

United Nations Development Programme/Global Environment Facility  
Government of Uzbekistan

# **Achieving Ecosystem Stability of Degraded Land in Karakalpakstan and Kyzylkum Desert**

**PIMS 3148**

**Project Final Evaluation Report**

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## Project Executing Partners

Executing Agency:	Forestry Department of the Ministry of Agriculture and Water Resources of the Government of Uzbekistan
Principal Participating Partners:	Academy of Sciences, Goskomzem, the Uzbekistan Hydrometeorological Service, and the State Committee for Nature Protection
GEF Implementing Agency:	United Nations Development Programme (UNDP)

## Evaluation Responsibility

This Final Evaluation is undertaken by the UNDP Country Office (Energy & Environment Programme) in Uzbekistan in liaison with the UNDP Bratislava Regional Centre as the GEF Implementing Agency for this project.

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## List of Abbreviations

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<b>APR</b>	Annual Project Review
<b>CACILM</b>	Central Asian Countries Initiative for Land Management
<b>CBO</b>	Community-based Organisation
<b>CO</b>	Country Office
<b>CTA</b>	Chief Technical Adviser
<b>DAC</b>	Development Assistance Committee of OECD
<b>FFS</b>	Farmer Field School
<b>GEF</b>	Global Environment Facility
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (former: GTZ)
<b>Goskompriroda</b>	State Committee for Nature Protection
<b>Goskomzem</b>	State Committee for Land Resources, Geodesy, Cartography and State Cadastre
<b>MAWR</b>	Ministry Agriculture & Water Resources
<b>M&amp;E</b>	Monitoring & Evaluation
<b>MSP</b>	Medium-sized Project (GEF)
<b>MTE</b>	Mid-term Evaluation
<b>NEX</b>	National Execution
<b>NGO</b>	Non-governmental Organisation
<b>NSC</b>	National Steering Committee
<b>PIR</b>	Project Implementation Review / Project Implementation Report
<b>PIU</b>	Project Implementing Unit
<b>PPG</b>	Project Preparation Grant (GEF)
<b>PSC</b>	Project Steering Committee
<b>SGP (GEF SGP)</b>	Small Grants Programme of GEF
<b>SLM</b>	Sustainable Land Management
<b>TE</b>	Terminal Evaluation
<b>TOR</b>	Terms of Reference
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>UNDP</b>	United Nations Development Programme
<b>UNFCCC</b>	United Framework Convention on Climate

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## Executive Summary

### Description of project

The ultimate goal of the Project “Achieving Ecosystem Stability of Degraded Land in Karakalpakstan and Kyzylkum Desert” has been defined as “to contribute to achieving ecosystem sustainability in degraded land in Karakalpakstan and the Kyzylkum Desert in Uzbekistan, thus reversing the spread of deserts, promote carbon sequestration, increase biodiversity habitat and ensure health and socio-economic benefits for the local population on a sustainable basis.”

The specific objective of the project is “to test, evaluate and promote innovative solutions to the problems of land degradation at a pilot scale in Kyzyl Rovat (Bukhara Oblast) and Kazakh-darya (Karakalpakstan) and replicate best practices in order to achieve ecosystem stability on degraded land in Karakalpakstan and the Kyzylkum Desert in Uzbekistan”

This objective was intended to be achieved through four outcomes:

- Outcome 1:** Plant species, having both strong ecological and economic benefits for succession in desert and semi-desert ecosystems identified and sustainable land management methods tested.
- Outcome 2:** Mobile sands stabilized and degraded land rehabilitated in partnership with local communities.
- Outcome 3:** Institutional and policy framework for integrated land use planning and management, strengthened.
- Outcome 4:** Monitoring and evaluation, learning and adaptive management, implemented.

The main project partner is the Forestry Department of the Ministry of Agriculture and Water Resources with the direct joint participation of the Academy of Sciences, the State Committee on Land Resources, Geodesy, Cartography and State Cadastre (Goskomzem), Uzbekistan Hydrometeorological Administration (Uzhydromet), and the State Committee for Nature Protection. The GEF grant (GREF-MSP) comprised US\$ one million, and co-funding was estimated at project begin at US\$2.4 million. The project began after much delay in March 2008 and will be closed in March 2013, giving this a five-year implementation period.

### Context and purpose of the evaluation

The evaluation was conducted in October/November 2012, i.e. two to three months prior to the end of project operations. In accordance with UNDP/GEF Monitoring and Evaluation (M&E) policies and procedures, the evaluation should determine to what extent the project had been successful in fulfilling its objectives and obtaining the expected results and whether it was a cost-effective way of obtaining those results. It is thus a comprehensive and systematic account of the performance of the project by assessing its design, process of implementation, achievements, and any other results.

The project was assessed in accordance with the GEF guidelines for conducting terminal evaluations and along the lines laid out in the OECD/DAC Principles for Evaluation of Development Assistance: relevance, effectiveness, efficiency, impact, and sustainability. Coherence & coordination was used in line with several international donors as an additional criterion, and Project management was used as a further criterion to analyse the reasons for success and failure.

Three data collection techniques were used for information collection with target groups: (1) Documentary review (desk study review of all relevant project documentation and documents), (2) Detailed interviews and discussions with individual stakeholders, (3) Managed group discussions ("Focus Groups"), and (4) Field visits. In addition to information collection at central institutions in Tashkent and Samarkand, site visits were paid to Kazakh-darya and Kyzyl Rovat.

## Main Findings

Altogether, the Ecosystem Stability Project showed remarkable achievements and it is fully justified that this project is often used as an example project in the region. The project achieved its objective, and the project team is to be praised for a professional management. The project is rated as “satisfactory” on the 6-point scale.

The project can be proud of successfully introducing home gardens in the two pilot villages. At the beginning of the project, the villages had almost no green, it was barren land; today, people are cultivating vegetables, fodder plants and trees, and can contribute in this way to make their living. Whereas there were no real big technical challenges to do this, the real challenge was the human factor, i.e. changing the mind-set of former fishermen, herders, etc., and to convince them to attend Field Farmer Schools for learning home gardening.

The project conducted many different trials to improve the system of fixing moving sands, and succeeded in developing some specific technologies, which are now mainstreamed into the afforestation programme of the Forestry Department. There are also many successful cases of creating new sources of income, increasing the productivity of livestock, introducing grazing rotation in the rangelands, formation of local water user groups, etc. While the positive socio-economic impact and success of all these measures is unquestioned, the environmental benefits are sometimes less evident. At the end of the project, there is still some risk that the positive socio-economic measures will finally lead to higher livestock populations, and thus to overgrazing and possibly environmental degradation. To avoid such trade-offs between environmental and socio-economic goals, the project tried to regulate the number of livestock with so called “passports” for pastures, and “tickets”, which freeze the maximum number of livestock per ha rangeland at a certain level. The efforts undertaken by the project towards this end are still in a very early stage, and many questions e.g. on assessment of the carrying capacity of rangelands, on monitoring, institutional responsibilities, legal framework, etc. are still open. This needs follow-up after the end of the project.

Certain shortcomings of the project find its reason mainly in the design of the project and not in the implementation. These include:

- The design of the project was much too ambitious. The project designers apparently believed that the project could first fully develop new methodologies for SLM, and then upscale them in an area of 100,000 ha. This, however, is physically impossible within a 5-year period, and not realistic within the budget limits of an MSP. The indicators for achieving the project objective therefore had to be cut-back to a realistic level during the Inception Phase.
- The selection of two pilot areas which do not allow developing much synergies because of being located far from each other and having quite different environmental problems. There is a general impression that the project should solve the ecological disaster of the Aral Sea bed and the problems of SLM in the desert with the instruments and resources of one single MSP. The applicants of the project had either not understood the magnitude of problems, the limits of a MSP, or they simply did not consider the possibility of concentrating efforts for achieving higher impact.
- The overall project approach is too much science-based. In the opinion of the TE, too much energy and resources have been spent to test new approaches, and the project would have done better to build stronger on existing knowledge, and apply this to achieve higher impact. The development of new methods is not a core task of classical GEF projects. There are many research institutions working in the region who would surely be in a better position to carry out these trials.

The project is understood as part of the CACILM Initiative. Despite the existence of special CACILM projects on capacity building, knowledge management, etc. the project could not much participate in these efforts. Also the general exchange of knowledge and experience with other CACILM projects was limited to very few occasions on project management level.

The assessment of the project according to the internationally accepted (extended) OECD/DAC evaluation criteria gave the following results:

**Relevance.** The project is rated as “Relevant” on the 2-point scale (equivalent to “Satisfactory” on the 6-point scale) as it, among other aspects, addresses globally important issues of integrated dry land management including the livelihood of local communities, aims at the conservation and rehabilitation of ecosystems and habitat types for which Uzbekistan has a global responsibility, pursues a systemic approach through combining ecological with socioeconomic goals and works both at the local and national levels. The relevance of the project is further underpinned by international commitments made by the Government of Uzbekistan in the frame of international environmental conventions and priorities outlined in the GEF operational policies. The intervention strategy has certain weaknesses regarding the logical flow from problems over outcomes to objective, and thus lead e.g. to an over-emphasis of support to scientific research.

**Effectiveness.** The effectiveness of the project is rated “Highly Satisfactory” on the 6-point scale as it, among other aspects, achieved more or less the targets of the indicators of success (some indicators, however, were not clear, realistic and/or measurable). It successfully tested different methods for sand dune stabilisation, successfully examined the growth rates of different plants under different soil and salinity conditions, introduced a series of innovative methods for land management (e.g. home gardens, rangeland rotational management), and strengthened the personal and institutional capacities of several national and regional administrations. The project undertook serious efforts to develop and introduce a system of Integrated Land Use Planning and Management, but it turned out that such a system is not fully compatible with the local framework conditions.

**Efficiency.** The efficiency of the project was rated “Satisfactory” (6-point scale) as it conducted most project activities in a timely manner and achieved most project outcomes in line with the time planning of the annual work plans. In day-to-day project management, it selected usually the most cost-effective way in order to achieve the intended objective, and also did not conduct activities which are not necessary to achieve the project objective. Procurement procedures were not always supportive to a prompt and flexible management. Efficiency suffered from the fact that two pilot villages were chosen during the design of the project which are very far from each other and do not allow to develop much synergies. Embedding the project into the Central Asian Countries Initiative for Land Management (CACILM) apparently did not bring much advantages to the project. The TE believes that a stronger regional cooperation in the fields of research and development of methodologies would have increased the efficiency of this and other projects, while CACILM’s potential for capacity building and knowledge-sharing could not be tapped in this respect.

**Impact.** The impact of the project is rated as “Significant” (on the 3-point scale, equivalent to “Satisfactory” on the 6-point scale) as it, among other aspects, succeeded in changing the mind-set of local people in the pilot villages and succeeded in introducing home gardens and make local people take more care of their immediate environment. The household income of those families who participated in the home garden programme showed on average a highly significant increase of US\$300 p.a. The project also helped local people generate income from sources other than livestock, helped increase the productivity of livestock, and assisted the *Shirkat* in Kyzyl Rovat to achieve the status of a “caracul sheep breeding farm”, which guarantees higher income for at least the next years. Altogether, the activities on creating alternative sources of income are very punctual; with 16 new jobs (most of them part-time), these measures are more of symbolic value. The project developed a legal framework and undertook steps to integrate project results regarding rangeland use into national legislation. The acceptance of these proposals, i.e. the impact, is a long process beyond the responsibility of the project, and will only be clear at a later time. In order to upscale project results, the project integrated the recommendations on afforestation and sand dune fixation into the regulations of the Forestry Department, but it is also here too early to see how far this will be implemented and what the actual impact on the ground will be. While the project impact is visible in many socioeconomic fields, a positive impact on the environment sometimes still needs to be confirmed.



**Sustainability.** The sustainability of the project is rated “Moderately Likely” (on the 4-point scale, equivalent to “Satisfactory” on the 6-point scale) as it, among other aspects, initiated and supported the establishment of home gardens, which provide income and contribute to a healthier life, and where there is no doubt that local people will continue to operate them. The small businesses established with the assistance of the project in the pilot areas ensure permanent income for some villagers and it is also beyond doubt that they will continue these jobs. The veterinary services were improved by the project in a way that both private business and sheep-owners benefit from it and the veterinary firm will surely continue to provide these services. Strengthening governmental institutions on the level of the Government of Karakalpakstan and Bukhara Province as well as on national level was another way, in which the project achieved some level of sustainability. The project also made local people aware of the problems of land degradation and thus laid the ground for their long-term engagement. Sustainability ultimately depends to some degree on the acceptance of legal amendments suggested by the project, and on the fact to what degree the Forestry Department will put the project’s recommendations on afforestation and sand dune fixation into practice. Upscaling activities are at the time of project closure still at the very beginning, and can hardly be completed without external support.

**Coherence and Coordination.** The Coherence and Coordination of the project was rated as “Moderately Satisfactory” (on a 6-point scale) as it, among other aspects, is executed as an element of the Central Asian CACILM Initiative for Land Management, which provides a wider context and for which UNDP/GEF is a major stakeholder, but CACILM did not offer much in respect to capacity building and knowledge sharing, and the project was not in a position to demand services from CACILM. Although the project is part of the CACILM project family, it was implemented more or less like a stand-alone project, and could not establish firm partnerships with other SLM projects in the region, which address similar projects, and develop or apply similar approaches.

**Project Management.** The overall project management is rated “Highly Satisfactory” on the 6-point scale as it, among other aspects, shows high ownership by the project executing partners on national, regional and local levels, was managed by a highly dedicated and professional management team, and is built on high personal continuity throughout the project’s lifespan. Through careful and sensitive management, the project succeeded to integrate and get the support of the most relevant national stakeholders.

## **Recommendations and Lessons Learned**

### **A. Put more efforts in the development of sound project concepts**

The main shortcomings of the project are rooted in a project concept that has been designed long before the actual begin of operations, and is not always based on realistic assumptions (too ambitious). The research-orientation, for example, cannot be derived from the problem analysis. It costed some efforts at the beginning of the project to modify the design in a way that implementation becomes feasible. Sometimes, it might also be necessary to defend the project concept and to make sure that the ultimate aim is to serve first national priorities and not donor priorities. It needs to be considered to have a stronger quality control by UNDP and GEF.

### **B. Don’t support livelihood activities, if they are not linked to the environment**

The GEF is an environmental fund, and environmental protection is the ultimate goal of all GEF funded projects. Even though improvement of the environmental situation is usually not possible without improving the socio-economic situation of people, but this does not mean that all socio-economic measures have a positive effect on the environment. The impact of every single project measure on the environment must therefore be assessed and all measures need to be linked to environmental issues. In many cases, it should be possible to conclude environmental agreements on community level: the community commits itself to conduct certain measures for environmental protection (e.g. to limit the number of livestock), and gets in return support from the project for its socio-economic

development. Formal agreements and strict monitoring are necessary for this purpose. Without such agreements on individual or on community level, there is always a risk that socio-economic measures are understood as “additional”, and not as “alternative”, and that higher income will lead to more environmental degradation.

### **C. Concentrate on livelihood activities which have a potential for upscaling**

The TE had the impression that some of the alternative livelihoods developed by the project had little chance for achieving a wider impact. Barber shops, for example, are not of that kind of business which will find wide distribution. A better concentration in field such as producing value-added products from livestock (e.g. products made from the skin of caracul sheep, value-added dairy products) may have a much higher potential for replication.

### **D. Keep in mind that pilot projects are just service providers for other projects and programmes, and hence carefully examine the needs and expectations of these projects and programmes from the beginning**

The direct impact of relatively modest projects such as this MSP will always remain limited, and the investment of international funds is only justified if the impact goes beyond the pilot sites and if it can be assured that upscaling will actually take place. Pilot projects can be understood as a kind of service projects, i.e. projects which provide or improve the instruments applied by other projects or programmes on a much larger scale. To this end, “clients” of pilot projects need to be identified from the scratch, and the pilots need to be conducted according to their needs and expectations. Otherwise the results of pilot projects will hardly be accepted by and integrated into other projects and programmes. It is well-known in development cooperation that the results of many pilot projects (including very successful pilot projects) will never be upscaled, because other projects and programmes are simply not interested. So it is not enough to conduct pilot measures and to prepare at the end of the project an upscaling strategy, whose implementation is often beyond the responsibility of the project. The upscaling strategy needs to be part of the project concept from the scratch and needs to be demand-driven. It should be clear from the beginning, who will upscale what, and who is to be integrated into project planning & implementation from the beginning. It should also be kept in mind that the ultimate target groups of pilot projects are not the local communities in the pilot villages, but the much larger group of people with similar problems, and thus indirectly the managers of other projects and programmes.

### **E. Make sure that Terminal Evaluations follow a coherent approach**

The Terms of Reference of the Consultants of GEF Terminal Evaluations follow the UNDP/GEF Monitoring & Evaluation Guidelines. These guidelines are sometimes not consistent (e.g. effectiveness & efficiency sometimes merged, different rating scales are applied for different criteria, etc.). It is therefore suggested to UNDP/GEF

- to improve the standard structure of evaluation reports so that they are better in line with OECD/DAC evaluation criteria and better allows comparisons between the evaluations of different projects;
- to provide guidance for the overall rating of projects, based on the individual ratings of certain aspects or components as required by the Monitoring & Evaluation Guidelines;
- to consider the introduction of a robust, consistent and uniform rating for all evaluation criteria (currently, there are 2-point, 3-point, 4-point, 6-point ratings in place, depending on kind of criteria).

## Project Performance Ratings

Criteria	Rating scale	Rating
<b>Monitoring and Evaluation</b> Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
– Overall quality of M&E	6 pt.	HS
– M&E design at project start up	6 pt.	HS
– M&E Plan Implementation	6 pt.	HS
<b>IA &amp; EA Execution</b> Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
– Overall Quality of Project Implementation/Execution	6 pt.	HS
– Implementing Agency Execution	6 pt.	HS
– Executing Agency Execution	6 pt.	MS
<b>Outcomes</b> Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
– Overall Quality of Project Outcomes		S
– Relevance: relevant (R) or not relevant (NR)	2 pt.	R
– Effectiveness	6 pt.	HS
– Efficiency	6 pt.	HS
<b>Sustainability</b> Likely (L); Moderately Likely (ML); Moderately Unlikely (MU); Unlikely (U)		
– Overall likelihood of risks to Sustainability	4 pt.	ML
– Financial resources	4 pt.	ML
– Socio-economic	4 pt.	L
– Institutional framework and governance	4 pt.	L
– Environmental	4 pt.	ML
<b>Impact</b> Significant (S), Minimal (M), Negligible (N)		
– Environmental Status Improvement	3 pt.	M
– Environmental Stress Reduction	3 pt.	M
– Progress towards stress/status change	3 pt.	M
<b>Overall Project Results</b>	6 pt.	S

## 1. Introduction

The Terminal Evaluation (TE) Report is divided into four sections. The first section provides general background of the Project “Achieving Ecosystem Stability of Degraded Land in Karakalpakstan and Kyzylkum Desert”, the purpose of evaluation, the project implementation setup, and evaluation methodology. The second section provides information on the project and its design including the goal (objective) and indicators, the problems to be addressed, and the main stakeholders. The next section dwells on findings from the reports and from interactions with stakeholders. In the fourth section, conclusions from the observations and findings are discussed in the context of project objectives and in a wider context. These also pertain to sustainability and replicability of project. This section also provides lessons learnt and recommendations for combating land degradation in the region and for designing similar projects elsewhere.

### Purpose of the Evaluation

In accordance with UNDP/GEF Monitoring and Evaluation (M&E) policies and procedures, all regular projects supported by GEF should undergo a final evaluation upon completion of implementation. This Terminal Evaluation is intended to assess the relevance, performance and success of the project. It looks at signs of potential impact and sustainability of results, including the contribution to capacity development and achievement of global and national environmental goals.

The evaluation shall determine to what extent the project has been successful in fulfilling its objectives and obtaining the expected results and whether it was a cost-effective way of obtaining those results. The purpose of this Terminal Evaluation is thus to give an account of the level of achievement of the project objectives. The evaluation aims at meeting this basic concern among the key actors involved in the project and to assess the relevance of the action. This evaluation shall thus provide a comprehensive and systematic account of the performance of a completed project by assessing its project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives during project implementation, and any other results.

This evaluation pursues – in accordance with the GEF guidelines for conducting terminal evaluations – five complementary purposes:

- To promote accountability and transparency, and to assess and disclose the extent of project accomplishments.
- To synthesize lessons that can help to improve the selection, design and implementation of future GEF financed UNDP activities.
- To provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues.
- To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefit.
- To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

The Final Evaluation also identifies and documents lessons learned and makes recommendations that project partners and stakeholders might use to improve the design and implementation of other similar projects and programmes. In line with these purposes, the evaluation report addresses three main target groups:

- The Government of Uzbekistan and in particular the Forestry Department of the Ministry of Agriculture and Water Resources, and other key stakeholders on national level to get an independent view of the outcomes of the project and to allow a comparison of project performance with internationally recognised standards;

- The Central Asian Countries Initiative for Land Management (CACILM) to make lessons learnt available to them for taking them into account in the design of similar projects in the region;
- The GEF Implementing Agency, UNDP, to assess project achievements and to make possible a comparison of project performance with other similar projects especially those ones implemented in the region, and to provide a tool for country planning;
- The GEF Secretariat to assess how the project contributed to GEF's overall performance and to the indicators of achievement.

Other groups such as the local stakeholders and beneficiaries, who have been directly involved in project implementation may also benefit from the results of this evaluation, although this group is not a primary target group of this Terminal Evaluation.

## Key Issues Addressed

The project was assessed along the following lines, as laid out in the DAC Principles for Evaluation of Development Assistance<sup>i</sup>, which have been adopted by most development organisations including UNDP<sup>ii</sup>

- **Relevance** – the extent to which the activity is suited to local and national development priorities and organisational policies, including changes over time.
- **Effectiveness** – the extent to which an objective has been achieved or how likely it is to be achieved.
- **Efficiency** – the extent to which results have been delivered with the least costly resources possible.
- **Impact** (sometimes also called “results”) - the positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, economic, environmental and other development indicators.
- **Sustainability** - Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable.

While the DAC Criteria provide an excellent basis to show the achievements and non-achievements of a project, they are less suitable as analytical tool (Why was a project successful? What were the critical aspects? What are the success factors?). The performance of the project management team and the environment in which the team operates are critical in this context, but is insufficiently reflected in the DAC Criteria. An additional criterion has therefore been added:

- **Project Management Performance** – the management factors (in a wide sense) that influence the performance of the project (institutional arrangements, personnel structure, steering at micro and macro level, guidance by implementing agency and partner institutions).

The DAC Criteria are furthermore incomplete regarding the cooperation of the project with the projects and programmes of the government and other donors. In line with standards set up by some donors (such as the European Commission; also applied in some evaluations by UN organisations), coherence and coordination was therefore added as an additional criterion:

- **Coherence and coordination** – the kind of complementary (resp. degree of complementary) with the projects and programmes of other bilateral and multilateral donors.

These two additional evaluation criteria have already been applied successfully in a few mid-term and final evaluations of GEF-funded projects in Europe and the CIS.<sup>iii</sup>

## Methodology of the Evaluation

The evaluation was undertaken in accordance with the “GEF Monitoring and Evaluation Policy”<sup>iv</sup>. It was based on a crosscutting qualitative descriptive and analytical approach. Four data collection techniques were used for information collection with target groups:

- Documentary review: Desk study review of all relevant project documentation and documents on the related environment;
- Detailed interviews and discussions with individual stakeholders;
- Managed group discussions (“Focus Groups”); and
- Field visits.

The interviews and discussions included consultations with the main stakeholders on national and regional level and on the level of pilot sites and comprised representatives of governmental, non-governmental, and scientific organisations. Extensive interviews were made with stakeholders directly responsible for project implementation (Project Steering Committee, Project Implementation Unit/Project Team, UNDP Country Office, etc.); site visits were made to Kyzyl Rovat (Bukhara Oblast) and Kazakhdarya (Autonomous Republic of Karakalpakstan).

While the entire project implementation period starting from early 2008 and ending in early 2013 (i.e. approximately five years) was taken into account, special focus was put on the period extending from October 2010 to October 2012, i.e. the period between the mid-term review (MTE) and the terminal evaluation (TE). This was done in the assumption that the main issues for the 2008-2010 period have been captured in the MTE and do not need further detailed assessment.

The field part of the TE extended from 14<sup>th</sup> October to 26<sup>th</sup> October, 2012. A detailed itinerary and a list of persons interviewed are given in Annex 2-3.

The structure of report has been adapted to capture all relevant elements of both the TORs, the “UNDP/GEF Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects”, and the extended OECD/DAC criteria.

In addition to a descriptive assessment, several criteria were rated based on the most recent (2012) “Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects”<sup>v</sup>. These ratings were used throughout the report, although different systems of ratings are used depending on the source. The TORs of the evaluation, for example, use a 4 point scale instead of the 6 point scale applied here according to UNDP/GEF standards. Even the “UNDP/GEF Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects” describe the different scales, but call in the draft outline of the report (p. 36) for using the 6-point scale throughout. So even within UNDP/GEF different rating systems are in place, making comparison difficult and sometimes even impossible.

Table 1: Criteria used to evaluate the achievements of the Project and of some of its components. The “Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects” is followed.

<b>Outcomes</b>	Highly Satisfactory	HS	6	The project had no shortcomings in the achievement of its objectives
<b>Effectiveness</b>	Satisfactory	S	5	There were only minor shortcomings
<b>Efficiency</b>	Moderately Satisfactory	MS	4	There were moderate shortcomings
<b>M&amp;E</b>	Moderately Unsatisfactory	MU	3	The project had significant shortcomings
<b>I&amp;E Execution</b>	Unsatisfactory	U	2	There were major shortcomings
	Highly Unsatisfactory	HU	1	The project had severe shortcomings
<b>Sustainability</b>	Likely	L	4	Negligible risks to sustainability
	Moderately Likely	ML	3	Moderate risks
	Moderately Unlikely	MU	2	Significant risks
	Unlikely	U	1	Severe risks

<b>Relevance</b>	Relevant	R	2
	Not relevant	NR	1
<b>Impact</b>	Significant	S	3
	Minimal	M	2
	Negligible	N	1

Table 2. Rating of Progress Towards Meeting Development Objective (DO). The definitions in parentheses are those used in the PIR 2012.

<b>Rating</b>	<b>Definitions</b>
<b>Highly Satisfactory (HS)</b>	Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
<b>Satisfactory (S)</b>	Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
<b>Moderately Satisfactory (MS)</b>	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.
<b>Moderately Unsatisfactory (MU)</b>	Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
<b>Unsatisfactory (U)</b>	Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.
<b>Highly Unsatisfactory (HU)</b>	The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.

## 2. The Project and its Development Context

### 2.1 Project Data

The first plans for the project originated in about 2003, and a project concept paper was approved for funding under GEF's then PDF-A Facility in 2005. Actual Project implementation started in 2008 and will come to an end in early 2013.

05.05.2005 PDF-A approval, PPG granted  
 07.08.2007 Project proposal circulated to GEF Council members  
 28.08.2007 Project approval by GEF  
 26.09.2007 GEF Agency (UNDP) approval  
 17.12.2007 Signature of Project Document by UNDP and the Government of Uzbekistan  
 02-03.2008 Hiring of key staff (Begin of Project operations)  
 09-10.2010 Mid-term evaluation  
 13.05.2011 Extension of implementation period for one year  
 10/11.2012 Final evaluation  
 31.12.2012 End of operations  
 31.03.2013 Closure of project

Project development thus experienced a lengthy preparation period, which is more or less equal to the time budget available for implementation. Such long delays in project preparation were typical for most GEF operations in those days and have been subject to serious criticism<sup>vi</sup>. It is thus not to blame those responsible for the preparation of this specific project, but it was a system-immanent malfunction.

Project implementation was initially approved for a period of four years (2008-2012). Based on a recommendation by the MTE, a no-cost extension was granted for 14 months.

Table 2. Project budget as reflected in the Project Document. Amounts in US\$. Arithmetic errors in the Project Document have not been corrected here.

GEF	Confirmed	Unconfirmed
GEF (incl. PPG)	999,999	
<b>Subtotal</b>	<b>999,999</b>	
<b>Co financing</b>		
UNDP (incl. PPG)	315,500	
European Commission (TACIS)		9,600
Winrock International (Farmer-to-Farmer Programme)	109,000	
Embassy of France in Tashkent		80,000
Embassy of Israel in Tashkent		120,000
Embassy of Japan in Tashkent		25,000
British Embassy in Tashkent		12,000
The State Committee for Nature Protection	6,700	
US Department of Agriculture (through STCU)	350,000	
MAWR: Forestry Department	1,468,750	
MAWR: Forestry Department, Main Office	115,000	
MAWR: Forestry Department, Bukhara Oblast Office	40,000	
MAWR: Forestry Department, Karakalpakstan Office	4,500	
Romitan Rayon, Bukhara Oblast	4,500	
Muinak Rayon, Karakalpakstan	4,500	
<b>Subtotal</b>	<b>2,418,450</b>	<b>366,000</b>
<b>Project Total (GEF + Co-financing)</b>	<b>3,418,449</b>	<b>366,000</b>
<b>Project Total (incl. unconfirmed commitments)</b>	<b>3,784,449</b>	



The Outcomes of this project are consistent with the objectives of GEF Operational Programme #15: Sustainable Land Management and its activities are aligned more specifically to the GEF Strategic Priority #SLM-2: Implementation of innovative and indigenous sustainable land management practices (relevant at the time of project submission).

The project expected to secure significant co-funding. As per Project Document, the project had firm commitments in the ratio GEF Funding: Co-funding of 1:2.4 (together with unconfirmed commitments a ratio of 1:2.7). With a contribution of almost US\$1.5 million, the by far biggest cofunder was the Forestry Department of the Ministry of Agriculture and Water. Details on cofunding are given in Table 2.



Fig. 1. Geographic location of the two pilot areas.

**2.2 Problems to be Addressed by the Project**

The project has been designed to assist the Government of Uzbekistan to address the main threats and underlying causes that lead to land degradation in Uzbekistan. In the two pilot areas in Karakalpakstan (Aral Sea bed) and the Kyzylkum Desert, the following threats have been identified during project preparation (see Project Document):

**Overgrazing:** Land vulnerability is exacerbated by local residents who overgraze available pastures by domestic stock, in an effort to survive. As the situation worsens, farmers tend move further into marginal areas and to replace sheep with goats, which unfortunately complete the total denudation of land leaving it susceptible to wind action. Overgrazing of marginal land is particularly concentrated in the vicinity of settlements and around wells. In these areas, not only is the land denuded of all vegetation, but it is also prevented from forming the surface “skin” that is necessary to prevent wind erosion and begin the process of soil development.

**Wood overharvesting:** Local population cuts down trees and shrubs for wood fuel. Unlike former times, when population in deserts was mostly nomad and the population number was not large, con-

temporary settlements require an extensive amount of wood fuel for cooking and dwelling heating. Obviously the settlers tend to cut any wood available instantly around the settlements in the first place. Besides, availability of motor vehicles provides an opportunity to harvest wood from more distant areas when wood resources around a settlement are exhausted. The desert and semi-desert forest ecosystems are composed of a complex of trees, shrubs and grass communities. Ecosystem diversity of desert and semi-deserts is low in comparison with other types of ecosystems, which makes them more vulnerable to any kind of outside interventions. Overharvesting of trees and shrubs by local population significantly lowers resilience of the ecosystem and results in its serious degradation processes.

**Unsustainable agricultural practices:** Because of their vulnerability, rain fed, un-irrigated lands demands special attention in terms of their utilisation for agricultural purposes. Inappropriate patterns of land use severely affect ecosystem stability and add to existing problems of land degradation.

### 2.3 Project Objective and Expected Outcomes

The ultimate goal of the project is to achieve ecosystem stability on degraded land in Karakalpakstan and the Kyzylkum Desert, in Uzbekistan, thus reversing the spread of deserts, increasing carbon sequestration, enhancing habitats for biodiversity and achieving public health and socioeconomic benefits, on a sustainable basis. The project objective has been defined as follows:

**Project Objective:** To test, evaluate and promote innovative solutions to the problems of land degradation at a pilot scale in Kyzyl Rovat (Bukhara Oblast) and Kazakh darya (Karakalpakstan) and replicate best practices in order to achieve ecosystem stability on degraded land in Karakalpakstan and the Kyzylkum Desert in Uzbekistan.

In order to make the Project objective indicator more concrete, measurable, and realistic, it has been changed in the Inception Phase (see remarks and discussion below). The modified indicator is:

*Indicator 1: Area of degraded land rehabilitated by applying the best practices developed by the Project, tested in other areas in Uzbekistan, Central Asia (CACILM) and other countries to stabilize mobile sand and/or arrest degradation.*

*Indicator 2: SLM policies and legislation and integrated land use planning process.*

This objective was intended to be achieved through four outcomes. The outcomes with the indicators revised in the Inception Phase indicators are:

**Outcome 1:** Plant species, having both strong ecological and economic benefits for succession in desert and semi-desert ecosystems identified and sustainable land management methods tested.

*Indicator 1: Number of plant species planted and grown in Karakalpakstan and Bukhara oblast for stabilization of mobile sands.*

*Indicator 2: Planted seedlings survival rate.*

*Indicator 3: Revival of traditional approaches and introduction of other methods in the area of sustainable land usage.*

**Outcome 2:** Mobile sands stabilized and degraded land rehabilitated in partnership with local communities.

*Indicator 4: Number of days per year with wind-blown sand in the vicinity of Kyzyl Rovat and Kazakh darya.*

*Indicator 5: Area of degraded land rehabilitated and desert ecosystems stabilized in Kyzyl Rovat and Kazakh darya.*

<i>Indicator 6:</i>	<i>The number of alternative viable income generation options which can improve living standards and reduce land degradation available to the community members</i>
<i>Indicator 7:</i>	<i>Number of approaches and technologies for reducing pressure of desert vegetation from fuel wood extraction.</i>
<b>Outcome 3:</b>	Institutional and policy framework for integrated land use planning and management, strengthened.
<i>Indicator 8:</i>	<i>Number of Forestry Department and Ministry of Agriculture and Water Management employees aware of the Integrated Land Use Planning Process.</i>
<i>Indicator 9:</i>	<i>Local communities trained in participatory land use planning and management.</i>
<b>Outcome 4:</b>	Monitoring and evaluation, learning and adaptive management, implemented.
<i>Indicator 10:</i>	<i>Innovative approaches to SLM emulated and replicated.</i>

## 2.4 Main Stakeholders

According to the Project Document, the main project partners are:

- Forestry Department of Ministry of Agriculture and Water;
- Academy of Sciences;
- State Committee on Land Resources, Geodesy, Cartography and State Cadastre (Goskomzem);
- Uzbekistan Hydrometeorological Administration (Uzhydromet);
- State Committee for Nature Protection.

Other stakeholders listed in the Project Document are the Ministry of Agriculture and Water Resources (*sensu stricto*), the Scientific Centre of Plant Production “Botanika”, the Institute of Microbiology, the Institute of General and Inorganic Chemistry, the Bioecology Institute of the Karakalpak Branch of the Academy of Sciences, and the State Committee for Nature Protection (Goskompriroda). The high number of scientific institutions rather than implementing institutions gives some evidence for the overall direction of the project.

No organisations on village level are listed as stakeholders.

The beneficiaries of the project (farmers, herdsman, fishermen, villagers in general) have been treated in the project preparation phase at the same level as village administrations and central government institutions.<sup>vii</sup>

## 3. Findings

### 3.1 Project Formulation

Principal project formulation took place mainly 2005-2006, i.e. some 6-7 years ago. It is difficult to evaluate this process retrospectively, and the observations during the Terminal Evaluation towards this end are based mainly on an analysis of the Project Document and only to lesser extent on interviews and other personal communication. Results of the MTE are not repeated here.

#### **Project Conceptualization/Design** (Overall Rating: Moderately Unsatisfactory)

**Is “Ecosystem Stability” desirable and achievable?** The project title suggests that the dryland ecosystems are instable, and that stability needs to be introduced or restored. From the project context, it becomes clear that instability refers to mobile sands and progressing land degradation.

It needs to be taken into account that deserts and other drylands are highly dynamic ecosystems. More than most other ecosystems, they are dynamic entities – invariably, they are subject to periodic disturbances and are in the process of recovering from some past disturbance. Mobile sands and shifting sand dunes are a characteristic feature of deserts. It will never be possible to stop moving sands in large desert areas, at least not without destroying the natural ecosystem.

For purpose of protecting the natural landscape and biodiversity, there is thus no need for arresting moving sands. However, moving sands often need to be arrested for protecting agricultural land, and for protecting villages and infrastructure including roads. The purpose of fixing sands is therefore normally a pure socio-economic one, which is not directly related to nature conservation.

It appears to the TE that there is sometimes no clear concept as to where, when and for what purpose stability should be achieved and what should actually be protected. A sharper definition of the Project approach would have helped to better achieve the goal.

**Is the problem analysis adequate?** The main reasons for land degradation in the project areas have been described in the Project Document: Overgrazing, wood overharvesting and unsustainable agricultural practices (see also chapter 2.1). In the opinion the TE, this problem description is insufficient:

In the case of Karakalpakstan, most environmental problems can be explained by the Aral Sea disaster (underlying root cause), which lead to drastic changes in the environment, and has nothing to do with overgrazing, wood overharvesting or unsustainable agricultural practices:

- Increasing salinization of soils through sedimentation of wind-blown salts;
- High salinity of the air;
- Weak ability of local communities to adapt to the changing environment (e.g. changing livelihood from fishing to livestock grazing or farming), to be explained e.g. by a lack of traditional knowledge in these practices;
- Weak institutions which could assist communities to adapt to the changing environment.

In the case of Kyzyl Rovat, the environmental problems are as follows:

- Overgrazing: The situation was badly exaggerated in the Project Document („land denuded of all vegetation“!). There is only some very local overgrazing mainly around watering places (wells) and already to a lesser degree around the village. Good evidence for the level of grazing is the fact that there were some 40,000 sheep in Soviet times, while there are now only some 6,000. The degraded lands surely comprise much less than 1% of the overall surface area of the rangelands there.
- Wood collection occurs around the village, but during the TE no areas could be shown where wood harvesting has led to severe environmental damages. Most fuel wood is taken from

the floodplain forest along Amudarya under control of the Forestry Department, and only to a lesser degree from the desert (*Tamarix*).

- Unsustainable agricultural practices: Before the onset of the project, agriculture was only practiced in an area close to the Amudarya River (irrigated land) until a dam broke. The dam could not be repaired, and agriculture and horticulture has been introduced by the project. No unsustainable practices are known.

The identification of the environmental problems during the project design phase was thus insufficient. The description of the environmental problems may be a general outline for drylands, but does not fit to the selected pilot areas and does not identify the specific problems there.

**Is the intervention logic (Logical Framework) coherent and plausible?** The purpose of the Project, according to the Project Document, is to solve the problems of overgrazing, wood over-harvesting, and unsustainable agricultural practices, and the document suggests to this end to test, evaluate and promote innovative solutions to the problems of land degradation. The Project Document gives some information what methods have been applied so far, what their shortcomings are, and why there is a need for innovative approaches. To achieve this objective, new plant species with ecological and economic properties should be tested, mobile sands stabilized, and the institutional and policy framework adapted according to the results.

The focus of the intervention logic is thus on innovations, and the project put emphasis on the introduction of new plant species and the application of new methodologies for sand fixation. While at the same time, the project still promoted more traditional forms of livelihoods, it became somewhat science-biased. However, already at the beginning of the project, many plant species have been known which grow under the harsh desert conditions, and several methods have been known how to fix moving sands. In other words, the root causes of environmental degradation is not that no plant species have been known which grow in the desert, and no methods have been known that can be used to fix moving sands. There was thus not a general (scientific) lack of knowledge how to address these issues, but (only) a lack of knowledge among the local people concerned.

The intervention logic is therefore not coherent in this respect. The ultimate challenge of the Project was not to find new, scientifically sound approaches, but to find ways how to get certain local communities apply already known approaches.

**Does the intervention logic reflect the needs for upscaling?** The project objective makes it mandatory to upscale the results (“replicate best practices”). While the first two outcomes provide the necessary instruments to collect information and experiences at the local level, the third outcome is geared toward institutional strengthening and shaping an enabling environment for replication. This multi-level approach is conducive to a comprehensive problem-solving.

**Is the selection of the pilot areas appropriate?** The Project has selected two pilot areas, one in the Aral Sea bed (Karakalpakstan), the other in the Kyzylkum Desert. While it is nice to have two pilot areas in two different landscapes with different problems, and to make comparisons between these two areas, the purpose of this is not clear. Both pilot areas are part of vast landscapes: The Aral Sea bed comprises roughly 6 million ha (extending over Uzbekistan and Kazakhstan), the Kyzylkum Desert 29 million ha (extending over Kazakhstan, Uzbekistan, Turkmenistan). The TE wonders, why the Project has not attempted to achieve higher impact in one of these two landscapes, but split its efforts over two area with the result of lower impact in both of them. Working in two pilot areas situated in the same landscape would create synergies and rise the chance to achieve higher impact.

The selection of these pilot areas has also some effect on cost-efficiency: The two areas are a day’s journey away from each other. Two pilot areas in the same district would allow e.g. to have only one field car instead of two, to reduce the resources (time and money) necessary for travelling, etc.

**Do the indicators adequately reflect and define the project objective and the project achievements?** The project used two indicators to measure the achievements of the Project on objective level:

- Area of degraded land rehabilitated by applying the best practices developed by the Project, tested in other areas in Uzbekistan, Central Asia (CACILM) and other countries to stabilize mobile sand and/or arrest degradation.
- SLM policies and legislation and integrated land use planning process.

The first indicator is very comprehensive; actually it is an agglomeration of various components, which should not be combined in one indicator. The indicator comprises (1) surface area of land rehabilitated by the project; (2) development of best practice for stabilizing mobile sands; (3) development of best practice for arresting land degradation; (4) replication in other areas of Uzbekistan; (5) replication in other CACILM countries; (6) replication in other countries. It may be discussed whether all these components are achievable within the scope of this project (see further below). Apart from that, achievements in all these components cannot be assessed with a single project indicator.

The second indicator is also not appropriate to measure project achievements. It is too vague and hardly measurable (the baseline, for example, includes: “While legislation exists it is not explicit and implementation is weak” – this is not as measurable and verifiable baseline).

The three indicators for outcome 1 are adequate to measure the achievements.

Outcome 2 uses as an indicator for achievement: “Number of days per year with wind-blown sand in the vicinity of Kyzyl Rovat and Kazakhdarya”. This is clearly a much too ambitious indicator, far from reality. It should have been understood that afforestation measures in an area a few hectare large will not have a significant influence on the number of days with wind-blown sand. The other three indicators for outcome 2 are adequate.

For outcome 3, one indicator refers to the number of Forestry Department and Ministry of Agriculture and Water Management employees who are aware of the Integrated Land Use Planning Process. As it has not defined what “being aware” means, this indicator is difficult to measure. The second indicator for this outcome is an activity indicator (number of persons trained), but is suitable for this purpose.

For outcome 4, there is one indicator (“Innovative approaches to SLM emulated and replicated”). It reflects only part of this comprehensive outcome (“Monitoring, evaluation, learning and adaptive management implemented”).

### **Country-ownership/Drivenness**

The Project Document provides a full justification that the project is in line with national policies and priorities, and that the project helps implement international commitments entered by the Government of Uzbekistan.

The Government of Uzbekistan has made a very significant financial commitment (approx. US\$1.6 million) towards the implementation of the Project, being clear evidence for the high level of ownership by the Government.

The Project office is located within the premises of the Forestry Department (Ministry for Agriculture and Water), thus allowing close and permanent exchange between the Ministry and the Project, and enhancing the efforts of the Project to mainstream the results into regular government work.

The Project is executed in UNDP’s NEX mode (National Execution Mode). In this mode, the overall responsibility and assumption of accountability for the formulation and management of the Project is with the Government of Uzbekistan. NEX (antonym: DEX = Direct Execution Mode) is used when there is adequate capacity in government to undertake the functions and activities of the Project. The UNDP country office ascertains the national capacities during the formulation of the Project. Nevertheless, all procurement of goods and services is done through UNDP (UNDP CO maintains a business centre for centralized procurement). In practice, the actual execution mode is a mixture between NEX and DEX.

## **Stakeholder Participation in Project Formulation** (Overall Rating: Moderately Satisfactory on the 6-point scale)

It is a special challenge to assess and analyse stakeholder participation in the formulation of the project, as this process dates back some 7 years. This assessment has to rely largely upon information provided by the Project Document.

A Project Advisory and Coordination Group (PACG) was established to accompany the design and formulation of the Project. An international and national consultants were hired to work on technical issues and to draft the proposal. The PACG comprised representatives of the State Committee for Nature Protection (Goskompriroda), the Forestry Department of the Ministry of Agriculture and Water, the Uzbekistan Hydrometeorological Administration, the Uzbekistan Academy of Sciences, the Ministry of Economics, the State Committee on Land Resources, Geodesy, Cartography and State Cadastre (Goskomzem), and UNDP. The PACG met regularly throughout the formulation phase to assess progress and provide advice to the consultants carrying out the project development work. In parallel, extensive consultations were held with stakeholder organizations outside Tashkent in a collaborative effort to identify the two target communities where the project field activities should be based. Selection of the communities was made according to a list of criteria developed in collaboration with the PACG.

From the documents available, it is understood that the villages selected as pilot villages were consulted, but they did not take a very active role in formulating their needs and solutions. Participation of local communities and local leaders in decision-making regarding the design of the Project is considered to have been low in the preparation project phase. While there was clearly very good participation of the various agencies and institutions, the TE believes that there should have been a stronger involvement of the ultimate beneficiaries at the village level (bottom-up approach).

## **Replication Approach**

The project aimed to apply a “develop-test-replicate” approach, as appropriate, to almost all activities to be implemented. Lessons learned and best practices were to be identified as an integral part of project monitoring and performance assessments.

The Project took a multi-level approach and intended to mainstream project results at various levels:

1. Village level: Through the formation of local organisational structures such as Farmer Field Schools and Water User Groups, best practice should get established and be replicated at village level.
2. Rayon level: In order to disseminate project results at the regional (rayon, oblast, autonomous government) level, the project intended to cooperate with the relevant governmental authorities and other organisations to integrate project results in their work. Efforts have been undertaken to strengthen their work. Examples are the support to the Working Group on Integrated Land Use Planning in Bukhara and to the (private) veterinary service in Bukhara.
3. National level: Strengthening the institutional framework and inter-sectoral cooperation for land degradation. Support to the preparation of a legal framework for pasture management to avoid environmental degradation.
4. Regional level: The Project acts in the framework of CACILM, and it is understood as a contribution to a wider process of learning and replication. Upscaling of positive project results should take place in Uzbekistan and other Central Asian countries through CACILM.
5. Knowledge Management: The Project spent considerable efforts to make all information available through publications and an internet-based database, which can be accessed by interested persons.
6. Extensive media coverage was another strategy for replicating project results.

This list of replication activities clearly shows that the Project concept has foreseen replication as cross-cutting issue and as an ultimate goal.



## 3.2 Project Implementation and Management

### 3.2.1 Implementation Approach

(Overall Rating: Satisfactory to Highly Satisfactory on the 6-point scale)

The Implementation Approach has been rated satisfactory to highly satisfactory. There was professional project management by a dedicated and experienced project team. Shortcomings in project management were the little involvement of the beneficiaries in the annual project planning, and the weak exchange of information and experience with other projects in the country and the region. The latter issue is mainly the responsibility of CACILM (rather than of the project), whose main task it is to facilitate exchange and synergies, but has, to the best of TE's knowledge, not done enough to strengthen cooperative structures and to develop synergies among the various projects in the field of SLM in the region.

**Annual activity planning.** The project has used the logical framework approach in planning and implementation stages. The project manager together with the national technical coordinator and in close consultation with the team of experts prepared draft Annual Work Plans, which were submitted to the Project Steering Committee. After discussing them during these meetings and modifying them as deemed necessary, the Annual Work Plans including the annual budget were approved by the Steering Committee and came into force.

The Annual Work Plans are thus not the result of joint planning workshops. Local people in the two pilot villages were not directly involved in activity planning. The entire process of activity-planning both on national and local level was thus very much expert-driven and to a less degree participatory.

While it is fully accepted that it does not make sense to bring all stakeholders together for a joint project planning process (local stakeholders cannot decide on national priorities, villagers from one village cannot decide upon activities in another village, etc.), the TE is convinced that a stronger participation of local people would have strengthened their ownership. Many projects use for this purpose the instrument of village development plans (often under different names such as local development frameworks, community development plans, etc.), and this is seen as an appropriate tool to get also those villagers involved who have no immediate benefits from the project.

**Adaptive management.** Serious modifications of the Project Document were made during the Inception Phase of the project. In particular the indicator of the project objective has been modified.

The objective of the project, in brief, is to develop innovative solutions to the problems of land degradation and replicate them. The level of replication is defined in an indicator that states that "at least 100,000 hectares of degraded land elsewhere beyond the area of the project [...will be] rehabilitated or degradation stopped using the approaches and practices tested by the project." In the Inception Phase, however, this indicator was changed to "Area of degraded land rehabilitated by applying the best practices developed by the Project, tested in other areas in Uzbekistan, Central Asia (CACILM) and other countries to stabilize mobile sand and/or arrest degradation (100,000 ha outside of project area will be implemented under the CACILM umbrella)".

This is a fundamental change. While the project was intended to develop methods for combating land degradation and to apply them in an area of at least 100,000 ha, the project after the Inception Phase said that it will develop the methods, but upscaling should (or will) be left to others. CACILM is mentioned specifically.

While UNDP and the Government of Uzbekistan made a firm commitment to upscale project results in an area of 100,000 ha, and the GEF has approved the project on the basis of this commitment, it is evident that it is beyond the capacities of the project to carry out such an ambitious task. Not only the financial resources, but also the time budget is much too small for such a large-scale replication of the project results.



It was thus surely a right decision to cut down the project objective (indicator) to a more realistic scale. Nevertheless, for formal reasons, this needs to be communicated to the GEF as the donor, and GEF's approval is necessary. This is not available.

Several other outcome indicators were re-defined during the Inception Phase, or baseline and target values were adapted. This helped strengthen the project approach and making project monitoring more efficient.

Otherwise, the project almost completely followed the Project Document, and no relevant deviations could be noted. The recommendations and decisions were usually on activity level without affecting the Logical Framework as such.

**Use of electronic information technologies.** The project team carefully used the electronic APR and PIR instruments for monitoring project progress. UNDP CO contributed to this process.

**Project steering.** The Project has a Steering Committee (PSC), which consists of 17 members. They represent the following organisations:

- Ministry of Agriculture and Water Resources, Main Forestry Department of Uzbekistan;
- UNDP-Uzbekistan;
- Secretariat for Agriculture and Water Resources of the Council of Ministers of Karakalpakstan;
- Ministry of Agriculture and Water Resources of Uzbekistan (2 representatives);
- Uzhydromet under the Cabinet of Ministers of Uzbekistan;
- State Committee for Land Resources, Geodesy, Mapping and Public Cadastre of Uzbekistan;
- Ministry of Finance of Uzbekistan;
- Ministry of Foreign Economic Relations, Investment and Trade of Uzbekistan;
- Ministry of Economy of Uzbekistan;
- Academy of Sciences of Uzbekistan;
- State Committee for Environment Protection of Uzbekistan;
- Khokimiyat of Bukhara Oblast;
- Khokimiyat of Romitan district;
- Khokimiyat of Muynak District, Karakalpakstan;
- CACILM National Secretariat;
- National Association of NGOs of Uzbekistan .

The Ministry of Agriculture and Water Resources thus has two representatives, plus one from the Forestry Department. Among the 17 PSC members, there is one NGO representative, one representative from science, three representatives from provincial administrations, and one representative from the national CACILM Secretariat. The other PSC members belong to state organisations.

The meetings were always well-prepared by the project team. Documents which were foreseen to be discussed during the meetings were distributed beforehand to allow members to read them, and to have more efficient discussions during the meetings. Altogether, 6 Steering Committee Meetings were conducted in the 5-year lifespan of the project.

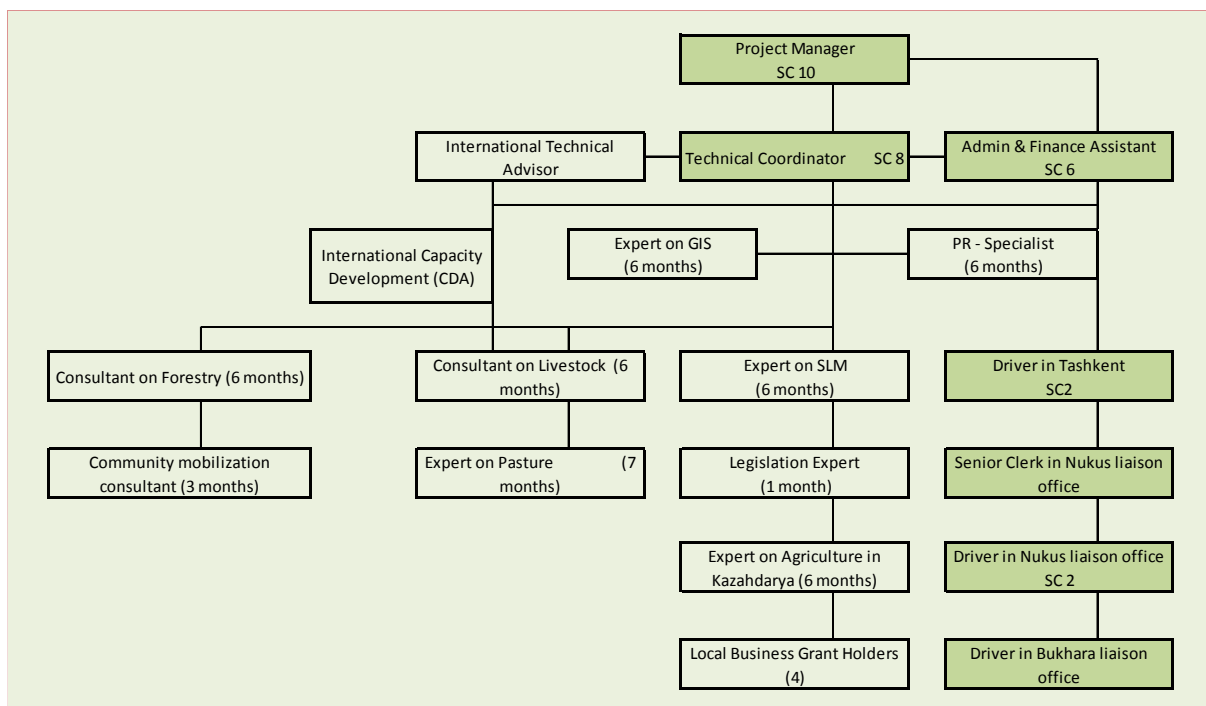


Fig. 2. General Structure of the Ecosystem Stability Project (as per 2011). Full-time employees are shown in dark colour.

**Project management structure.** The project is managed by a relatively small team. The Project Manager is responsible for the overall project management. She liaises directly with the various state organisations, UNDP, scientific organisations, and others as deemed appropriate and necessary. She works closely with the National Technical Coordinator and the team of experts (consultants). There is high personal continuity within the project team. The project managers works from the beginning, the National Technical Coordinator was working as Consultant in the early stages of the project, before he got his present position.

There is a relatively large group of so called “experts”; these are medium-term consultants, who work for the project mostly several months per year. The number of these experts has fluctuated over the years and was on average about 10.

Performance of the project team was excellent. All staff showed a high level of commitment and good performance.

**Team spirit.** In all stages of the project, i.e. in planning, implementation and monitoring, all participating agencies were in a good relationship and understanding with one another. The TE did not hear about dissonances either within the project team or between the team and partner organisations. The high personal continuity within the project team (the Project Manager, for example, was hired at the beginning of the Project and still continues to work for the Project) may also be seen as evidence for a smooth and normally conflict-free implementation process.

**Guidance by UNDP.** Communication between UNDP CO and the Project team is very close. There are tight relationships between the Project Manager and UNDP’s Energy and Environment Unit, which is involved in all important decisions. Representatives of the Energy & Environment Unit also take part in all important events including the Steering Committee Meetings. As procurement for the project is materialized through the central business centre for all UN agencies, there are almost daily contacts between them and the Administrative and Financial Assistant (AFA) of the Project.

Furthermore, there are regular contacts between the project team and UNDP Regional Office in Bratislava. Many of these contacts are related to administrative issues. Field visits of the Regional Technical Adviser (RTA) to Uzbekistan and to the pilot areas could not be materialized.

The TE has got the impression that UNDP was always aware of all relevant activities throughout the lifespan of the project and was available when needed.

**Partnerships and synergies.** The project is part of the multi-donor CACILM Initiative, whose goal is to restore, maintain, and enhance the productive functions of land in Central Asia, leading to improved economic and social well-being of those who depend on these resources while preserving the ecological functions of the land. The following bilateral and multilateral institutions are members of this Strategic Partnership for UNCCD Implementation in Central Asian Countries (SPA): the Asian Development Bank (ADB), the Canadian International Development Agency (CIDA), the German Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of BMZ, the Global Mechanism of the UNCCD, the International Centre for Agricultural Research in the Dry Areas (ICARDA), the International Fund for Agricultural Development (IFAD), the Swiss Agency for Development Cooperation (SDC), the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), and World Bank (WB).

National Coordination Councils have been established in each country consisting of UNCCD Focal Point and representatives of key government ministries, NGOs, private sector and civil society. It is the task of the Council “to coordinate the implementation of projects and activities mandated by the national programming framework”<sup>viii</sup>. The Head of the National Uzbek CACILM Secretariat has been appointed member of the Steering Committee of the Ecosystem Stability Project, and this representative plays an active and positive role in the Steering Committee. However, it would be presumptuous to say that the Ecosystem Stability Project is coordinated by the CACILM National Coordination Council. By contrast, the project itself is coordinating all its activities with various governmental and other organisations.

One of the main reasons that CACILM chose a regional approach is that the participating countries have very similar problems regarding land degradation, and that CACILM can facilitate the exchange of experience and the cooperation between the five Central Asian countries.<sup>ix</sup> Similar to the Ecosystem Stability Project in Uzbekistan, national projects have been implemented in the other four Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan):

- Rangeland Ecosystem Management in Kazakhstan (GEF-MSP);
- Mountain Pasture Management in Susamir Valley, Kyrgyz Republic (GEF-MSP);
- Rural Development and Demonstrating Local Responses to Combating Land Degradation and Improving Sustainable Land Management in Southwest Tajikistan (GEF-MSP);
- Capacity Building and On-the-ground Investments for Integrated and Sustainable Land Management in Turkmenistan (GEF-MSP).

All of these projects were UNDP/GEF medium-sized projects, one would expect that there was an intensive exchange of knowledge and experiences. However, this was not the case. The Ecosystem Stability Project was not much in contact with these projects; there were no exchange visits and study tours (neither on project management & partner, nor on beneficiary level). Only towards the end of the Project, there was a “Dare to Share Forum” organised in Almaty in November 2012, project experience and knowledge on sustainable desert pasture management was shared with other Central Asian countries.

Other than that, the Project team took part only in a few events organised by CACILM in Tashkent (e.g. a CACILM workshop on adaptation to climate change in October 2012).

**Dissemination of project results and replication.** The project undertook a series of activities to disseminate project results throughout the project region, and to promote their replication. Outcome 3 (“Institutional and policy framework for integrated land use planning and management, strengthened”) has been designed to allow replication of project results on a national level.

The most important instrument for the dissemination of results is the amendment of the rangeland (pasture) law in Uzbekistan. Legal experts hired by the Project have elaborated the bill for a new law on rangeland management, and amendments to existing laws. The Project proposed, as a core ele-

ment of these legislative actions, to introduce a “ticket system” on rangeland, which would regulate the number of livestock and thus avoid the overuse of grasslands, steppes and semi-deserts.

Other activities to replicate project results include:

- The Project produced a few professional and impressive video clips about the achievements of the project and showed them at several occasions.
- Approaches one best practice on pasture rotation has been included e.g. into WOCAT (World Overview of Conservation Approaches and Technologies).
- Joint field trips have been organised with the participation of project national partners, mass media, and NGOs.
- More than 30 publication materials (toolkits, guidelines, hand-outs, posters, etc.) comprising recommendations and instructions based on project experience and results have been produced and disseminated (Annex 6);

Organising training seminars was another form of disseminating project experience. Annex 5 gives a list of the various trainings and workshops organised.

A further instrument for disseminating project result was the preparation of electronic database on baseline information and project activities/outputs, which was introduced throughout the Forestry units and interested academic institutions in Uzbekistan;

**Usage of external assistance.** The project spent a significant portion of its budget to call upon external assistance by short and medium-term experts. The Project hired experts from several national organisations such as the Academy of Sciences, research institutes, etc. Most of the experts had contracts covering a few months per year. In this way, the Project ensured continuity and made sure that the experts get enough time to get fully familiar with the specific situation regarding the project and the pilot areas.

The project worked mostly with national experts. In addition, there was an international Chief Technical Adviser (CTA) with intermittent missions to Uzbekistan. He was mainly responsible for assisting in the preparation of the Inception Report and the Annual Work Plans, but he also performed back-stopping on technical issues. Work was not confined to in-country missions, but the CTA was available throughout the year, if required.

Other international experience was used for capacity development, for identifying sustainable land use approaches and for land rehabilitation works, and also for the mid-term evaluation and final evaluations.

Taking into account the limited resources of a MSP, the Project took a well-balanced approach towards the usage of national and international experience. About 12% Of the GEF budget was spent for international consultants (including those for the evaluations).

**Exit strategy.** The Project started in October 2011 to develop an exit strategy. The strategy is integral part of the 2012 Annual Work Plan and mainly foreseen the preparation of replication and evaluation materials. The list of measures include a (1) guides for leskhoz (forestry units) field workers; (2) manuals and guides on Field Farmer Schools, Water User Groups and other initiatives identified by evaluation as best practices; (3) guides for implementing/replicating the various livestock and pasture management methods introduced by the project; (4) manual for carrying out integrated land use planning processes; (5) relaunch of web site; (6) upload best practice to the WOCAT database. Key element of the exit strategy was a combined evaluation and lesson learned workshop to be held toward the end of operations. On the policy level, the exit strategy has foreseen the submission of two recommendations: one to the forestry agency on the best/most cost-effective methods for sand stabilization, and another to the Department of Livestock of the Ministry of Agriculture and Water that captures these core issues and lays the basis for a systematic discussion about what the future national policy for development and sustainable use of arid pastures will be.

The follow-up of legislative activities (Law on Rangelands) is not specifically mentioned in the exit strategy.

There is a smooth phasing-out of the Project: 31.12.2001 is the official end of operations, while two staff (the Project Manager and Administrative and Financial Assistant) will have the opportunity to work another three months to close the Project administratively.

### **3.2.2 Monitoring and Evaluation**

(Overall Rating: Satisfactory according to the 6-point scale)

Monitoring & Evaluation was done according to the M&E plan set up in the Project Document and revised in the Inception Report. Performance of monitoring as carried out by the project satisfied the bare essentials of the GEF since APRs and PIRs were prepared regularly, and independent mid-term and final evaluations were carried out. A management response has been developed to follow-up the results of the mid-term evaluation.

In the original Project Document, there is no clear distinction between project monitoring (i.e. monitoring to make sure that all activities are conducted in line with the operational plan and according to UNDP/GEF and other rules and regulations) and results monitoring (i.e. monitoring of results of the project). Outcome 4 (“Monitoring, evaluation, learning and adaptive management implemented”) refers exclusively to results monitoring, and a significant portion of the project budget has been allocated to this outcome (see below). The Inception Report already made some modifications on indicator level to distinguish between these two different concepts.

A M&E plan has been elaborated and presented in the Inception Report, and a budget of US\$103,000 has been allocated to its implementation. This budget is at a few places not clear and realistic as it calculates costs which should come under different budget lines (such as general management costs or technical support) and thus should not be calculated separately.

Reporting has been done on a regular basis according to the reporting schedule. The external mid-term evaluation was conducted in September/October 2010, a financial audit was conducted, and several field visits to the pilot sites were organised including one by the Project Steering Committee in June 2012.

According to UNDP/GEF Guidelines of planning and monitoring, indicators for assessing the achievements of a project need to be SMART: “Specific, Measurable, Attainable, Relevant and Trackable”. Actually, many of the indicators (as per Inception Report, which are already an improvement when compared to the Project Document) do not fulfil this requirement. More details are given in the chapter on project achievements. Implementing successful monitoring thus suffered from weaknesses in careful project planning.

### **3.2.3 Stakeholder Participation during Project Implementation**

(Overall Rating: Satisfactory)

Stakeholder participation in project implementation has been satisfactory. Strong partnerships and collaborative relationships have been developed by the project both at the provincial level (Autonomous Government of Karakalpakstan and Government of Bukhara Oblast) and the national level. The Project Steering Committee comprises all important stakeholders and this Committee has the power to influence the course of the project.

At the local level, strong support from local communities and decision-makers has successfully facilitated the project. The participation process was initiated gradually and considering the framework conditions of the highly centralized system of Uzbekistan, it is rated as satisfactory. On the village level, the project dealt mainly with local leaders and other key persons, who facilitated the develop-

ment processes. Many obstacles exist in Uzbekistan to ensure full stakeholder involvement, and contacts with local people were gradually intensified.

While the participation of local leaders can be characterised as “involved” (see the Table for the various levels of participation), the participation of “ordinary people” is not on the level of giving them a voice and empowering them. Their participation status can be described, at best of it, as “consulted”. They obtain information about planned activities through their leaders and do not have much opportunity to influence decision-making. Typical instruments for involving and empowering local communities (as applied by other projects) would be the participatory preparation of village development plans, the allocation of certain project funds to local communities and giving them the right to decide how to use these funds, the chance for expressing their needs and suggested solutions in the public, etc. The issue of a stronger involvement and collaboration with “ordinary” local people – not only local administration – was also raised by one of the members of the Project Steering Committee.<sup>x</sup>

So, while the TE believes that the situation of participation at the provincial and national levels could not be better, the TE also believes that a stronger bottom-up approach in the two pilot villages would have helped to strengthen the project.

Table. Level of participation of local communities in rural development (combined from various sources).

Empowered	Government bodies handover control over resources and other means to local communities
Engaged	Local communities take some responsibility for the process, the decisions made and the agreed action
Involved	Local communities are given the opportunity to express a view and influence a decision
Consulted	Local communities are given the opportunity to express a view, but are not fully informed about an ongoing process
Informed	Local communities are given information but are not given the opportunity to express a view

**3.2.4 Civil society**

Non-governmental non-commercial organisations were founded in Uzbekistan, both at regional and district levels, to address environmental issues. The specialisation of these NGOs is quite diverse: environmental education, conserving biodiversity, desertification problems, dryout of the Aral Sea, etc. Environmental NGOs as the Zoological Society of Uzbekistan, Ecolog, Association for an Ecologically Clean Fergana Valley, Union for Protection of the Aral and Amudarya, etc. are operating in the country. At present, about 70 NGOs dealing in Uzbekistan with the protection of the environment. Nevertheless, environmental civil societies are still very weak in Uzbekistan, they are mostly not watchdog NGOs, NGOs who critically accompany government decisions, and they have hardly capacities to act at a wider scale.

NGOs are represented in the Project Steering Committee: A representative of the National Association of NGOs in Uzbekistan, who is at the same time director of the NGO Centre of Ecologic Law “Armon”, serves on the board. Apart from that, there is little NGO involvement in Project implementation.

**3.2.5 Sustainability**

The project attempted to achieve sustainability in several ways.

**Ecological Sustainability.** The ecological sustainability of the project is high as there are no significant environmental risks which could undermine the future flow of environmental benefits. None of the project activities pose a direct threat to the environment. Nevertheless, it has to be considered that improved rangeland management may lead one day to higher livestock densities and hence to land degradation. The mechanisms tested and suggested by the project for limiting the number of grazing animals (rangeland passport, livestock ticket system) are not yet final and need further development.

**Financial Sustainability.** As regards financial sustainability, one has to distinguish between those measures which directly target local communities (rangeland management, home gardens, etc.) and those which target them indirectly (stabilizing mobile sands).

The measures dealing with the socio-economic situation of the villagers show a very high likelihood of financial sustainability. People are not dependent on external support and will continue beyond the end of the project. The project paid the initial investment costs to create some jobs such as barber, sewer or carpenter, and these people earn their living from this work now and are not in a need for additional financial support. The home gardens established at the initiative of the project are also maintained and the costs for irrigating the land (mainly fuel for the diesel pumps) are shared by the beneficiaries. Water user groups have been formed for this purpose. The veterinary services supported by the project are private business, and fully cost-recovering is given here.

The financial sustainability of the measures dealing with the stabilization of mobile sands is more difficult to assess. As they have been carried out on a pilot scale and the pilot plots do not need further maintenance, financial sustainability is not a matter to be further considered.

Recommendations based on the results from the pilot trials have been prepared and submitted to the Forestry Department, who now apply or are going to apply the suggested methods and plant species in their afforestation programmes. However, no information is available whether this has any financial implications (e.g. higher efficiency now allows a higher afforestation rate?).

**Institutional Sustainability.** Capacity building was an important element of the project and was carried out on various levels:

On local level, the project initiated the establishment of Water User Groups. These semi-informal groups regulate the dissemination of water for irrigating home gardens. There is a high interest by the participating individuals to maintain this form of cooperation, and there is no reason to assume that these groups could be unsustainable.

Farmer Field Schools have been established in the two pilot villages to disseminate information and to learn from each other. This is a successful example of peer learning, in which farmers interact with other farmers to attain educational goals. It was not the purpose of the project to establish such schools on a permanent basis. Nevertheless, work is continued and the focal farmers still act as disseminators of information.

At the Kyzyl Rovat pilot site, the project helped the *Shirkat* to get the status of a breeding farm for caracul sheep. This brings several economic advantages to the farm, in particular an exemption from taxes for a period of five years. This helps stabilize the farm and secure its institutional stability.

Also the strengthening and upgrading of the veterinary services significantly improved the situation institution-wise.

At national level, the project undertook a series of activities regarding the strengthening of governmental institutions, above all the Forestry Department of the Ministry of Agriculture and Water Resources. There is a long list of training provided in various fields and to various specific target groups (see also Annex 5)

**Socio-economic Sustainability.** The discussions with local people during the TE confirmed that they have a high ownership for the project activities, are highly motivated and will continue work initiated by the project beyond the end of the project. In particular the achievements dealing with income generations and local livelihoods are strongly "owned" by the local recipient and no recurrent costs

to be supported by an external organisation exist. Local people found new jobs, get higher revenues from improved grazing of livestock, and get food and other services from the trees and vegetables in their home gardens. All these measures are self-sustaining and are not dependent on external support.

As the measures on stabilizing mobile sands do not (yet) have a direct impact on the socio-economic situation in the pilot villages, this criterion cannot be assessed here.

Kazakhdarya is included in the project “Sustaining livelihoods affected by the Aral Sea disaster” (UNDP Joint Programme, 2012-1025, US\$3.8 million). This programme will build on the experiences of the Ecosystem Stability Project and will upscale some of the results.

### 3.2.6 Project Finances

**Project Spending.** The GEF grant for the Ecosystem Stability Project was US\$1,000,000, of which US\$49,600 were used for project preparation (PPG).

Project spending increased annually from the first to the third year of operations, when it reached with almost US\$350,000 a maximum. Henceforward, the project spending decreased and was in the 5<sup>th</sup> year of operations roughly on the same level as in the first year. Some project budget has been allocated for expenditures (mainly salaries) in 2013, necessary to administratively close the project. As per October 2012, there were some US\$15,000 (= 1.3% of project budget) left to cover these costs. Altogether, project spending shows a very healthy pattern. The spending of the entire budget till the end of the project represents precise landing and is very good evidence for a careful project planning.

The highest expenditures were made for Project Management (outcome 5) and Monitoring & Evaluation (Outcome 4), while the rest is more or less equally distributed over the first three outcomes. The high costs for outcome 4 can be explained by the fact that many activities were allocated to M&E, although they would also fit into other outcomes (e.g. technical assistance under outcome 1 or 2). The allocation of expenditures to this outcome is thus highly flexible. The Terminal Evaluation therefore does not see any reason to further examine this “disproportionate” spending.

The GEF provides UNDP (and other implementing agencies) with an implementing agency fee in return for project identification, formulation, implementation, monitoring, evaluation, and mainstreaming services. The fee is transferred directly from UNDP/GEF headquarters to the country offices. Since July 1, 2007, GEF provides a 10% agency fee as a fixed amount to corporate activities. Project management costs are calculated separately. There is an informal policy (put in place in 2007) to limit Project Management Costs to 10% of the financing amount.<sup>xi</sup> In the case of the Ecosystem Stability Project, Project Management Costs (outcome 5) comprised 32.3% as per October 2012, and are expected to comprise around one third of the cash budget by project closure. The cash budget included a contribution of US\$276,800 by UNDP (see below under co-financing), and it may be assumed that the UNDP contribution was theoretically used to cover the Project Management Costs. Under this assumption, the GEF contribution toward the Project Management Costs are reduced to approx. US\$90,000 and thus remain below the informal 10% threshold.

Professional management of the Project over the 5-year period could thus only be assured with the financial contributions by UNDP, the Implementing Organisations. Otherwise, the Project Management costs would have exceeded the 10% informal limit of GEF funds by far.

The strongest deviation of the actual costs from the planned costs was observed under Project Management. This can be explained by the fact that the project period was extended for one year (no-cost extension), and the project continued with full management staff. As the additional management costs were mainly covered by UNDP (see above), there is no reason to further discuss this.



The Project Document had allocated some 20% of the GEF budget for international consultants (technical support, mid-term and final evaluations). Due to savings, only approx. 12% of the budget was used for hiring international consultants.

Altogether, GEF project funds have been well-managed.

**Co-financing.** UNDP commit at the beginning of the project to provide co-funding to the GEF funds in the amount of US\$200,000. Later, the Project attracted additional funds from UNDP TRAC in the amount of US\$ 76,800 (in December 2011 and October 2012). There was thus additional cash funding in the amount of US\$276,800 available, bringing the amount of cash money of the project to US\$1,227,000 (without project preparation).

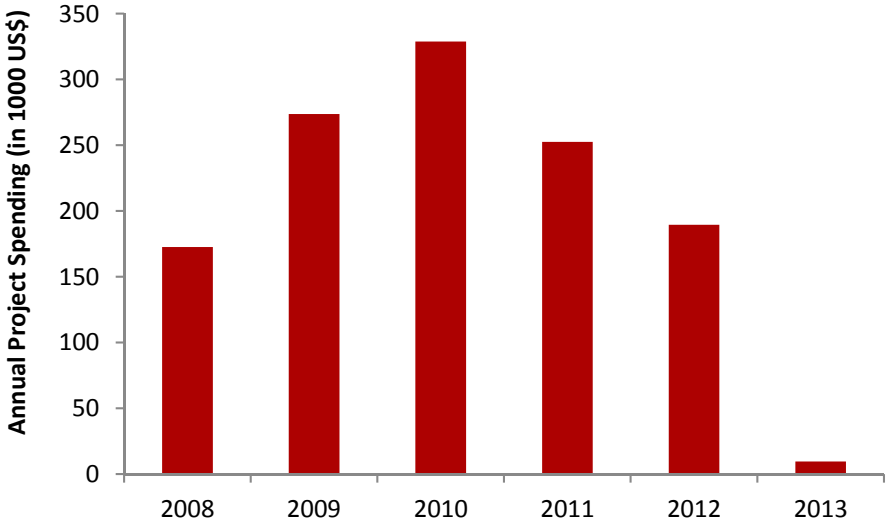


Fig. 3. Annual expenditures of the project. The values for 2012 and 2013 are forecastings.

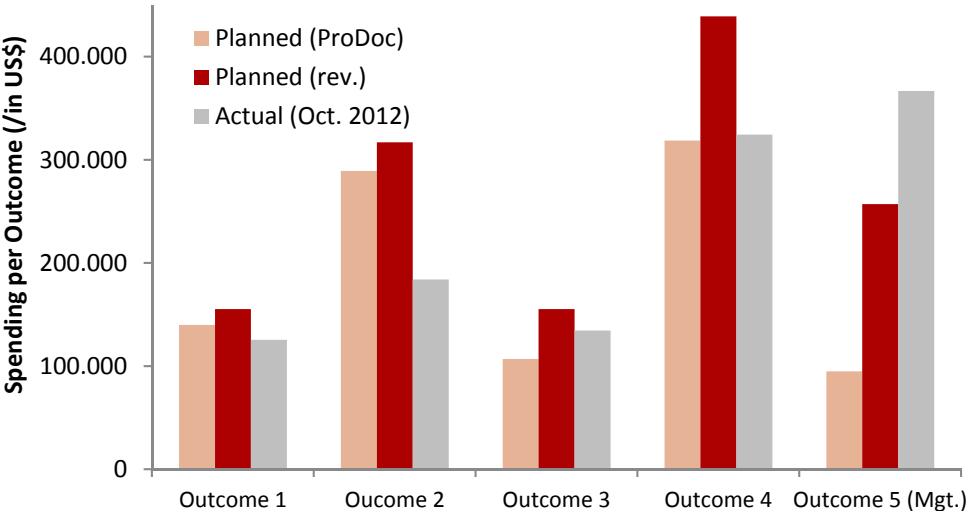


Fig. 4. Project expenditures by outcomes as per October 2012. Management and evaluation expenditures were allocated to a separate outcome (outcome 9). The graph compares the planned budget (as per Project Document) with internal planning documents and the actual expenditures as per October 2012.

The initial funds provided by UNDP (US\$200,000) are mainly used to fund project management costs (see above). The additional resources provided in 2011 and 2012 were used to purchase IT equipment for the Forestry Department, veterinary equipment for the Information Consultancy Centre on Veterinary Services in Romitan District of Bukhara Oblast, the creation of home gardens in Kyzyl Rovat and the production of promotional materials.

Some activities were implemented in cooperation with other international agencies, and the project regards some contributions as co-financing. These are CACILM (US\$19,300), ICBA (US\$5,000), Mashav (US\$48,000), and GIZ (US\$1,500), giving a total of US\$78,800 in-kind co-financing.

The Project Document also lists unconfirmed commitments for co-financing by the European Commission (TACIS) (US\$9,600), the Embassy of France in Tashkent (US\$80,000), the Embassy of Israel in Tashkent (US\$120,000), the Embassy of Japan in Tashkent (US\$25,000), and the British Embassy in Tashkent (US\$12,000), coming in total to US\$246,000. None of these anticipated co-financing agreements could be materialised.

According to the Project Document, the Government of Uzbekistan commitment to support project implementation with an in-kind contribution worth US\$1,597,250 and a cash contribution in the amount of US\$40,000.

Annex 9 gives an overview of government co-financing based on a compilation of information compiled by the project in cooperation with National Project Coordinator. According to this overview, governmental institutions provides resources on local (village: Kazakhdarya, Kyzyl Rovat), provincial (Bukhara, Nukus: Autonomous Republic of Karakalpakstan) and central government level. The total amount of the in-kind contributions throughout the lifespan of the project was calculated as US\$1,075, 200. This is about one third less the commitment made at the beginning of the project.

In addition to that, the estimate of the government contribution is badly inflated. For example, the contribution made through the time (salaries) spent by Project Steering Committee members was estimated US\$316,200, the rental of project offices (including utilities) was calculated US\$186,400, and a number of government staff has been shown as working full-time for the project, what was actually not the case.

One may now blame the government that it has not fulfilled the commitments towards the implementation of this project. However, the situation is actually more complex and needs careful evaluation: It is a general feature observed in practically all GEF projects that GEF pushes a lot for identifying and leveraging co-financing sources on the one side, but has, on the other side, no system and no standards to monitor these contributions. For increasing the chances to get a project proposal approved, governments make significant commitments, well knowing that these are in-kind contributions which are difficult to monitor and are actually not really monitored. It seems to be GEF policy not to insist on full transparency.

GEF also does not distinguish between baseline financing, co-financing and parallel financing, but puts together all of them under the name "co-financing". Actually, all government contributions should be counted as baseline funding, all UNDP contributions (TRAC funding) as co-funding, and the remaining contributions by other donors as parallel funding. Only UNDP's TRAC fund contributions are managed by the project team, and therefore only these should be regarded as co-funding.

## 3.3 Project Achievements (Results)

### 3.3.1 Attainment of the Project Objective

(Overall rating for Project Objective: Satisfactory on the 5-point scale)

The goal of the Project is „to contribute to achieving ecosystem sustainability in the degradation affected territories of Karakalpakstan and Kyzylkum Desert in Uzbekistan in order to stop the spread of deserts, promote carbon sequestration, increase biodiversity habitat and ensure health and socio-economic benefits for the local population on a sustainable basis “, and the objective has been defined as “To test, evaluate and promote innovative solutions to the problems of land degradation at a pilot scale in Kyzyl Rovat (Bukhara Oblast) and Kazakh darya (Karakalpakstan) and replicate best practices in order to achieve ecosystem stability on degraded land in Karakalpakstan and the Kyzylkum Desert in Uzbekistan“. The achievement of the Project should be measured with the help of indicators which have the following targets (revised indicators as used by the project; see also remarks under conclusions):

- By the end of year 5 the Project will have tested new methodologies of land management on project territory of 500 ha and prepared replication strategies for land rehabilitation on 100,000 ha outside of project area that will be implemented under the CACILM umbrella.
- By the end of year 5, administrations of the regions, where the project implements its activities, use integrated land use planning and management in planning and management processes of the entrusted state land.

In the PIR the second target reads as “By the end of the project at least 50% of officials of responsible local and regional organizations will have direct experience of practically applying integrated land use planning. By the end of the project at least 50% of responsible officials will have better capacity to practically implement relevant laws.”

The indicators defined for the objective of the project are comprehensive, cover all important aspects of the project and thus reflect the full scope of interventions necessary to achieve the objective.

**Testing of new methodologies of land management.** The project successfully tested in the two pilot villages 18 desert plant species and 6 methodologies for fixing mobile sands. The saline soils and the more or less regular occurrence of droughts (two of the five years of the project period can be regarded as drought) imposed a big challenge to these efforts. The most successful project results have been promoted by the project, and efforts are undertaken to mainstream these results in regular government work. There are many large-scale afforestation and sand dune fixation programmes supported by the Forestry Department. In the Aral Sea bed alone, about 10-15,000 ha are afforested every year, and the selection of the most efficient method may greatly enhance these efforts.

The project also tested several plant species to be grown in home gardens in the villages, and developed home gardens accordingly. Provision of water for irrigation was one thing. Convincing local people to grow vegetables and other plants on private plots (mostly in front of their own houses) was the real challenge. Although home gardens are widespread in Uzbekistan, they were completely unknown in the two pilot villages (apparently related to that fact that Kazakh darya was a fishermen settlement before, and Kyzyl Rovat is situated in the desert). The project succeeded to change the mind-set of these people, and home gardens became a big success of the project.

The new methodologies for land use also refer to improvements of the rangeland management system. Grazing rotation has been introduced, while at the same time productivity was enhanced through introducing a new (more robust) pedigree of cattle, enhancing the veterinary services, shifting a *Shirkat* from skin production to sheep breeding, etc.

Actually, the methodologies tested and applied by the project are new for the pilot villages and perhaps for the region; however, altogether, methodologies such as grazing rotation, improved veterinary services, creation of alternative sources of income, sand dune fixation through different plant species, etc. are not really innovative approaches. Most of these technologies are in one way or the other standard procedures applied in many SLM projects throughout the world, including in many projects in Central Asia.

**Replication Strategy.** The replication strategy is the cornerstone of the project. The actual impact of projects like this on the ground is modest, and the investment of international funds is only justified if the impact goes beyond the pilot sites and if it can be assured that upscaling will actually take place. Pilot projects can be understood as a kind of service projects, i.e. projects which provide or improve the instruments applied by other projects or programmes on a much larger scale. In the Ecosystem Stability Project, in particular the environmental impact is limited, and the number of those individuals who obtained direct benefits from project activities is not very large. The replication of methodologies developed by the project is the ultimate justification for GEF's investment.

Replication of project results was attempted to achieve through a set of measures including

- Preparation of publications of good practice and disseminating them widely;
- Preparation of recommendations to the Forestry Department on soil fixation and integrating them into their afforestation programmes;
- Development of electronic database on project activities/outputs;
- PR work for specific target groups;
- Preparation of video clips;
- Capacity building for various governmental organisations;
- Amending the legislative framework for SLM (rangeland law, etc.);

Additionally the project has organised a number of training outside the pilot areas. Examples of such trainings include the workshop on "Basics of afforestation work on the Aral Sea bed and degraded lands in Karakalpakstan" organised for 45 specialists in Nukus and Chimbay in November 2011, as well as the seminar on Environment and Entrepreneurship: problems and solutions" organised for 62 mid-level government officials studying at the Academy of Public Administration under the President of the Republic of Uzbekistan in April 2010.

At least in theory, CACILM could provide an excellent forum for disseminating project results on national and regional levels, and to obtain information from others and to learn from their experiences. This opportunity was not fully tapped. The project participated (toward the end of the project) only in one seminar for exchanging experience, and presented the project results there. CACILM has, over the years, not fully developed the capacities to facilitate this information exchange and to provide the necessary fora. Therefore the responsibility for not-using these (theoretical) opportunities is more on the side of CACILM than on the side of the project.

**Land Use Planning.** The project attempted to introduce Integrated Land Use Planning and Management (ILUMP) in the Bukhara Oblast (Romitan District). To this end, the project set up a ILUMP working group under the patronage of the governor, provided them with equipment (mainly IT technology) and training. The working group consisted of experts from different departments and disciplines. It has its offices in the building of the provincial government and closely cooperates with the governor. In addition to the Bukhara ILUMP working group, the project trained also employees of the Main Forestry Department in Tashkent in basics GIS land use planning.

Integrated Land Use Planning is generally defined<sup>xiii</sup> as an iterative process based on the dialogue amongst all stakeholders aiming at the negotiation and decision for a sustainable form of land use in rural areas as well as initiating and monitoring its implementation. ILUMP should create the basics required to achieve a type of land use, which is sustainable, socially and environmentally compatible, socially desirable and economically sound. It should set in motion social processes of decision making and consensus building concerning the use and protection of private, communal or public areas.

The project apparently had a different understanding of ILUMP. The ILUMP working group perceived their tasks more or less as technical spatial planning, and they focused their work on looking for technical solutions, data management, establishment of computerized systems, preparing maps, GIS applications, etc. The dialogue amongst stakeholders was carried out on expert level only. There was no real involvement of land owners, land users, communities, local administrations, etc.

### 3.3.2 Attainments of Project Outcomes

#### **Outcome 1: Plant species, having both strong ecological and economic benefits for succession in desert and semi-desert ecosystems identified and sustainable land management methods tested.**

Overall rating for Outcome 1: Highly Satisfactory (on the 6-point scale)

The Project used three indicators for assessing the achievements of the Project:

1. Number of plant species planted and grown in Karakalpakstan and Bukhara oblast for stabilization of mobile sands (target: at least 10 new plant species/varieties and planting approaches/technologies are tested and transplanted in the region to stabilize sands and stop land degradation in the Bukhara oblast and Karakalpakstan by the Forestry departments).
2. Planted seedlings survival rate (target: Survival rates improved by at least 20% by end of project).
3. Revival of traditional approaches and introduction of other methods in the area of sustainable land usage (target: at least 20 households (families) use traditional approaches and/or other new sustainable land usage methods).

The project studied 18 species of desert plants and tested five types of mechanical protections with subsequent planting of desert plants along the protection strips. Main methodology used in these experiments was to set up mechanical protections and grow forest strips by creating barchans sands, which resulted in forming soil layers for desert plants with lesser salinity level. These methods allowed growing desert plants with better growth characteristics and arresting the movement of mobile sands.

The project conducted field activities in salinity-affected and overgrazed land. The results obtained allow now to compare various options of combating desertification and identifying the optimal ones from both ecological and economic point of view.

Despite two arid years, the seedlings of saxaul (*Haloxylon aphyllum* and *Haloxylon persica*), saltwort (*Salsola richteri*) and candym (*Calligonum L*) on trial areas for sand stabilization have shown a high rate of survival. It was for the black saxaul 80% (usually 25-40%). However, due to unexpected resalinization of soil in the project site in Kazakh-darya, establishment of the newly planted seedlings was low. After the drought in 2011, plants such as the candym grow again, though the initial saplings dried up. These three plants were recommended by the project for use as the most adaptable plants in the desert and semi-desert lands with increased mineralization and salt content like in Kazakh-darya.

Other desert plants tested on the project pilot sites could not demonstrate satisfactory survival rate due to the morphological structure of soils (high mineralization and salt content) and sparse vegetation cover (limited protection from burning sunlight), thus their utilization in conditions typical to Kazakh-darya and Kyzyl Rovat was defined by the project as unsustainable and ineffective practice.

The project has also tested 6 forage plant species (*Aellinia subaphylla*, *Salsola arbusculaeformis*, *Salsola orientalis*, *Ceratoides lateens*, *C. ewersmanniana* and *Kochia prostrate*), which were planted on total of 5 ha of land plots in rangeland area to check their capacity to improve productivity of degraded rangeland. Unlike the method generally accepted in Uzbekistan, of continuous (solid) sowing of rangeland, the project has applied an alternative method of patchy (fragmented) sowing of these plants in the natural rangeland with the expectation that these sowed land spots will than serve as a source of further natural reproduction (seed blown by wind and animals) onto the wider areas of de-

sert pastures around these spots. In the year of planting, seeds of the above mentioned plants showed good germination rate on both pilot sites. Although this activity proved to be effective in Kyzyl Rovat conditions, due to intense re-salinization (chlorine salinity reached up to 3.5% against a tolerable maximum of 1.8%) in Kazakhdarya the germination was insignificant in following years. This allowed the conclusion that under the given natural conditions, creation of pastures using the above plant species, which are widely applied in the desert zone, is only possible in case of careful selection of the areas based on their salinity rate. Regulation of animal grazing in the available natural pastures becomes more important.

Within this project outcome there was an attempt to reclaim salt barrens in the area of Kazakhdarya. In the territories affected by chlorine salinity of 3% and higher, which become the source of airborne sand and salt particles, the method of carving sand accumulation furrows with a crevice was applied. When the sand filled the furrows, the seedlings of *Halostachys belangeria*, *Halocnemum* and tamarix were planted. Despite these plants are salinity-tolerant, they did not survive high salinity of the local soil and most of them died. The project also applied the method of installation of sand-accumulating grids, which were supposed to accumulate the sand where seedlings could be then planted. However, in the given area, the wind changes direction depending on the season of the year. This approach was less acceptable due to insufficient quantity of sand accumulated.

Development of salt barrens is a new branch of forestry-based reclamation science, especially for Uzbekistan. These territories cannot be reclaimed using traditional afforestation technologies and their reclamation requires comprehensive scientific approach. It was not feasible to employ such approach within the resources and capacities of this project.

Besides, under the auspices of the project, for the first time the process of vegetation of seed material put into organic mineral granules, determining its germination parameters at various degrees of pre-sowing preparation (experience of the Republic of Belarus) has been introduced to and tested by the forestry departments of Uzbekistan. Obtaining pelleted (coat) seeds on the basis of organic mineral mixtures allows more sustainable and effective use of both the seeds and biologically active admixtures and growth stimulators. Inclusion of micro fertilizers and biologically active admixtures in the composition organic mineral mixtures creates optimum conditions for growth and normal development of plants as well as facilitates gradual fixation of nutritious elements during the vegetation period.

The project introduced Farmer Field Schools (self-education, new plant species, seed base), created new system of irrigation infrastructure (pumps, water users groups, system of canals) on both pilot sites. The main purpose of demonstration of development of land cropping on previously degraded lands through their cultivation was to address two issues: a) former (fishermen, herdsman, etc.) become land farmers, obtaining new sources of livelihoods and employment; b) previously degraded lands become suitable for land cropping, turning into natural economic resource, creating green areas and micro climate in the village territory.

In the beginning the number of families participating in FFS was up to 40. Number of women participating in trainings and consultations increased significantly. Thus, while only two women participated in FFS in the beginning, women and children from each family were actively practicing land cultivation by the end of experimental period. An independent form of water supply was created for the local population by providing 7 high-capacity mobile water pumps. At the end of the project, about 6 ha of marginal land of the village and 20 ha of the shirkat lands are being cultivated. By growing vegetables and fruits, the personnel of the hospital and schools provide themselves with fresh food independently from the third-party suppliers.

In 2011, every family participating in FFS harvested an average of 320 kg of vegetables and melons, around 250 bundles of greens and cultivated up to 7 fruit trees. A single household plot produces up to 300 kg of green forage. This allowed increasing the income of participating families by 300 USD per annum, which was still significant contribution.

As of now, about 80 families from the villages Kazakhdarya and Kyzyl Rovat successfully engaged in agriculture on previously degraded land. About 450 people acquired skills in farming and land cultivation. 6 groups of water consumers (comprising 10% of the villagers) were formed and independently manage the provision of water to household plots and land of the social infrastructure.

Some 13 desert plants were tested in the experimental-demonstration plot with the area of 0.75 ha in Kazakhdarya. Apple, quince, plum, cherry and grapes were selected for vegetating the household plots (5). Fruit and berry plots were created by planting large-fruit variety of oleaster, jujube, currant and briar (5). Street vegetating was done using ailanto, elm, poplar, locust, oleaster, tamarisk (6). In the spring of 2011 it was found that nine of these plants showed high survival rate and can be used for vegetating of the villages. Local residents were provided with over 600 saplings of these tree species, which resulted in vegetating of 6 hectares of household plots.

Based on the outcome of the plant testing experiments the project has established nurseries both for desert plants for sand fixation and for fruit/decorative plants for home gardens. Furrow carving and manual seed planting technology was used to grow saplings of saxaul, which then were planted throughout the project areas. The output was satisfactory. In 2011-2012, the forestry nursery was not created again in Kazakhdarya because the experiment was over. The nursery, which was established in 2011 in Kyzyl Rovat when water was available (from the project bought pump) seems to be of limited value at present though some saxaul seedlings were observed growing. This is probably because the very dry and recently very hot weather and low level of the Amudarya (which prevents use of the pump) has had limiting impact on the nursery.

Generally, 374 people were trained on sustainable land use management at local level. This number includes 104 experts who participated in workshops on capacity development in ILUMP and 65 high level government officials who were trained in solving environment issues.

### **Outcome 2: Mobile sands stabilized and degraded land rehabilitated in partnership with local communities**

Overall rating for Outcome 2: Highly Satisfactory (on the 6-point scale)

The Project used three indicators for assessing the achievements of the Project:

1. Number of days per year with wind-blown sand in the vicinity of Kyzyl Rovat and Kazakh Darya (target: number of days with windblown sand in the project area reduced by an estimated 50% within 6-10years of project completion as a result of project intervention (i.e. upon maturing of plantations).
2. Area of degraded land rehabilitated and desert ecosystems stabilized in Kyzyl Rovat and Kazakh Darya (target: at least 250 ha around Kyzyl Rovat and Kazakh Darya has been rehabilitated and used by the communities in a sustainable manner).
3. Number of alternative viable income generation options which can improve living standards and reduce land degradation available to the community members (target: at least 4 appropriate and sustainable approaches and technologies for reducing fuel wood pressure tested and utilized by local population).
4. Number of approaches and technologies for reducing pressure of desert vegetation from fuel wood extraction (target: at least 4 appropriate and sustainable approaches and technologies for reducing fuel wood pressure tested and utilized by local population).

The project has conducted experimental activities on sands fixation and restraining their movement in the village territory and in agricultural lands. This was considered a way to prevent dispersion of sand and salt from the former Aral seabed and Kyzylkum Desert. Project studied and tested five types of mechanical protections using local materials (reed, tamarix) with subsequent planting of desert plants along the protection strips. In Kazakhdarya, these activities were performed in an area of 12.1 ha and in Kyzyl Rovat in the area of 10 ha. Methods were tested based on the system of block location of treatments. Activities performed during 2008-2009 included planting of seedlings of desert

plants (saxaul, *Salsola richteri*, *Calligonum*, tamarix, etc.) obtained as a result of organization of a nursery for growing of desert plants. Field works to stabilize mobile sands have been continued in 2010 and demonstrated good results.

In 2011, the outputs on testing of technologies of stabilization of mobile sands using mechanical means of protection was analyzed and documented by the project. Building on this experience the Forestry Department of the Ministry of Agriculture and Water Resources has developed recommendations and approved operational instruction to be used by all its units throughout the country.

The rehabilitation of water wells has allowed restarting production on additional 18,000 ha of desert rangeland in the Kyzyl Rovat project area. Through these measures the grazing pressure on more than 12,000 ha of desert pastures has been reduced at least by 40%. In close cooperation with shirkat specialists, the project has worked out a scheme for effective use of pasture by the shirkat sheep flocks based on use of 2 wells and seasonal rotation around and between them and developed recommendations on grazing rates (i.e. the proportion of available grazing of an individual pasture area that is consumed when that particular pasture is used). The farming enterprise is now more able to allocate funds to rehabilitate degraded pasture areas and to organize the pasture rotation more efficiently.

Caracul sheep farming have been the main livestock sector in the village of Kyzyl Rovat. The main advantage of Caracul sheep over other livestock animals is their constitutional strength and adaptability to desert conditions with high economic efficiency of breeding. However, rearing of low productivity and low value sheep forced the shirkat to stock large herds, which in turn causes additional stress on pastures and leads to their degradation.

The project has helped to increase breeding capacities of the shirkat to improve caracul sheep pedigree by importation of purebred rams and introduction of artificial insemination. The project has purchased 8 rams from "Buhoroi-sharif" livestock breeding factory. During the 2009-2011 period more than 4500 ewes were artificially inseminated using this pedigree rams and the future pedigree stocks were formed through regular valuation and selection of young animal received from lambing of these ewes. Three new young flocks of 1,200 heads of various breed types with valuable features (color and texture of felts, weight, etc.) were formed.

Based on this work the shirkat has filed application to the Bukhara Regional Breeding Inspection to claim Pedigree Livestock Breeding Farm status. After several examinations and evaluations the conclusions of the Bukhara Regional Breeding Inspection, that supported awarding a new status to the Kyzyl Rovat shirkat farm, were submitted to the Republican Breeding Inspection. In April 2012 the application was approved and a certificate confirming the status was awarded to the shirkat.

Attaining by the shirkat of the Pedigree Livestock Breeding Farm status allowed to increase the price of its products for more than two times and to be exempt from all current taxes (according to national law). For example, the tax exemption benefits of single land tax provide the shirkat with additional financial profit of almost UZS 40 million per year (USD 20,500 on UN exchange rate). These saved financial resources could then be used for further invested in improving the productivity of pastures.

However, the sustainability of the impact from above mentioned outputs of the project may be put under question if shirkat will significantly increase number of livestock in the following years without giving proper attention to pasture rehabilitation and productivity issues.

A key problem identified throughout the pasture management system is the lack of any formal or informal allocation of pasture to local households and lack of any collective management or control of household livestock. This is a major gap in the system, particularly, as in many places the number of household livestock considerably outnumbers shirkat livestock. Thus testing approaches to address this are very important. With the overall guidance and support from the Project a "pasture user commissions/groups" under the Assemblies of Rural Citizens (local administration) both in Kazhdarya and Kyzyl Rovat have been established. These commissions have their own statute cover-



ing function, and members elected during Assembly meetings. The main function is basically to support households on issues related to livestock/pasture. Among the benefits of such approach are registration of each household livestock and introduction of the pasture use management and productivity monitoring.

Thanks to efforts of Pasture Users Commissions 20,000 ha of desert pastures in Kyzyl Rovat and 400 ha of desert pastures around the village Kazakhdarya was given to the local population for a controlled grazing of community livestock. It allowed increasing efficiency of pasture use by 35%. On the whole therefore it seems that the Pasture Commissions has had a positive impact and demonstrated that such a structure under an existing community institution (the Assembly) can be a viable mechanism for bringing household livestock into a collective and more sustainable framework.

Well organized veterinary service that prevents spread of livestock diseases is one of the main factors of development of livestock production. The project facilitated establishing Zooveterinary Service Points (ZVSP) in both pilot areas. More than 30 items of veterinary equipment allowing full range of veterinary services at local level have been supplied. Accounting of community and household-owned livestock was set up and is now being performed, which allows planning of livestock population for vaccination. Systematic allocation of pastures is used to prevent overgrazing. As a result, khokimiyats (local administrations), district veterinary and statistics authorities receive accurate information.

Veterinary doctors were trained and prepared in order to ensure effective operation of veterinary service station. Vets can also provide, in theory, extension services (about fodder preparation methods, etc.) to private household livestock owner. Veterinary station operation business plan was developed, providing that during first year service of veterinary doctor were paid by the project. Starting from the second year, veterinary service stations have been successfully operating on the basis of self-funding.

Artificial insemination (AI) is a relatively high-technology process requiring duly trained personnel. With support of the project, the veterinarian was trained in AI technique in the Republican Breeding Union Uzchorvanaschilik (Kibray district of Tashkent oblast). After completing his study, the veterinarian received a certificate.

Group-based controlled grazing method proposed by the project showed that systematic pasture use was quite possible under conditions of Kazakhdarya village. Thanks to increase in pasture use productivity by at least 30-35% areas of pasture usage reduce accordingly. This effect was aimed at improving ecological situation manifested in reduction of the level of pasture and forest territories caused by change of climate and human intervention

Besides, the project has, at the request of the district authorities of Romitan (within which the project site Kyzyl Rovat is located) and in the context of the Republic level activities of the Ministry of Agriculture, helped established a Livestock/Veterinary Centre in Romitan, the administrative centre of the district. This centre was supposed to provide both livestock extension services and veterinary support to livestock farmers throughout the district. It operates on a part state supported, part commercial basis. In this context the project has also help them to prepare a business plan to ensure its stable operation. This is one of the first such centers established in rural districts in Uzbekistan and will provide a valuable model for future expansion of such vital support services. Additionally, it will provide a valuable mechanism for helping to disseminate the results and experience of the project from the project site in Kyzyl Rovat to other shirkats and communities in the district. A number of district level and oblast level training events for more than 200 veterinary specialists have been conducted by the Centre with the support from the project.

These project activities aimed to support private livestock sector correspond well with the objective to improve livelihoods and resilience of local population living in the disaster-prone areas of Uzbekistan, such as Kazakhdarya. However the linkages of these activities with environmental problems and their actual impact on the ecosystems stability may be controversial.

To demonstrate options for creation of alternative sources of income and employment, the project facilitated realization of four business plans through involvement of local population representatives in creation of small enterprises (a greenhouse, a carpenter's shop, barbershop and sewing shop). Minimum startup capital was provided by the project, and showed a return rate of 70% already in the first year. Starting from second half of year two, owners of these small enterprises are generating sustainable income. These establishments have employed 16 people.

A feasibility study on the use of biogas revealed that the raw material (manure) is not enough to be collected, cattle stabling is low, livestock is located mainly on the pastures. There would also be the need of strictly following safety rules, which causes concern among the population. Therefore, the population is not interested in it. The installation of solar panels will be effective, but the devices are too expensive and neither the local population nor local authorities are able to provide the financial means. The project worked out recommendations and these actions are included in the framework of the UN Agencies Joint Programme on "Sustaining Livelihoods Affected by the Aral Sea Disaster".

### **Outcome 3: Institutional and policy framework for integrated land use planning and management, strengthened**

Overall rating for Outcome 3: Satisfactory (on the 6-point scale)

1. Number of Forestry Department and Ministry of Agriculture and Water Management employees aware of the Integrated Land Use Planning Process (target: at least 50% more of the questioned respondents from Forestry Department and Ministry of Agriculture and Water Management employees in comparison with the baseline figure in year 1 are knowledgeable about Integrated Land Use Planning and Management).
2. Local communities trained in participatory land use planning and management (target: capacity (through training) of local administrations officials as well as local community members, to implement an effective Integrated Land Use Planning policy for desert lands, is enhanced by more than 50% in comparison with level of year 1).

The project has implemented a number of activities to introduce and promote integrated land use planning and management process on a district level. The objective of these activities was to demonstrate the benefits of the ILUMP, which allows representatives of sectoral units of the district administration (khokimiyat), shirkat farm and local communities to identify and effectively address common interests in land use issues through participatory planning process. To this end, the project has organized a series of trainings and round tables with participation of representatives of various departments of Romitan Khokimiyat, who directly involved in decision-making on land use. During these events the participants had an opportunity to look at the basics and the concept of an integrated land use. Fourteen experts of the Main Forestry Department were trained in Integrated Land Use Management through practical seminars and training courses on GIS, organized by the project. Certificates were obtained.

Thus, the foundation for further integration of land-use planning at the regional level was laid in Uzbekistan for the first time and the ILUMP Working Group has been established in the structure of Romitan Khokimiyat (District Administration), which tested the methods of Integrated Land Use Planning at the district level. The project has facilitated and supported the Group in development of an integrated land use management plan for Kyzyl Rovat settlement, which then was used as basis for targeted training and capacity development of relevant district level personnel thereby capacitating them to undertake similar planning in other areas of the district. The group consisted of more than 15 persons, who are decision-makers on land use issues at the level of oblast, rayon and local communities. The group organised a series of seminars and developed an integrated plan for the management of land resources, and also the creation of a linear model of the desert pastures use on the area of more than 100,000 ha.

A preliminary “Passport” for the Kyzyl Rovat pilot site was agreed with the ILUMP working group of Romitan district. Following these instructions, the farming enterprise (Shirkat) obtained the Certificate of a Breeding Farm and was exempted from income tax for the duration of five years.

The project has developed draft legislative act «On improving the procedure for the use and protection of pastures» with Annex «Regulations on use and protection of pastures» which is the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan. The document was thoroughly discussed with all interested ministries and other government agencies represented in the Project Steering Board, and delivered to the MAWR for further submission to the Cabinet of Ministers.

This draft of the legal act contains important innovative suggestion on introducing of Pasture Tickets instrument. Pasture ticket is a document regulating the transfer of grazing land to local people for use for a certain period, authorized by the state. At the present time, the population of desert regions doesn't have own pastures for cattle grazing, although the cattle number in households is growing. Large sheep farm enterprises can dispose grazing rights of long-term use. They can transfer the land to the population by the issue of households pasture tickets. These tickets regulate the quantity of cattle and the size of the pastures area and oblige ticket holders to support pastures in adequate vegetation conditions.

#### **Outcome 4: Monitoring and evaluation, learning and adaptive management, implemented**

Overall rating for Outcome 4: Satisfactory (on the 6-point scale).

1. Innovative approaches to SLM emulated and replicated (target: relevant experience is available to CACILM partners and within 5 years post project is replicated in at least 5 other communities beside Kazakhdarya and Kyzyl Rovat).

This indicator is not very much appropriate to measure project progress. The achievement of this indicator can be measured only 5 years after closure of the project, and is thus useless at least for the purpose of this evaluation.

The project conducted the following activities to ensure control and evaluation, assessment and adaptive management of the project results:

- Economic evaluation of the project activities on sand stabilization and sustainable livestock production under desert pastures conditions;
- Cooperation with other programs and projects aimed to combat desertification and land degradation (ICBA, GIZ, WOCAT);
- Regular meetings with project areas communities in order to perform joint planning of activities;
- Analysis of the economic activity of Kyzyl Ravat shirkat farm;
- Popular science film on the project activity;
- Training workshops on the project topics at various decision making levels conducted;
- Information materials for the project areas and the experts (Farmers Field Schools, pasture based livestock production, capacity building) produced and disseminated (Annex 6).

### **3.4 Assessment of Project Achievements according to OECD-DAC Standards**

The OECD-DAC criteria are a standardised for assessing the achievements of a project and a useful tool to make comparisons between different projects. Many of the issues addressed by the DAC criteria have in principal already been dealt with in the previous chapter but from different perspectives. In order to avoid duplication, the following chapter has been drafted in a very concise way, and lists key issues (rather than giving exhaustive, complete lists) of achievements or non-achievements as a justification for the rating.

### 3.4.1 Relevance

The project is rated as relevant<sup>1</sup> on the 2-points scale as it, among other aspects,

- + addresses issues of global importance for integrated dry land management including the livelihood of local communities;
- + aims at the conservation and rehabilitation of ecosystems and habitat types, for which Uzbekistan has a global responsibility;
- + pursues a systemic approach through combining ecological with socio-economic goals;
- + is in line with international commitments made by the Government of Uzbekistan (international environmental conventions such as UNCCD);
- + is in line with the priorities outlined in the GEF operational policies;
- selected two pilot areas which are very different and distant from each other and do not allow to develop much synergies;
- is built on an intervention strategy with certain weaknesses (no clear logical flow from problems over outcomes to objective);
- is as a consequence of this too much research-oriented.

### 3.4.2 Effectiveness

In respect to its effectiveness, the project is rated “Highly Satisfactory” on the 6-point scale as it, among other aspects,

- + achieved “Highly Satisfactory” results for two outcomes and “Satisfactory” results for the other two (as per 6-points scale);
- + achieved more or less the targets of the indicators of success (albeit some difficulties in the monitoring system did not allow to fully keep track, and the planning documents also include unrealistic indicators);
- + successfully tested different methods for sand dune stabilisation;
- + successfully tested the growth rate of different plants under different soil and salinity conditions;
- + strengthened the personal and institutional capacities of several national and regional administrations;
- ± undertook serious efforts to develop and introduce the system of Integrated Land Use Planning and Management (even though the system turned out not to be fully appropriate to the framework conditions);
- ± introduced a series of innovative methods of land management (e.g. home gardens, rangeland management).

At least two of the outcome indicators refer to the post-project situation and cannot be assessed now.

### 3.4.3 Efficiency

The efficiency of the project is rated “Satisfactory” on the 6-points scale as it, among other aspects,

- + conducted most project activities in a timely manner and achieved most project outcomes in line with the time planning of the annual work plans;
- + selected usually the most cost-effective way in order to achieve the intended objective;
- + has not conducted activities which are not geared to the project objective;
- did choose pilot villages which are very far from each other and did not allow to develop much synergies;

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<sup>1</sup>Applying a 6-point scale, the relevance of the project would be rated “Satisfactory”.

- was sometimes hampered by complicated and/or time-consuming administrative processes stipulated by UNDP;
- did not fully grasp the opportunity to generate synergies with other CACILM projects in the region.

### 3.4.4 Impact

The impact of the project is rated as “Significant” (on the 3-point scale)<sup>2</sup> as it, among other aspects,

- + changed the mind-set of local people in the pilot villages and succeeded to introduce home gardens and take care of the immediate environment;
- + helped local people to generate income from sources other than livestock;
- + helped to increase the productivity of livestock;
- + assisted the Shirkat in Kyzyl Rovat to achieve the status of a “karakul breeding farm”, which will guarantee higher income for at least the next years;
- ± attempts to integrate project results on rangeland use into national legislation (the acceptance of these proposals, i.e. the impact, will only become clear at a later stage);
- ± integrated the recommendations on afforestation and sand dune fixation into the regulations of the Forest Department, but it is too early to assess an actual impact;
- addressed only a relatively low number of direct beneficiaries through livelihood activities (alternative jobs), so that the effect even in the pilot villages was relatively low;
- the focus of the project was on socio-economic issues, and a positive impact on the environment sometimes still needs to be confirmed.

### 3.4.5 Sustainability

The sustainability of the project is rated “Moderately Likely” (on the 4-point scale<sup>3</sup>) as it, among other aspects,

- + initiated and supported the establishment of home gardens, which provide income and contribute to a healthier life, and where there is no doubt that local people will continue;
- + created some business in the pilot areas, which ensures a permanent income for some villagers;
- + strengthened governmental institutional structures on the level of the Government of Karakalpakstan and Bukhara Province as well as on national level;
- + improved the veterinary services in a way that both private service providers and sheep-owners benefit from it and will surely continue to provide these services;
- + made local people aware of the problems of land degradation and thus laid the ground for long-term engagement;
- ± assisted the Ministry of Agriculture and Water Resources to submit a draft law to the Cabinet of Ministers, which takes into account the results of the project on rangeland management (the acceptance of the law is beyond the responsibility of the project);
- ± mainstreamed the results on testing different methods for sand fixation into national policies through the Forestry Department of the Ministry of Agriculture and Water Resources (the likelihood that the improved methods will be applied throughout is regarded as moderate);
- upscaling activities are at the time of project closure still at the very beginning, and can hardly be completed without external support.

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<sup>2</sup>The TE would rate the project’s impact as “Marginally Satisfactory” to “Satisfactory” on the 6-point scale.

<sup>3</sup>The TE would rate the project’s sustainability as “Marginally Satisfactory” to “Satisfactory” on a 6-point scale.

### **3.4.6 Coherence and Coordination**

The Coherence and Coordination of the project was rated as “Moderately Satisfactory” (on a 6-point scale) as it, among other aspects,

- + is executed as an element of the Central Asian CACILM Initiative for Land Management, which provides a wider context, and for which UNDP/GEF is a major stakeholder;
- + Is in line with UNDP’s Country Action Plan 2010-2015 in several fields including Rural Development; Land, Water & Biodiversity; Working with Communities; Disaster Management; and Capacity Development;
- did not claim services from the CACILM Initiative, although the project is an integral part of this initiative and this initiative pursues the goal to facilitate regional cooperation and information exchange;
- did not established firm partnerships with other SLM projects in the region.

### **3.4.7 Project Management**

The overall project management is rated “Highly Satisfactory” on the 6-point scale as it, among other aspects,

- + shows a high ownership by the project executing partners on national, regional and local levels;
- + was managed by a highly dedicated and professional management team;
- + is built on high personal continuity throughout the project’s lifespan;
- + managed well the integration of the most relevant national stakeholders in project issues through the Project Steering Committee and other means;
- + applied adaptive management and was able to critically review project requirements as laid down in the Project Document, and to modify as necessary (e.g. on upscaling or on Traditional Knowledge).

The quality of the design of the project, which is sometimes also regarded as part of project management, was not assessed here.

## 4. Conclusions and Recommendations

### 4.1 General Remarks on the Rating System

The “Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects” issued in 2012 use a 6-point scale for rating project outcomes, effectiveness, efficiency, M&E and I&E Executing, a 4-point scale for sustainability, a 3-point scale for impact, and a 2-point scale for relevance. No guidance is given how to derive from these ratings of certain aspects and components an overall rating of the project.

The annual PIR (Project Implementation Review) describes the cumulative progress toward meeting the project development objective by using a 6-point scale. The PIR give general explanations of the meaning of each of these points, but these explanations do not take specific aspects (such as laid down in the DAC Criteria) into account. It is also noteworthy that GEF’s Annual Project Monitoring Reports (AMR) are based solely on the assessments laid down in the PIR. Assessments of certain aspects (as defined e.g. in the DAC Criteria) are not considered.

Some donors and implementing agencies take the average of the rating of each of the DAC Criteria, and calculate on this basis an overall rating. Others take “weighted averages”, e.g. to give more weight to sustainability than to effectiveness. The application of different scales (2-point scale to 6-point scale) for different criteria in the UNDP/GEF system does not allow such a calculation. Overall rating of a project thus becomes principally independent from the rating of individual components or aspects.

The advantages of using different scales for different project aspects and criteria are not clear. In the new UNDP/GEF system, the relevance, for example, can only be rated as “relevant” or “not relevant”. In the case of the Ecosystem Stability Project, the Terminal Evaluations found the overall approach highly relevant, but certain aspects as are less relevant. These include some research-oriented components, which are in the view of the TE less relevant. This cannot be expressed with the new UNDP/GEF rating system. Another example is project impact, which is rated according to the new UNDP/GEF guidelines according to a 3-point scale (significant, minimal, negligible). The Ecosystem Stability Project has undoubtedly contributed toward reduced environmental stress and improved ecological status. Nevertheless, the main achievements of the project were in the field of local livelihoods, and the TE therefore would like not to give the highest grade to impact. The grade would be above “minimal”, but below the top grade. However, such a grade does not exist.

The rating system thus needs to be further developed and standardized. It is therefore recommended

- to harmonize the rating system among the various aspects and components; and
- to provide guidance on assessing the overall rating of a project based in the ratings of its components and/or aspects.

Only coherent standards for project overall ratings would allow comparisons between projects and between certain components and aspects of projects.

### 4.2 Adjustment of an Indicator for Project Achievements after GEF Approval

The project objective reads as “To test, evaluate and promote innovative solutions to the problems of land degradation at a pilot scale in Kyzyl Rovat (Bukhara Oblast) and Kazakhdarya (Karakalpakstan) and replicate best practices in order to achieve ecosystem stability on degraded land in Karakalpakstan and the Kyzylkum Desert in Uzbekistan” (underlined by the evaluators). One of the indicators to assess project achievements is “Area of degraded land rehabilitated ...initiated elsewhere in Uzbekistan, Central Asia (CACILM) and other countries to stabilize mobile sand or/and reverse land degra-



ation”, with a target value of 100,000 ha (target: “By the end of year 5, at least 100,000 hectares of degraded land elsewhere beyond the area of the project has been rehabilitated or degradation stopped using the approaches and practices tested by the project.”).

During the Inception Phase, this indicator was modified and reads now as “By the end of year 5 the Project will have tested new methodologies of land management on project territory of 500 ha and prepare replication strategies for land rehabilitation on 100,000 ha outside of project area that will be implemented under the CACILM umbrella.”

The modification of the target indicator was justified by the fact that the project “cannot guarantee that land in the area of 100 000 ha will be rehabilitated”. Within the Project framework, some 500 hectares may be rehabilitated by testing the innovative and restoring traditional land usage methodologies, and then the approach tested by the Project may be up-scaled through CACILM.

The modified Logical Framework has been approved by UNDP/GEF Regional Centre Bratislava on 27.11.2008.

Neither the original indicator (which is much too ambitious), nor the revised indicator (which takes responsibility for something, which is not under the responsibility of the project) are feasible indicators. However, it needs to be considered that GEF as the donor has approved the project under the condition that 100,000 ha of land will be rehabilitated.

It is easy to justify that such an ambitious goal as developing new methodologies on land rehabilitation and upscaling them on 100,000 ha of land is far from reality. Neither the financial resources nor the time budget of this MSP are enough to materialise it. Nevertheless, such an important issue should be modified only with the approval of the donor. To the best of the TE’s knowledge, this issue has never been raised to this level.

#### **4.3 Environmental versus Socio-economic Benefits of the Project**

The Project pursued two principal directions: (1) avoidance of the degradation of the vegetation cover in deserts and semi-deserts through overuse by livestock; (2) increase of the vegetation cover in the deserts and semi-deserts through active plantations. The feasibility of these approaches should be discussed here.

For avoiding environmental degradation of marginal land in the deserts and semi-deserts, the project applied a set of different measures: (1) introduction of grazing rotation; (2) rehabilitation of wells; (3) improvement of the health of livestock (improvement of veterinary services: quality instead of quantity); (4) improvement of the pedigree of livestock (higher productivity: also here quality instead of quantity); and (5) generating alternative sources of income. All these measures are suited for enhancing the productivity of livestock. Through the rehabilitation of wells, livestock can graze in better rangelands; they receive better veterinary services and livestock races with a higher productivity are used. Normally, all these measures will inevitably lead to an increase in the livestock population, and herewith to an increase in land degradation. The challenge therefore is: how can all these measures, which have a strong positive effect of livelihood of local communities, contribute to combating environmental degradation? How can it be ensured that these measures will replace activities which have a negative effect on the environment, and will not become an additional burden to the environment? In other words: how can it be guaranteed that new sources of income will not be utilised to buy new livestock, a better veterinary service will allow higher stocking of the rangeland, and more wells will lead to a higher livestock population? While the ultimate goal of the project is to reduce the pressure on rangeland ecosystems by distributing livestock population more evenly, it has to be taken as a risk that all measures will lead to an increase of the livestock population rather than a more even distribution.

The project therefore attempted to introduce a mechanism which avoids overstocking of livestock: the introduction of “passports” for grazing land, and the introduction of a “ticket system” for regulating the number of livestock on these lands. The rangeland passports identify the maximum number



of livestock per pasture according to its carrying capacity. The idea of the ticket system comes from forestry, where local people can buy “forest tickets” for the use of forest land.

Pasture ticket is a document regulating the transfer of grazing land to local people for use for a certain period, authorized by the state. At the present time, the population of desert regions doesn't have own pastures for cattle grazing, although the cattle number in households is growing. Large sheep farm enterprises can dispose grazing rights of long-term use. They can transfer the land to the population by the issue of households pasture tickets. These tickets regulate the quantity of cattle and the size of the pastures area. A similar practice is implemented in the forestry sector, which provides the right of hay-making on forest ticket. In the case of the pasture ticket, pasture users use the pasture for long term periods and are also obliged to support pastures in adequate vegetation conditions. The introduction of pasture tickets is included in the «Regulations on use and protection of pastures», which is Annex 1 of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan «On improving the procedure for the use and protection of pastures», developed by the project and delivered to the MAWR.

The increase of the vegetation cover through active plantations has been materialised in several ways: (1) the project established plantation plots to find out what tree species grow best under the harsh local climate conditions; (2) the project assisted local people to grow alfalfa on selected plots; (3) the project helped local people establish home gardens; (4) the project helped public institutions (schools, hospital) to plant trees. The purpose of the trial plots was more to find out what species actually can be used for afforestation rather than achieving a direct impact on the environment. The plantations within the villages (trees, home gardens) were mainly geared toward providing vegetables and fruits to local people, and trees which produce shadow and protected against wind and sand. These are thus much more socio-economic benefits rather than environmental benefits.

In order to achieve a measureable impact on the environment, the project has prepared a set of recommendations on selecting plant species for afforestation and for selecting the best method for stabilizing moving sands. These recommendations are no major break-through, as many plant species turned out to be not suitable and some methods for sand stabilization turned out to be too expensive. There will therefore not be wide application of the results of this project components, but surely some fine-tuning of the methods takes place. The impact on the environment thus remains restricted.

In total, many project activities resulted in good socio-economic achievements and made a substantial contribution to improving the living conditions in the remote pilot villages. These activities, however, are often not clearly linked to environmental benefits, and some environmental benefits still need to be confirmed.

#### **4.4 Relief and Direct Payments to Beneficiaries**

The policy of UNDP and the Ecosystem Stability Project is not to make direct payments or to provide other similar benefits to project beneficiaries with the following exceptions: For creating alternative livelihoods, the project provided equipment to several individuals at both pilot sites, e.g. for opening a barber's shop, for equipping a sewing workshop, or for establishing a carpenter's workshop. The items provided passed into the personal ownership of the beneficiaries. As regards training, no per diems (DSA) were paid, if the training was held in the beneficiaries' villages. However, when the training was held at other places (such as the provincial capital or in Tashkent), the full DSA according to UNDP standards was paid. Some locals were also paid as local trainers/experts. It cannot be ruled out that the motivation of some people to participate in such training events was stimulated by getting cash DSA.

Some people said that the GIZ, who implemented a project in Kazakh-darya between 2001 and 2007 aiming at the agricultural development and afforestation of the Aral Sea bed, made direct payments (e.g. in the form of per diems) and in-kind contributions to local people, and that for this reason, the

UNDP/GEF Project had a difficult start as local people again were expecting direct relief and not self-help approaches.

While the accuracy of these statements cannot be checked, payments and in-kind donations are generally an extremely sensitive issue. For project beneficiaries, refunding of expenses should always be preferred over lump-sum payments according to UNDP standards (e.g. for accommodation), and in-kind contributions to groups of locals should always be preferred over contributions to individuals.

#### **4.5 Promotion of Indigenous Knowledge and Traditional Forms of Land Use**

The Project Document put much emphasis on the promotion of traditional forms of land use, and the revival of “indigenous knowledge of local communities on desert plants, animals and ecological conditions and the traditional ways of living in harmony within desert ecosystems”. The Project Document foresaw, for example, a survey of traditional approaches and indigenous knowledge on the management of desert lands and ecological resources, the preparation of a strategy on use of traditional management practices and approaches in regard to utilisation of scarce desert plants that have food or medical values, and the production of printing learning materials on the traditional land use practices. The Project Document emphasizes that the breakdown of traditional land management practice and other indigenous knowledge is the first barrier to sustainable land management, and that this breakdown has been brought about by the recent past political system which required communities to abandon traditional approaches for the past two generations. The Project Document says that traditional land management practices have been overwhelmed by 70 years of state control and centralized economic planning which, to a certain extent, still prevail.

The Project Document thus takes a very romantic approach toward traditional and indigenous knowledge, apparently strongly influenced by international discussions in the frame of the Convention on Biological Diversity (CBD). However, there are a few aspects which have not been taken into account:

1. Traditional knowledge in the field of land use is related in most cases to special skills related to soil, livestock and plants, and these skills along with specialised knowledge is passed from one generation to the next in the form of “learning-by-doing”. This system completely collapsed in the Soviet Union with the collectivization of agricultural production and the emergence of kolkhozes and sovkhoses, and led to a break in traditional land use forms. Traditional land use forms in the sense of the Project Document would thus mean land use forms from the pre-Soviet era. As there is more than one generation in between, it is physically impossible to pass traditional skills and knowledge to the present generation. The skills are already lost.

2. The pilot village Kazakhdarya was situated on the shores of the Aral Sea and fishery was the most important source of income. With the disappearance of Aral Sea, people now have to find new forms of living and acquire new skills – which are definitively not based on their traditional lifestyles as fishermen. The real challenge in Kazakhdarya is to overcome traditional forms of land use and to adapt to the new situation, rather than reviving them.

3. The traditional land use forms from the pre-Soviet era are hardly suitable for modern societies, which have been deeply shaped in the Soviet and post-Soviet era. Desert dwellers originally belong to nomadic or semi-nomadic pastoral societies with a summer ground and a winter ground. Such life forms are nowadays no longer found; at both pilot sites, people inhabit villages and only a few herdsmen take care of livestock at certain places outside the villages. Local people are far from wishing a return to the “traditional way of living in harmony within desert ecosystems”.

The project is therefore to be praised that it did not follow the Project Document and did not emphasize traditional and indigenous knowledge and skills. In the Inception Report, this issue has been addressed as a risk: “Virtually all traditional knowledge and skills were lost during Soviet era. From this point of view, there is a risk that it will not be possible to revive this, time-proved and adapted to specific environmental conditions, knowledge.”

The Project Document apparently just followed the international discussion and tried to please the donor without analysing the actual situation in the pilot areas thoroughly. This is a donor-driven and not a demand-driven approach.

**4.6 General Conclusions and Overall Assessment**

Altogether, the Ecosystem Stability Project has remarkable achievements and it is fully justified that this project is used as an example project in the region. The project achieved its objective, and the project team is to be praised for a professional management.

The project can be proud of successfully introducing home gardens in the two pilot villages. At the beginning of the project, the villages had no green, it was barren land; today, people are cultivating vegetables, fodder plants and trees, and can contribute in this way to make their living. Whereas there were no real big technical challenges, the real challenge was the human factor, i.e. changing the mind-set of former fishermen, herders, etc., and to convince them to attend Field Farmer Schools for learning home gardening.

There are many successful cases of creating new sources of income, increasing the productivity of livestock, introducing grazing rotation in the rangelands, establishing local water user groups, etc. While the positive socio-economic impact and success of all these measures is unquestioned, the environmental benefits are sometimes not evident. There is still some risk that these positive socio-economic measures will lead to higher populations of livestock, and thus to overgrazing and environmental degradation. The unsustainably high livestock populations as in the Soviet era must not be revived.

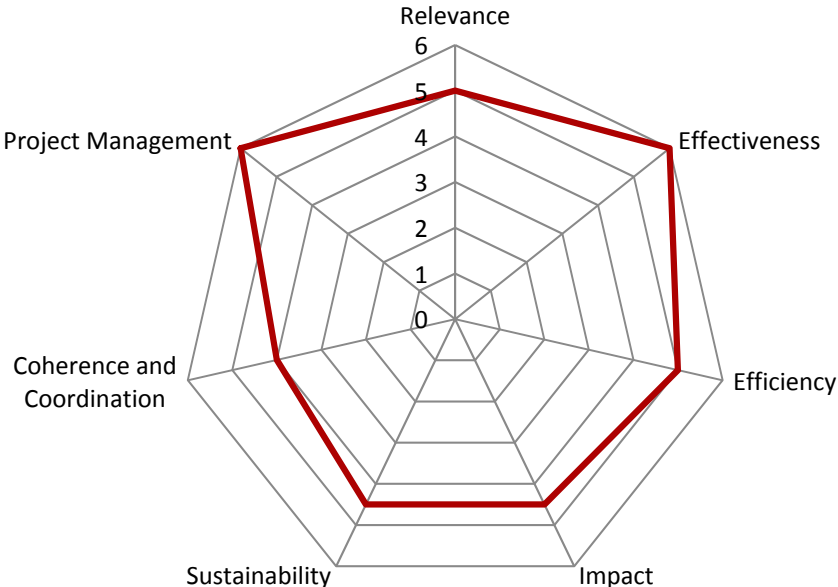


Figure: Spider web chart to show the results of the ratings of individual project aspects. All ratings were done for the purpose of this diagram according to a 6-point scale with 6 being “Highly Satisfactory”.

To avoid such trade-offs between environmental and socio-economic goals, the project tried to regulate the number of livestock with so called “passports” for pastures, and “tickets”, which freeze the

maximum number of livestock per ha at a certain level. The efforts undertaken by the project towards this end are still at the beginning, and many questions e.g. on assessment, monitoring, institutional responsibilities, legal framework, etc. are still open. This needs follow-up after the end of the project.

Certain shortcomings of the project find its reason mainly in the design of the project and not in the implementation. These include:

- The design of the project was much too ambitious. The project designers apparently believed that the project could fully develop new methodologies for SLM, and could upscale them in an area of 100,000 ha. This, however, is physically not feasible within a 5-year period, and not realistic with the limited budget of an MSP. The project objective therefore had to be cut down onto a realistic level during the Inception Phase.
- The selection of two pilot areas which do not allow developing much synergies, because they are far from each other and have quite different environmental problems. There is a general impression that the designers of the project wanted to solve the ecological disaster of the Aral Sea bed and the problems with sustainability of land management in the desert with one single MSP. The designers of the project had either not understood the magnitude of problems, the limits of a MSP, or they simply did not consider the possibility of achieving higher impact through concentrating efforts.
- The overall project approach is too much science-based. In the opinion of the TE, too much energy and resources have been spent to test new approaches. The project would have done better to build stronger on existing knowledge, and apply this to achieve higher impact. The development of new methods is not a core task of classical GEF projects. There are many research institutions working in the region who would surely be in a better position to carry out these trials.

The project is understood as part of the CACILM Initiative. Despite special CACILM projects on capacity building, knowledge management, etc. the project could not much participate in these efforts. Also the general exchange of knowledge and experience with other CACILM projects was limited to very few occasions on project management level.

## **4.7 Lessons Learned and Recommendations**

As terminal evaluation, no recommendations can be made for the future direction of the project and for the improvement of its management. Recommendations are therefore necessarily quite generic and confined to a few general subjects.

### **A. Put more efforts in the development of sound project concepts**

The main shortcomings of the project are rooted in a project concept that has been designed long before the actual begin of operations, and is not always based on realistic assumptions. The research-orientation, for example, cannot be derived from the problem analysis. It costed some efforts at the beginning of the project to modify the design in a way that implementation becomes feasible. Sometimes, it might also be necessary to defend the project concept and to make sure that the ultimate aim is to serve first national priorities and not donor priorities. It needs to be considered to have a stronger quality control by UNDP and GEF.

### **B. Don't support livelihood activities, if they are not linked to the environment**

The GEF is an environmental fund, and environmental protection is the ultimate goal of all GEF funded projects. Even though improvement of the environmental situation is usually not possible without improving the socio-economic situation of people, but this does not mean that all socio-economic measures have a positive effect on the environment. The environmental impact of every single project measure must therefore be assessed and linked to environmental issues. In many cases, it should

be possible to conclude environmental agreements on community level: the community commits itself to conduct certain measures for environmental protection (e.g. to limit the number of livestock), and gets in return support from the project for its socio-economic development. Formal agreements and strict monitoring are necessary for this purpose. Without such agreements on individual or on community level, there is always a risk that socio-economic measures are understood as “additional”, and not as “alternative”.

### **C. Concentrate on livelihood activities which have a potential for upscaling**

The TE had the impression that some of the alternative livelihoods developed by the project had little chance for achieving a wider impact. Barber shops, for example, are not of that kind of business which will find wide distribution. A better concentration in field such as producing value-added products from livestock (e.g. products made from the skin of karakul sheep, value-added dairy products) may have a much higher potential for replication.

### **D. Keep in mind that pilot projects are just service providers for other projects and programmes, and hence carefully examine the needs and expectations of these projects and programmes from the beginning**

The direct impact of relatively small projects such as this MSP will always remain limited, and the investment of international funds is only justified if the impact goes beyond the pilot sites and if it can be assured that upscaling will actually take place. Pilot projects can be understood as a kind of service projects, i.e. projects which provide or improve the instruments applied by other projects or programmes on a much larger scale. However, “clients” of pilot projects need to be identified from the scratch, and the pilots need to be conducted according to their needs and expectations. It is well-known in development cooperation that the results of many pilot projects (including very successful pilot projects) will never be upscaled, because other projects and programmes are simply not interested. So it is not enough to conduct pilot measures and to prepare at the end of the project an upscaling strategy, whose implementation is often beyond the responsibility of the project. The upscaling strategy needs to be part of the project concept from the scratch and needs to be demand-driven. It should be clear from the beginning, who will upscale what, and who is to be integrated into project planning & implementation from the beginning. It should also be kept in mind that the ultimate target groups of pilot projects are not the local communities in the pilot villages, but the much larger group of people with similar problems, and thus indirectly the managers of other projects and programmes.

### **E. Make sure that Terminal Evaluations follow a coherent approach**

The Terms of Reference of the Consultants of GEF Terminal Evaluations follow the UNDP/GEF Monitoring & Evaluation Guidelines. These guidelines are sometimes not consistent (e.g. effectiveness & efficiency sometimes merged, different rating scales are applied for different criteria, etc.). It is therefore suggested to UNDP/GEF

- to improve the standard structure of evaluation reports so that they are better in line with OECD/DAC evaluation criteria and better allows the comparisons between the evaluations of different projects;
- to provide guidance for the overall rating of projects, based on the individual ratings of certain aspects or components as required by the Monitoring & Evaluation Guidelines;
- to consider the introduction of a robust, consistent and uniform rating for all evaluation criteria (currently, there are 2-point, 3-point, 4-point, 6-point ratings in place, depending on kind of criteria).

## Endnotes

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- i <http://www.oecd.org/dac/evaluationofdevelopmentprogrammes/dacriteriaforevaluatingdevelopmentassistance.htm>
- ii see e.g. Handbook on Planning, Monitoring and Evaluating for Development Results. UNDP 2009.
- iii also the “Handbook on Planning, Monitoring and Evaluating for Development Results (UNDP, 2009) acknowledges that additional criteria might be useful for evaluating project.
- iv See <http://thegef.org/MonitoringandEvaluation/MEPoliciesProcedures/mepoliciesprocedures.html>
- v available at <http://web.undp.org/evaluation/documents/guidance/GEF/UNDP-GEF-TE-Guide.pdf>.
- vi See in particular „GEF Project Cycle“ GEF/C.31/7, May 14, 2007
- vii See Annex 5 of the Project Document.
- viii <http://216.109.65.20/Projects/CACILM/approach.asp>
- ix see e.g. <http://naturalresources-centralasia.org/index.php?id=30>
- x see protocol of the meeting of the Project Steering Committee on 13.05.2011.
- xi [http://www.thegef.org/gef/sites/thegef.org/files/documents/C.39.9\\_Fees%20and%20Project%20Management%20Costs,%20October%2020,%202010.pdf](http://www.thegef.org/gef/sites/thegef.org/files/documents/C.39.9_Fees%20and%20Project%20Management%20Costs,%20October%2020,%202010.pdf)
- xii [http://www.iapad.org/publications/ppgis/gtz\\_plup.pdf](http://www.iapad.org/publications/ppgis/gtz_plup.pdf)

## **Annexes**

- Annex 1: Terms of Reference
- Annex 2: Itinerary of the Terminal Evaluation Mission
- Annex 3: List of Key Persons Met
- Annex 4: List of Project Documents
- Annex 5: List of Workshops and Trainings conducted by the Project
- Annex 6: List of Publications issued by the Project
- Annex 7: Profile of Kyzyl Rovat Project Pilot Site
- Annex 8: Profile of Kazakhdarya Project Pilot Site
- Annex 9: Table of Co-financing
- Annex 10: Project Ratings

## Annex1: Terms of Reference

The evaluation was conducted by a national and an international evaluator, who worked in a team. The Terms of Reference were very similar, and for saving space, only the TORs of the international evaluator are given here. The TORs of the national evaluator are available on request.



### UNITED NATIONS DEVELOPMENT PROGRAMME TERMS OF REFERENCE / INDIVIDUAL CONTRACT

#### I. Position Information

Position Title:	International Consultant/Evaluator
Type:	Individual Contract (International)
Project Title/Department:	UNDP/GEF Project “UNDP-GEF project “Achieving Ecosystem Stability on Degraded Land in Karakalpakstan and the Kyzylkum Desert” / Environment and Energy Unit
Duration of the service:	25 working days during the period from 01 October-10 November 2012
Duty station:	Home-based with one mission to Tashkent, Uzbekistan, including project site visits to: 1) Nukus city and Kazakhdarya village located in Karakalpakstan and 2) Bukhara city and Kyzyl Rovat village located in Kyzylkum Desert of Uzbekistan
Reports to:	Head of Environment and Energy Unit, UNDP Uzbekistan

#### II. Background

The goal of the project is *to achieve ecosystem stability on degraded lands in Karakalpakstan and the Kyzylkum desert in Uzbekistan, this way reverse expansion of deserts, increase carbon sequestration, enhance habitats for biodiversity and achieve public health and socio-economic benefits on a sustainable basis*. This goal is to be achieved by testing, evaluating and promoting innovative solutions to the problems of land degradation, particularly mobile sands, at a pilot scale in the selected localities of Kyzyl Rovat and Kazakhdarya villages, and other pilot sites of the project on the area of about 500 ha of degraded lands. This project is part of the Central Asian Countries Initiative for Land Management (CACILM).

- Outcome 1:** Plant species, having both strong ecological and economic benefits for succession in desert and semi-desert ecosystems identified and sustainable land management methods tested;
- Outcome 2:** Mobile sands stabilized and degraded lands rehabilitated in partnership with local communities;
- Outcome 3:** Institutional and policy framework for integrated land use planning and management strengthened;
- Outcome 4:** Monitoring and evaluation, learning and adaptive management implemented.

The national implementing agency is the Main Forestry Department of the Ministry of Agriculture and Water Resources of Uzbekistan. Detailed information about the project can be found at: <http://www.undp.uz/projects/project.php?id=123>



### III. Functions / Key Outputs Expected

#### I. Objective of Final Evaluation

The evaluation is to be undertaken in accordance with the “GEF Monitoring and Evaluation Policy” (see <http://thegef.org/MonitoringandEvaluation/MEPoliciesProcedures/mepoliciesprocedures.html>), which indicates that all regular and medium size projects supported by GEF should undergo a final evaluation upon completion of implementation.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

As per Monitoring and Evaluation Policy, final evaluation at the project level in UNDP/GEF has two overarching objectives:

- a) promote accountability for the achievement of GEF objectives through assessment of results, effectiveness, processes and performance of the partners involved in GEF activities. GEF results will be monitored and evaluated for their contribution to global environmental benefits; and
- b) promote learning, feedback and knowledge-sharing on results and lessons learned among the GEF and its partners, as a basis for decision-making on policies, strategies, program management, and projects and to improve knowledge and performance.

#### ***Evaluation Audience***

This Final Evaluation of the UNDP/GEF Project “Achieving Ecosystem Stability on Degraded Lands in Karakalpakstan and the Kyzylkum Desert” is initiated by UNDP as the GEF Implementing Agency. It aims to provide managers (at the level of regulatory bodies of the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, project sites administrations, and Conventions Focal Points and UNDP-GEF levels) with a comprehensive overall assessment of the project and with a strategy for replicating the results. It also provides the basis for learning and accountability for managers and stakeholders.

#### ***Objectives of the Evaluation***

The overall goal of the evaluation is to measure the effectiveness and efficiency of project activities in relation to the stated objective so far, and to produce possible recommendations on its completion strategy.

#### ***The purpose of the Evaluation is:***

- To assess overall performance against the Project objectives as set out in the Project Document and other related documents;
- To assess the effectiveness and efficiency of the Project;
- To critically analyze the implementation and management arrangements of the Project;
- To assess the sustainability of the Project’s interventions;
- To list and document initial lessons concerning Project design, implementation and management;
- To assess Project relevance to national priorities.

Project performance will be measured based on the Project Logical Framework (see [Annex 1](#) for the Revised Logical Framework of the project), which provides clear performance and impact indicators for project implementation along with their corresponding means of verification.

#### **The evaluation should assess:**

##### ***Project concept and design***

The evaluator will assess the project concept and design. She/he should review the problem addressed by the project and the project strategy, encompassing an assessment of the appropriateness of the objectives, planned outputs, activities and inputs as compared to cost-effective alternatives. The executing modality and managerial arrangements should also be judged. The evaluator will assess the achievement of indicators and review the work plan, planned duration and budget of the project.

### ***Implementation***

The evaluator will assess the implementation of the project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out. Also, the effectiveness of management as well as the quality and timeliness of monitoring and backstopping by all parties to the project should be evaluated. In particular, the evaluation is to assess the Project team's use of adaptive management in project implementation.

### ***Project outputs, outcomes and impact***

The evaluator will assess the outputs, outcomes and impact achieved by the project as well as the likely sustainability of project results. This should encompass an assessment of the achievement of the immediate objectives and the contribution to attaining the overall objective of the project. The evaluation should also assess the extent to which the implementation of the project has been inclusive of relevant stakeholders and to which it has been able to create collaboration between different partners. The evaluation will also examine if the project has had significant unexpected effects, whether of beneficial or detrimental character.

*The evaluator will assess the aspects as listed in evaluation report outline attached in [Annex 2](#).*

*In addition to a descriptive assessment, the evaluation will also provide **ratings** of Project achievements according to GEF Project Review Criteria, using the following divisions: Highly Satisfactory, Satisfactory, Marginally Satisfactory, and Unsatisfactory.*

Aspects of the Project to be rated are:

- Implementation approach;
- Management of globally significant species;
- Outcome/Achievement of objectives (meaning the extent to which the project's environmental and development objectives were achieved);
- Stakeholder's participation/ public involvement;
- Sustainability;
- Replication approach;
- Cost-effectiveness and financial management;
- Monitoring and evaluation.

### ***Issues of special consideration:***

The Evaluator will review and assess changes in development conditions, by addressing the following questions, with a focus on the perception of change among stakeholders:

- Has the project achieved its objectives and outcomes as set in project document?
- Has the project established a management basis for long-term sustainability and development of project outcomes?
- Has the project helped with implementing/up-scaling SLM interventions to combat land degradation, specifically desertification and deforestation in Project sites? (With a special attention to relevant indicators listed in the GEF LD Tracking Tool and the Log-frame Matrix, see [Annex 1](#).)
- Have there been changes in local stakeholders' behaviour (i.e. local land use management practices, overgrazing, felling wood for domestic purposes), which have contributed to improved land management and reversing of land degradation? If not, why?
- Has the project elaborated innovative incentives to motivate the local population to ap-

ply environmentally friendly land use and farming practices?

- Has awareness on effective methods of sustainable land management and alternative income generating activities increased among various groups of local population (herders, staff of shirkats, farmers, local population) as a result of the project?
- Is there adequate integrated land use planning in place, or in progress, ensuring long-term conservation of lands and biodiversity?

For future development support in the region, UNDP is especially interested in the assessment of the support model applied in the project, its implications for the long-term impact and sustainability of the project results.

The Evaluation Report will present recommendations and lessons of broader applicability for follow-up and future support of UNDP and/or the Government, highlighting the good and bad practices in addressing issues relating to the evaluation scope.

## **II Products Expected from Final Evaluation**

The key product expected from this final evaluation is a comprehensive analytical report in English that should, at least, include the contents as indicated in [Annex 2](#) of this TOR.

The Report of the Final Evaluation will be stand-alone document that substantiates its recommendations and conclusions. The report will have to provide to the GEF Secretariat complete and convincing evidence to support its findings/ratings.

The Report will include a table of planned vs. actual project financial disbursements, and planned co-financing vs. actual co-financing in this project, according to the table attached in [Annex 3](#) of this TOR.

The Report will be supplemented by Rating Tables attached in [Annex 4](#) of this TOR.

The length of the evaluation report shall not exceed 30 pages in total (not including annexes).

## **III Evaluation Team – Qualities and Requirements**

A team of independent experts will conduct the evaluation. The evaluators, selected for this assignment, should not have participated in the project preparation and/or implementation and should not have conflict of interest with the project related activities.

The evaluation team will be composed of ***one International Consultant or Team Leader and one National Consultant*** (vacancy for this position will be announced separately).

***Specifically, the international expert (team leader) will perform the following tasks:***

- Lead and manage the evaluation mission;
- Design the detailed evaluation scope and methodology (including the methods for data collection and analysis);
- Decide the division of labor within the evaluation team;
- Conduct an analysis of the outcome, outputs and partnership strategy (as per the scope of the evaluation described above);
- Draft related parts of the evaluation report; and
- Finalize the whole evaluation report.

The National Consultant will provide input in reviewing all project documentation, and will provide the International Consultant with a compilation of information prior to the evaluation mission.

***Specifically, the national expert will perform tasks with a focus on:***

- Review of documents;
- Prepare a list of the outputs achieved under the project;

- Organize the mission programme and provide translation/interpretation, when necessary;
- Participate in the design of the evaluation methodology;
- Conduct an analysis of the outcome, outputs and partnership strategy (as per the scope of the evaluation described above);
- Draft related parts of the evaluation report;
- Assist Team leader in finalizing document through incorporating suggestions received on draft related to his/her assigned sections.

The evaluation will be undertaken in-line with GEF principles<sup>1</sup>:

- Independence
- Impartiality
- Transparency
- Disclosure
- Ethical
- Partnership
- Competencies and Capacities
- Credibility
- Utility

Individual consultants are invited to submit applications together with their CV for these positions. If individual evaluators are selected, UNDP will appoint one Team Leader. The Team Leader will have overall responsibility for the delivery and quality of the evaluation products. Team roles and responsibilities will be reflected in the individual contracts.

#### **IV Methodology or Evaluation Approach**

An outline of an evaluation approach is provided below; however it should be made clear that the evaluation team is responsible for revising the approach as necessary. Any changes should be in-line with international criteria and professional norms and standards (as adopted by the UN Evaluation Group<sup>2</sup>). They must be also cleared by UNDP before being applied by the evaluation team.

The evaluation must provide evidence-based information that is credible, reliable and useful. It must be easily understood by project partners and applicable to the remaining period of project duration.

The evaluation will take place mainly in the field. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with the government counterparts, the National Project Manager, Project Board members, project team, and key stakeholders. The evaluator is expected to conduct a mission to Tashkent, Uzbekistan and to 1) Nukus city and village Kazakhdarya located in Karakalpakstan and 2) Bukhara city and village Kyzyl Rovat located in Kyzylkum Desert of Uzbekistan to interview the project team, project partners and key stakeholders, and to hold field visits to the pilot sites.

The evaluation team is expected to consult all relevant sources of information, such as the project document, project reports, project budget revisions, progress reports, project files, national strategic and legal documents, and any other material that it may consider useful for evidence-based assessment.

The list of documentation to be reviewed is included in [Annex 5](#) of this Terms of Reference.

The evaluation team is expected to use interviews as a means of collecting data on the relevance, performance and success of the project. Team is also expected to visit the above indi-

<sup>1</sup> See p.16 of the GEF's Monitoring and Evaluation Policy

<sup>2</sup> See <http://www.uneval.org/>

cated project sites.

The methodology to be used by the evaluation team should be presented in the report in detail. It shall include information on:

- Documentations reviewed;
- Interviews;
- Field visits;
- Questionnaires;
- Participatory techniques and other approaches for the gathering and analysis of data.

Although the evaluation team should feel free to discuss with the authorities concerned all matters relevant to its assignment, it is not authorized to make any commitment or statement on behalf of UNDP or GEF or the project management.

The evaluation team should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

#### **IV. Deliverables and timeframe**

The Evaluator will work under the supervision of the Regional UNDP/GEF RTA in Bratislava responsible for the project and the Head of Energy and Environment Unit in UNDP Uzbekistan. All practical support for the final review, including facilitation of travel, accommodation, scheduling of activities (as agreed in the work plan), and supporting documents will be arranged and provided by the project management unit and UNDP COs. UNDP will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government, etc.

The following deliverables and indicative schedule are expected from the contract. All deliverables should be submitted to UNDP by the Consultant in English. See Section III above for specific details of the content required for these deliverables.

Working Days:

Team Leader (international expert) – 25 working days;

Technical expert(s) (national expert(s)) – 20 working days;

The proposed date for the in-country mission to Uzbekistan is 05-20 October 2012.

The draft and final report shall be submitted to the UNDP Uzbekistan (Mr. Abduvakkos Abdurahmanov, address: Uzbekistan, 100029, Tashkent, Taras Schevchenko Str., 4, tel. +998 71 1203450, 1206167; fax +998 71 1203485, e-mail: abduvakkos.abdurahmanov@undp.org).

Timeframe for submission of the first draft of the report: within 7 working days after the mission.

Prior to approval of the final report, a draft version shall be circulated for comments to government counterparts and project management. UNDP and the stakeholders will submit comments and suggestions within 5 working days after receiving the draft. All comments and suggestions (if any) shall be addressed and the report will be considered as the final deliverable as soon it is accepted by UNDP.

**The evaluation should be completed by 10 November 2012.**

If any discrepancies have emerged between impressions and findings of the evaluation team and the aforementioned parties, these should be explained in an annex attached to the final report.

<b>Deliverable</b>	<b>Timeframe</b>
1. Desk review	3 days
2. Mission to Uzbekistan, including briefings for evaluators by PM and	14 days

UNDP, field visits, interviews, questionnaires, de-briefings	
3. Drafting of the evaluation report	3 days
4. Validation of preliminary findings with stakeholders through circulation of draft reports for comments and other types of feedback mechanisms	2 days
5. Finalization of the evaluation report (incorporating comments received on first draft)	3 days

#### **V. Payment Conditions**

This is a lump sum contract that should include costs of consultancy and international travel costs, accommodation and meal (DSA or per diems) and visas costs required to produce the above deliverables. Payment will be released in 2 installments:

- First installment (40% of total contract amount) to be made upon achievement of Deliverables 1, 2, 3.
- Second installment (60% of total contract amount) to be made upon achievement of Deliverables 4, 5.

upon timely submission of respective deliverables and their acceptance by the Supervisor and UNDP CO.

#### **VI. Recruitment Qualifications**

Education:	Masters degree in land management, environmental science, natural resources management, or a closely related field. Sound knowledge of sustainable rural development, land management (particularly in arid zones) and capacity development initiatives is a big asset.
Experience:	<p>Work experience in relevant areas for at least 10 years. The consultants shall have prior proven experience in evaluating GEF projects related to natural resources conservation. Former cooperation with GEF is an advantage;</p> <p>Recent experience with results-based management evaluation methodologies;</p> <p>Experience in applying participatory monitoring approaches;</p> <p>Experience of applying SMART indicators and reconstructing or validating baseline scenarios;</p> <p>Recent knowledge of the GEF Monitoring and Evaluation Policy;</p> <p>Recent knowledge of UNDP's results-based evaluation policies and procedures;</p> <p>Competence in Adaptive Management as applied to conservation or natural resource management projects;</p> <p>Recognized expertise in the management and sustainable use of degraded lands will be an asset;</p> <p>Familiarity with land management policies and structures in CIS countries and, particularly, in Uzbekistan;</p> <p>Experience with multilaterally or bilaterally supported natural resource management projects;</p> <p>Project evaluation experience within United Nations system will be considered as an asset.</p>
Language Requirements:	Excellent English communication and writing skills. Knowledge of Russian, including writing and communication skills is an advantage.

Others:	<p>Excellent analytical and presentation skills;  Outstanding time-management, organizational and inter-personal skills;  Ability to use information and communication technology as a tool and resource;  Knowledge of the UNDP/GEF Monitoring and Evaluation Policy;  Competence in Adaptive Management as applied to natural resource management projects;  Hands-on familiarity with land use situation and structures in Uzbekistan is an asset.</p>
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UNDP is an equal opportunity employer. Qualified female candidates, people with disabilities, and minorities are highly encouraged to apply. UNDP Gender Balance in Management Policy promotes achievement of gender balance among its staff at all levels.

VII. Signatures - Post Description Certification		
Incumbent <i>(if applicable)</i>		
Name	Signature	Date
Supervisor Programme Coordinator on Water and Land Management, EEU, UNDP CO <b>Azamat Tashev</b>		
Name / Title	Signature	Date
Head of Programme Unit <b>Mr. Abduvakkos Abdurahmanov, EEU</b>		
Name / Title	Signature	Date

**Annex 2:**  
**Itinerary of the Terminal Evaluation Mission**  
**Meeting Schedule Max Kasperek and Tulkin Radjabov 14-26 October, 2012**

<b>Sunday, October 14, 2012 (day 1)</b>	
Travelling	International Travel Max Kasperek to Uzbekistan
<b>Monday, October 15, 2012 (day 2)</b>	
Arrival in the morning	Arrival at Tashkent, transfer to Hotel
Kick-off meeting at SLM project office in Tashkent	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva, Project Manager (PM)</li> <li>• Mr. Umid Nazarkulov, National Technical Coordinator (NTC)</li> <li>• Mr. Djakhongir Nazarov, Admin Finance Assistant (FA)</li> </ul>
Meeting with National Implementing Agency of the project, the Main Forestry Department of the Republic of Uzbekistan (MFD) under the Ministry of Agriculture and Water Resources	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> </ul> <p><u>Partners:</u></p> <ul style="list-style-type: none"> <li>• Mr. Muratbay Ganiev, National Project Coordinator, General Director of the Republican Center on Decorative Horticulture and Forestry</li> <li>• Mr. Alisher Shukurov, Head of International Department, MFD</li> <li>• Dr. Zinoviy Noviskiy (former Team Leader on Plant Testing)</li> </ul>
Introduction of mission to UNDP at UNDP Country Office, discussion of mission schedule	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Azamat Tashev, Specialist of Environment and Energy Unit</li> </ul>
<b>Tuesday, October 16 (day 3)</b>	
<b>Flight to Nukus and travel to Kazakhdarya by car</b> (together with Irina Bekmirzaeva, Umid Nazarkulov and Zinoviy Noviskiy)	
Meetings with local stakeholders at Kazakhdarya village	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Zinoviy Noviskiy</li> <li>• Mr. Terkes Abdukhalikov, Head of Local Authority</li> <li>• Mr. Orakbay Eshmuratov, Local Expert for Agriculture, responsible person for the project Information Centre</li> <li>• Householders, Heads of local social infrastructure</li> </ul>
<b>Accommodation in Kazakhdarya</b>	
<b>Wednesday, October 17 (day 4)</b>	
Visit to Farmer Field school plots and zoo veterinary service point, etc.	<ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Orakbay Eshmuratov, Local Expert for Agriculture, responsible person for the project Information Centre</li> </ul>
<b>Travel to Nukus in the evening</b>	
<b>Thursday, October 18 (day 5)</b>	
Main Forestry Department of the Republic of Karakalpakstan –project national partner	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Kobeyzin Shogilov, Deputy Director of the Main Forestry Department of RK</li> </ul>
SLM Liaison office in Nukus	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Oljabay Shaniyazov, former project Expert for Forestry (Plant testing)</li> </ul>



	component)
Cabinet of Ministers of the Republic of Karakalpakstan	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Muratbay Mukhanov, Head of Secretariat for Agriculture and Water Recourses of Cabinet of Ministers of RK, Project Board Member</li> </ul>
UN Joint Programme "Sustaining Livelihoods Affected by the Aral Sea Disaster"	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mrs. Dildora Tadjibaeva, Program Coordinator</li> </ul>
<b>Accommodation in Nukus</b>	
<b>Friday, October 19 (day 6)</b>	
<b>Travel to project pilot site "Kyzyl Rovat" by car (together with Umid Nazarkulov)</b>	
Information Centre of Project	<ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Kozim Abuev, Local Community Chief</li> <li>• Mr. Nurmuhammad Kudabaev, Head of Shirkat</li> <li>• Mr. Kulmurad Alishev, Head of Local Forestry Branch</li> </ul>
Kyzyl Ravot village; visit to plant plots and field farmer school plots	<ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Nurmuhammad Kudabaev, Head of shirkat\farm, former local expert on Agriculture</li> <li>• Mr. Kozim Abuev, Local Community Authority</li> <li>• Participants in the project activities</li> </ul>
<b>Accommodation in Kyzyl Rovat</b>	
<b>Saturday, October 20 (day 7)</b>	
Territory of "Kyzyl Ravot" Shirkat	Visit to sand stabilization areas, Zoo veterinary service point: <ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Nurmuhammad Kudabaev, Head of Shirkat (farm)</li> </ul>
Territory of "Kyzyl Ravot" Shirkat	Visit to pasture area, meeting with local livestock experts: <ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Nurmuhammad Kudabaev, Head of Shirkat (farm)</li> </ul>
<b>Travel to Romitan Rayon</b>	
Romitan Rayon Municipality	<ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Mukhammadkosim Olimov, Romitan Rayon Mayor (Khokim)</li> <li>• Mr. Tohir Mukhsiniv, Chief of rayon Nature Protection unit, Project Board Member</li> </ul>
<b>Travel to Bukhara</b>	
<b>Sunday, October 21 (day 8)</b>	
<b>Travel to Romitan Rayon</b>	
Regional Information Consultative Center in Romitan rayon on Zoo veterinary issues	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Yashin Rajabov, Head of Regional Information Consultative Center in Romitan rayon on Zoo veterinary issues</li> <li>• Mr. Tohir Mukhsiniv, Chief of rayon Nature Protection unit, Project Board Member</li> </ul>
Romitan Rayon Municipality	Working Group on Sustainable Land Management <ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Tohir Mukhsiniv, Chief of rayon Nature Protection unit, Project Board Member</li> </ul>
<b>Travel to Bukhara, Flight to Tashkent</b>	

<b>Monday, October 22 (day 9)</b>	
ICARDA/CACAARI Workshop at Dedeman Hotel	Side meetings and information exchange with experts of Central Asian Initiative on Land Management (CACILM) and GIZ <ul style="list-style-type: none"> <li>• Ms. Raisa Taryannikova,</li> <li>• Head of Secretariat CACILM Office in Tashkent</li> <li>• Ms. Gulchehra Hasanhanova, Project monitoring Specialist CACILM</li> <li>• Ms. Natalia Shulgina, Regional CACILM Project Coordinator</li> <li>• Ms. Ute Fisher-Zuykov, GIZ Project Coordinator</li> </ul>
ICARDA Regional Office in Tashkent	CGIAR Regional Program on Sustainable Agricultural Development: <ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Dr. Kristina Toderich, ICBA Regional Representative</li> </ul>
<b>Tuesday, October 23 (day 10)</b>	
National Company "Uzbek Karakuli"	<ul style="list-style-type: none"> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Nikolay Kalmykov, Senior Specialist of "Uzbek Karakuli" National Company</li> </ul>
Ministry of Agriculture and Water Resources	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Muratbay Ganiev, National Project Coordinator, General Director of the Republican Center on Decorative Horticulture and Forestry</li> <li>• Mr. Zahid Salikhov, Head of International Relations department</li> <li>• Mr. T. Saraev, Leading Specialist of Legal Affairs Department</li> <li>• Mr. Sherzod Umarov, Specialist of Project Monitoring Department</li> <li>• Mr. Ulugbek Ismailov, Head of Livestock Department</li> </ul>
Tashkent State Agrarian University (TSAU)	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Abduaziz Abduvasikov, Vice Rector of TSAU</li> <li>• Mr. Ulugbek Balasov, Dean of Livestock Faculty of TSAU</li> </ul>
<b>Wednesday, October 24 (day 11)</b>	
<b>Travel to Samarkant by train (Max Kasperek, Tulkin Radjabov)</b>	
Institute of Karakul Sheep breeding and Desert Ecology	<ul style="list-style-type: none"> <li>• Mr. Nasrillo Bobokulov, Director.</li> </ul>
<b>Travel to Tashkent by train</b>	
<b>Thursday, October 25 (day 12)</b>	
Ministry of Economy of the Republic of Uzbekistan or at project office in Tashkent	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Bahreddin Muradov, Senior Specialist on Agriculture and Ecology issues, Project Board Member</li> </ul>
SLM Project Office	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Mr. Umid Nazarkulov</li> <li>• Mr. Nomanjon Shakirov, Deputy Chief, Main Department under Land and Water Use Control - Project Board Member</li> </ul>
SLM Project Office	<ul style="list-style-type: none"> <li>• Mr. Alexander Kholmatov, GIS and data base specialist</li> </ul>
Debriefing Meeting at UNDP Country Office	<ul style="list-style-type: none"> <li>• Mrs. Irina Bekmirzaeva</li> <li>• Abduvakkos Abdurahmanov, Head of Energy and Environment Unit</li> <li>• Mr. Azamat Tashev, Specialist of Environment and Energy Unit</li> </ul>
<b>Friday, October 26 (day 13)</b>	
<b>Departure of International Evaluator</b>	

### **Annex 3: List of Key Persons Met**

Many of the meetings were attended by several persons, in particular the community meetings. Only the names of key persons are listed here.

<b>Name</b>	<b>Function</b>
<b>Abduvakkos Abdurahmanov</b>	UNDP CO, Head of Energy and Environment Unit
<b>Abduaziz Abduvasikov</b>	Vice Rector of Tashkent State Agrarian University
<b>Kozim Abuev</b>	Kyzyl Ravot village, Local Community Authority
<b>Ulugbek Balasov</b>	Ulugbek Balasov, Dean of Livestock Faculty of Tashkent State Agrarian University
<b>Irina Bekmirzaeva</b>	Project Manager
<b>Muratbay Ganiev</b>	National Project Coordinator, Main Forestry Department of the Republic of Uzbekistan under the Ministry of Agriculture and Water Resources (General Director of the Republican Center on Decorative Horticulture and Forestry)
<b>Nurmuhammad Kudabaev</b>	Kyzyl Rovat, Head of Shirkat
<b>Muratbay Mukhanov</b>	Cabinet of Ministers of the Republic of Karakalpakstan, Head of Secretariat for Agriculture and Water Resources; Project Board Member
<b>Bahreiddin Muradov</b>	Senior Specialist on Agriculture and Ecology issues, Project Steering Committee Member
<b>Umid Nazarkulov</b>	Project National Technical Coordinator
<b>Zahid Salikhov</b>	Ministry of Agriculture and Water Resources, head of international relations department
<b>Nomanjon Shakirov</b>	Deputy Chief, Main Department under Land and Water Use Control; Project Steering Committee Member
<b>Alisher Shukurov</b>	Alisher Shukurov, Main Forestry Department of the Republic of Uzbekistan under the Ministry of Agriculture and Water Resources, Head of International Department
<b>Ulugbek Ismailov</b>	Head of Main department of Development of Livestock, Poultry Farming, Fishery and Honey Farming, Ministry of Agriculture and Water Resources of Uzbekistan
<b>Dildora Tadjibaeva</b>	UN Joint Programme "Sustaining Livelihoods Affected by the Aral Sea Disaster", Programme Coordinator
<b>Azamat Tashev</b>	UNDP CO, Specialist of Environment and Energy Unit
<b>Zinovi Novitskiy</b>	Project team leader on plant testing and sand stabilization
<b>Alexander Xolmatov</b>	project GIS and data base consultant
<b>Kopeysin Shagilov</b>	Deputy head of main department for forestry of the Republic of Karakalpakstan
<b>Raisa Taryannikova</b>	Head of secretariat of CACILM in Uzbekistan
<b>Natalia Shulgina</b>	National Capacity Building Coordinator

	GEF/UNDP/GIZ/GM CACILM Multi-Country Capacity Building Project
<b>Gulchehra Khasankhanova</b>	Secretariat of CACILM in Uzbekistan
<b>Ute Fisher-Zuykov</b>	Project Manager Sustainable and Participatory Pasture Management in Uzbekistan Regional Program on Sustainable Use of Natural Resources in Central Asia
<b>Nikolay Kalmykov</b>	Main specialist of national company “Uzbek Karakul”

## Annex 4: List of Project Documents

Selection of the most relevant project documents used for the purpose of the Final Evaluation.

#	Document Title	Date	Language	
			ENG	RUS
<b>Project Implementation Reports</b>				
1	MEDIUM-SIZED PROJECT PROPOSAL Request for funding under the GEF Trust Fund	May 2007	X	X
2	INCEPTION REPORT	May 2008	X	X
3	MID-TERM EVALUATION REPORT	Oct. 2010	X	X
4	ANNUAL PROGRESS REPORT (APR) 2008-2009	Dec. 2009	X	X
5	ANNUAL PROGRESS REPORT (APR) 2009-2010	Dec. 2010	X	X
6	ANNUAL PROGRESS REPORT (APR) 2010-2011	Dec. 2011	X	X
7	PROJECT BOARD MEETING MINUTES	Dec. 2008		X
8	PROJECT BOARD MEETING MINUTES	Dec. 2009	X	X
9	PROJECT BOARD MEETING MINUTES	June 2010	X	X
10	PROJECT BOARD MEETING MINUTES	Nov. 2010	X	X
11	PROJECT BOARD MEETING MINUTES	May 2011	X	X
12	PROJECT BOARD MEETING MINUTES	Nov. 2011	X	X
13	PROJECT IMPLEMENTATION REPORT (PIR)	June 2012	X	
<b>Project Analysis and Recommended Policy Papers</b>				
14	NATIONAL LAND USE POLICY ANALYSIS	2009	X	X
15	SOCIO-ECONOMIC REVIEW OF PROJECT PILOT SITES	2009	X	X
16	COMPARATIVE TABLE of recommended changes and additions to be introduced into the Land code of the Republic of Uzbekistan and Law of Uzbekistan "On farming enterprise" (new edition)	2010	X	X
17	REPORT of the National Expert in Legal Issues	2010	X	X
18	DRAFT LAW OF THE REPUBLIC OF UZBEKISTAN «On introduction of changes and amendments into certain legislative acts of the Republic of Uzbekistan due to further progress of economic reforms in the area of agriculture and water resources»	2010	X	X
19	DRAT GOVERNMENT PROVISION: On pasture use and protection procedure	2010	X	X
20	SAMPLE OF THE STANDARD AGREEMENT for long term rent of a land plot developed and recommended by the project	2010	X	X
21	RECOMMENDATIONS on the best methods to achieve the stabilization of sand and pasture enrichment	2011		X
22	ACTION PLAN for Capacity Development in SLM for Pastureland in Uzbekistan. Prepared by Jean-Joseph Bellamy, International Capacity Development Advisor	Aug. 2011		X
23	REPORT of International Expert on Status of Project Activities. Brief Mission Report (July-August 2011) by Mark Anstey	Sept. 2011	X	
24	REPORT of International Expert on ILUP, Exit Strategy and Technical Plan development on project pilot sites. Brief Mission Report (October 2011) by Mark Anstey	Nov. 2011	X	
25	ECONOMIC EVALUATION of measures for sustainable livestock management and combating land degradation in arid regions of	2011	X	X

	Uzbekistan			
26	REPORT of the National Consultant on Small Business Economics regarding the results of implementation of 4 business plans (greenhouse, domestic services (hairdressing), carpentry and sewing workshop) on the project pilot sites. Outcomes and Lessons Learned.	2012		X
27	REPORT of the National Consultant on Soil and Crop Research regarding the comparative analysis of change in soil structure as a result of the development of agriculture, crops and the introduction of alternative crops.	2012		X
28	REVIEW of the mathematical model of pasture use at livestock farm in "Kyzyl Ravat"	2012		X

## **Annex 5:** **List of Trainings and Workshops conducted by the Project**

No. = Approximate number of participants

Activity	Date	Objective	No.	Participants
Workshop "Prevention and control of animal diseases"	March 31, 2010	Inform breeders about the most common diseases of farm animals, the economic damage, and methods of treatment and preventive measures to combat them	50	Members of rural communities in villages Kazakhstan and Kyzyl Ravat
Round Table on "The project strategy on fixing of mobile sands and remediation of desert pastures on the pilot sites"	April 23, 2010	Strategy and approach of the project; feed-back from stakeholders to ensure effective implementation of the project and its sustainability.	100	Members of rural communities in villages Kazakhstan and Kyzyl Ravat, CACILM, Ministries and agencies, other project partners.
Workshop "Microfinancing and small business development"	May 2010	Brainstorming of alternative business opportunities, preparations of draft business plans, and selection of best ideas for further implementation		Members of rural communities in villages Kazakhstan and Kyzyl Ravat
Workshop "The technology of growing seedlings in forest nurseries"	June 8, 2010	Inform about the requirements for nurseries, timing of sowing seeds, preparation of seeds for sowing, watering and harvesting of seedlings	35	Members of rural communities in Kazakhstan, forestry department of the village
Training workshop "Basics of gender integration" (Tashkent)	June 30, 2010	Information about basic concepts and presentation of the project gender strategy	30	Members of rural communities in villages Kazakhstan and Kyzyl Ravat
Training workshop "Land laws and integrated land use management"	July 13-14, 2010	Training of region and district-level managers on basics of land laws and the principles of a comprehensive (integrated) pastureland use management	80	Members of rural communities in villages Kazakhstan and Kyzyl Ravat, regional and district administrations, forestry units.
Training workshop "Ways of sustainable use of land resources"	Aug 17-19, 2010	Training of shirkat and dehqan farms' specialists on basics of comprehensive (integrated) management of irrigated agriculture, including horticulture and vegetable production.	60	Members of rural communities in villages Kazakhstan and Kyzyl Ravat
Round Table "Development of desert pasture livestock production based on the example of project pilot sites"	Nov 24, 2010	Working out of recommendation on further project activities	60	Members of rural communities in villages Kazakhstan and Kyzyl Ravat, CACILM, ministries and agencies, other partner organizations.
Seminar "Ecologic prob-	March	Familiarization with emerging	70	Students of Academy of

lems: solutions and entrepreneurship”	31, 2011	environmental problems and possibilities of restoring the balance between society and ecosystems		State and Social Construction (ASSC) under President of Uzbekistan
Training workshop on introduction of integrated land resources management model on Romitan district level	Oct 13-16, 2011	Familiarization of land management agencies’ representatives with basics of integrated land resources planning	20	Khokimiyat of Romitan district, khokimiyat of Bukhara region, members of rural community KyzylRovat
Workshop on “Basics of afforestation works on Aral Sea bed and on degraded lands of Karakalpakstan”	Nov 7, 2011	Familiarization of land management agencies’ representatives with basics of integrated land resources planning	45	Members of rural communities in villages Kazhdarya, ministries and agencies, other partner organizations.
Workshop on “Basics of afforestation works on Aral Sea bed and on degraded lands of Karakalpakstan”	Nov 10, 2011	Familiarization of land management agencies’ representatives with basics of integrated land resources planning	81	Students and professors of Tashkent State Agrarian University



## Annex 6: List of Project Publications

Title	Year	Copies
Information bulletin No. 1 on project achievements	2009	100
Desert plant species selected for testing on project sites, Brochure	2009	50
Livestock and pasture management plan for Kazakhdarya area, Toolkit	2010	80
Livestock and pasture management plan for Kyzyl Rovat area, Toolkit	2010	80
Information bulletin No. 2 on project achievements	2010	100
Recommendations on land use enhancement on project sites Kazakhdarya (Karakalpakstan) and Kyzyl Rovat (Bukhara oblast), Handbook	2010	100
Economic assessment of measures on sustainable livestock production and combating land degradation in desert areas of Uzbekistan, Brochure	2011	100
Guide to modern methods of irrigation and drainage, agricultural practices in arid regions with minimal water use, brochure	2011	50
Recommendations on the prevention and treatment of major animal diseases for farmers desert territories, brochure	2011	50
Information booklet on project achievements	2011	100
9 posters on main project results and lessons learned	2012	270
Development of sustainable desert pasture livestock based on the experience from pilot sites, Brochure	2012	100
Experience of land use improvement in desert areas of Uzbekistan, Brochure	2012	100
Experience of combating desertification and degradation of lands: mobile sands stabilization and pastures enrichment, Brochure	2012	100

## **Annex 7: Profile of Kazakhdarya Project Pilot Site**

### **1. BRIEF DESCRIPTION OF THE AREA**

Kazakhdarya (*Qozoqdaryo* in Uzbek) is a village in the north-west of Uzbekistan. Located some 120 km from Nukus (capital city of the Republic of Karakalpakstan), the settlement used to be a seaport and a seaside resort on the Aral Sea, which has now receded to over 100 km away causing the disappearance of fisheries economic base in the village. Due to desiccation of the Aral Sea and the social and economic crisis that has engulfed the region starting from early 1980s, the population of Kazakhdarya had been dramatically decreasing from 14,000 in 1975 to around 4,000 inhabitants nowadays. Livestock is the main economical activity in the settlement, which includes 2660 cattle and 1628 small cattle livestock mainly in private household ownership. The land area around the settlement that can be utilized as pastures makes up 10 hectares of grassland per head of livestock.

The climate of the area is of typical desert conditions with temperatures ranging from +30°C to +40°C during the summer and up to -25°C during the winter seasons, and the average and quite constant wind of 10-20 m/sec from the North-East. The average annual rainfall in Kazakhdarya is about 251 mm. The settlement was officially included by the Government in the zone of ecological disaster.

The social infrastructure of the village includes two schools and a small rural hospital (max. 20 beds). Despite the fact that the Government has laid the pipeline to the village there is no gas supply (for cooking or heating) in the community. The water supply is of low quality and the main source is the only small river *Kazakhdarya*. The settlement is provided with an electricity supply through the national grid but this is subject to regular cuts. Community is highly disadvantaged in terms of its isolation, its inadequate level of employment opportunities and low income, the inadequate water supply, the inadequate fuel supply, the condition of their environment, their poor health and the quality of their life in general. It is as a result of these overwhelming disadvantages that this community is forced to exploit the environment as its only means of survival.

### **2. ENVIRONMENTAL PROBLEMS IDENTIFIED AND TO BE TACKLED BY THE PROJECT**

Land degradation and the spread of deserts is a major national problem affecting the majority of the 20 million hectares of desert rangelands in Uzbekistan. Some of the problem is the result of natural processes related to the harsh continental climate regime, but this is exacerbated by the inappropriate and unsustainable use of land and water resources.

A major distinguishing feature of land degradation in Uzbekistan is loose sand and according to the Forestry Department some 4.5 million hectares in Karakalpakstan are affected by wind erosion. Sand is blown around by the wind with negative effects ranging from impact on people's health and well-being, reduced agricultural productivity, impact on roads and other infrastructure, contamination of water resources and environmental pollution, and morphological changes to land. In the case of the exposed Aral seabed, the sandy substrate has not had the chance to develop a surface skin which would prevent most of the wind erosion that is responsible for the raising of 70 million tonnes of sand and dust per year into the atmosphere. It has been estimated by experts that up to five million people in Uzbekistan are affected directly, and a lot more indirectly, by wind-blown sand and dust. Some have given up and have migrated away from the desert to cities in Uzbekistan or even other Central Asian countries – communities are breaking up because of the impact of wind-blown sand.

Kazakhdarya is one of such areas affected by moving sands and degraded land. It is threatened by the steady migration of sand dunes that have accumulated from loose sand blown from the dried Aral seabed and which threaten to move on to the community. Increasing levels of soil and water salinization around the settlement have marginalized the land in Kazakhdarya, making it extremely hard to

utilize for agricultural production. This, in combination with absence of traditional farming skill of local population who were mainly employed in fishery industry, has been undermining the livelihoods of the local community. Moreover, dramatic environmental changes in the Aral Sea Basin have led to a number of negative consequences affecting economic wellbeing of Kazakhdarya village, including:

- complete loss of fishery economy (due to the extremely high water salinity (40-58 g/l) most fish species couldn't survive);
- flora and fauna became poor (out of 178 kinds of animals only 38 have survived till present time)
- more than 100 (mostly small) lakes has dried up;
- crop of natural grasses has been reduced;
- the territories of hay mowing have been significantly reduced;
- a reed area of more than 800,000 hectares has disappeared.

Land degradation in Uzbekistan has two ultimate effects – ecosystem instability and poverty. In fact, these two effects are inextricably linked and each can cause the other. They are also part of a closed loop whereby degraded land leads to ecosystem instability and poverty forcing desert communities to further stress the fragile desert environment thus degrading the land even further and exacerbating the ecosystem instability and poverty.

Thus, during the project preparation phase the following principal threats that contribute to further degradation of desert ecosystems have been identified and sought to address during the implementation phase:

**Overgrazing.** Land vulnerability is exacerbated by local residents who overgraze available pastures by domestic stock, in an effort to survive. As the situation worsens, farmers tend to move further into marginal areas and to replace sheep with goats, which unfortunately complete the total denudation of land leaving it susceptible to wind action. Overgrazing of marginal land is particularly concentrated in the vicinity of settlements and around wells. In these areas, not only is the land denuded of all vegetation, but it is also prevented from forming the surface “skin” that is necessary to prevent wind erosion and begin the process of soil development.

**Wood over harvesting.** Local population cuts down trees and shrubs for wood fuel. Unlike former times, when population in deserts was mostly nomad and the population number was not large, contemporary settlements require an extensive amount of wood fuel for cooking and dwelling heating. Obviously the settlers tend to cut any wood available instantly around the settlements in the first place. Besides, availability of motor vehicles provides an opportunity to harvest wood from more distant areas when wood resources around a settlement are exhausted.

The desert and semi-desert forest ecosystems are composed of a complex of trees, shrubs and grass communities. Ecosystem diversity of desert and semi-deserts is low in comparison with other types of ecosystems, which makes them more vulnerable to any kind of outside interventions. Over harvesting of trees and shrubs by local population significantly lowers resilience of the ecosystem and results in its serious degradation

**Unsustainable agricultural practices.** Because of their vulnerability, rain fed, un-irrigated lands demand special attention in terms of their utilization for agricultural purposes. Inappropriate patterns of land use severely affect ecosystem stability and add to existing problems of land degradation.

### 3. ACTIVITIES PERFORMED BY THE PROJECT

Throughout its implementation the project has been focusing on four major activity areas to address the problems identified at the design stage. The first activity area (Outcome 1) focused on the botanical and microbiological research activities. It has also covered activities aiming to research on, to test and to evaluate sustainable land management methods for the desert and semi-desert agroecosystems. The second activity area (Outcome 2) has focused more on the practical problems caused by mobile sands and was envisaged to be achieved through active involvement and participation of af-

affected communities. The third activity area (Outcome 3) addressed the institutional and policy underpinning of the work to ensure its sustainability. And finally, the fourth activity area (Outcome 4) was to ensure that the experience and lessons learnt from this project will be disseminated widely and provided for efficient management and administration of the project and an effective exit strategy. The main partners and beneficiaries of all these activities were the local subdivisions of the Main Forestry Department of Karakalpakstan, local rural authority (Assembly of Rural Citizens) of Kazakhdarya village, and private householders.

### **Testing of available methods of fixation of mobile sands under local conditions in order to prevent sands advance on settlement (Outcome 1 and 2)**

One of the main project activities was demonstration of sand fixation and restraining their movement in the village territory and in agricultural lands. This was considered a way to prevent dispersion of sand and salt from the former Aral seabed. Project studied 18 species of desert plants and tested five types of mechanical protections with subsequent planting of desert plants along the protection strips. Project experiments continued for 4 years, resulting in formation of protective forest strips of different age. Main effect of this experiment is in construction of mechanical protections and growing of forest strips by creating sandy barchans forming topsoil with reduced salinity rate for desert plants. This allowed growing desert plants with better sand fixation properties.

**Mobile sand stabilization.** Testing covered 5 methods of mobile sands fixation using local materials (reed, tamarix). In Kazakhdarya, these activities were performed in an area of 12.1 hectares. Methods were tested based on the system of block location of treatments. Activities performed during 2008-2009 included planting of seedlings of desert plants (*saxaul*, *Salsola richteri*, *Calligonum*, tamarix, etc.) obtained as a result of organization of a nursery for growing of desert plants. Survival rate achieved under this activity constituted over 70%. In 2010, field works to stabilize mobile sands continued. Survival rate of the seedlings reached 70-80%. However, due to unexpected resalinization of soil in the project areas, establishment of the newly planted seedlings was low. In 2011, the outputs of testing of technologies of stabilization of mobile sands using mechanical means of protection was analyzed and documented by the project. Building on this experience the Forestry Department of the Ministry of Agriculture and Water Resources of Uzbekistan has developed recommendations and approved operational instruction to be used by all its units throughout the country.

**Enrichment of degraded pastures.** Forage plants, including *Salsola subaphylla*, *S. arbuscula*, *S. orientalis*, *Ceratoides*, and *Kochia prostrata* were planted near the village of Kazakhdarya to improve productivity of degraded pastures. In the year of planting, seeds of the above mentioned plants showed good germination rate. However, due to intense re-salinization (chlorine salinity reached up to 3.5% against a tolerable maximum of 1.8%) in the second year germination was insignificant. This allowed the conclusion that under the given natural conditions, creation of pastures using the above plant species, which are widely applied in the desert zone, is only possible in case of careful selection of the areas based on their salinity rate. Regulation of animal grazing in the available natural pastures becomes more important.

**Development of salt barrens.** Development of salt barrens is a new branch of forestry-based reclamation science, especially for Uzbekistan, thus, scientists have to address this issue by applying technical reclamation. In the territories affected by chlorine salinity of 3% and higher, which become the source of airborne sand and salt particles, the method of carving sand accumulation furrows with a crevice was applied. When the sand filled the furrows, the seedlings of *Halostachys belangeria*, *Halocnemum* and tamarix were planted. Despite these plants are salinity-tolerant, they did not survive high salinity of the local soil and most of them died. The project also applied the method of installation of sand-accumulating grids, which accumulated the sand where seedlings were then planted. However, in the given area, the wind changes direction depending on the season of the year. This approach was less acceptable due to insufficient quantity of sand accumulated.

**Nursery of sand stabilizing plants.** During two years, forestry nursery was created in the farming enterprise of D. Bukeshev, one of the local residents of Kazakhdarya village. Furrow carving and manual seed planting technology was used to grow saplings of saxaul, which then were planted throughout the project areas. The output was satisfactory. In 2011-2012, the forestry nursery was not created again because the experiment was over.

Besides, for the first time the process of vegetation of seed material put into organic mineral granules, determining its germination parameters at various degrees of pre-sowing preparation (experience of the Republic of Belarus) has been introduced to and tested by the forestry departments of Uzbekistan.

Obtaining pelleted (coat) seeds on the basis of organic mineral mixtures allows more sustainable and effective use of both the seeds and biologically active admixtures and growth stimulators. Inclusion of micro fertilizers and biologically active admixtures in the composition organic mineral mixtures creates optimum conditions for growth and normal development of plants as well as facilitates gradual fixation of nutritious elements during the vegetation period.

The project provided experimental *demonstration of new approaches in overcoming desertification and land degradation issues* and now is continuing disseminating experience within the forestry departments system of Uzbekistan.

Key experts of the Main Forestry Department of the Republic of Uzbekistan were trained. Also, the project successfully delivered a series of workshops and trainings for more than 50 members of staff of forestry departments of the Republic of Karakalpakstan.

Information Centres were created to build on the capacity of forestry departments experts. To ensure sustainability of applying the project experience, these centres are equipped with visual aids and training materials of the project, which may be used for the regular training activities of forestry departments system.

### **Reproduction of degraded lands through development of land cropping. (Outcome 1 and 2)**

The main purpose of demonstration of development of land cropping on previously degraded lands through their cultivation was to address two issues: a) former fishermen become land farmers, obtaining new sources of livelihoods and employment; b) previously degraded lands become suitable for land cropping, turning into natural economic resource, creating green areas and micro climate in the village territory. Toward this end the project has organized Farmers' Field School (FFS), where local households' members had an opportunity to learn about farming techniques, new plant species, and seed-based cultivation. Moreover the project has created new system of irrigation infrastructure by providing 6 (1 each for a hospital and two schools, 3 for water user groups) water pumps, establishing water users groups, and introducing canal system to deliver water to participating households. In 2011, 43 families that participated in FFS harvested, on average, 320 kg of vegetables and cucurbits, around 250 bunches of greens, and cultivated seven fruit tree plantlets. Each household plot produces up to 300 kg of green forage. Interim activity analysis done by the project showed that the average cost of vegetables and fodder produced by each household was estimates to UZS545,000 (approx. US\$300 on UN exchange rate), which was quite significant contribution to their livelihoods. When the project has just started this activity only 4 households were interested. As of now about 80 households in the village have home gardens and more than 100 able-bodied members of these households, who were unemployed before, are now permanently busy on their land plots with growing vegetables and fodder.

**Experimental-demonstration plot of decorative and fruit trees.** Some 13 desert plants were tested in the experimental-demonstration plot with the area of 0.75 ha. Apple, quince, plum, cherry and grapes were selected for vegetating the household plots (5). Fruit and berry plots were created by planting large-fruit variety of oleaster, jujube, currant and briar (5). Street vegetating was done using

ailanto, elm, poplar, locust, oleaster, tamarisk (6). In the spring of 2011 it was found that nine of these plants showed high survival rate and can be used for vegetating of the villages. Local residents were provided with over 600 saplings of these tree species, which resulted in vegetating of 6 hectares of household plots.

### **Creation of alternative sources of income not related to livestock production and not dependent on limited natural resources (Outcome 3)**

Dependence of local population on natural resources leading to loss of livelihoods, was addressed by the project through creation of alternative sources of income and employment. Project implemented three business plans in the territory of Kazakhdarya village by mobilizing local community representatives to create small enterprises (greenhouse farm (1), carpenter shop (1) and tailor's workshop (1)).

Financial aid provided to organizers of small businesses paid back already on the second year, so now proprietors of small enterprises enjoy stable income. In addition to economic benefits, implementation of business plans yielded social benefits such as:

- revival of ethnic ornamentation traditions of Karakalpak peoples realized in products of tailor's workshop. In the future, owner of the workshop intends to start selling her products to tourists in the city of Nukus and elsewhere in Karakalpakstan.
- production of heat-retaining window and door frames produced in the carpenter's shop. New products enjoy high demand among young families building new houses on the outskirts of the village.
- greenhouse farm is supplying early ripening vegetables with high vitamins content. Greenhouse produce helps farms support themselves, makes cuisine more diverse, enriches food ration and facilitates improving local population's health. Following example of the greenhouse farm, several families in the village built their own greenhouses on their household plots to use them, in particular, to grow seedlings of vegetable crops. It is noteworthy that before that, growing of early ripening vegetables in Kazakhdarya was not practiced.

### **Desert pasture based livestock production (Outcome 3)**

One of the main factors of development of livestock production is well organized veterinary service that prevents spread of livestock diseases. There was neither veterinary expert nor veterinary service station in the village before the project implementation started.

To introduce livestock production management structure, integrated veterinary service stations got created. The project supplied 18 items of veterinary equipment, allowing full range of veterinary services to be provided at local level. Accounting of community and household-owned livestock was set up and is now being performed, which allows planning of livestock population for vaccination. Systematic allocation of pastures is used to prevent overgrazing. As a result, khokimiyat (local administration), district veterinary authority and statistics authorities receive accurate information.

A veterinary doctor was trained and prepared in order to ensure effective operation of veterinary service station. Veterinary station operation business plan was developed, providing that during first year, service of veterinary doctor were paid by the project. Starting from the second year, veterinary service station has been successfully operating on the basis of self-funding.

As a result, in 2011 in Kazakhdarya, some 1828 heads of cattle were accounted in private sector, as well as 812 heads of community livestock. Signing of service agreements for veterinary doctor working in the veterinary station to service private sector was organized.

Artificial insemination (AI) is a relatively high-technology process requiring duly trained personnel. With support of the project, the veterinarian was trained in AI technique in the Republican Breeding

Union Uzchorvanaslchilik (Kibray district of Tashkent oblast). After completing his study, the veterinarian received a certificate.

Group-based controlled grazing method proposed by the project showed that systematic pasture use was quite possible under conditions of Kazakhdarya village. Thanks to increase in pasture use productivity by at least 30-35% areas of pasture usage reduce accordingly. This effect was aimed at improving ecological situation manifested in reduction of the level of pasture and forest territories caused by change of climate and human intervention

**Pasture Management.** The project has also initiated establishing Pasture Users Commission in the settlement. The main objective of this institutional arrangement was to ensure sustainable pasture use through coordination of pastures distribution among private livestock owners, monitoring the productivity of pastures and their rotation, as well as to represent and advocate interests of private households with cattle and small livestock in discussions with local authorities (shirkats, khokimiyats, forestry department, etc.). To demonstrate the effectiveness of this approach the project has supported the work of Commission on reclamation of 400 hectares of land into productive pastures, and introducing controlled grazing and rotation principles on this land.

Besides, the project has demonstrated the possibility of utilizing the low-quality land resources by recultivating and returning to agricultural use of 20 hectares of land in the settlement. The project has showcased the feasibility of growing alfalfa in the dry and saline soil conditions for sustainable fodder production.

The project has also tested the stabling approach to livestock keeping demonstrating the feasibility of sustainable livestock production without grazing, that could help to reduce pressure on natural pastures. The main inputs of the project to ensure this activity were a) introducing artificial insemination for improving the quality and productiveness of the livestock, b) improving livestock feeding techniques through introduction of enriched daily ration and c) improving the forage preparation and stocking up skills. Although further analysis of this approach has shown a moderate economic effectiveness in comparison with free grazing method, its utilization by the local population on all-the-year-round basis may hardly be possible or may require some additional incentives from government, as it is more labor-intensive than grazing on natural pastures.

#### **Sustainability of project activities and dissemination of project's lessons learned (Outcome 4)**

Strengthening the outputs achieved and informing local population on the project's goals and objectives is implemented via newly created Information Centre, an institutional structure for joint land use planning and development of sustainable land use management mechanisms, especially in desert areas. The centre also provides practical assistance to project experts and staff in expedient implementation of field activities.

To fulfill these tasks, there are a local expert and an assistant working in the village of Kazakhdarya. Following activities are implemented via the Information Centre:

- Improving awareness of local people on the project goals and objectives, mobilizing them to participate in the project activity;
- Furnishing the Information Centre and providing it with materials on activities of the project offices;
- Establishing friendly and trust relations with local communities representatives in the project area, allowing the project to motivate their active participation in the project activities at the local level;
- Providing necessary information relating to traditional, cultural and other peculiarities of the project area communities;
- Assisting in preparation information materials for publications;

- Organizing round table meetings and workshops at the local level under the framework of the project’s public awareness campaign;
- Supporting productive working relations with local authority representatives;
- Providing local population with advice and disseminating project experience relating to development of land cropping and managing pasture based livestock production

#### 4. PROJECT OUTCOMES

The overall goal of the project was to “achieve ecosystem stability on degraded lands of Karakalpakstan and Kyzylkum desert, thus arresting advance of desertification, increasing carbon sequestration, expanding biodiversity habitats and ensuring socioeconomic benefits for the population on sustainable basis”, with a more specific objective “to test, evaluate and implement innovative solutions addressing the land degradation problem at experimental scale in designated sites near the Aral Sea and in Kyzylkum desert”

To this end, the project activities have contributed in making the following impact in Kazakhdarya pilot site:

##### **Socio-economic impact**

*Change of mindset.* This is probably the most important social impact that was made by the project in Kazakhdarya. It has made a significant progress in changing the attitude and the aptitude of local dwellers towards the importance and feasibility of ecologically sustainable land management and economic activities. For instance, the project’s FFS activity was successful in explaining the value of the land in the village making it an important economic resource for local population. More than 4.8 hectares of degraded land in about 80 households in the village have been reclaimed and returned to agricultural use, thus contributing to improved diet and food security of the local population;

*Improvement of income* of some members of local communities thereby demonstrating how creation of alternative livelihoods can help to reduce the pressure on and support the ecosystems stability. More than 80 (16%) out of 493 (100%) households of the village have improved their livelihoods through knowledge and skills on land cropping and alternative business opportunities that have been delivered to them by the project. This has also allowed reducing the overall unemployment rate in the settlement by approximately 2.5%

##### **Policy (institutional) impact**

*Sustainable land management practices* (Pasture Users Group and Water Users Group) introduced on community level institutional structures and employed for participatory decision-making for improved land and water resources management, allow for optimization and sustainable use of desert pastures and household plots, thereby preventing further land degradation. Additionally, this provides balance of interest, equal access and responsibility over sustainable use of land and water resources by all members of the community.

##### **Environmental impact**

*Land degradation prevention.* More than 400 hectares of natural desert pastures have been secured from further desertification through introducing pasture rotation and controlled grazing methods, as well as pasture enrichment activities conducted by the project. This area will further serve as a source of dissemination of seed of various desert fodder species on the wider area by natural replication.

*Ecosystem stability.* The project activities towards fixation of mobile sands on 12 ha of desert area in close vicinity of Kazakhdarya settlement through mechanical protection and planting activities contributed to mitigation of negative impact of wind-blown sand on the village and road infrastructure and to widening the natural habitat area of indigenous flora and fauna.

The table below provides some comparative data pertinent to the project’s impact in Kazakhdarya:



<b>Change indicators</b>	<b>At Project Start *</b>	<b>Upon Project Completion**</b>	<b>Change Ratio</b>	<b>Specific Project activities that contributed to the change</b>
Number of adult men unemployed	99	77	-23%	Output 2.3
Number of adult women unemployed	127	46	-64%	Output 2.3
Average weekly income per household (in USD)	7.5	13.75	+83%	Output 2.3
Land under cultivation (ha)	21.4	47.4	+93%	Output 1.5
Unsustainably managed pasture (ha)	3120	2720	-11%	Output 2.2 – 2.4

\* Baseline data are taken from the Project Document and presumably was collected on the pilot site in 2004. – \*\* Based on the project monitoring reports

## **Annex 8: Profile of Kyzyl Rovat Project Pilot Site**

### **1. BRIEF DESCRIPTION OF THE AREA**

The village of Kyzyl Rovat is located 31 km south of the intersection of its access road with highway A380, the main road connecting Bukhara (approximately 200 km to the east) with Nukus (approximately 340 km to the west). The area of concern is the shirkat (shareholders owned farm), lands managed by the Ministry of Forestry, and the Kyzylkum Biosphere Reserve – a land area that includes 3,030 km<sup>2</sup>. Approximately 1,970 km<sup>2</sup> are part of the Kyzyl Rovat shirkat, 950 km<sup>2</sup> are administered by the Ministry of Forestry, and 100 km<sup>2</sup> are included in the Reserve.

The boundary of the area of concern is in the Romitan District, the most western administrative subdivision of the Bukhara Oblast. The area is bounded on the west by the Amu Darya River which flows southeast to northwest. The boundary extends south from Kyzyl Rovat along the river approximately 30 km to the small village of Gugurtli and north along the river for approximately 20 km. There is a small village at the intersection of Highway A380 and the paved road from Kyzyl Rovat. From the village of Kyzyl Rovat, the area of concern extends approximately 65 km to the north. Travel to the northern parts of the area from highway 380 is by dirt roads and the trip from Kyzyl Rovat to the northern boundary is over 100 km.

The land resources of importance to the Kyzyl Rovat area are (1) two areas of irrigated cropland that lies between the river and the upper bank of the Amu Darya River, (2) riparian tugai forest that grows on the uncultivated part of the flood plain, and (3) sandy desert rangeland. There are approximately 400 ha of cropland located at the Kyzyl Rovat and 200 ha located at Gugurtli. The cropland has recently been flooded by the Amu Darya River and is currently not able to be used. There are approximately 4,000 ha of riparian forest located along the river between Kyzyl Rovat and Gugurtli. The remainder of the land in the Kyzyl Rovat area of concern is sandy desert rangeland, most of which are sand dunes with small areas of takyr (naturally occurring depressions and flats with soils that have a high clay content) scattered throughout the sand dune area.

There were 964 inhabitants and 176 households reported in 2008, however their number has been steadily decreasing during the last years and as of now assumed to be around 500 inhabitants. 55.1% of population is considered to be able-bodied.

The climate of the area is of typical desert conditions with temperatures ranging from +30°C to +40°C during the summer and up to -25°C during the winter seasons, and the average and quite constant wind of 10-20 m/sec from the North-East. The average annual precipitation in Kyzyl Rovat is about 95 mm. There is no gas supply (for cooking or heating) in the community. The water supply is of low quality and the only source is Amu Darya River. The settlement is provided with an electricity supply through the national grid but this is subject to frequent cuts. Community is highly disadvantaged in terms of its isolation, its inadequate level of employment opportunities and low income, the inadequate water supply, the inadequate fuel supply, the condition of their environment, their poor health and the quality of their life in general. It is as a result of these overwhelming disadvantages that this community is forced to exploit the environment as its only means of survival.

The settlement used to be a large livestock kolkhoz (state collective farm) during the Soviet times and was engaged in caracul sheep farming, which then was reorganized into shirkat (shareholders owned farm) after Uzbekistan became independent. The shirkat performs the local authority functions and is responsible for administering the infrastructures of the settlements. The social infrastructure of the settlement includes a school and a small rural hospital.

## 2. ENVIRONMENTAL PROBLEMS IDENTIFIED AND TO BE TACKLED BY THE PROJECT

Land degradation and spread of deserts are the main problems also in Kyzyl Rovat pilot site. Although both Kazakhdarya and Kyzyl Rovat are affected by moving sands and deteriorating land resources, their situations are quite different. Geologically, the sand in Karakalpakstan which originates from the dried Aral seabed is white in color, fine textured and with quantities of salt. The sand of the Kyzylkum Desert is red to gold in color, coarser in texture and is not so affected by salt. While the project have initially been applying the same technique at the two localities (arising from the targeted research), in each case it needed to be adapted to reflect local circumstances.

The physical situation creates another difference between the two localities. Kazakhdarya is threatened by the steady migration of sand dunes that have accumulated from loose sand blown from the dried Aral seabed and which threaten to move on to the community. The project activities were therefore preventative because without any intervention, Kazakhdarya would otherwise need to be abandoned within five years because it will be smothered by sand. On the other hand, Kyzyl Rovat, in the Kyzylkum Desert, was already affected by wind-blown sand from land degraded through overgrazing and over-cutting of vegetation for firewood. The project activities were therefore remediation of impacts which already exist.

Degraded rangelands in this area can be found adjacent to the village, along roads, and around water wells. Roads located in the sandy desert rangelands represent an area of degradation in that the vegetative cover has been removed from them and they are susceptible to wind erosion. Roads in degraded areas are often covered with loose sand and vehicles move from the original path expanding the area of disturbance. There are numerous roads on the rangeland area associated with Kyzyl Rovat shirkat farm where the amount of degraded land equal to about 10,000 ha.

**Overgrazing.** Land vulnerability is exacerbated by local residents who overgraze available pastures by domestic stock, in an effort to survive. Overgrazing of desert pasturelands is particularly concentrated in the vicinity of settlements and around the water wells. In these areas, not only is the land denuded of all vegetation, but it is also prevented from forming the surface "skin" that is necessary to prevent wind erosion and begin the process of soil development.

**Wood over harvesting.** Although wood overharvesting does not seem to be a major problem in Kyzyl Rovat, there are evidences that local population cuts down trees and shrubs for wood fuel heating and cooking. The preferred fuel wood for population living in the settlement is *Haloxylon aphyllum* and *Haloxylon persicum*. The root crown of these plants is highly valued because it burns very hot. Digging up the root, kills the plant. This is an unfortunate impact on the rangeland because these species are important for both moderating the wind as well as being good forage plants. Another source of fuel wood for local people is the tugai forest (flood plain forest) along the river Amu Darya, which is under the control of the Forestry Department.

**Unsustainable agricultural practices.** Owing to its geographical location (Kyzylkum Desert) and limited agricultural crop production capacities (insignificant area under cultivation) the land farming has not been among major economic activities in Kyzyl Rovat. There was a relatively small site of 400 hectares on the flood plain area of the Amu Darya River, which was secured by construction of fill dam and utilized by local community for agricultural crop production. However, constantly changing delta and water-level of the river have damaged the dam and flooded these lands. There were several attempts to restore the dam but this appeared to be ineffective and expensive for the budget of Kyzyl Rovat community.

## 3. ACTIVITIES PERFORMED BY THE PROJECT

Throughout its implementation the project has been focusing on four major activity areas to address the problems identified at the design stage. The first activity area (Outcome 1) focused on the botanical and microbiological research activities. It has also covered activities aiming to research on, to test and to evaluate sustainable land management methods for the desert and semi-desert agroecosystems. The second activity area (Outcome 2) has focused more on the practical problems caused by

mobile sands and was envisaged to be achieved through active involvement and participation of affected communities. The third activity area (Outcome 3) addressed the institutional and policy underpinning of the work to ensure its sustainability. And finally, the fourth activity area (Outcome 4) was to ensure that the experience and lessons learnt from this project will be disseminated widely and provided for efficient management and administration of the project and an effective exit strategy. The main partners and beneficiaries of all these activities were the local subdivisions of the Main Forestry Department of Uzbekistan Ministry of Agriculture and Water Resources in Bukhara oblast, local rural authority (Assembly of Rural Citizens) of Kyzyl Rovat village, and private householders.

#### **Testing of available methods of fixation of mobile sands under local conditions in order to prevent sands advance on settlement (Outcome 1 and 2)**

One of the main project activities was demonstration of sand fixation and restraining their movement in the village territory and in agricultural lands. This was considered a way to prevent dispersion of sand from the nearby areas of Kyzylkum Desert. Project studied 18 species of desert plants and tested five types of mechanical protections with subsequent planting of desert plants along the protection strips. Project experiments continued for 4 years, resulting in formation of protective forest strips of different age. Main effect of this experiment is in construction of mechanical protections and growing of forest strips.

**Mobile sand stabilization.** In Kyzyl Rovat this includes about 10 ha of sand stabilization work at site close to main settlement and at about 3 specific points along the asphalt road (from main Bukhara-Urgench road) which are prone to being covered by sand. In total 6 different methods of physical barriers and 2 species of plants were reportedly used (black saxaul and *Salsola* sp.). The survival rate of planted seedlings is about 70% during the first year of planting. However, extreme summer temperatures and unusually drought season during the following years significantly reduced the survival rate of seedlings. In 2011, the outputs of testing of technologies of stabilization of mobile sands using mechanical means of protection was analyzed and documented by the project.

**Enrichment of degraded pastures.** Forage plants, including *Salsola subaphylla*, *S. arbuscula*, *S. orientalis*, *Ceratoides*, and *Kochia prostrata* were planted near the village of Kyzyl Rovat to improve productivity of degraded pastures. In the year of planting, seeds of the above mentioned plants showed good germination rate. The *pasture enrichment* site in Kyzyl Rovat covers approximately the area of 2 ha and consists of quadrates planted with 6 pasture species – the idea was that plants growing in these quadrates will naturally seed areas around them bringing about an enrichment of larger area at lower cost.

**Nursery of sand stabilizing plants.** During two years (2010-2011), forestry nursery was created in close vicinity to the Kyzyl Rovat settlement on the shirkat's land. In close cooperation with local Forestry Administration the project has used manual seed planting technology to grow saplings of saxaul, which then were planted throughout the project area. The output was satisfactory. The nursery, which was established in 2011 when water was available (from the project bought pump) seems to be of limited value at present though some saxaul seedlings were observed growing. This is probably because the very dry and recently very hot weather and low level of the Amu Darya (which prevents use of the pump) has had limiting impact on the nursery.

The project provided experimental demonstration of new approaches in overcoming desertification and land degradation issues and now is continuing disseminating experience within the forestry departments system of Uzbekistan. Key experts of the Main Forestry Department of the Republic of Uzbekistan were trained. Also, the project successfully delivered a series of workshops and trainings for more than 30 members of staff of forestry departments of the Republic of Uzbekistan.

Information Centre under the regional subdivision of the Forestry Department in Bukhara oblast was established to strengthen the capacity of forestry department's experts. To ensure sustainability of applying the project's experience, this centre was equipped with visual aids and training materials of the project, which may be used for the regular training activities of forestry departments system.

### **Reproduction of degraded lands through development of land cropping (Outcomes 1 and 2)**

The main purpose of demonstration of development of land cropping on previously degraded and desertified lands through their cultivation was to address two issues: a) former herdsmen become land farmers, obtaining new sources of livelihoods and employment; b) previously desert lands become suitable for land cropping, turning into natural economic resource, creating green areas and micro climate in the village territory. Toward this end the project has organized Farmers' Field School (FFS), where 30 local households' members had an opportunity to learn about farming techniques, new plant species, and seed based cultivation. For this purpose the project has assisted local households to cultivate more than 2.45 hectares of former desert area on the Amu Darya riverside outside the village. Moreover the project has created new system of irrigation infrastructure by providing one high-capacity water pump, establishing water users group, and introducing canal system to deliver water to home garden plots of participating households inside the village, where they grow various fruit trees, vegetables and forage plants.

### **Creation of alternative sources of income not related to livestock production and not dependent on limited natural resources (Outcome 3)**

Dependence of local population on natural resources leading to loss of livelihoods was addressed by the project through demonstrating of possibility of creation of alternative sources of income and employment.

Until 2011, there was no infrastructure to provide services to the local population of Kyzyl Rovat, except for two stores. In 2011, project implemented a business plan on starting barber shop in the territory of the village. A separate room has been prepared and designed for this purpose and was supplied with electricity and necessary equipment. The barber has taken courses on haircutting, both for men and woman. Financial aid provided to organizer of small business paid back already on the second year, so now owner of this small business enjoy stable income. The owner of the new business plans to further expand its business by creating a separate salon for women.

### **Desert pasture based livestock production (Outcome 3)**

During the Soviet times, when the shirkat used to be kolkhoz, the total number of livestock could reach 40,000 caracul sheep, but nowadays shirkat has around 6,000 caracul sheep. The total pastures area that is provided to the shirkat by the government for long-term use (according to national legislation) is about 115,400 hectares, of which only 40,000 hectares is actually utilized by shirkat for grazing due to the inoperative water wells. There were 29 water wells built during the Soviet times to enable more pasturelands for grazing livestock in the desert areas. However, after the collapse of the Soviet Union and followed reorganization and cut in special organizations that were responsible for keeping the wells operational, only 8 wells remained operational. The project has helped to restore 6 more water wells thereby increasing the number of water wells in use to 14 and accordingly the area of pastures to be used for grazing.

Caracul sheep farming have been the main livestock sector in the village of Kyzyl Rovat. The main advantage of Caracul sheep over other livestock animals is their constitutional strength and adaptability to desert conditions with high economic efficiency of breeding. Caracul sheep farming promotes the economic development of large desert and semi-desert areas, where the farming of other species or breeds of sheep is impossible or ineffective.

However, rearing of low productivity and low value sheep forced the shirkat to stock large herds, which in turn causes additional stress on pastures and leads to their degradation. Therefore, the project has been focusing on introducing breeding capacities to the shirkat to improve caracul sheep pedigree by importation of purebred rams and introduction of artificial insemination. To this end, the project has purchased 8 rams from "Buhoroi-sharif" livestock breeding enterprise. During the 2009-2011 period more than 4500 ewes were artificially inseminated using this pedigree rams and the future pedigree stocks were formed through regular valuation and selection of young animal received

from lambing of these ewes. Three new young flocks of 1,200 heads of various breed types with valuable features (color and texture of felts, weight, etc.) were formed.

Based on this work the shirkat has filed application to the Bukhara Regional Breeding Inspection to claim Pedigree Livestock Breeding Farm status. After several examinations and evaluations the conclusions of the Bukhara Regional Breeding Inspection, that supported awarding a new status to the Kyzyl Rovat shirkat farm, were submitted to the Republican Breeding Inspection. In April 2012 the application was approved and a certificate confirming the status was awarded to the shirkat.

**Shirkat Rangeland Management.** The project team, in close cooperation with shirkat specialists, has worked out a scheme for effective use of pasture by the shirkat sheep flocks based on use of 2 wells and seasonal rotation around and between them. At the shirkat office a color print of this scheme is displayed.

Additionally, the team made recommendations on grazing rates – i.e. the proportion of available grazing of an individual pasture area that is consumed when that particular pasture is used. Previously grazing rates were about 30% after which flocks were moved onto new pasture. This frequent change of location means that each pasture is under-utilized but period between visits to a specific pasture area is short (i.e. flocks move about a lot only partially using available fodder and return to same area fairly often). This was considered by team as negative practice and better to more fully utilize each pasture (i.e. up to 60% grazing rate) and utilize it much less frequently – this allows better regeneration and reduced trampling.

Interviews with shirkat officials indicate that shirkat has been utilizing the pasture management scheme to some extent since July 2010 but because of the particularly hot weather at the current time has had to diverge from it in order to allow flock better access to drinking water. Another problem is that they have lost about a considerable area of land previously used for pasture (with working wells) that was rented from Forestry Department for 25 years – rent period expired last year and land returned to Forestry Department.

**Pasture User Group.** A key problem identified throughout the pasture management system is the lack of any formal or informal allocation of pasture to local households and lack of any collective management or control of household livestock (about 200 cattle and 2000 sheep and goats). This is a major gap in the system, particularly, as in many places the number of household livestock considerably outnumbers shirkat livestock (though not in the case of Kyzyl Rovat). Thus testing approaches to address this are very important.

In Kyzyl Rovat settlement, with the overall guidance and support from the Project a “pasture user commission” under the Assembly of Rural Citizens (local administration) has been established. The Commission has its own statute covering its function, and 6 members elected during Assembly meeting. Its function is basically to support households on issues related to livestock/pasture. Actual achievements include:

- registration of each household livestock;
- informal allocation by the shirkat of a strip of pasture land 10 km by about 20km (i.e. approx. 20,000 ha.) north of the settlement;
- introduction of the pasture use management and productivity monitoring;
- the application (and receipt) to district Khokimyat for fodder for household livestock – this was first time households received a fodder allocation.

It was also planned to try and get households to collect livestock into herds and collectively contribute to herder so that control over use of pasture could be applied. However, this was not successful because the current system – when cattle independently go out in the morning and return in the evening – is cheaper and less labour intensive than using herders. Additionally they argue that size of available pasture (20,000 ha) is more than adequate for the number of cattle and thus control/pasture rotation is not important. On the face of it this seems a valid point in their specific cir-

cumstances. Possibly in another location, where number is higher and grazing pressure greater, there would be sufficient incentive for collective grazing to work.

On the whole therefore it seems that the Pasture Commission has had a positive impact and demonstrates that such a structure under an existing community institution (the Assembly) can be a viable mechanism for bringing household livestock into a collective and more sustainable framework.

***Veterinary/Livestock Extension Point:*** This was set up as a quasi state/private enterprise. Basically it implements state requirements in terms of vaccinations for disease control but at the same time provides paid veterinary and insemination services. Veterinary receives limited state salary but augments it with the paid services. He can also provide, in theory, extension services (about fodder preparation methods, etc). The project supported the preparation of business plan and salary support during the initial stage but the point has been essentially self supporting for past 7 or 8 months. On basis of business plan (which national consultant says was very conservative) the point should not only be self sufficient but even profitable if vet works hard on it. At least so far it seems to be a sustainable initiative.

Artificial insemination (AI) is a relatively high-technology process requiring duly trained personnel. With support of the project, the veterinarian was trained in AI technique in the Republican Breeding Union Uzchorvanaschilik (Kibray district of Tashkent oblast). After completing his study, the veterinarian received a certificate.

***Romitan District Veterinary/Livestock extension Centre:*** The project has, at the request of the district authorities of Romitan (within which the project site Kyzyl Rovat is located) and in the context of the Republic level activities of the Ministry of Agriculture, helped established a Livestock/Veterinary Centre in Romitan district centre. This centre was supposed to provide both livestock extension services and veterinary support to livestock farmers throughout the district. It operates on a part state supported, part commercial basis. In this context the project has also help them to prepare a business plan to ensure its stable operation. This is one of the first such centres established in rural districts in Uzbekistan and will provide a valuable model for future expansion of such vital support services. Additionally, it will provide a valuable mechanism for helping to disseminate the results and experience of the project from the project site in Kyzyl Rovat to other shirkats and communities in the district. A number of district level and oblast level training events for more than 200 veterinary specialists have been conducted by the Centre with the support from the project.

***Integrated Land Use Planning and Management Process.*** The project has implemented a number of activities to introduce and promote integrated land use planning and management process on a district level. The objective of these activities was to demonstrate the benefits of the ILUMP, which allows representatives of sectoral units of the district administration (khokimiat), shirkat farm and local communities to identify and effectively address common interests in land use issues through participatory planning process. To this end, the project has organized a series of trainings and round tables with participation of representatives of various departments of Romitan Khokimiyat, who directly involved in decision-making on land use. During these events the participants had an opportunity to look at the basics and the concept of an integrated land use.

Thus, the foundation for further integration of land-use planning at the regional level was laid in Uzbekistan for the first time and the ILUMP Working Group has been established in the structure of Romitan Khokimiyat (District Administration). The project has facilitated and supported the Group in development of an integrated land use management plan for Kyzyl Rovat settlement, which then was used as basis for targeted training and capacity development of relevant district level personnel thereby capacitating them to undertake similar planning in other areas of the district.

#### **Sustainability of project activities and dissemination of project's lessons learned (Outcome 4)**

Strengthening the outputs achieved and informing local population on the project's goals and objectives is implemented via newly created Information Center, an institutional structure for joint land

use planning and development of sustainable land use management mechanisms, especially in desert areas. Information Centre also provides practical assistance to project experts and staff in expedient implementation of field activities.

To fulfill these tasks, there are a local expert and an assistant working in the village of Kyzyl Rovat. Following activities are implemented via the Information Center:

- Improving awareness of local people on the project goals and objectives, mobilizing them to participate in the project activity;
- Furnishing the Information Center and providing it with materials on activities of the project offices;
- Establishing friendly and trust relations with local communities representatives in the project area, allowing the project to motivate their active participation in the project activities at the local level;
- Providing necessary information relating to traditional, cultural and other peculiarities of the project area communities;
- Assisting in preparation information materials for publications;
- Organizing round table meetings and workshops at the local level under the framework of the project's public awareness campaign;
- Supporting productive working relations with local authority representatives;
- Providing local population with advise and disseminating project experience relating to development of land cropping and managing pasture based livestock production

#### **4. PROJECT OUTCOMES**

The overall goal of the project was to “achieve ecosystem stability on degraded lands of Karakalpakstan and Kyzylkum desert, thus arresting advance of desertification, increasing carbon sequestration, expanding biodiversity habitats and ensuring socioeconomic benefits for the population on sustainable basis”, with a more specific objective “to test, evaluate and implement innovative solutions addressing the land degradation problem at experimental scale in designated sites near the Aral Sea and in Kyzylkum desert”

To this end, the project activities have contributed in making the following impact in Kyzyl Rovat pilot site:

##### **Socio-economic impact**

*Change of mindset.* Similar to Kazakhdarya pilot site the project has made important social impact also in Kyzyl Rovat site by changing local people's mindset about ecologically sustainable land management and economic activities. Project's FFS activity helped to return more than 2.5 hectares of formerly abandoned desert lands in the village back into the agricultural use making it an important economic resource for local population. More than 30 households of the village recognized the feasibility and the benefits of irrigated agriculture, and thus improved their diet and food security.

*Improvement of income* of some members of local communities thereby demonstrating how creation of alternative livelihoods can help to reduce the pressure on and support the ecosystems stability. More than 30 (18%) out of 170 (100%) households of the village have improved their livelihoods through knowledge and skills on land cropping and alternative business opportunities that have been delivered to them by the project. This has also allowed reducing the overall unemployment rate in the settlement by approximately 11%

*Increased profitability of shirkat.* Attaining by the shirkat the Pedigree Livestock Breeding Farm status allowed to increase the price of its products for more than two times and to be exempt from all current taxes (according to national law). For example, the tax exemption benefits of single land tax provide the shirkat with additional financial profit of almost UZS 40 million per year (USD 20,500 on UN exchange rate). These saved financial resources could then be used for further invested in improving the productivity of pastures.



### Policy (institutional) impact

*Sustainable land management practices* (Pasture Users Group, Water Users Group and ILUMP) introduced on community and district level institutional structures and employed for participatory decision-making for improved land and water resources management, allow for optimization and sustainable use of desert pastures and household plots, thereby preventing further land degradation. Additionally, this provides balance of interest, equal access and responsibility over sustainable use of land and water resources by all members of the community.

### Environmental impact

*Land degradation prevention.* Increasing the area of pastures used by shirkat while keeping the number of the livestock unchanged by focusing on production of high value pedigree caracul sheep significantly eased the pressure on 55,000 hectares of natural pastures, thus preventing their further desertification through introducing pasture rotation and controlled grazing methods, as well as pasture enrichment activities conducted by the project. However, the sustainability of this impact may be put under question if shirkat will significantly increase number of livestock in the following years without giving proper attention to pasture rehabilitation and productivity issues.

*Ecosystem stability.* The project activities towards fixation of mobile sands on 10 hectares of desert area in close vicinity of Kyzyl Rovat settlement through mechanical protection and planting activities contributed to mitigation of negative impact of wind-blown sand on the village and road infrastructure and to widening the natural habitat area of indigenous flora and fauna.

The table below provides some comparative data pertinent to the project's impact in Kyzyl Rovat:

Change indicators	At Project Start*	Upon Project Completion**	Change Ratio	Specific Project activities that contributed to the change
Number of adult men unemployed	30	25	-20%	Output 2.3
Number of adult women unemployed	46	26	-43%	Output 2.3
Average weekly income per household (in USD)	2.5	10	+85%	Output 2.3
Land under cultivation (ha)	60	62.5	+4%	Output 1.5
Utilized pastures (ha)	40,000	55,000	+27%	Output 2.2 – 2.4

\* Baseline data are taken from the Project Document and presumably was collected on the pilot site in 2004. – \*\* Based on the project monitoring reports

**Annex 9:**  
**Co-financing of the SLM Project for the period of 2008-2013 by the Government of Uzbekistan**

The periods are given in months.

	Tashkent	Period	Nukus	Period	Kazakh-darya	Period	Bukhara	Period	Kyzyl Rovat	Period	TOTAL
Rental Project Offices	1000	62	300	40	100	36	300	40	100	36	93,200
Utilities	1000	62	300	40	100	36	300	40	100	36	93,200
Salary National Project Coordinator	700	62									43,400
Salaries Heads of Regional Departments of Forestry	700	50	200	40	300	36	200	40	300	36	72,600
ILUMP Working Group, District of Romitan							2000	20			40,000
Districts authorities (hokim, sekretariat)			500	62			800	62			80,600
Regional government and local authority specialists (land, livestock, statistic, economic, forestry and nature protection departments)	600	62	500	48	400	60	500	48	400	60	133,200
Zoovetservice points, total expenditures					400	36	1000	24	400	36	52,800
Monitoring from government institutions	100,000										100,000
NPB members, for 17 person	5,100	62									316,200
Consulting and other services by national institutions (specialists, halls, land areas, seedlings, labor, equipment as machines and other technique for experimental works)	40,000										50,000
<b>TOTAL</b>											<b>1,075,200</b>

## Annex 10: Project Ratings

This table of project ratings is taken from the Terms of Reference and is filled in according to the requirements of the TORs. Please note that a different table with other criteria and a different rating system has been used for the report (table given in the see summary). HS = Highly Satisfactory; S = Satisfactory; MS = Marginally Satisfactory; MU = Marginally Unsatisfactory; U = Unsatisfactory; HU = Highly Unsatisfactory.

	Rating
<b>Ratings of Relevance, Efficiency and Effectiveness</b>	
(Highly Satisfactory, Satisfactory, Marginally Satisfactory, Marginally Unsatisfactory, Unsatisfactory, Highly Unsatisfactory)	
<b>Project Formulation</b>	
<b>Overall Project Formulation (Relevance)</b>	
• Conceptualization/design	MS
• Stakeholder participation	S
<b>Project Implementation</b>	
<b>Implementation Approach (Efficiency)</b>	
• Use of the logical framework	S
• Adaptive management	HS
• Use/establishment of information technologies	HS
• Operational relationships between the institutions involved	HS
• Technical capacities	S
<b>Monitoring and Evaluation</b>	HS
<b>Stakeholder Participation</b>	
• Production and dissemination of information	HS
• Local resource users and NGOs participation	MS
• Establishment of partnerships	S
• Involvement and support of governmental institutions	S
<b>Project Results</b>	
<b>Overall Achievement of Objective and Outcomes (Effectiveness)</b>	
• Objective	S
• Outcome 1	HS
• Outcome 2	HS
• Outcome 3	S
• Outcome 4	S
<b>Sustainability Ratings</b>	
(L = Likely; ML = Moderately Likely; MU = Moderately Unlikely; U = Unlikely)	
<b>Sustainability</b>	
• Financial sustainability	ML
• Institutional sustainability	L
• Socio-economic sustainability	L
• Ecological sustainability	ML
<b>Overall Project Achievement and Impact</b>	S