



Central Asia: Acting locally – cooperating regionally

Sustainable use of natural resources in Kazakhstan,
Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan

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Regional programme 'Sustainable use of natural resources in Central Asia'

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Foreword



Central Asia covers an area equivalent to that of the 27 EU states. It is experiencing the effects of climate change to a greater extent than any other region on the planet. For the area between the Caspian Sea and the Pamir Mountains scientific studies predict an above-average rise in temperatures and the further spread of deserts and arid zones. The glaciers of the Pamir, Tien Shan and Altai mountains represent the water reservoir of the entire region, yet the speed at which they are melting is accelerating. Future water shortages will be the result.

Furthermore, in other parts of Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan and Kyrgyzstan natural resources are already scarce or severely degraded as a result of inappropriate use. Strategies for sustainable use are unfamiliar or are not applied for economic and other reasons.

The governments of Central Asia now recognise the danger and have started to draw up national strategies in response. However, these countries are still transitioning to market-based economies and are embroiled in the frequently tension-loaden transformation process. In consequence governments are often overwhelmed by

the need to solve problems that have ramifications at local, regional and global level. BMZ therefore commissioned GTZ with a regional programme to address the sustainable use of natural resources in Central Asia. In close cooperation with the German Development Service (DED) and the Centre for International Migration and Development (CIM) a number of projects have been carried out in recent years, ranging from direct support of communities to the promotion of trans-border cooperation and regional partnerships.

The successes of the initial years of the regional programme are proof that GTZ has adopted the right course in its approaches. Nevertheless, as a result of climate change and the economic and financial crisis in the region the problems have worsened, particularly for the poorer economies.

In line with its remit GTZ will therefore continue to support the Central Asian countries through a wide-ranging regional programme, because with the loss of natural resources the development prospects of the people would be substantially diminished.

*Dr Kurt Wagner
Regional Manager Central Asia*

Central Asia | One regional programme – diverse approaches



Upon the collapse of the Socialist agricultural system and its infrastructure, communities and newly emerging companies in the countries of the former Soviet Union began to use natural resources in a reckless and uncoordinated way. Livestock watering places and wells were used but no longer maintained. Pasture around the villages degraded through overuse. The Saiga antelope and the markhor were almost wiped out by poaching.

The task of controlling and managing resources was beyond the capacity of state and business institutions: they themselves were undergoing reorganisation, and there were major economic and social problems to be addressed at the same time as the transition to a market economy was under way. The majority of rural dwellers lost both their job and their income. Overnight, private agriculture became the main source of income for the majority of the rural population, who thereby became direct users of natural resources.

Yet even private and private-sector use of land, water and animal and plant resources must be based on collaborative sustainable management both locally and regionally. The

regional programme for the sustainable use of natural resources addresses the resources of land, water and biological diversity and operates at local, national and regional levels.

Sustainable land use forms the largest component of the programme. The focus here is on combating desertification by tackling the core problems of degradation of irrigated land, degradation of pasture and degradation of forests.

Increasing water scarcity directly exacerbates these problems. Intensive agriculture in this region is in the main dependent upon irrigation. The ecologically

CACILM – regional cooperation that serves as a model

CACILM, the Central Asian Countries Initiative for Land Management, is a partnership between the countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan and international donors such as the Global Environment Facility GEF, the Asian Development Bank ADB, the United Nations Development Programme UNDP and the German Federal Ministry for Economic Cooperation and Development BMZ. CACILM was set up in 2007 as a regional programme to combat desertification and tackle the poverty of people living in rural areas.

The initiative is grounded in the UN Convention to Combat Desertification (UNCCD) and the national programmes based on it.

A sub-regional action programme for Central Asia was set up but was hampered by a lack of investment and government funding. To improve this situation, a consortium of bilateral and multilateral donor organisations was founded in 2001. This gave rise in 2003 to the Strategic Partnership Agreement (SPA), an alliance of donor organisations active in the area of land management in Central Asia. This alliance was in turn instrumental in the founding of CACILM in 2007.

The ten-year CACILM programme is divided into three phases:

1. Orientation phase: 2007–2009
2. Implementation phase: 2010–2013
3. Consolidation phase: 2014–2016

important riparian forests in arid regions wither if the rivers no longer supply sufficient water. The falling water table causes springs and wells to run dry in areas used for grazing. Schemes to promote the sustainable use of water resources therefore serve simultaneously to combat desertification.

Measures to conserve biological diversity focus on the protection of endangered animal species such as the snow leopard, the Saiga antelope and the Marco Polo sheep. Conservation is integrated with sustainable use by strengthening existing institutions and providing training for their staff as well as by introducing new approaches and an attitude to hunting that takes

The priorities of the first phase were the setting up of national and regional secretariats, knowledge management, monitoring and the provision of information on the state of natural resources. Funds totalling more than US\$ 140 million were available for projects to promote sustainable irrigated agriculture, forestry and pasture management.

Three additional priority areas were added to the programme in the second phase: adaptation to climate change, water management and conservation of biological diversity.

All the Central Asian countries have similar problems in connection with the Soviet-influenced system of natural resource management. The CACILM network will therefore encourage more investment in the conservation and regeneration of natural resources and enable successful experience in one region to be utilised elsewhere.

By including existing German projects in the programme, their effects will be amplified through joint funding and harmonisation with other donors. The CACILM programme is therefore a key frame of reference for the GTZ regional programme for the sustainable use of natural resources in Central Asia.

account of population levels. The involvement of local communities increases the sustainability of management systems and creates additional earning opportunities.

Simultaneous work at different levels permits local experience to be incorporated directly into national advice processes and regional exchanges of experience and enables new approaches that emerge from the international debate to be implemented locally.

The following examples from the countries of the region illustrate how this works in practice.

Tajikistan | How wooden windows are saving the trees of the Pamir Mou



The Pamir Mountains in eastern Tajikistan are among the highest and coldest mountain ranges in the world with winter temperatures falling to minus 45°C. Upon the collapse of the Soviet Union the inhabitants of the Pamirs also lost their supply of coal as a heating fuel. They therefore turned to the only local fuels available: dried animal dung, teresken bushes and firewood from the riparian forests. The condition of forests and soils deteriorated dramatically as a result of uncontrolled felling. Other natural resources such as water and wild animals are also not being used sustainably.

Goals and partners

The projects of the regional programme in Tajikistan aim to promote sustainable resource management and improve the livelihood of the population.

The cooperation project of GTZ, DED and CIM 'Sustainable management of natural resources in Gorno-Badakhshan' works with the State Land Use Committee and the State Forest Agency to prevent further degradation of soil and forest resources in the Pamirs.

A cooperative venture involving the 'Nature Protection Team' NGO, the Frankfurt Zoological Society and CIM is promoting the sustainable use of endangered wild animal populations.

The cooperation between the regional programme and the Committee on Environmental Protection of the government of the Republic of Tajikistan aims to improve state administration structures and the legal conditions for sustainable resource management.

Priorities

1. Joint forest management

The project is based on the joint forest management approach: the State Forest Agency transfers long-term use rights of forest plots to private tenants, who then use the land sustainably and protect it against illegal felling and grazing. The activities effectively complement those of the project 'Sustainable rehabilitation and development of riparian forests in Gorno-Badakhshan', which is funded by the German Ministry for the Environment and Nuclear Safety (BMU). The two projects work closely together.

Project activities

- arranging leases between the Forest Agency and private tenants
- helping tenants and the Forest Agency draw up management plans and implement them
- developing incentives for local forest users to reforest desert areas
- technical training for forest tenants and staff of the Forest Agency
- using locally acquired experience to reform the national forestry sector

A close-up view

'Teresken used to grow in large quantities over there on the mountainside, so my father tells me. Now you have to go at least 30 kilometres to find teresken.'

The young man, cigarette in mouth, is standing in the doorway of his shop and gazing at the mountains to the north. The district of Murgab, in the east of Tajikistan's Pamir Mountains, is 3,600 metres above sea level and no trees grow here. The low teresken bushes are almost the only vegetation. To heat their houses in winter, when temperatures fall to below minus 40°C, the local people are forced to burn the small teresken bushes, despite the fact that the teresken is needed as livestock fodder and defence against erosion.

This is why the mountain slopes above Murgab are now bare. It is also why there is great demand here for the measures to insulate private houses that are being made available through the cooperation project of GTZ and DED 'Sustainable management of natural resources in Gorno-Badakhshan'. If less heat escapes to the outside through gaps in doors and thin ceilings, less heat is needed to keep the room warm in winter. As a result, less fuel is used.

With the help of microloans, customers have floors and ceilings insulated by local craftspeople or buy quality windows and doors that are made by craft enterprises in the provincial capital of Khorog.

And the investment pays. For example, in the summer of 2008 Chomakmat Bektshoroev took out a loan of US\$ 500 to insulate the floor and ceiling of a room and double-glaze the window. He calculated that he used to use three tons of coal and 100 bundles of teresken each winter, which cost him nearly US\$ 700. 'After insulating, however, consumption in winter has fallen by about half.'

2. Energy efficiency

Activities in the area of energy efficiency are aimed at cutting fuel consumption and thus reducing the pressure on natural resources. Since a great deal of energy is lost through cooking and through heating in winter, much fuel can be saved by insulating private houses and improving stoves, with a resulting reduction in the use of natural resources.

Project activities

- developing standardised products adapted to local conditions to increase energy efficiency – thermal insulation of houses, double-glazed windows, heat exchangers, solar water heaters
- training local craftspeople to manufacture these products
- disseminating these products, especially those for insulating private houses, using microloans

3. Water resource management

In the Pamirs, with their many glaciers, water is available in large quantities, but much of it flows unused into the rivers while on the dry hillsides there is a shortage of water for irrigation. As climate change causes the glaciers to melt, the more effective use of water becomes an increasingly pressing issue.

A typical view of the almost vegetation-free plateau around Murgab – teresken bushes are brought in by wheelbarrow to be burnt in the stoves.



Project activities

- developing and testing simple pumping, water storage and irrigation techniques adapted to local conditions
- disseminating know-how and training craftspeople to manufacture the products
- supporting participative approaches to water distribution within the villages

4. Wild animal management

The mountain ungulates of Tajikistan – wild sheep and wild goats – are often hunted illegally and as a result have largely disappeared from many areas. To conserve populations at risk of extinction and thereby contribute to the protection of globally endangered species, the regional programme supports their sustainable use through regulated hunting.

Project activities

- supporting the setting up of hunting user groups
- supporting the development of community-based wildlife conservancies
- assisting hunting concessionaires to develop and implement management plans
- conducting surveys of wild animals and establishing a monitoring system
- advising on the improvement of legal and regulatory framework conditions

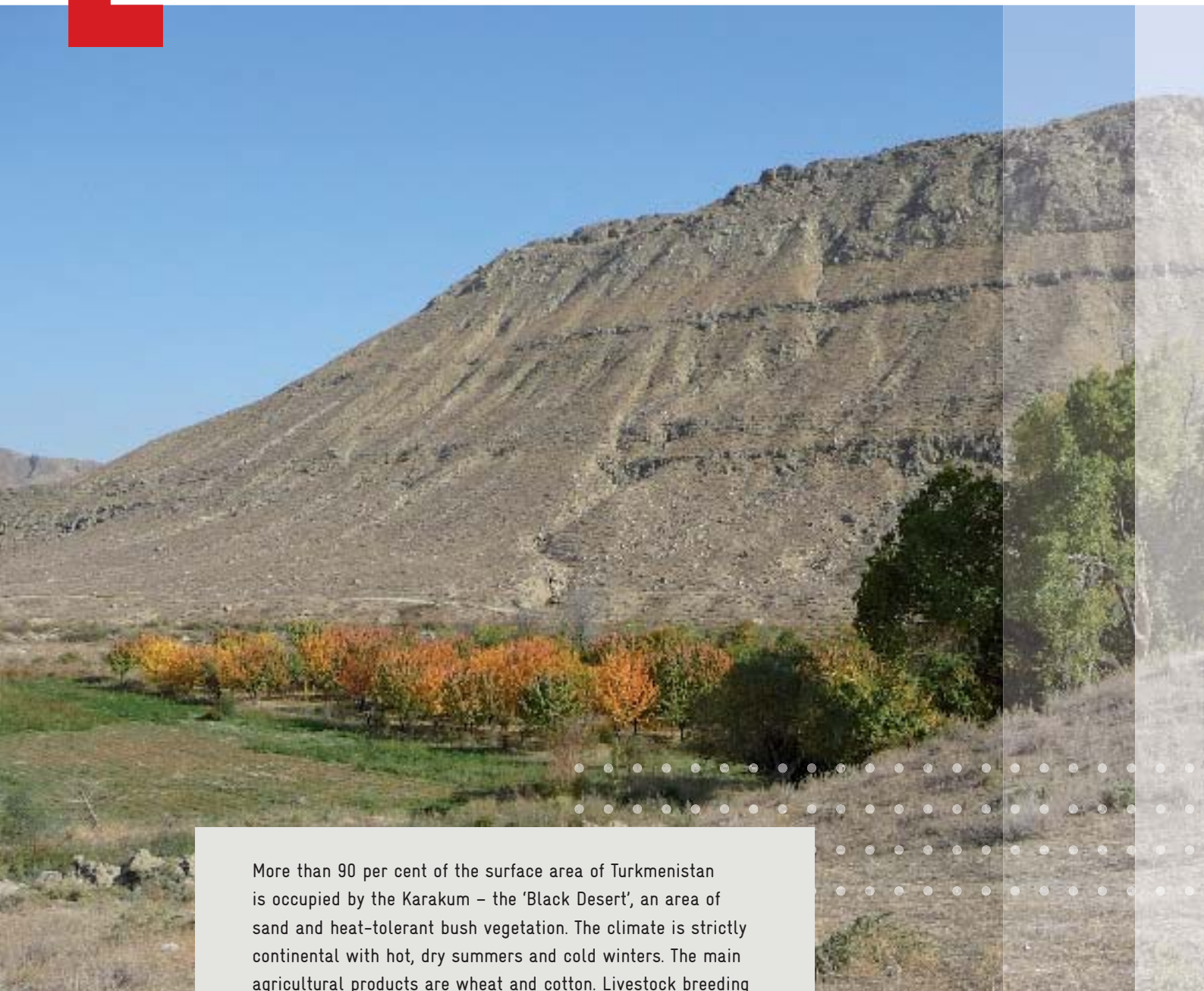
5. Policy advice

Innovations promoting the sustainable management of natural resources can often not be implemented at local level, because national institutional and legal conditions do not so permit. The regional programme is therefore supporting the Committee on Environmental Protection of the government of the Republic of Tajikistan in its attempts to reform and develop the management of national resources at national level by seconding a long-term expert, who advises the chair of the Committee.

Project activities

- advising the Committee on Environmental Protection on forest management, wild animal management and the training of specialists
- incorporating successful approaches from local projects into national legislation
- strengthening Tajikistan's role within the Central Asian Countries Initiative for Land Management (CACILM – see page 5)

Turkmenistan | Farming in the desert



More than 90 per cent of the surface area of Turkmenistan is occupied by the Karakum – the 'Black Desert', an area of sand and heat-tolerant bush vegetation. The climate is strictly continental with hot, dry summers and cold winters. The main agricultural products are wheat and cotton. Livestock breeding is also important. Even marginal land is used intensively for arable farming. But irrigation methods are antiquated and lead to large quantities of valuable water being wasted.

Deserts and semi-deserts are used as pasture but can only sustainably support half the country's 20 million animals. Because agricultural products are bought by state companies at centrally determined prices and leases are granted for only one year, farmers have little incentive to invest.



In the long term only stable vegetation cover can protect the houses from the sand – dune stabilisation in the Karakum.

Resource use reaching the end of the road

Antiquated irrigation systems that waste valuable water and the absence of investment incentives for farmers are having disastrous consequences for agriculture in Turkmenistan: most of the pasture land is degraded and much arable land is salinated. Large parts of the small areas of woodland in the mountain regions were cut down some time ago, causing local water sources to dry up. As the ecological situation deteriorates so too do the economic prospects of the rural population.

Goals and partners

In Turkmenistan GTZ is developing sustainable land management systems and supporting the staff of state institutions to improve administrative, political and legal conditions in order to provide land users with incentives to sustainable management and the necessary certainty. Implementation is carried out jointly with the Turkmen Ministry for Nature Protection, the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP).

The project 'Capacity building and on-the-ground investments for sustainable land management' aims to create a partnership for sustainable land management involving the central government of Turkmenistan, local government structures and local communities.

Priorities

1. The Karakum Desert – together against the sand

The Karakum has been used as pasture for centuries, typically by nomads. Today, though, the inhabitants live in permanent villages and frequently overuse the pastures. Furthermore, the saxaul bushes that grow locally are dug up as fuel for heating and cooking. In many areas this has created shifting sand dunes which now endanger houses, roads and railway lines. The project is working with local people to find long-term solutions.

Project activities

- improving pasture management
- stabilising shifting sand dunes and their afforestation

2. The Nokhur mountain region – gardens to combat water erosion

The Nokhur district in the Kopet Dag mountain range used to be covered by juniper forests that protected the slopes from erosion and stored rainwater in the soil. But when coal became too expensive for the villagers to buy, they cut down the forests. As a result many springs and streams have dried up. Water is scarce and traditional horticulture can no longer be practised. Many local people have therefore turned to rearing livestock. But grazing prevents new trees from growing. In addition, animal numbers are too high and are accelerating the erosion of the mountain slopes.

A vicious circle has been set up; the project is working with local people in an attempt to break this cycle by promoting horticulture.

Project activities

- building small water retention dams on the hillsides to increase rainwater infiltration into the soil
- reforestation and sustainable use of juniper forests
- building water collecting tanks and drilling wells to improve the supply of potable and non-potable water
- preparing land for water-saving horticulture and ensuring its fair distribution
- reducing livestock numbers and setting up a sustainable pasture management system

3. The Mary Oasis – the cotton basket of Turkmenistan

The Mary Oasis is one of the most important centres of agriculture in Turkmenistan, but the arid climate and decades of irrigation have resulted in the soil becoming salinated and losing much of its productivity. The project's priorities are therefore regeneration of the salinated soil and the sustainable use of water resources.

Project activities

- rehabilitating strongly salinated land
- renewing the drainage system
- reclaiming abandoned land for small-scale agricultural production
- setting up a water management system based on self-organisation by water users
- developing a rural advisory service

A close-up view

'I didn't believe in the project until I saw the trees growing', says Abdulwahid Halimberdijev, the imam of Konegummez, a village surrounded by the bare slopes of the Kopet Dag mountain range. His thoughts reflect those of most people in the village. Juniper grows slowly. The idea that the forest could be resurrected seemed impossible. Everywhere the naked earth is fissured by erosion channels and deep canyons. But here and there new green growth is visible.

Until just a few years ago, the mountains near the village were almost completely covered with juniper. They were a good source of firewood in the times of scarcity that followed the demise of the Soviet era, so the trees were felled and it did not occur to anyone to reforest the area. Only now has it become clear that, along with the forest, the water disappeared too. Without vegetation, the soil is unable to store water. The spring rains wash away the fertile soil from the slopes and gouge out deep fissures.

Now that every household has had a gas supply provided free of charge by the government, a means of solving the problem has been devised with the help of the project: small dams on the hillsides store rainwater, which penetrates into the hillside and refills the groundwater

reservoirs. Juniper trees are no longer cut down by local people; instead, new ones are being planted on the hillsides.

But one thing has become apparent: unless tree planting is complemented by improved pasture management, erosion cannot be brought under control. There are too many sheep and goats. Growing fruit and vegetables was a successful alternative back in Soviet times. The local administration has nothing against structural change of this sort, provided that nobody is worse off as a result. Between 200 and 300 hectares of horticultural land would be a promising prospect for all the residents of the village, suggests Ilka Starrost, the German advisor to the project. Then the numbers of animals could be permanently reduced and the farmers would still have lucrative opportunities for earning an income.

It is already clear that they are prepared to make the change: some farmers have sold their animals and taken up horticulture again. Another 140 families have pledged not to increase their livestock numbers or even to reduce them. In spring the fruit trees blossomed on the first ten hectares of horticultural land which had been equipped by the project with a modern drip irrigation system and leased to the participating families.

Turkmenistan | Forests for people and the climate



The few forested areas of this desert country have been so severely damaged by felling and uncontrolled grazing that natural regeneration of the tree cover is no longer possible. As a result, soils dry out and desertification advances. As part of the Climate Initiative, the Turkmenian Ministry for Nature Protection (MNP) and the German Environment Ministry (BMU) have therefore launched a project to promote sustainable forest management.

Aims of the project

The aim of the BMU project ‘Sustainable forest management in Turkmenistan’ is to reduce the negative effects of climate change and ensure better adaptation to new environmental conditions. This is to be achieved through greater carbon binding as a result of sustainable forest management. Through the project two hundred hectares of land will be planted with native tree species, which are best adapted to the given climatic conditions and can survive on precipitation and available groundwater. The development and testing of afforestation methods and the larger-scale application of them by the forest administration and local authorities is the intended sustainability factor in this project. Achieving this aim requires revision of the forest law, training of forest

administration and local authority staff and qualitative and quantitative improvement in the production of seedlings.

Partners

In addition to the Ministry for Nature Protection, the forest administration, the ministry of agriculture, the water administration authority and the livestock breeding cooperative are involved in the project as partners and advisors. It is essential for the sustainability of the project that the local population is actively involved; the villages were therefore included in the implementation of project activities from the outset.

■ Priorities

In the project technical, legal and institutional approaches to solving problems are identified and adapted, and support is provided to develop and apply them in two desert areas (Chalysh and Yzgant) and one mountainous area of the Kopet Dag (Yangala). By reforesting 200 hectares of land with the active involvement of local people, the focus on forests as binders of carbon has been extended to the level of the local community. Forests are state property and local communities and private individuals have no legal basis for participating actively as beneficiaries in sustainable forest management. The project therefore seeks to promote local interest in sustainability by modifying the legal conditions. International and national experts are working on the draft of a new forest law. For the active involvement of local communities it is, however, also necessary for specialists to be trained at community level and in the forest administrations.

■ Context and options in the pilot communities

With the exception of Yzgant, where a small piece of forest remains, there are no longer any functioning forest ecosystems in the pilot areas. Without targeted measures to protect against the pressure of human and animal use, it will not be possible for forest to develop in these areas. Thousands of camels, goats and sheep roam the deserts and mountains, stripping them of grass, bushes and trees at regular intervals. Such heavy grazing suppresses the

Replanting of juniper by project staff and local people.



natural regeneration of the forest. A number of GTZ projects have demonstrated that with appropriate protective measures the forest can again take hold. Saxaul seedlings that were planted in a village seven years ago and provided with protection have developed into trees four to six metres high. On the basis of this example all reforested areas are enclosed within a wire fence and monitored regularly.

■ Project approach

The project adopts a strategy of promoting native tree species in all pilot areas. The state has in the past tended to pursue afforestation with exotic tree species such as pine and thuja, which require significant resources to be expended on irrigation. The species promoted by the project, by contrast, require watering only immediately after planting and again in spring and autumn if dry weather conditions make this necessary. Thereafter the trees can survive on natural precipitation and groundwater.

In the desert the project operates with three tree species and various afforestation methods. Black saxaul (*Haloxylon aphyllum*) and white saxaul (*Haloxylon persicum*) are the two main tree species used in the desert; black saxaul is planted primarily on salinated soils. In addition to saxaul, cherkez (*Salsola richteri*) is used for afforestation. The project uses both seedlings and seed. Dunes are stabilised using reed barriers and saxaul seedlings.

Mountainous areas are planted mainly with juniper (*Juniperus turcomanica*), pistachio (*Pistacia vera*) and almond (*Amygdalus communis*). All these species are very well adapted to the climatic conditions, but are slow-growing.

■ Future prospects

The production of forest management plans at local community level is intended to secure the involvement and interest of local people and ensure that a sustainable forest management system is set in motion. Cooperation takes place with other projects, such as the GTZ project for the sustainable use of natural resources, in order to promote the joint success of the projects.

Kazakhstan | Where are the antelopes, sheep and horses?



Eighty per cent of Kazakhstan consists of dry steppe that has traditionally been used by nomads as pasture. Vast herds of Saiga antelope also roamed the grasslands. During the Soviet era the nomads were made to settle down and pasture use and antelope hunting were organised industrially.

With the privatisation of state farms in the early 1990s and the collapse of large parts of the rural infrastructure, the majority of private stock farmers are no longer in a position to travel with their herds to summer or winter pastures up to 100 kilometres away. As result of overuse, areas in the vicinity of villages are now severely degraded and the Saiga antelope has been almost wiped out by indiscriminate hunting.

Large areas of the steppes unused

Natural resources in Kazakhstan have become severely degraded through inappropriate use. This damage must be arrested, because with the loss of natural resources the development prospects of the people would be substantially diminished.

Goals and partners

GTZ wants to revive mobile pasture management in Kazakhstan: under this type of management herds would spend the winter in the sand deserts with their typical bush vegetation, and the summer in the mountain pastures. Steppe regions provide high-quality fodder in spring and autumn. Pasture committees would be responsible for organising the use of land on behalf of villages. Improvements to the rural infrastructure will create opportunities and incentives for mobile pasture management.

In 2009 GTZ, together with UNDP and GEF, launched a pilot project to implement mobile pasture management in Kazakhstan.

To promote the conservation and later sustainable use of the Saiga antelope and other endangered species, GTZ is working with the Association for the Conservation of Biodiversity in Kazakhstan (ACBK), which also receives support from the Frankfurt Zoological Society. The project addresses the coordinated management of protected areas and hunting grounds with the aim of introducing comprehensive control and management of these areas. For the first time in Kazakhstan, managers and staff of protected areas and hunting grounds are being trained together in the conservation and sustainable use of wildlife. This began at the end of 2009 with the first phase of the planned three-year project.



Project staff discuss an improved pasture management system with livestock farmers.

A close-up view

'I repaired the well and the water tank on my farm myself. It would be nice to have a wind-operated pump. Then we wouldn't always need to start the generator when the animals need to be watered.'

Mr Altynbek is a 70-year-old farmer from Matybulak. After the collapse of Socialist farming he leased some of the unused land, renovated the farmhouse and barns and employed a manager. The well supplies clean water and a small solar unit provides electricity for the house. With his family and a few employees he now farms almost one thousand hectares.

But not many livestock farmers in Kazakhstan have risked embarking on this path. The project supports private initiatives that aim to bring remote parts of the steppe back into use for pastoralism.

'The number of Saiga antelopes – the largest wild hoofed mammals of the steppes and semi-deserts – is an important factor for the health of the steppe ecosystems', says Wolfgang Fremuth of the Frankfurt Zoological Society, which on behalf of GTZ and together with ACBK is implementing the measures to protect the Saiga antelope. 'Unfortunately the Saiga antelope was almost wiped out by extensive poaching in the 1990s.'

Cooperation with the local population is an extremely important aspect of the project. 'It is very important for local people to take responsibility for things in their natural environment, instead of helping themselves as though it were an unattended supermarket,' explains Eva Klebelsberg, integrated expert from CIM. 'This means that information and training in the local communities play an important part for the success of the project. But this only works if people derive some benefit from nature conservation and the sustainable use of wild animals. We therefore recruit our rangers in the villages closest to the protected areas. We are also planning to build a small guesthouse in one of the villages to create additional opportunities for local people to earn money.'



Saiga with their young in the Betpak Dala steppe in central Kazakhstan.

Priorities

1. UNDP/GTZ/GEF: Mobile pasture management – institutionalising sustainability

To place sustainability of the new pasture management systems on a sound legal footing is vital to involve government institutions in the development process. Practical implementation of the management system is to be carried out jointly by herdsmen, pasture committees, community associations and local and regional administrative bodies.

Project activities

- developing legal modalities to anchor mobile pasture management and its implementation in law
- establishing institutions and training stakeholders to implement new land-use strategies at local and regional level, and in doing so involving structures that already exist
- re-establishing old migration corridors for unhindered movement between summer and winter pastures
- reducing grazing pressure in the vicinity of settlements by sowing grass on land on which cereals have been grown
- improving the rural infrastructure to expand opportunities and incentives for using distant pastures

2. ACBK/ZGF/GTZ: Wild animal management – conservation and use

Comprehensive and sustainable protection of wild animals is based on broad cooperation between hunting leaseholders, the administrators of protected areas, local people and the authorities with responsibility for wild animals. For this purpose the nature conservation organisation ACBK has leased the land linking three nature conservation areas in the Altyn Dala steppe as hunting grounds and plans to set up a joint management system that involves local people.

Project activities

- developing appropriate legislation and establishing administrative and monitoring structures
- researching the migration behaviour of the wild animal populations, especially the endangered Saiga antelope
- supporting the state wildlife authority, the Committee for Forestry and Hunting, in monitoring wild animal populations
- training the population, people in charge of local structures and the staff of protected areas and hunting grounds in the sustainable use of natural resources and providing them with information

Kyrgyzstan | Playing with a purpose for sustainable pasture use



Kyrgyzstan is a mountainous country. Most of its area lies in the Tien Shan, or 'heavenly mountains', at altitudes of between 1,000 and 5,000 metres. Its farmland therefore consists mainly of pasture; this is used for extensive livestock farming, which is the primary means of livelihood for two-thirds of Kyrgyzstan's five million inhabitants. After the collapse of the Soviet Union and the achievement of independence the state and cooperative herds were privatised and split up; today they still represent the main source of income for the majority of the rural population.



Soil erosion caused by overgrazing in Jergetal

Pastures near villages are becoming degraded

The small farmers usually graze their animals in the vicinity of their villages throughout the year. In consequence, most of the land near villages has become degraded, while the distant pastures in the mountains are becoming overgrown with weeds through underuse. As a result of the uncoordinated animal management of the last two decades, the quality of pasture land throughout the country has deteriorated, leading to a continuing fall in yields. At the same time the risk of erosion on the overgrazed hillsides has increased, exposing villages to the dangers of landslides and mudflows.

A new law on pasture management adopted by the Kyrgyz government in 2009 is intended to improve the situation. The law permits farmers to plan land use locally. However, there are at present no local institutions that could take on this task.

In the community of Jergetal, five hours' drive from the capital Bishkek, livestock farming is the traditional occupation. The people used to live in yurts, moving in summer with their entire family and their herds of sheep, cattle and yak to the high pastures near the

Songkul mountain lake. They spent the winter in the valleys of the Naryn and its many tributaries. Now the 13,000 inhabitants live in permanent houses and only a few families make the summer move to the mountain pastures with their yurts. The community has almost 77,000 hectares of pasture and more than 10,000 animals. Because of low rainfall and the short vegetation period, the dry steppes around the village offer only limited scope for arable farming and fodder production as an alternative.

Goals and partners

The pilot project 'Sustainable pasture management' is being implemented by the Kyrgyz NGO CAMP-Alatoo on behalf of GTZ. The priority is to train experts in participative and sustainable pasture management in the communities. The main target group is the newly founded local pasturing committees, but the staff of local administrative bodies are also included. Once they have been successfully tested in practice, the grazing planning methods and management methods drawn up at local level are made available to the Kyrgyz ministry of agriculture for use in other regions.



■ Priorities

The pilot project operates in the communities of Jergetal, Minbulak and Ottuk in the Naryn region in the central Tien Shan on the upper reaches of the Naryn River. Existing technical and institutional approaches to sustainable pasture management from Kyrgyzstan and elsewhere are adapted to local conditions and tested. Particular emphasis is placed on setting up pasturing committees and on training pasture users and raising their awareness. Dialogue is also initiated between users and the staff of local administrative bodies and the ministry of agriculture.

Project activities

- training in the ecological and organisational principles of pasture management and in autonomous action at community level
- setting up pasture user associations and pasturing committees, drawing up use plans and monitoring the condition of pastures
- investment in infrastructure improvements
- investment to increase winter feed production
- training and investment in herd management

A close-up view

Jergetal in autumn 2008

Three teams of players sit around the large table and observe the other teams, trying to guess their game tactics. Three large jigsaw pictures lie on the table, symbolising the different types of pasture. Each team has playing cards representing cattle and sheep. A dish contains beans, the money used in the game.

The moderator turns over an event card and says: 'This pasture is severely degraded and you can no longer graze your animals there. What will you do next?' Decisions are made. Yet only a few moves later it becomes clear that they were the wrong ones. The players begin to argue vehemently over whose fault it was that the money was lost. But eventually they all come to realise that, whatever tactics the teams adopt, unless there is discussion with the other teams the pastures become infertile – for everyone.

The game is based on actual facts and the situation faced by real pasture users. Participants frequently become so caught up in the discussions that the moderator has difficulty bringing the game to an end. 'That is more interesting than playing cards! I would never have imagined becoming so involved in a game like that. It's cleverly thought out!' Such are the comments of participants – all local herdsmen – during a break in the game.

Six months later in the same village

'We shall base our work on the decisions of the village assembly,' says Almazbek Samudinov, the chairman of the pasturing committee. 'The plan we have drawn up enables pasture use to be evenly distributed. To avoid conflicts, we shall organise the transfer to the new system of use fairly and in accordance with the plan. We shall not evict anyone from the land they used to lease. We shall distribute the animals among the pastures so that they aren't, as the proverb puts it, 'thick in one place and thin in another'. The pasture rotation system will be compulsory for everyone. That is the only way of conserving our pastures.'

Regional programme for the sustainable use of natural resources in Cen



On behalf of the German government we support measures in Central Asia that ...

- **contribute to sustainable land and water management and to the conservation of biodiversity.**

The aim is to prevent or reverse the degradation of land. Scarce water resources need to be used efficiently and endangered animal and plant species conserved.

- **help people adapt land use to climate change.**

Development principles of adaptation to climate change are taken into account in the strategic orientation and implementation of individual projects.

- **permanently improve the situation of the rural population.**

The people most severely affected by land degradation are the poor in rural areas. Natural resources – such as forests, pasture and arable land, and also rivers and springs – form the basis of these people's livelihood. Often, however, they are forced by poverty to exploit already overused natural resources even more intensively, thus setting in motion a vicious circle of poverty and land degradation. The cycle can only be broken if the situation of these people is permanently improved and if sustainable systems of land use are introduced. Both these problems must be addressed simultaneously.

tral Asia – Mission Statement

Our work ...

■ takes an integrative approach.

Because of the complexity of the issues involved, sustainability in the management of natural resources can never be achieved through a purely sectoral approach. The search for solutions must take account of ecological, social and economic dimensions and their interdependencies.

■ takes a multi-level approach.

We promote learning processes between decision-makers and target groups at all levels from the local to the international in order to use programme funds efficiently and achieve long-lasting effects. At all levels we promote the integration of sustainable land use into the development strategies, policies, processes and programmes of our cooperation partners.

■ uses the synergy effects of a bottom-up approach and a regional structure.

The individual projects of the programme systematically gather experience at local level and use it to develop methodological and technical innovations which are the incorporated into discussion and decision-making processes at national and regional level (bottom-up approach). In addition, the regional structure of the programme makes it possible for these tried and tested innovations to be transferred particularly speedily to other countries and adapted to their conditions.

■ is based on the intensive involvement of target groups and partners.

We base our measures on the interests of people in the field. They are involved in planning and subsequently in implementation. In dealing with our project partners we promote the skills needed for participation and communicate the importance of participation as the basis of sustainable land use.

■ promotes capacity building.

We strengthen institutions, their human-resource capacities and networks so that they are able to implement sustainable resource management autonomously, develop it and disseminate information about it. In addition we advise countries on adaptation of their policy framework.

■ supports regional initiatives of the Central Asian countries and harmonisation of donor activities in the region.

In 2003 GTZ was instrumental in founding the Strategic Partnership Agreement (SPA), an alliance of donor organisations involved in land management in Central Asia. Through the SPA the regional programme helped the countries of Central Asia set up and implement the CACILM regional initiative (Central Asian Countries Initiative on Land Management). CACILM brings together the countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan and the main development partners in order to coordinate the sustainable use of natural resources with the aim of permanently improving the situation of the rural population.

Their experience must be heard: elderly people in a village near Khorog in the Pamirs.





List of abbreviations

ACBK	Association for the Conservation of Biodiversity of Kazakhstan
ADB	Asian Development Bank
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)
CACILM	Central Asian Countries Initiative for Land Management
CAMP Alatau	Non-governmental organisation in Kyrgyzstan, evolved out of the CAMP Programme
CAMP Programme	Central Asian Mountain Partnership Programme
CIM	Centrum für internationale Migration und Entwicklung (Centre for International Migration and Development)
DED	Deutscher Entwicklungsdienst (German Development Service)
GEF	Global Environment Facility
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH (German Technical Cooperation)
MNP	Ministry for Nature Protection, Turkmenistan
NGO	Non-governmental organisation
SPA	Strategic Partnership Agreement to Combat Desertification in Central Asia
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
ZGF	Frankfurt Zoological Society



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