, the project will promote environmentally sound integrated pest management where feasible

All risks that can provide adverse environmental or social impacts are clearly pointed in the PAD or other related documents (pre-PAD reports), especially in the EA. Some of them are mentioned also in this review. As a number of risks or uncertainties are scattered throughout project documents, it should be necessary to structure and classify them on the initial stage of the project implementation or before. Careful risk control and detailed M&E plan can mitigate negative results to zero through the capacity building for project management to change work plans according the development of the project. The table of critical risks presented in the PAD is not sufficient enough for such control.

Degree of involvement of stakeholders in the project

The project defines key stakeholders as rural people living in and around the forests, livestock-herder families, forest users, forestry staff, as well as environmental NGOs. Local people seemed to play the leading role in the project implementation on-the-ground. Through participatory management local people would obtain rights to a share of forest products in exchange for undertaking specific protection and/or management responsibilities, and with a provision for the development of livelihoods alternatives. The role of the government is high in the management and sustainability of the project and especially – in the component III. The role of women traditionally is weak but it hopes to grow especially in the "saxaul" sub-component. The proposed role of NGOs in the project is not described.

Capacity-building aspects

Capacity building aspects appear throughout the project. Some of them (on the local level) were mentioned above under discussion of components I and II. Main remarks there were addressed in this case to the sustainability of outcomes and outputs (nurseries, public agreements, employment etc.) after finalizing of planting.

The component III is totally devoted to capacity building aspects on the regional/state level. GEF alternative of this component will support a number of the activities of national institutions necessary to build institutional capacity for improved planning and management of forest and woodland resources, including mapping and surveying needed to better understand and assess forest sector resources, expanded monitoring capabilities and information systems. In addition, GEF resources will finance limited investments in innovative forest rehabilitation and management.

Remarks:

- As far as computer techniques and current GIS software usually become obsolete in several years, what measures should be done to upgrade the Forest Management Information System after the end of the project? Does FHC have enough resources for this purpose?
- Grant Programme is a very good way to enlarge public involvement and awareness. The only remark here is the recommendation to add the implementation plan of this subcomponent with interim and final analysis of outcomes and outputs of the programme that have to be supposed in the Operation Manual (or another related document) at the initial stage of its implementation.

Innovativeness of the project.

The project is not particularly innovative at the global level as it refers in general to the national objectives. The usage of some technologies for planting and nursering can be considered as innovative at the local or regional level. Also some researches can bring innovative results, e.g. adaptation of pine planting technologies to drought-affected conditions, proportioning of plants for rehabilitation of the DAS environment, direct sowing, etc.

Other comments and questions

- The PAD pointed that in addition to mapping "... a socioeconomic evaluation will be undertaken at mid term and completion.." I think it is necessary to undertake such evaluation at the end of the first year of the project as well (maybe in brief form). The reason is that a number of measures must be done during first year to finalize plans, programs and strategies. Public acceptance and economic eligibility of these plans before their launching are very important points.
- Detailed outcomes and outputs indicators must be elaborated on the initial stage. Current indicators such as "20,000 ha replanted and 21,000 ha direct seeded" are available but not sufficient, as far as the main purpose of activity is not to spend money for planting but to rehabilitate lands and provide socio-economic sustainability. Another kind of indicators such as "Initiation of restoration evident" is very poor and needs to be developed.

- The illegal logging could not be stopped only by public agreements and consultations, as far as organized crime is more equipped and organized. Is it possible to find resources in the project to equip foresters with necessary facilities to prevent illegal logging?
- What is the perfect title of the Component III: "Capacity Building of National Institutions" or "National Institutional Development and Project Management"? Different titles are used in different parts of PAD and PIP.

Responses to STAP Review Comments

General Observations:

The project preparation team is pleased with the STAP reviewer's conclusions, in such statements as the following, that project activities are eligible for GEF financing:

- "... *GEF alternative provides the project with more global effects, because it strengthens the sounding of local and regional activities as a part of global effort on the relevant environmental issues.*" (p. 1, para. 1)
- "... *I consider the project is eligible in the framework of GEF Operational Program on Sustainable Land Management (OP#15) as well as associated with the purposes of OP#1 (Arid and Semi-Arid Zone Ecosystems) and OP # 12 (Integrated Ecosystem Management).*" (p. 1, para. 4)
- "*The project has no global environmental drawbacks.*" (p. 6, para.3)
- "*Kazakhstan occupies big territory including areas of global importance that makes possible to conclude that regional outcomes may have global benefits.*" (p. 6, para. 4)
- "*Thus I agree that 'the project will result in certain global environmental benefits, such as reversing significant causes of land degradation and enhancing biodiversity/natural habitat in forest/woodland ecosystems, that justify GEF financing'.*" (p. 7, para. 2)

The STAP reviewer states that "*the GEF grant seems to be directed mostly on the capacity buildings through the strengthening of local communities, implementation of the community developed local action 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*" (p. 1, para. 3) The Bank team would like to clarify that the bulk of the GEF grant in fact would finance on-the-ground investments in vegetation of the DAS, rehabilitation/management of the saxaul rangelands, and innovative forest activities in other areas, as well as targeted research on appropriate species and improved technologies for planting on the DAS.

Responses to Specific STAP Reviewer Comments:

Rehabilitation of the Irtysh Pine Forests

Comment 1 *How to consider the following text in the PAD: "There is an additional sub-component that will be activated after the MTR, if still considered necessary. This is improvement to the site preparation process. Currently the debris left after salvage harvesting of the burnt forest is heaped by bulldozers, either into heaps and burnt away or pushed into windrows and left to rot. The project provides for the testing of rolling chopper units that shatter*

the debris and incorporate it into the surface soil, thus facilitating the operation of planting machines and also hastening breakdown of the debris and release of nutrients into the soil. Conservation of the slender nutrient capital of sandy soils in this way is essential to maintain productivity in the long term"?. I mean first of all the words "if still considered necessary". Is there somebody against? What are the arguments? What are the reasons to wait? If there are some needs for special scientific researches on this, previous or similar items, it is necessary to point them in the text of PAD. (p. 2, para. 5)

Response. This question may result from a minor misunderstanding of the text. Certainly there is no one opposed to improving site preparation in the burnt areas of the Irtysh pine forest. However, the local forestry staff has only recently changed from heaping and burning post-harvesting debris to pushing debris into windrows and not burning it. This is an improvement that needs to be consolidated before moving on to the new concept and new technology of rolling choppers to conserve organic matter *in situ*. Introducing the use of choppers is part of a phased approach the project takes to improving plantation management practices, which will be evaluated at mid-term and certainly undertaken if appropriate.

Comment 2. *In the table 4.1. the project level of planting will rise up to 2012 year from 2000 to 10000 ha and of seedling – from 0 to 15000 ha. So, by a combination of improved technology for planted seedlings and direct sowing the entire burnt area will be reforested in 10 years, rather than the 70 years that the current methods will require. The question is what is the follow-up of this improved technology after 10 years? Who will consume the production of nurseries after this period? What local people involved in the process should do if the output of nurseries will decrease? I guess, that it is necessary to include in the activities of the project (e.g. in the component III) the task to assess the total possible consumption of this production in the region and adjacent areas in order to fix the upper level. (p. 2, para. 6)*

Response. The STAP reviewer is correct that if all the new techniques introduced by the project work well, seed supply is no problem, and future forest fire losses are small, the project will reforest all the burnt forest area in about 10-12 years. Should this be the case, however, there remains a large area of currently unused grassland adjoining the forest that could be afforested, if the Government decides to do so. Whether the grassland will still be idle in 10 years time will depend on the economic and social changes that take place in the area. At the same time, improved management of the forest through regular thinning programs promoted by the project would provide employment for an increasing number of people in the local area. While some transitional arrangements may be necessary, this should not be a serious problem.

Comment 3. *It has been mentioned in few reports preceding PAD that visual monitoring from aircrafts or helicopters is the most effective method to detect fires. But this method is expensive and, I guess, it was the reason to stay on the lookout towers. Another relatively cheap method could be also a system of space monitoring of fires. But the effectivity of this system is visible at least on the regional level. So, I wish to recommend to think on this methodology in the component III but use certain areas of the Irtysh forest as model testing areas. (p. 3, para. 3)*

Response. The project, in fact, will evaluate the potential for using some sort of remote sensing system (e.g. the Modis-Terra fire algorithm used in Siberia) for fire detection. To be effective, however, these systems require access to real time satellite imagery and good data processing facilities, both of which can be expensive. Furthermore, experience in Australia at least suggests

that these systems are of no use for rapid fire attack as their response time is too slow. They are invaluable, on the other hand, during a major fire event when smoke blots out all other detection systems.

Comment 4. .. *But at present economic situation it is a risk that usufruct rights of the community can be usurp by the person or group of persons acting on behalf of the whole community (even being formally elected). Taking in mind that in conditions of total poverty the forestry is "a sweet piece of cake", it is necessary not to forget that here is a window for corruption, especially in the distribution of "rights to be employed for specified tasks in the nominated forest area". So, I support the idea, but I also support that it might be only a thorough feasibility study conducted by independent consultants with deep involvement of different groups of the local people. The application of this idea must be very careful in order to provide benefits to the local communities entirely. Otherwise project can face with the threat of acts of sabotage. (p. 3, para. 4)*

Response. The STAP reviewer raises a legitimate concern about the potential for abuse of the forest partnership system promoted by the project. Recognizing this risk, the project PAD and PIP, in fact, already incorporated his suggestion that there be a analysis of this issue by independent consultants as part of the detailed design during the first year of the project.

Planting on the Dry Aral Seabed

Comment 5. ... *the preparation team was unable to find evidence of adverse impacts of the dust, salt, and pesticide deposition on human health that could be used to justify the project..."* *"Furthermore, the main sources of this dust appear to be from abandoned agricultural fields along the former coastline, and from the salt covered refractory (solonchak) soils of the DAS. To date, vegetation of the DAS at significant scales has not been feasible on the refractory soils, which cover at least 20% of the DAS. This topic requires further research. Natural and human-assisted vegetation is feasible on the portions of the DAS with sandy soils, but these are not a major source of the salt and dust. However, it appears that vegetated areas on sandy DAS soils does help reduce wind erosion on a more localized scale". So, health hazard is not evident, refractory soils do not allow to grow plants, and friendly surfaces are overgrown already being not a source of salt and dust. In these conditions what is the purpose to organize a scaled planting experiment? One can suppose that new planting technologies used in the GTZ project or somewhere else provide more benefits. But there are no arguments in the project documents that these technologies are more effective. Moreover, the Biodiversity report informs that "in the period of 1988 – 1994 afforestation of the dried sea bed on the square of 54795 ha was made. Currently 12920 ha of them are covered with forests. Currently 30% of one and five year sapling can grow". Is 30% an effective share or not? The total expected area planted on the DAS is 79000 ha. Is it an area of new afforestation or expected area of forest cover? What is the survival rate of those planted with new technology? Why the alternative to assign funds for forest shelterbelts and massives in the areas that suffer from dust storms from the DAS instead of planting on the DAS was not taken into consideration? (p. 4, para. 4)*

Response: The technologies for planting on the DAS proposed by the project are based on some 15 years of applied research and successful experience on the DAS by recognized international experts, i.e. Kaverin in Kazakhstan and Novitski in Uzbekistan. To this long record must be added the more recent research and field operations by the successful GTZ project in Uzbekistan. The preparation team certainly appreciates the complexity of the soils and landscape on the DAS and based its conclusions on numerous field inspections with Kaverin and Novitski and with

staff of research institutes in Almaty. While the project recognizes the need for ongoing research on the DAS to improve vegetative techniques (some of which will be financed by the GEF grant), the history of past research resulting in successful vegetation of areas of the DAS provides sufficient basis for the proposed project interventions. The environmental assessment is still in the process of being finalized. If it does provide the above clarification, then at least the Project Implementation Plan will explain why EA's arguments are not valid. Regarding project support for shelterbelts and massives, the social analysis found that this was not a high priority of local people compared with other public investment needs. In any case, where local people do want to establish such shelterbelts, this could be considered for support through the competitive grants program.

Comment 6: *Another point that remains not clear is why the PAD does not take into account the results of the Environmental Analysis. PAD and PIP suggest to use planting machines and tractors with trailers for planting. EA pointed, that "Places, where water or wind action may cause erosion, should be avoided and off-road traffic banned. The sites sensitive to erosion should be studied in the field within the planning work. The environmental expert of the PMU should participate to the site selection of the access roads. He should also make sure that the road planning and constructing staff has maps of ecologically sensitive areas as well as knowledge how to operate in such areas. Field inspection and visual monitoring is required during the planning stage and at the early stages of earthworks (e.g. to control off-road traffic, erosion and excessive damage to nature and landscape)". And further to: "The environmental expert of the PMU should participate to the mapping and zoning of the environment (including ecologically sensitive areas) as well as to the planning of how to operate in such zones. The expert should take care that the results of botanical-geological research will be applied in selecting the species, choosing the patterns to be planted and managing the area. Field inspection is required before the major re-vegetation and forest management operations (to identify protected sites) and during them (e.g. to control nature protection, off-road traffic, erosion, excessive damage to valuable habitats and natural vegetation)". After detailed description of the obvious environmental risks (loss of soils, wind erosion, etc.) the environmental report stressed, that "The planting should take place by local people with hand-tools or by using light machinery. Ploughing should be banned and only rounded small holes can be made to the ground for saplings. It is not believed that the furrows could be enormously beneficial in accumulating more snow watering the saplings or helping to remove salts from the land surface. The field evidence shows that such furrows have increased erosion and initiated dune formation. The main objective of the activities should be to stabilize dunes and stop erosion. Also off-road traffic should be banned. Guidelines for Good Planting Practices are required and these can be developed at the beginning of the Project implementation." It is extremely strange that the risks described in the environmental report and mitigation activities are not stressed in the PAD and PIP. If it will be done, I think it can increase the innovativeness of the project. The "Guidelines for Good Planting Practices" is a very good idea which can mitigate the pointed risks especially if to be added with detailed dendrology plan and field consultations of planting teams provided by a number of experts of high qualification in planting and general ecology. (p. 4, para. 5)*

Response: There is not as much disagreement here as there might appear at first reading. First, the PAD the STAP reviewer read fails to take into account some of the recommendations of the EA in large part because the draft EA was only received very late in project preparation. Certainly the preparation team agrees with the need for and has incorporated environmental

expertise into the PCU, i.e. a forester/ecologist who will oversee the mapping of ecologically sensitive areas and participate in the planning and implementation of project activities on the DAS. Second, where the team disagrees with the EA and the STAP reviewer is on the use of planting machines and tractors in planting activities on the DAS. The most recent experience has shown that there is no problem with using planting machines on the DAS. They were used in the past without negative impacts and the GTZ project in Uzbekistan is using them now with little or no adverse effect on environmental conditions. The preparation team does not believe that the DAS is the extremely fragile environment that the EA says it is, so the project should not have to go to such lengths to avoid any soil surface disturbance. In fact, the disturbances resulting from planting operations are trivial compared to the natural forces taking place on the DAS all the time. Furthermore, the scientific fact is that the furrows used in site preparation on the DAS have been proven to increase plant survival and early growth. Third, the recommended “Guidelines for Planting Practices” for the field operations will be prepared under the project in order to minimize any adverse environmental impacts from planting, but they will be based on good science and the extensive experience accumulated in planting on the DAS.

Improvement of Saxaul Rangeland Management

Comment 7: *Arguments for the local herders to use distant pastures are not clear also. Why do they agree to go far from their settlements though at present time " about 6 percent of the grazed area is greater than seven kilometres from settlements, about 18 percent are between five and seven kilometres from settlements, and 76 percent is within five kilometres of settlements"? Distant pastures are obviously more productive after natural rehabilitation during last several years. Why they are not in use now and will be used after saxaul rehabilitation and rangeland development? What are attractive – new sources of fresh water or shadow from trees (seems to be unlikely) or something else? (p. 5, para. 4)*

Response: After the early 1990s the livestock population on the saxaul rangelands plummeted. This meant that the area required for grazing contracted substantially. This contraction was reinforced by a concurrent deterioration in infrastructure. Existing livestock watering wells fell into disrepair and local livestock owners did not have the resources to repair them. Therefore, large areas of rangeland, often with better quality forage resources, could not be used. This problem was compounded by the fact that livestock owners did not have the resources to transport or move the livestock the necessary distances. But, the lack of functional livestock watering wells also limits the use of even relatively nearby grazing lands. The current trends indicate that livestock numbers are increasing once again. This will increase pressure to utilize the nearby, unused (unwatered) and more distant grazing lands again. The re-establishment of watering points (along with necessary user rights) promoted by the project will be a powerful incentive for extension of the grazing areas. Improvement of shade is likely to be a factor in some of these sites but not in the short term because of the time it takes to establish a shade-size tree or shrub. The establishment of saxaul or other shade-producing trees or shrubs in the “associated rangeland areas” will be a development option suited to some locations.

Comment 8: *There are no descriptions for methods of selection areas for saxaul planting. Newest scientific approaches to such selection demand to take into account the landscape properties. So, the best results of planting with great probability will be get on sandic lowlands, former ravines and gutters, dried river beds etc. I think that special scientific analysis needs to be done for this purpose and included in the framework of the subcomponent. (p. 6, para. 2)*

Response: In selecting the areas for saxaul planting, the project will rely on the extensive local knowledge on site characteristics suitable for saxaul planting. The project recognized the need to map the extent of the rangeland areas suited to saxaul rehabilitation, as well as for the other project activities, linking such information to administrative and political practicalities as appropriate. This mapping of the saxaul rangelands has been proposed as an essential pre-project implementation activity to be carried out in early to mid 2005.

Comment 9: *In soviet time there were two main causes for saxaul degradation: (a) overgrazing and browsing of young plants; (b) use of saxaul for fuel. Nowadays the natural rehabilitation is more effective exactly in the distant areas with zero pressure. The working paper pointed: "Local communities understand the economic importance of saxaul. Community elders remember the way saxaul was and, despite laws, continue to cut saxaul because there is no alternative". What are the supposed alternatives for saxaul as a fuel far from settlements in future? How to force sheep not to browse plants?* (p. 6, para. 3)

Response: The increasing availability of alternative fuels (e.g. natural gas) in the larger settlements on and around the saxaul rangelands should reduce at least some of the pressure on saxaul for fuel purposes. In areas far from these settlements, however, there remain few good alternatives to saxaul, but the pressure for fuel wood should not be significant in these areas. As for grazing, the available information suggests that saxaul does not rate high in palatability for grazing animals compared to other rangeland species. The implication of this, of course, is that if grazing pressures are not excessive, and more preferred alternatives are available, then livestock will be less likely to eat saxaul. Grazing pressures were high in previous times, resulting in adverse impacts on the saxaul. The primary objective of this component is to introduce sustainable, resource-based management of the rangelands. Controlling grazing pressures is fundamental to that.

Comment 10: *Two risks of social character of the sustainability of subcomponent outputs and outcomes needed to be explained: (a) "The younger generation members of the traditional livestock in families are not interested in herding, especially if it means traveling long distances to seasonal grazing lands. The young people want a "modern" lifestyle". So, what is the future of saxaul rangelands? Wage herders from backward countries or natural reserves? (b) "At the locations surveyed more than 55% of people are unemployed. These people were not specifically interested in the project because they are focused on their own survival. However if work opportunities arose then they would definitely be interested. They are desperate to earn money. If they could earn 10,000 to 12,000 Tenge per month they would be willing to help with planting shrubs and seeding. These families are so desperate that men and women are willing to work and, unusually, women are willing to work without their husbands". If the project finishes, is it an assurance that the same people will not cut the saxaul for the same payment or even less but for another purpose (fuel, e.g.)?* (p. 6, para. 4)

Response: What the future holds for the saxaul rangelands is a good question. Much depends on the evolution and economic development of the local communities on the rangelands and the development options available to them. It is possible that in the future there will be fewer livestock owners with more livestock and “specialist” herders will be hired by individuals or groups of livestock owners to manage the grazing of their livestock both at nearby and more distant grazing lands. As evidence of this, there is already local discussion of forming grazing cooperatives for managing livestock. As for the economic pressures leading to future cutting of

saxaul for fuelwood, unfortunately there is no assurance the project can give that this will not happen. However, one of the bases of this component, fundamental to its viability, attempts to address this issue. By granting some form of user rights to the developed rangeland resources to the participating local groups (e.g. herders, communities), the project should encourage these groups to develop a direct interest in and assume primary responsibility for protecting and using these resources rationally. This would include the rangeland forage resources and the fuelwood resources.

Regional Context

Comment 11: *In the regional context I have only one remark. It is desirable to prepare a timetable of the project in the way that would make the outcomes of the components #1 and #2 more advanced. I mean that the program of small grants of the component #3 is desired to take into account the risks and mistakes as well as positive results of the first two components. In this case the replicability of the project can be proved just during its implementation and local and regional context of these components would be increased up to the state level. (p. 8, para. 3)*

Response: The STAP reviewer makes an interesting point. Although it would be difficult to advance the outcomes of the first two components in order to incorporate lessons learned from them in the competitive grants program, in reality full implementation of the grants program will only begin to take place in the years following the first year of the project (i.e. after appointment of the Grant Board, development of the operational manual, preparation and evaluation of grant applications), so the grants program should be able to benefit from lessons learned by the project in its other components in the initial years of project implementation.

Sustainability of the Project

Comment 12: *Another sort of the project integrated sustainability could be supported by the detailed M&E plan which can be elaborated before project start or at the initial stage. Although PAD refers to that the Environmental Analysis "...identifies a number of actions and mitigation measures to address the potential adverse impacts of the project ..." and "... includes standard measures for addressing the direct physical impacts of project activities (e.g. planting, construction, roadwork, etc.) in environmental management guidelines..." and "...also includes actions/measures that should enhance the environmental and social benefits of the project..." and "...identifies a number of key ecological and social indicators for monitoring project impacts ..." etc., one can find in the presented documents only a general description of the Results Framework and Monitoring. But the project contains a number of activities that have to be realized before starting other activities. In other words the project pipeline bears in some cases a "chain-like" character that needs special evaluation for risks and critical points for decision making. These points do not refer straight to the annual or midterm reports but need to be assessed and predicted in the project framework. The possible way of the creation of such a detailed M&E plan is the beginning with the environmental, social and economic assessment which has to be executed on the base of different exact indicators which should be used in future procedures of M&E. In other words, the project needs some kind of "baseline" to compare expected results with the "zero-point". Another possible way is suggested in the Environmental Analysis as an Environmental Management Plan. The objectives of the EMP are very well defined and correlated with my suggestion. The only objection to this sort of plan is that in the proposed form it is more "environmental" than "management". So it need to be expanded to institutional and management activities. (p. 9, para. 5)*

Response: The final version of the PAD will reflect the thrust of these comments regarding the EMP. Because the first draft of the EA arrived very late in the project preparation process, the version of the PAD that the STAP reviewer read did not fully reflect the findings and recommendations of the EA. Furthermore, the project preparation team recommended that the consultant significantly strengthen the Environmental Management Plan (EMP) included in the first draft EA along the lines of the STAP reviewer's comments, i.e. to include more on environmental "management" of potential project impacts, oversight of environmental measures, monitoring of environmental indicators, etc. This includes appropriate technical capacity within the PCU (i.e. a forester/ecologist), as well as technical assistance and capacity building as needed. The team also asked the consultant to strengthen the monitoring plan for the EMP by identifying critical environmental and social indicators (beginning with a baseline as the STAP reviewer suggests) for evaluating impacts of the project. Regarding the management aspects, the PIP will include an Annex elaborating the guidelines for monitoring and evaluation, including social, institutional, and management aspects.

Linkages to Other Programs

Comment 13: *The purport of annex 2 with the list of projects is not clear. At least the brief analysis of linkages between projects is necessary.* (p. 10, para. 4)

Response: This annex was not complete in the PAD version read by the STAP reviewer. It now contains electronic links with publicly available information on each project. However, the annex does meet the specified one page format in accordance with World Bank guidelines. A comparable but longer section in the PIP, however, contains further annotation, noting which project-related sectors have been or would be addressed by the projects listed, and includes references to additional projects outside of Kazakhstan which are also relevant.

Other beneficial or damaging environmental effects

Comment 14. *All risks that can provide adverse environmental or social impacts are clearly pointed in the PAD or other related documents (pre-PAD reports), especially in the EA. Some of them are mentioned also in this review. As a number of risks or uncertainties are scattered throughout project documents, it should be necessary to structure and classify them on the initial stage of the project implementation or before. Careful risk control and detailed M&E plan can mitigate negative results to zero through the capacity building for project management to change work plans according the development of the project. The table of critical risks presented in the PAD is not sufficient enough for such control.*

Response. The reviewer's comment on careful risk control is well taken. However, the table of risks presented in the PAD is not intended to cover the full range of project risks identified by the reviewer. Most of these are better handled in the context of the particular project preparation analyses where they are identified and addressed (e.g. the environmental risks in the EA/EMP, the social risks in the social assessment, etc.). Furthermore, the monitoring and evaluation guidance in the relevant PIP Annex will further address risk control, and provide a mechanism to identify new risks if and when they arise.

Degree of involvement of stakeholders in the project

Comment 15. *The proposed role of NGOs in the project is not described.*

Response. The project will likely make use of existing training capacity among NGOs to help build specialist and beneficiary skills for the implementation Forest Partnership Development and the Improvement of the Saxaul Rangeland Management subcomponents, with details to be decided during the first year of the project. NGOs will also be among the stakeholder audiences for the policy and information activities under the national component. NGOs also are eligible to develop proposals and if selected, implement, subprojects under the Competitive Grants Program. The project design includes extensive support for FHC and associated agencies to improve their communications capacity with all stakeholders, including NGOs. A small number of NGO representatives will also be included as members of the Project Advisory Committee.

Capacity building aspects.

Comment 16: *As far as computer techniques and current GIS software usually become obsolete in several years, what measures should be done to upgrade the Forest Management Information System after the end of the project? Does FHC have enough resources for this purpose?* (p. 11, para. 4)

Response: It is true that information systems continue to evolve rapidly and that FHC will have to keep up with this evolutionary process in the management of its FMIS and other systems. In reality, it is unlikely that the FMIS will be completed by the end of the project. The FHC, however, should be sufficiently set on a path with the FMIS that will go on, without requiring substantial additional resources, for a long time after project completion.

Comment 17: *The Grant Programme is a very good way to enlarge public involvement and awareness. The only remark here is the recommendation to add the implementation plan of this subcomponent with interim and final analysis of outcomes and outputs of the programme that have to be supposed in the Operation Manual (or another related document) at the initial stage of its implementation.* (p. 11, para. 5)

Response: As noted above, the project will attempt to ensure that the competitive grants program incorporates lessons as they are learned by the project into its subprojects and grant operational manual. The fact that the competitive grants specialists will be located in the PCU will ensure close collaboration and exchange with the project's technical specialists.

Innovativeness of the project

Comment 18. *The project is not particularly innovative at the global level as it refers in general to the national objectives. The usage of some technologies for planting and nursering can be considered as innovative at the local or regional level. Also some researches can bring innovative results, e.g. adaptation of pine planting technologies to drought-affected conditions, proportioning of plants for rehabilitation of the DAS environment, direct sowing, etc.*

Response. While the technical aspects represent adaptation of existing practices from elsewhere to circumstances within Kazakhstan, the project is innovative in its institutional approach, especially in the context of a CIS country. The project reflects an innovative emphasis on the results-orientation and cost-effectiveness of public expenditures on environmental goods, and a learning by doing approach to acquiring the new skills and behavior needed to achieve this outcome that has global as well as national relevance. Furthermore, the project will introduce innovative approaches to participatory forest and rangeland management in Kazakhstan,

including the exchange of usufruct rights for sustainable management responsibilities with local populations.

Other comments and questions.

Comment 19: *The PAD pointed that in addition to mapping "... a socioeconomic evaluation will be undertaken at mid term and completion.." I think it is necessary to undertake such evaluation at the end of the first year of the project as well (maybe in brief form). The reason is that a number of measures must be done during first year to finalize plans, programs and strategies. Public acceptance and economic eligibility of these plans before their launching are very important points. (p. 11, para. 7)*

Response: With social assessment and community involvement reports already completed during project preparation, the project preparation team does not believe a socio-economic evaluation in the first year of the project is necessary. The project's planned evaluations at mid-term and project completion should be sufficient.

Comment 20: *Detailed outcomes and outputs indicators must be elaborated on the initial stage. Current indicators such as "20,000 ha replanted and 21,000 ha direct seeded" are available but not sufficient, as far as the main purpose of activity is not to spend money for planting but to rehabilitate lands and provide socio-economic sustainability. Another kind of indicators such as "Initiation of restoration evident" is very poor and needs to be developed. (p. 11, para. 8)*

Response: The project team has followed World Bank guidance for a results framework which highlights the most significant indicators at a summary level, and avoids an elaborate set of indicators that would be expensive or impractical, and would not be used effectively to assess and improve performance. This results framework is however, backed by evaluation analysis that will provide detailed elaboration. For example, the "initiate of restoration evident" will be evaluated through a detailed remote sensing, ground truthing, and analysis exercise that will take place in 2005, as well as at the MTR and completion will further measure the nature and extent of changes in the conditions of various project areas. Terms of reference for the 2005 study are already available, and the PIP will include TOR for subsequent exercises. The reference to "20,000 ha replanted and 21,000 ha direct seeded" is listed as just one element of more elaborately described *output* indicator for component IA, while the *outcome* indicators do, in fact, address land and socio-economic impacts.

Comment 21: *The illegal logging could not be stopped only by public agreements and consultations, as far as organized crime is more equipped and organized. Is it possible to find resources in the project to equip foresters with necessary facilities to prevent illegal logging? (p. 12, para. 1)*

Response: The project does provide resources to equip foresters with vehicles and other equipment necessary to increase patrols in order to prevent illegal logging operations. Further, the project will provide more employment in local communities to help reduce the economic incentives for illegal forest activities.

Comment 21: *What is the perfect title of the Component III: "Capacity Building of National Institutions" or "National Institutional Development and Project Management"? Different titles are used in different parts of PAD and PIP. (p. 12, para. 2)*

Response: The correct title is: “Capacity Building of National Institutions”.

C. GEF Secretariat and other Agencies’ comments and IA/ExA response

1. Country Drivenness. *“Additional project relevant programs and action frameworks should be identified (e.g., related to agriculture, land and environment).”*

Response: The section has been expanded and updated to reflect the additional programs.

2a. Program Designation and Conformity. *“It has to be presented what Strategic Priority this project will address. The project has to link GEF-supported activities of the project to sustainable land management and how it will support restoration of forest ecosystem integrity.”*

Response. The strategic priority is now correctly listed as Sustainable Land Management Targeted Capacity Building (SLM-1). The main text and the incremental cost analysis annex now provide a detailed explanation of how the GEF-supported activities are linked to sustainable land management and how it will support restoration of both the forest as well as arid and semi-arid ecosystem integrity. The STAP reviewer supports this explanation.

2b Project Design. *“All project components to be well developed. Log frame and incremental cost analysis in place. Project funding identified. The project area has to be clearly defined. The proposal should present the objective and activities of the IBRD loan and describe what the GEF will add to the objective and how it will complement the baseline activities.”*

Response. The project components are now well developed. In addition to the PAD, the PIP and the working papers provide further detailed descriptions. In accordance with current World Bank procedures and in accordance already established by other blended World Bank/GEF projects, the project is based on a Results Framework, which is a modified log-frame. The incremental cost analysis is completed and provides a detailed presentation on the base line and GEF alternative. Project funding requirements and financing allocations have been identified, and the government has initiated the internal processing required to confirm the project budget. However, the financing plan will not be finalized until after the finalization of this internal processing and the completion of the formal negotiations of the loan and grant agreements. Regarding project areas, the Irtysh pine component will operate within the two gazetted special reserves. The general areas of the Dry Aral Seabed and the saxaul rangelands are identified, and the specific sites for the initial field areas will be determined based on mapping and associated analysis that will take place in 2005, with decisions completed by early 2006. The sites of subprojects to be funded under the competitive grants program will be determined during project implementation, but to be eligible, subprojects will be limited to areas in and around public and private forests and plantations. As explained in the background section of the incremental cost analysis, there is a good understanding of these areas, many of which also face land degradation threats.

2c. Sustainability (including financial sustainability). *“Sustainability plan in place. An analysis of relevant state policies should be undertaken during the PDF-B and potential conflicts addressed by the project if applicable.”*

Response. As explained in the main text of the executive summary, the project design has played close attention to ensuring sustainability. Project preparation was funded by a Japanese (PHRD) grant instead of a PDF-B, but it did include detailed analysis of relevant state policies by technical, social, institutional, legal, and economic specialists. The project includes specific support increasing the capacity for policy development which will address priority issues.

2d. Replicability. *“The proposal should describe the pilot areas of the project will be working in and identify potential replication sites in the country and the region (including selection criteria). The full project should develop a replication strategy and plan and allocate appropriate resources to related activities. Potential resources have to be identified to ensure the implementation of this plan after project completion. (e.g., Government budget, other donors).*

Response. As explained in the main text of the executive summary, replicability is fundamental to the project outcomes. The government has the political will and the public revenue (from oil) to fund post-project replication, assuming that the project succeeds in developing cost-effective approaches to forest protection and planting.

2e. Stakeholder involvement. *“Stakeholder participation plan with accompanying budget in place. A complete list of key stakeholder groups have to be presented. It has to be described how these stakeholders were consulted and involved in the development of the project and how they will be participating in the project implementation. Representatives from relevant sector ministries have to participate in the project (e.g. agriculture, environment). In addition the UNCCD focal point should be involved in the project as well.”*

Response. As explained in the main text of the executive summary, project preparation included extensive attention to stakeholder involvement. The preparation documents include detailed stakeholder analysis, participation plans, and records of stakeholder consultations. Stakeholder participation is mainstreamed into the detailed project, with expensive support to improve communication and involve local people in a wide range of project activities. Representatives from relevant sector ministries have participated in project preparation discussions and will participate in project implementation as well, including in the Project Advisory Committee. The UNCCD focal point has been involved, and the deputy project director is a member of the national UNCCD working group.

2f. Monitoring and Evaluation. *“Monitoring and evaluation plan in place with indicators at objective, outcome, and output level identified. Information (categories and time plan) has to be provided on the collection of baseline information.”*

Response. The results framework provides the required information in accordance with World Bank guidelines. Most of the baseline information has already been assembled during project preparation, with the exception of the additional mapping and associated analysis, for which there are plans and funding to undertake during 2005.

3. Financing Plan. *“Project financing by component in place”*

Response. A financing plan consistent with detailed cost estimates exists. The government is currently undertaking its own internal procedures to ensure that project financing will be in place

for all project components. The precise financing allocations will be finalized during loan and grant agreement negotiations.

4a. Core Commitments and Linkages. *“Institutional coordination plan in place.”*

Response. As explained in the main text of the executive summary, the project will build on existing coordination bodies established on UNCCD implementation.

4b. Consultation, Coordination, Collaboration between IAs, and IAs and EAs, if appropriate. *“Coordination plan in place including all stakeholders. Clear collaboration and coordination arrangements have to be made. Relevant initiatives supported by other national and international organizations should be presented and potential for cooperation and coordination identified.”*

Response. As explained in the paragraph of the main text of the executive summary, as well as the paragraph on stakeholder involvement, coordination arrangements are in place. As explained in the incremental analysis, GEF support is helping to increase the extent of international interchange and coordination.