

Conservation and Sustainable Management of Biodiversity in Khyber Pakhtunkhwa

Improving resilience to the impacts of climate change

Context

Pakistan is home to an ecologically unique biodiversity. It encompasses nine main eco zones, from the mangrove forests at the Arabian Sea in the South to the Alpine Tundra in the North. It is home of many species of endemic wildlife and is rich in indigenous crop diversity with an estimated 3,000 varieties of cultivated plants.

Ecosystems and their services are crucial for the livelihoods of more than 3.5 million people in Khyber Pakhtunkhwa Province. However, these resources are seriously threatened by natural disasters and impacts of climate change (earthquakes, heavy rainfalls, floods) and by anthropogenic factors (overuse of natural resources).

The impacts of climate change on the livelihoods of the population and the loss of biodiversity have been acknowledged by the Pakistani Government. They are perceived as a threat to economic and social development.

Based on the findings of a project baseline survey in the two pilot valleys in Swat, conducted in 2014, 65% of the local population has no access to information about biodiversity friendly agricultural practices and 100% of the villagers are unaware of the term "Biodiversity". Lack of awareness is a big threat to Biodiversity.

Objective

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been assisting the Government of Khyber Pakhtunkhwa since 2012 to insert biodiversity and agrobiodiversity, as a core element for sustainability into policy development.

Pilot measures in various eco zones of Khyber Pakhtunkhwa Province generate valuable experiences which will be used by public and private actors for the conservation and sustainable management of biodiversity.

Project data	
Project title	Conservation and Sustainable Management of Biodiversity in Khyber Pakhtunkhwa (BKP Project)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Partner	Planning and Development; Environment and Agriculture Department, Government of Khyber Pakhtunkhwa, Pakistan
Implementing Agency	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Province	Khyber Pakhtunkhwa
Project objective (short form)	The capacities of the Government of Khyber Pakhtunkhwa are improved and it considers biodiversity as a core element for sustainable development. Experiences from pilot measures will be used by public and private actors for the conservation and sustainable management of biodiversity.
Duration	2012 to 2016

Approach

The project cooperates at province level with the Planning and Development Department as lead executing agency and at province and district level with the Environment and the Agriculture Departments as implementing agencies. In addition, it creates networks with various actors like Universities (Peshawar and Swat), international organisations, NGOs and the Ministry of Climate Change at national level to harness synergies.

At province level the activities are concentrating on policy development, providing advice to the Government of Khyber Pakhtunkhwa in the areas of biodiversity, climate change adaptation and REDD+ (Reducing Emissions from Deforestation and Forest Degradation).



Pg. 1, left: On farm cultivation of medicinal plants like *Matricaria chamomilla* increases diversity and income of the farmers due to its high market value.

Right: The re-cultivation of nearly exploited, drought resistant wild vegetable *carulluma* in Shamoza Valley, Swat.

Pg. 2, left: Students play an environmental game at Shamoza Valley, Swat, at the International Day for Biodiversity to find solutions to environmental issues in their areas.

Right: Government official and community members discuss adaptation measures to address loss of biodiversity and to improve livelihoods at Golain Valley, Chitral.



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Based on a multi-stakeholder participatory approach, this includes support for the drafting of a provincial biodiversity strategy and action plan addressing issues related to agriculture, environment, forestry, wildlife and biodiversity. It also includes advice for the development of a REDD+ institutional and governance framework.

In the districts Swat and Chitral the project concentrates on the implementation of community driven pilot projects with focus on best practices for ecosystem-based adaptation to climate change. Basis for the adaptation measures in the three pilot valleys are vulnerability assessments conducted by the government partners in close cooperation with the communities especially involving women.

Through knowledge management and awareness raising activities the project strengthens capacities of government institutions as well as the civil-society and communities.

Impacts and results

Policy development

The provincial government partners are being supported in the development of a biodiversity strategy and action plan and in REDD+ activities. Increased awareness ensures that the decision makers develop frameworks which are conducive to ecosystem-based adaptation and sustainable resource management. Government partners are considering the challenges of biodiversity loss and climate change in their development programs in alignment with the needs of the rural population.

The national government is also taking into account the experiences gained from Khyber Pakhtunkhwa in its reporting to the Convention on Biological Diversity (CBD).

Best Practices of adaptation measures

Based on the results of the vulnerability assessments in three pilot valleys in Swat and Chitral, adaptation measures were implemented by the communities with technical backstopping from the government departments in the areas of Sustainable Forest Management, Integrated Watershed Management, Agrobiodiversity and Value Chain Development (VCD).

Pilot activities for adaptation measures include capacity building through farmer field schools (FFS). To empower women, three female FFS have been established besides three male FFS. Practical experiences in the field cover amongst others livestock management including propagation of fodder plants, promotion of organic agriculture, improved local cropping systems and VCD of honey and walnuts.

Some more practical examples show how climate resilience is addressed:

- plantation of drought resistant plants (wild vegetable Caralluma and 2,800 olive plants);
- promotion of agro-forestry systems (plantation of 15,000 local indigenous plants like Rubinia, Ailanthus, Melia and Morus);
- promotion of soil conservation and improvement (mulching with lentils, cultivation of soy beans),
- crop diversification through fruit trees and medicinal plants (plantation of 1,100 persimmon, pear and pomegranate plants and three demo plots of Matricaria chamomilla).

Awareness raising

The project is supporting biodiversity awareness creation activities targeting different levels of the society. For example through the celebration of the International Biodiversity Day in May 2015 with 1,200 students at a boys and a girls school in Shamozaï. Awareness is also being created by several publications such as a booklet with drawings and statements of the children how they see biodiversity and the reprinting of the book "Conservation and Islam".

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