OP6 LANSCAPE / SEACAPE BASELINE ASSESSMENT REPORT

(KABUL, BAMYAN, BADAKHSHAN AND KUNAR PROVINCES)

Landscape Conservation,
Climate Smart Agro-Ecology, Low-Carbon Energy Access,
Chemical Waste Management

Global Environment Facility (GEF)

Small Grant Programme (SGP)

Operation Phase Six (OP6)

Ajmal Shirzai
Country Director
Future Generations Afghanistan

March 2016

Acknowledgement:

It is my pleasure to bring out the SGP OP6 Baseline Assessment Report of the (2015 – 2018) Country Program Strategy for Afghanistan. The purpose of this report is to present information and narratives about the SGP OP6 selected landscape/seascapes for OP6. That will help the SGP's grantees in designing their projects and the NSC for projects approval and programme evaluation to analyse OP6 impact. The Baseline report covers key information on strategic initiatives that are identified for the six selected landscapes in four provinces of Afghanistan (Kabul, Badakhshan, Bamyan and Kunar). However this report would have not been possible without kind support and inputs of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am deeply grateful to NEPA Deputy Director General Mr. Wali Modaqiq and SGP National Coordinator. Mr. Aimal Khaurin for their guidance and constant administrative and technical supports during the entire periods of baseline assessment. In-addition I would like to give many thanks to Mr. Jalaudin Naseri from NEPA for his kind support in provision of all required information and documents to complete this report. Future more I want to thanks all other colleagues in NEPA and MAIL who generously contributed to this report by providing their valuable information and suggestions.

Last but not least I gratefully acknowledge the contribution to this report by ICIMOD, WCS and AKF for the time they have given me, shared their experiences and made contribution during the baseline assessment. Their valuable inputs were tremendously instrumental in developing the report.

Ajmal Shirzai,
Country Director
Future Generations Afghanistan
Kabul, Afghanistan
Email: shirzai@future.edu
Phone: + 93 (0) 799 686 618

Date: March 2016

TABLE OF CONTENTS

Topics	Pages
Acknowledgements	1
Acronyms	3
Selection of landscape focal areas	5
Selection of Landscapes Focus Areas	5
Landscape profiles	6
1. Kabul Province	6
1.1. Kol-e-Hashmat Khan Wetland Protected Area	6
1.2. Kabul City (Urban Area)	13
2. Bamyan Province	16
2.1. Band-e-Amir National Park	16
2.2. Shah Foladi Mountain Landscape Conservation Area	22
3. Badakhshan Province	27
3.1. Medicinal Aromatic Plants in the Districts of Badakhshan Province	28
3.2. Wakhan Corridor / Wakhan National Park	32
3.3. Big Pamir Wildlife Reserve Landscape	33
4. Kunar Province	38
4.1. Forests Areas	38
4.2. Conservation of Endangered Medicinal and Aromatic Plants	40
Promotion of Social Inclusion	40
A. Gender	40
B. Indigenous People	41
C. Youth	41
D. Other Vulnerable Groups	42
Reference	43

ACRONYMS

AKDN	Agha Khan Development Network
ANDS	Afghanistan National Development Strategy
BAPAC	Band-I-Amir National Protected Areas Committee
CBO	Community Based Organization
CDC	Community Development Council
CSO	Civil Society Organization
CSO	Central Statistics Organization
EBA	Endemic Bird Areas
GEF	Global Environment Facility
GIS	Geographic Information System
IBA	Important Bird Areas
ICIMOD	International Centre for Integrated Mountain Development
IDP	Internally Displace Person
IUCN	International Union for Conservation of Nature
KCGBP	Kabul City Green Belt Program
KM	Kabul Municipality
KM	Knowledge Management
MAIL	Ministry of Agriculture, Irrigation and Livestock
MAPs	Medicinal and Aromatic Plants
MOE	Ministry of Education
MOEW	Ministry of Energy and Water
MOIC	Ministry of Information and Culture
MORR	Ministry of Refugees and Repatriated
NAPA	National Adaptation Programme of Action for Climate Change
NEPA	National Environment Protection Agency
NGO	Non-governmental Organization
NSC	National Steering Committee
OP	Operation Phase
SCALE	Self Help Centers for Action Learning and Expansion (SCALE)
SGP	Small Grant Program
SHAFPAC	Shah Foladi Protected Area's Committee
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCS	Wildlife Conservation Society
WHO	World Health Organization
WPA	Wakhan Pamir Association

List of Tables

Table – 1: Identifying SGP-OP6 strategic initiatives for the selected provinces
Table – 2: Key landscapes for SGP-OP6
Table – 3: Main problems and their causes/effects of Kol-e-Hashmat Khan
Table – 4: Areas of interventions for SGP-OP6 program in Kol-e-Hashmat Khan
Table – 5: Proposed sites for Kabul city green belt program
Table – 6: Areas of Band-e-Amir management zones
Table – 7: Areas of interventions for SGP-OP6 program in Band-e-Amir
Table – 8: Zoning plan of Shah Foladi protected area
Table – 9: Koh-e-Baba management plan and areas of interventions for SGP-OP6
Table – 10: Medicinal and Aromatic Plants in both, Tajik and Afghan Badakhshan
Table – 11: Big Pamir management zones
Table – 12: Goals, objectives and actions of Big Pamir wildlife reserve management plan

List of Figures

Figure – 1: Location of Kol-e-Hashmat Khan in Afghanistan
Figure – 2: Land use in part of the Kol-e-Hashmat Khan wetland
Figure – 3: The core and buffer zones of the Kol-e-Hashmat Khan
Figure – 4: Plantation sites of green belt project in Kabul City
Figure – 5: Map of Bamyan Province
Figure – 6: Lakes and town of Band-e-Amir
Figure – 7: Band-e-Amir Park location, boundaries, lakes, villages and major roads
Figure – 8: Band-e-Amir National Park with one kilometer wide Buffer Zones
Figure – 9: Location of Shah Foladi Mountain protected area in Afghanistan.
Figure – 10: Shah Foladi mountain landscape conservation area
Figure – 11: Map of Badakhshan Province
Figure – 12: The western Big Pamir and associated villages
Figure – 13: Land classification for the western Big Pamir
Figure – 14: Boundaries of Big Pamir Wildlife Reserve, buffer zone and the 1978 Wildlife reserve
Figure – 15: Map of Kunar province
Figure – 16: Map of forest areas in Afghanistan
Figure – 17: Afghanistan forest cover change in eastern region between 1977 and 2002

List of Photos

Photo – 1: Kol-e-Hashmat Khan Lake
Photo – 2: Kol-e-Hashmat spectacular seasonal variations
Photo – 3: Photo 3: Reeds in Kol-e-Hashmat Khan
Photo – 4: Mats of algae in Kol-e-Hashmat Khan
Photo – 5: A general view of Kabul city horizon shows the blanket of haze from air pollution
Photo – 6: View of Shah Foladi Villages
Photo – 7: Ferulla foetidissima Regel et Schmath (revzak, kamul, kamol, uch.row) Species young plants uprooted and sold along the road side in Tajik Badakhshan
- Ferula sp. Species in Vishkharv ravine of Darvaz, Tajikistan

Photo – 8: Glycerrhiza uralensis Fish. (Shirinboya), muthq, matk, malakhch) Shop in Khash District of Afghan Badakhshan.
- Young boy collect *Glycerrhiza uralensis* to sell in local market in Ishkashim Afghan Badakhshan
- Over exploitation of Glycerrhiza uralensis from natural habitat- truck loaded with Glycerrhiza uralensis at Khash district Afghan Badakhshan.

Photo – 9: *Ribes janczewskii* Pojark (Qaraqot, ginood, arty) in Ishkashim Afghan Badakhshan
- Polygonum sp (mest, toron) exploited and being sold along the road side in Tajik Badakhshan

Photo – 10:
- *Peganum harmala L* (Spand Sipandar, sipand, sipandona, hazorispand) in Ishkashim Afghan Badakhshan
- Polygonum *coriarium (Grig.) Sojak. (mest, kooz, toron) associatio in Bartang valley of Roshan, Tajikistan*
- Rheum *maximowiczii* Losinsk. (Rawash/Chokri, wadar) uprooted and being sold along the road in Darwaz area of Tajik Badakhshan

OP6 Landscapes/Seascapes Baseline Assessment Report

Selection of Landscapes Focus Areas:

The National Steering Committee (NSC) during their meeting dated 2nd and 9th February 2016, has chosen four provinces (Kabul, Badakhshan, Bamyan, Kunar) as focal areas for the 6th operational phase of Small Grant Program (SGP). The key criteria for the selection of focal areas were:

1) The provinces are rich in biodiversity and exposed to severe environmental threats.
2) The provinces are secure and safe for smooth implementation of SGP projects without any hesitation.
3) The provinces have potential for collaboration with other partners to generate co-funding for SGP.
4) Institutional capacity within the province (NGOs, CSOs, CBOs etc.)
5) Level of community interest and extent to which communities are organized.
6) Potential for triple wins (social, economic and environmental) through implementation of SGP in the selected provinces.

The following table indicates the focal areas and the major strategic initiatives that were selected by the NSC for individual provinces:

Table-1: Identifying SGP-OP6 Strategic Initiatives for Each Targeted Province

Strategic Initiatives	Selected Focal Areas			
	Kabul	Bamyan	Badakhshan	Kunar
Community Landscape Conservation	Yes	Yes	Yes	Yes
Climate Smart Innovation Agro-iconology	Yes	Yes	Yes	Yes
Low Carbone Energy Access	Yes	Yes	Yes	NA
Local to Global Chemical Management Coalitions	NA	NA	NA	NA
CSO –Government Dialogue	Yes	Yes	Yes	Yes
Social Inclusions (mandatory)	Yes	Yes	Yes	Yes
Contribution to Global KM platform (Digital Library)	Yes	NA	NA	NA

The community landscape conservation, especially conservation of protected areas have been prioritized out of four strategic initiatives to be focused in Badakhshan, Bamyan and Kabul provinces while sustainable forest management will be focused in Kunar, and local to global chemical management in Kabul province. The climate smart agro-ecology will be focused in four provinces while low-carbon energy access in Badakhshan and Bamyan provinces.

Further investigations and multi-stakeholders consultations were made with NSC members, experts, professional of international organizations, CSO including SGP- OP5 partner agencies for selection of landscapes/seascapes for the OP6 in above mentioned provinces based on the following criteria.

1) National, regional and global significance of the landscape/seascape,
2) Alignment with Afghan government national priorities and programs
3) Alignment/linkage with OP6 strategic initiatives
4) Potential to build or strengthening a 3-ways partnership between top-down (government), bottom-up (local community) and outside-in (NGOs, experts, academia and other non-government institutions)
5) Potential to build on community success such as build on the existing community level governance systems
6) Institutional capacity within the landscape/seascape (NGOs, CBOs, CSOs) and extent of current cooperation among different actors.

As result of this study, eight landscapes areas are determined based on their ecological, biodiversity, recreational, culture and economic importance for SGP-OP6. Table-2 indicates the names and significance of the selected landscapes for OP6 in Afghanistan.

Table-2: key landscapes for SGP OP6

Province	Selected Landscapes	Landscape Important
Kabul	• Kol-e-Hashmat Khan Wetland Protected Area	Important habitat for wetland species and staging area for migratory waterfowl and wintering site for aquatic birds.
	• Kabul City (urban area)	It is the fifth fastest growing city in the world and the world's 64th largest city. About five million people live in metropolitan areas of Kabul province.
Bamyan	• Band-e-Amir National Park	High value in ecology, biodiversity, culture and tourism.
	• Koh-e-Baba (Shah Foladi) Mountain Landscape Conservation Area	A landscape of outstanding natural, ecological, cultural, historical and aesthetic value
Badakhshan	• Wakhan National Park (Big Pamir Wildlife Reserve	Key biodiversity corridor, high value in biodiversity and culture due to existing indigenous groups
	• Medicinal & Aromatic Plans (MAPs) potential areas	High value in biodiversity (species conservation) and community livelihoods
Kunar	• East region forest	High value in ecology, biodiversity and livelihoods
	• Medicinal & Aromatic Plans (MAPs) potential areas	High value in biodiversity (species conservation) and community livelihoods

Landscapes Profiles

1. KABUL PROVINCE

Kabul is strategically situated in a valley surrounded by high mountains at crossroads of north-south and east-west trade routes. The province covers an area of 4585 km2. More than half of the province (56.3%) is mountainous or semi mountainous terrain while more than one third of the area is made up of flat land (37.7%). The capital of the province is Kabul City, which is also the nation's capital. Kabul is located at an altitude of 1800 m above sea level, which makes it one of the world's highest capital cities. Kabul region has a mainly dry, continental climate with four seasons. Kabul province comprises largely rain-fed and very fertile rangeland that provides vital grazing ground for the herds of Kochi nomads over three months during the summer. The total area covered by rangeland in Kabul province comprises an estimated 350,296-hectare. However, due to rapid urbanization and expanding population in and around Kabul city, the encroachment of the rangeland is increasing following an ever increasing conversion of rangeland into mostly urban areas, and less often agriculture land. Kabul province has an estimated population of over 4 million and is home to a maximum of 3 million people belonging to diverse ethnic groups.

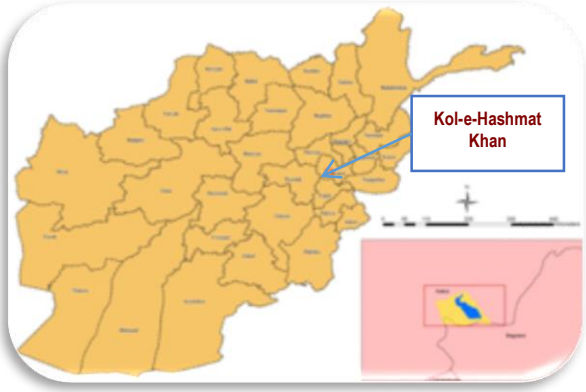


Figure 1: Location of Kol-e-Hashmat Khan in Afghanistan (Source: MAIL GIS and Agro-Met Unit)

The two selected landscapes in Kabul province are (a) Kol-e-Hashmat Khan Wetland (figure-1) and (b) Kabul City (Urban Area)

1.1. Kol-e-Hashmat Khan Wetland[1]

- **General Overview:**

Kol-e-Hashmat Khan is a small and unique lake situated on the southeastern outskirts of Kabul City. The lake is situated on a large shelf in the Hindu Kush foothills (34°30'N, 69°12'E), at an average elevation of 1793 meter above sea level. The deepest part in the lake is around 1.5 meter. It is surrounded by hills on two sides and opens up into the Logar Valley to the northeast.

[1] Management Plan for Kol-e-Hashmat Khan Wetland Afghanistan (2016-2024)

The wetland is an important habitat for wetland species, mainly as a staging area for migratory waterfowl, and also as breeding and wintering site for water birds. Kol-e-Hashmat Khan is the only remaining prominent water body of the formerly extensive wetlands on the plain of Kabul. The shallow, L-shaped Lake is approximately 2.5 kilometres long and 0.3 to one kilometre wide. There are conflicting statistics on its area. Most of literature, including the recently developed National Biodiversity Strategy and Action Plan, mention the lake area as 191 hectares during wet season. Recent (i.e. 2015) GIS mapping of the lake by MAIL professionals shows 162.4 hectares area under the lake water. According to another GIS-based estimate, the wetland covered 141.7 hectares in 2014.

The lake harbours large seasonal concentrations of migratory birds, as it falls along a major migration route that extends from Indus Valley to Western Siberia. The wetland is also highly valuable for the local people as a source of water for household, agricultural and commercial uses, and other resources such as reeds for roofing thatch and grazing of domestic animals. It is an important recreational and religious place for broader Kabul population due mainly because of its uniqueness and rarity of such natural places in the area. It is the only major wetland, which remains of the former vast marshlands of Kabul.

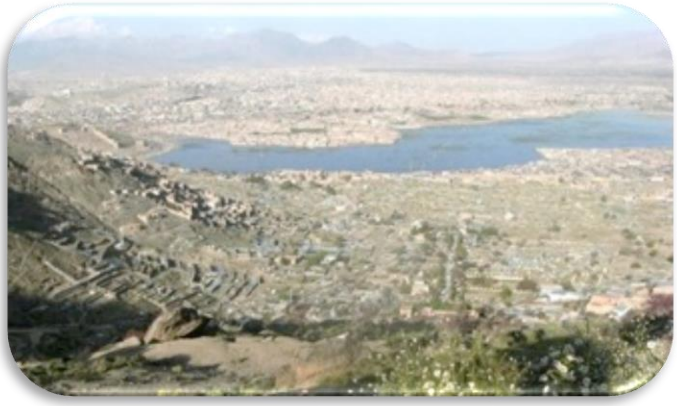


Photo 1: Kol-e-Hashmat Khan Lake and its surroundings (April 2013)

- **Hydrology:**

Logar River is the main source of water for Kol-e-Hashmat Khan. Precipitation, in the form of snow and rain, is another source. Decades ago, Logar River had a higher flow and capacity and supplied far more water to the lake than at present. The development of irrigation systems reduced the water level in the river as well as the lake. Until the first half of 20th century, the lake was reportedly very large and covered the area, which is now a part of the city called Karte Naw and Chaman Huzuri. But because of increasing diversion of the river water for agriculture, large areas surrounding the lake subsequently dried up and turned into agricultural plots. Kol-e-Hashmat Khan has no natural outlet, except at high water levels when the water flows out through the same channel that in periods of low-water levels supplies water to the lake. The lake water is usually high until May, after which increased evaporation and human uses reduces water to its lowest level or completely dries out for some period. The high evaporation creates saline conditions in the lake.

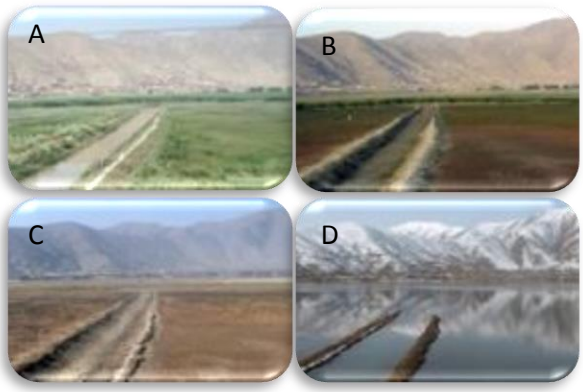
Photo-2 indicates Kol-e-Hashmat Khan landscape spectacular seasonal variations.

A. In late spring, water is high and the lake is covered with reeds.

B. By mid-summer the lake is half-drained and reeds are harvested.

C. In fall, the lake is completely drained.

D. In winter, when precipitations are abundant, the water level is rises.



- **Human Population**:

Dense human population belonging to different ethnic origins surrounds Kol-e-Hashmat Khan, including Pashtun, Tajik and Hazara. *Kuchis* (Nomads) utilize the area for one to two months in spring on their trek towards the Central Hindu Kush Mountains. Most of these pastoral people frequently graze their animals

along the lakeshores. There has been significant increase in the population of the area over the last three decades and it is continuously growing. It has been noted that there were only a dozen houses between the east side of the lake and the Kabul-Gardez highway in the mid-1970s; both of these locations are now densely populated. Majority of the new arrivals are believed to be from the Logar area. Agriculture and small business enterprises are the two main economic activities in the area. There are numerous small business enterprises (such as carpentry, wood bazaar, auto workshops) along the Kabul-Gardez Highway.

- **Land Use/Land Cover:**

A recent estimate of land use in the lake watershed by the GIS and Agro-Met Unit of the MAIL found 76.4 hectares area under cultivation, 136.2 hectares built-up, and 162.4 hectares under water (Figure 2). There is no information on the trends of changes of land use/land cover in the area, except for an analysis of changes around Kabul and Kol-e-Hashmat Khan wetland between 1986 and 2002 by UNEP using SPOT XS and ETM+ satellite images (UNEP, 2003). The analysis found a loss of 2,878 hectares cultivated land in the area during the 16-year period.

Figure 2: Land use in part of the Koh-e-Hashmat Khan wetland (Source: MAIL GIS and Agro-Met Unit)

- **Biodiversity:**

Comprehensive assessment of biodiversity has never been conducted in the Kol-e-Hashmat Khan area (and Afghanistan). This remains the situation despite the fact that the site is believed to be quite rich in biodiversity, especially the diversity of migratory waterfowl. A brief description of the biodiversity, based on available secondary information, is presented below.

- **Ecosystems:** The Kol-e-Hashmat Khan area represents a significant natural landscape within a predominantly urban setting. The natural ecosystems include: (i) the wetland, and (ii) a semi-arid rangeland on the catchment slopes. According to the local elders, vegetation cover in the slopes has been modified significantly over the years. In the past, the slopes used to be open woodland. Most part of the Kol-e-Hashmat watershed appears to have been subjected to high degree of soil erosion and land degradation due to the loss of protective vegetation cover.

- **Flora:** Reed is the most common flora in Kol-e- Hashmat Khan Wetland. A substantial part of the lake area is covered by tall (2-3m high) and dense reed (Photo 3). The lakeshore meadows harbor buttercup, brome grass, knaps weed, and several species of plants belonging to the families Cyperacea, Cruciferae and Compositae. The lake is strongly eutrophic and supports an abundant growth of algae. In spring, parts of the lake water area are covered with thick mats of algae *(Porzana pusilla* and *Gallinula chloropus*; (Photo 4*)*, which pose an obstacle to swimming coots (*Fulica atra*).

Photo 3: Reeds in Kol-e-Hashmat Khan

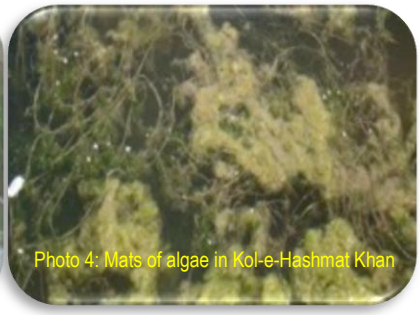


Photo 4: Mats of algae in Kol-e-Hashmat Khan

The upper catchment mountain slopes represent a dry, over-grazed steppe community. According to some key informants consulted during the process of preparing this plan, the slopes also harbored almond trees in the past. Illegal harvesting and overgrazing is speculated to have depleted the forest trees and prevented their regeneration.

- **Fauna (***Avifauna):* Kol-e-Hashmat Khan is an internationally known site for water birds, particularly migratory species of waterfowl. The site represents as one of the 17 Important Bird Areas in Afghanistan[2]. As many as 30,000 - 35,000 migratory birds belonging to over 150 species have been recorded in the area in the 1960s. Thirty-five years ago 112 bird species was reported in the area. A recent (i.e. 2007-2010) monitoring of birds in the lake by ornithologists associated with the Wildlife Conservation Society, recorded 93 bird species belonging to 28 different families, and found conglomeration of around 2,000 individuals at a time during the peak season (i.e. March-April). Around 10 species of waterfowl used to breed in the lake in the 1960s. A number of other species bred in the vicinity of the lake.

  Migratory birds start arriving at Kol-e-Hashmat Khan in mid-February. Most of these birds remain in the lake until the end of May and visit the lake again in July and August. The peak of presence occurs in March and April. The number of birds at the site drops significantly after the fourth week of April, and by mid-May, the lake is almost deserted. Typically, less than 400 water birds remain in summer, composed largely of breeding species.

- **Kol-e-Hashmat Khan Management Plan**

Misuse and abuse of the wetland over the past few decades, illegal encroachment, waste disposal and other harmful activities have seriously threatened the very existence of the lake. The key problems and their causes and effects are mentioned in Table-3.

Realizing its ecological, recreational and socio-economic values, and its potential for restoration and development into a well-functioning wetland ecosystem and a key recreation site, the Ministry of Agriculture, Irrigation and Livestock (MAIL), with financial and technical supports of the International Centre for Integrated Mountain Development (ICIMOD) and in close coordination with and cooperation of the National Environmental Protection Agency (NEPA), United Nations Environment Program (UNEP) and other key stakeholders, has prepared 10 years management plan for Kol-e-Hashmat Khan for year 2015-2024. The plan consisted of five objectives and associated 26 targets and total esitmated cost is USD 3.7 million. SGP-OP6 approach and mandates is very much fit to three targets of objectiv #1, one target of objective # 2, four targets of related to Objective # 4. Table – 4 indicates area of intervention for SGP-OP6 program according to Kol-e-Hashmat Khan 10 years management plan.

The management of Kol-e-Hashmat Khan according to 10 years management plan has been designed to meet the dual goals of conserving biodiversity and enhancing livelihoods of the local people. The site will be divided into: (i) a **core zone** comprising of the lake and its shoreline (up to high water level), and (ii) a **buffer zone** comprising of the rest of the catchment area (Figure 3).

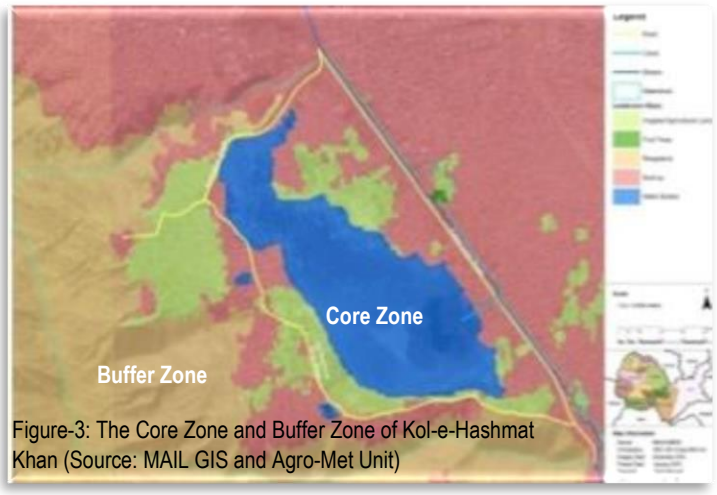


Figure-3: The Core Zone and Buffer Zone of Kol-e-Hashmat Khan (Source: MAIL GIS and Agro-Met Unit)

The core zone will be managed as a strictly protected Waterfowl Sanctuary by MAIL. The buffer zone will be managed as a "green economy" area in cooperation with relevant government and non-government agencies and with active participation of the local communities. Environment-friendly economic activities, especially those that directly contribute to enhancement of local livelihoods, will be promoted in the buffer zone.

[2] Evans. M. I. (ed.), 1994, Important Bird Areas in the Middle East. Bird Life Conservation Series No. 2. Bird Life International, Cambridge, U.K

Table-3: Main problems in Kol-e-Hashmat Khan, their causes and effects

Main Problems	Causes	Effects
1. Inadequate water or complete drying out of the lake during dry periods	• Inadequate or no supply of water to the lake during dry season • Increased competition in the use of source (Logar River) water • Poor water management system • Pumping out of lake water for agricultural, commercial (car washing, carpentry etc.) and household uses • Increased demand for water due to increase in local population and commercial activities • Lack of or inadequate enforcement of the Law • Decreased annual precipitation Climate change • Rapidly falling water table • Drilling of tube wells along the shoreline • Low precipitation • Substantial changes in the catchment land use	Direct negative effects on migratory waterfowl and other aquatic life due to loss or significant changes in their habitat
2. Encroachment of the lake and other public lands	• Poor enforcement of the Law • Unclear land ownership and land tenure around the wetland • Absence of fixed boundary and clear legal status of the wetland • Poor coordination and cooperation among relevant government agencies • Increased value and demand of the land • Increased population and market pressure	Loss and degradation of the wetland habitat
3. Pollution	• Release of various pollutants (domestic sewage, agricultural effluents, industrial waste) to the lake • Lack of proper waste management and garbage disposal system • Some parts of the wetland is being used as rubbish dump	Negative effects on biodiversity and integrity of wetland ecosystem decreased recreational & cultural values of the site
4. Siltation of the lake	• High level of soil erosion in the catchment • Loss or degradation of vegetation cover in the catchment • Inappropriate land use practices • High load of silt in Logar floodwater	Degradation of the wetland habitat
5. Illegal hunting of birds and other human disturbances	• Hunting/netting and harassment of birds • Poor enforcement of the Law • Limited public awareness • Harvesting of reeds • Grazing of domestic animals • Lack of alternatives • Limited public awareness and respect for the wetland	Negative effects to lake biodiversity, especially the breeding birds
6. Loss or degradation of historical monuments, shrines and other features	• Inadequate protection and maintenance • Poor law and order situation due to socio-political turmoil and instability • Inadequate budget and capacity of relevant agencies • Limited awareness about the importance of the monuments	Decreased recreational, cultural and religious values of the site
7. Inadequate conservation management and monitoring	• Inadequate institutional and technical capacity of relevant government agencies • Prolonged political instability and social conflicts • Poor level of coordination and cooperation among relevant agencies • Mismatch in priorities and interests • Absence of clear legal status of the wetland • Very limited participation of local communities in management of the wetland and other natural resources • No legal basis or system for involving local communities in natural resources management • Lack of periodic biophysical data required for management planning and monitoring • Inadequate research infrastructure, and national capacity for scientific research	Loss/degradation of the wetland and its biodiversity Ad-hoc decisions

Table - 4: Areas of Interventions for SGP-OP6 Program According to Kol-e-Hashmat Khan 10 Years Management Plan

Targets	Activities	Responsible Agency		Time Frame
		Main	Supporting	
Objective 1: To restore and maintain integrity of the wetland ecosystem				
Clarifying and securing wetland's boundary	• Establish green fence at the wetland boundary	MAIL	Relevant I/NGOs	2016-2022
Controlling pollution in the lake and surrounding areas	• Develop and implement waste and effluent collection, treatment and utilization system • Implement suitable sanitation solutions to the communities in the upper catchment	KM	Relevant I/NGOs, UN	2016-2020
Controlling siltation of the lake	• Design and implement appropriate soil and water conservation measures in the catchment. This, among others, include reforestation on the mountain slopes, plantation in the private lands, and construction of check dams where necessary.	MAIL	Relevant I/NGOs, ICIMOD	2016-2024
	• Design and implement public awareness program. This, among others, includes development and dissemination of audio-visual materials, notice boards, conservation awareness training to local people, onsite lecturing for school children and other tourists.	MoIC	NEPA, MAIL, Relevant I/NGOs	2015-2020
	• Stop harvesting of reeds and grasses in the lake area/ provide suitable alternatives to the poor local people • Promote stall-feeding system and discourage open grazing of domestic animals in the lake and its catchment	MAIL/KM	Relevant I/NGOs	Always
Objective 3:To promote sustainable ecotourism				
Establishing the site as an environmental education center	• Develop necessary infrastructure, including an onsite lecturing and demonstration facility, and a training center near the lake	MAIL	KM, I/NGOs, UN	2016-2019
	• Develop and disseminate environmental educational materials	MoIC	MoE, NEPA, I/NGOs, UN	2016-2024
Objective 4:To promote or enhance conservation-friendly livelihoods of the local people				
Promotion of suitable forest and fruit trees and other economically valuable plant species in public and private lands	• Develop nurseries and produce seedlings of the chosen species • Design and implement plantation program in both the public and private lands	MAIL, Local CBOs	ACC and other I/NGOs	2016-2024
Promotion of organic farming, especially vegetables, in agricultural lands	• Design and implement awareness raising activities • Identify suitable vegetable species and interested farmer	MAIL	I/NGOs	2016
	• Provide necessary technical and financial supports to the farmers and training to local staff in seasonal and off-season vegetable farming (e.g. in green houses)	MAIL	KM, I/NGOs	2016-2019
	• Facilitate marketing of the agro-products	ACCI	MAIL, I/NGOs	2017-2019
Promotion of solar and other forms of green energy	• Assess feasibility and demonstrate solar and biogas plants for household and commercial purposes	MoEW	KM, ICIMOD, I/NGOs	2017-2018
Promotion of rain water conservation techniques	• Assess feasibility and demonstrate rain water conservation systems	MoEW	ICIMOD, I/NGOs	2016-2017

According to above table, SGP-OP6 is very much fit to objective # 1, and Objective # 4. It is also fit only with two targets of Objective # 3. The effective implementation of SGP-OP6 projects in addition to socio-economic and environmental benefits, will also support international cooperation and provide Afghanistan an opportunity to play an important role in maintaining global biodiversity. This will pave the way for effective collaboration and partnership with the Ramsar Convention and other multilateral environmental agreements (such as the Convention on the Conservation of Migratory Species) for improved management of other wetlands of international importance that exist in the country.

1.2. Kabul City

- **Urbanization Context:**

Afghanistan is still a predominately rural society with only an estimated 24% of the population living in cities. Yet this is changing fast. In 1950, only 1 out of every 20 Afghans lived in cities. In 2014, 1 out of every four Afghans lived in cities, and by 2060 1 out of every 2 - 50% of the population - will live in cities. Although accurate and reliable data on urbanisation is not currently available, estimates indicate that Afghan cities are growing at a rapid rate of around 4% per year, one of the highest rates of urbanisation in the world. Since 2001, the urban population of Afghanistan has increased from an estimated 20% to 24% of the total population. In absolute numbers this represents a significant increase from 4.6 million in 2002 to 7.1 million in 2012. Kabul has been the centre of much of this growth, with estimates indicating the city has grown at a rate of almost 10% per year during the last decade.

Afghanistan has one of the world's youngest populations. Over three-quarters (79%) of the Afghan population is under the age of 35 years; including nearly half below the age of 15 (47%); and roughly a third (32%) between 15 and 35 years of age. The National Youth Policy, approved in 2014, defines 'youth' as between the ages of 18 and 35. Cities continue to attract thousands of young Afghans every year. This is particularly true for those aged between 15 and 24, who constitute nearly a quarter of the urban population (23.6%), notably higher than in rural areas (17.8%). These different age structures are to a considerable extent caused by in-migration of students and young adults looking for educational opportunities and jobs in the urban labor market mainly in Kabul City.

The largest cities have attracted considerable numbers of IDPs, returnees and economic migrants. While exact data is not available, it appears that a considerable proportion of Afghans returning back to the country have settled in urban areas. It is estimated that 49% of households that reported to have returned from displacement are located in urban areas. Compared to the national distribution of households – 24% urban and 76% rural – this figure is twice as high. This supports the idea that towns and cities, and mainly Kabul, disproportionally absorb households that have a displacement history."

In addition to repatriation, the last decade has witnessed considerable rural to urban migration, with the concentrated economic activity and relative security in cities functioning as strong 'pull factors'. Over one-third of the urban population was born outside the city in which they currently reside (35.9% from another district; and 17.5% from another province; and 4.3% in another country). Evidence indicates that whilst security is a major factor in the decision to move, many Afghans come to cities seeking greater livelihood opportunities, education and access to services.

As of December 2014, over 805,000 Afghans remain internally displaced throughout the country. Evidence suggests that many displaced Afghans live in and around Afghanistan's urban centres. As is the case with rural to urban migrants, economic activity, educational opportunities and relative security are significant 'pull factors', attracting IDPs to locate in cities, and they come to reside in informal settlement. Over 70% Kabul settlements are listed as informal settlements.

'Urban to urban' migration is also a feature of Afghan migration patterns. Regarding internal migration since 2004, "net movement between urban areas is more important than that between urban and rural areas;" 414,000 people moved to another urban area compared with 346,000 migrating from rural areas to an urban area during 2004-2011. Anecdotal evidence suggests urban-urban migration patterns include: (1) 'stepping stone' migration, from rural village, to district capital, then provincial capital, then Kabul City; as well as (2) movement between the large cities; motivated by seeking greater access to employment, land and housing and services.

- **Air quality**

Dust and vehicle emissions in Afghanistan's urban areas are the main factors negatively affecting air quality. Current assessments of vehicle density in the country amount to 500,000 cars, 30,000 buses and 50,000 trucks – figures that are growing rapidly. Most run on low- grade diesel and cause problems of air

pollution that is very evident in urban centres. During late autumn and winter, air quality is reportedly worsened by domestic emissions arising from increased use of ovens, stoves and open fires. Electricity shortages and a lack of fuel wood mean that households resort to burning some packaging materials that may cause toxic fumes.

UNEP carried out air sampling at a number of urban sites in Kandahar, Mazar-e-Sharif, Kabul and Herat. The results indicate high amounts of dust and concentrations of poly aromatic hydrocarbons (PAHs) at all sites. At the time of sampling, PAH air pollution was most likely originating from vehicle exhaust emissions from nearly 600 000 vehicles nation- wide. Benzo-a-pyrene is one of the pollutants detected and is believed to increase risk of lung cancer. The highest concentrations were detected in Mazar-e-Sharif, where analyses show 13.6 Ng/m. The WHO average values for urban areas range from 1 to 10 Ng/m. Concentrations for Kabul and Kandahar were between these values, while those for Herat were below WHO average values.

The potential risks to human health from PAHs through inhalation are increased by the presence of dust in the air. Dust binds hydrocarbon particles, prevents them escaping into the upper atmosphere, and increases the likelihood of human exposure. Many residents reported that the amount of dust in all the major cities has increased in the last four years. On extremely dusty days, people resort to masks or cloth for protection from the dust. A combination of drought and loss of vegetation are contributing factors to the increased dust levels.

- **Kabul City:**

Kabul is a clear case of a 'primate city'. As the name suggests, a 'primate city' is one that is dominant and proportionally larger (at least twice as large) in population size than the next largest city, or cities, in a country. Kabul is estimated to be roughly four times larger than the next largest cities, such as Herat, Mazar-i-Sharif and Kandahar. In terms of primacy ratio and percentage of total urban population, Kabul even dwarfs globally recognized primate cities such as Dhaka, Bangladesh; Karachi, Pakistan; Delhi, India; and Bankgkok, Thailand.

Kabul City is 5th fastest growing city in the world and the world's 64th largest city. About five million people are living in metropolitan areas of Kabul province. Because of the severe environmental threats, the city itself carries a lot of potential for SGP OP6 interventions. According to health specialists, pollution forms greater threat to life of people than the insecurity does. The hundreds of thousands of vehicles have turned healthy breathing a dream while burning of coal and wood for heating purposes during cold season creates monstrous black clouds of smoke that make sky almost invisible. Dry mountains surround Kabul and the Kabul River that passes from the middle of the city is full of polluted water.

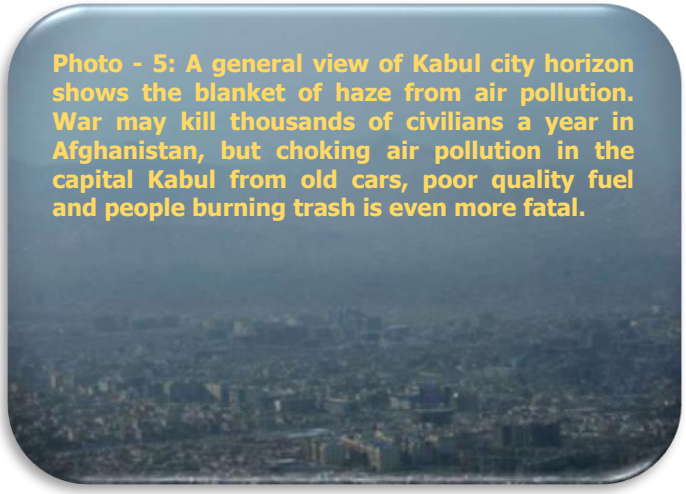


Photo - 5: A general view of Kabul city horizon shows the blanket of haze from air pollution. War may kill thousands of civilians a year in Afghanistan, but choking air pollution in the capital Kabul from old cars, poor quality fuel and people burning trash is even more fatal.

Lack of greenery and public parks has fueled the problem of bad health. Awareness among the public in regards to help the environment become clean is at its lowest. Waste is thrown everywhere. In short, the capital in itself resembles a dustbin. Very unfortunately, the government of Afghanistan has not been able to turn Kabul look like a real capital.[3]

In an effort to plan in advance of growth, in 2009 'New Kabul' City was planned to accommodate an

3 Environmental issues in Kabul, June 20, 2013 by Sher Ali Yecha, Outlook Afghanistan

additional 3 million people. It is to be located on land to the north of Kabul in the De Shabz/Barikab area, on the road of Baghram and Charikar. To date it has not been implemented for a number of reasons, including limited water availability, issues of land grabbing and contested land ownership, conflict with existing residents, and lack of adequate finance for infrastructure investments on such a large scale.

- **Reforestation:** Kabul province used to offer a pleasant environment with a number of large national parks such as Tapa (Hills) in Paghman and Karez Mir. All Parks today require considerable rehabilitation in order for the region to regain its attractiveness for tourists and recreational purposed. Urban forestry, a term denoting the green areas and the green belt surrounding Kabul city, sees very few Government-led initiatives. Once rehabilitated, Kol-e-Hashmat Khan wetland in the canter of Kabul city as well as the urban garden in Chelseton has good potential to become popular recreational areas.

- **Kabul City Green Belt program (KCGBP)** is a 12-year program (2015-2026) of Afghanistan government to reduce severe environmental impacts of Kabul City. The main environmental issues and problems that are considered by Green Belt Program for Kabul City are listed as follow:

  - Lack of green cover, soil erosion, and downfall the level of underground waters negatively impacted the biodiversity and sustainable ecosystem of Kabul City.
  - Air and water pollution, critical level of harmful chemical substance, carbon dioxide and other harmful gases due to overpopulation, urbanization, usage of low quality fuel and automobiles, and lack of proper waste management resulted severe climate change, environmental degradation and various diseases among the local residents.

Therefore, the program goal is *"to improve the urban environment and increase ecological services and biodiversity by restoring and creating green space and reducing the risks of climate change"*

The key program objectives are:

1. Reducing air pollution and relevant diseases by absorbing the harmful gases and carbon dioxide through sustainable improvement of green cover and forestlands (forests, bushes and forage cover).
2. Recovery of waters quantity and quality by promoting the soil absorbing capacity and formation of sustainable plant cover.
3. Protection and improvement of soil quality, soil erosion and land degradation by reducing carbon and other organic substances in soil and watershed management.
4. Promoting participatory approach to involve local citizens and civil society organizations in further extension and protection of the greenery areas.

The KCGB program target is to establish 10,000 hectare green area in the surrounding of Kabul City by promoting reforestation, planting bushes and shrubs and improving the forage areas. The key program stakeholders are Ministry of Interior, Kabul Municipality, Independent Land Management Authorities, Ministry of Urban Development, NEPA, Ministry of Information and Culture and Ministry of Hajj and Religious Affairs. Raising public awareness and enhancement public participation to protect and care the greenery belt areas by using local media and religious places is an important component of KCGBP. During year 2016, the program will complete the verification, surveying and studying of the selected sites and water resources to start pilot activities of establishing 550 hectare of green areas in four sites inn (a) *Koh-i-Shir Darwaza*, (b) *Koh-i-television*, (c) *Tapahai Qargha* and (d) *northern areas of Kabul Airport* with total budget of 3 million US dollar.

The following are the plantation plan of KCGBP:

- 2,700,000 tree sapling will be planted in 4000 hectare of land
- 3,600,000 saplings of various bushes will be planted in3000 hectare of land.
- 3000 hectare of land will be planted by forage.

The proposed sites for this program are shown in Table -5.

Table - 5: Proposed sites for KCGBP

#	Proposed Sites	Elevation (m)	Area (ha)	Source /origin For irrigation water
1	Tangai Gharoo	1815	274	Kabul River
2	Tapa hai Tangai Tarakhel	1833	96.4	
3	Shiwaki to Tangai Gharoo	1847	2458	
4	Tapahai Farogh to Kahirabad	2002	2311	
5	Koh-i-Shir Darwaza	2004	24	
6	Koh-i-television	2051	58	
7	Badam Bagh		165	Qargha Dam
8	North of Khairkhana Kotal	1967	1031	
9	Tapahai Qargha	1976	276	
10	Qasaba and airport round areas		285	Underground Water
11	Tapahai Chamtala to Qargha	1959	1190	
12	Khwaja Safa to Benhisar (Shuhada)	1986	646	Logar and Lalandar

Figure - 4: Plantation Sites of Green Belt Program in Kabul City.

The program will encourage the participation and cooperation of the local people and civil society organization mainly in organizing public campaigns, provision of labor, and protection of the green belt areas and participation in close monitoring and overlook of the green areas. Therefore, there are vast areas of interventions for SGP to contribute KCGBP. SGP intervention includes from nursery establishment, to plantation of trees, construction or rehabilitation of water sources, mobilization of local community for public awareness and organizing greenery campaigns. The SGP through its involvement in KCGBP will contribute in achieving all four GEF-6 strategic objectives.

It is worth mentioning here that Kabul City is the most important target area for SGP to implement all seven OP6 program components. Other initiatives for SGP to plan and implement in Kabul are:

- Kabul City is a best place for organizing CSO-Government policy and planning dialogues due to the presence large number of CSOs and government policy makers.
- The presence of large numbers of youth in Kabul as well as other marginalized and vulnerable groups (IDPs, returnees, women) has created an opportunities for their involvement in the SGP.
- Kabul has potential for SGP visibility to government ministries, donor agencies, CSOs and local public.

2. BAMYAN PROVINCE:

Bamyan province with a total population of 343,892[4] lays on the highlands of Afghanistan covers a total area of 17,414 square kilometers. Bamyan is known for its beauty and harsh climate and snow seems all time on the top of High Mountain. With its diversity of historical monument, Bamyan has an exceptionally rich cultural heritage. Historically it has been a key route along the famous Silk Route and the Taliban destroyed two famous Buddhas that stood for centuries in Bamyan. A number of other historic sites as the Zuhak city (red city), the Dragon Valley and the Ghulgula city are famous landmarks, which was designated as **UNESCO World Heritage Site**. Bamyan is also known for the serene and mesmerizing beauty of the Band-e-Amir lakes, which is declared as the first national park of Afghanistan.

Nearly the whole province is mountainous or semi mountainous, while only 1.8% of the area is made up of flat land. Bamyan is one of the poorest and agriculturally least productive areas in the country. Much of the land is barren and inaccessible, with acute water shortages, small landholdings, extensive food insecurity, and poor soil quality characterizing much of the region. There is no forest coverage and probably never was any except in some areas. The terrain in mainly characterized but scrub and extensive high altitude pasture lands, most of it severely denuded. As with the rest of Afghanistan, excessive use of wood for fuel and fodder combined with years of drought and war has resulted in the destruction of much forestry and rangeland. The over exploitation of various shrubs has been resulting in serious soil erosion, flash floods with the smallest amount of rain and possibly resulting in irreversible damage to ecosystem.[5]

Figure - 5: Map of Bamiyan Province

The main protected areas and ecosystem of national priorities in Bamyan province are Band -e Amir National Park, Shah Foladi Landscape Conservation Area and Ajar Valley Wildlife Reserves. Two of the above mentioned protected areas (a) Band-e-Amir Protected Areas and (b) Shah Foladi landscape conservation area, of Koh-e-Baba Mountains are selected as focal landscapes for SGP-OP6 in Bamyan Province.

2.1. Band-i-Amir National Park

- **General Overview:**

Band-e Amir's six lakes of crystal-clear azure water separated by travertine dams and surrounded by spectacular red cliffs, comprise one of the world's most uniquely beautiful natural landscapes. Band-e Amir National Park is located in the western Hindu Kush in Bamyan Province. It lies about 185 km north-northwest of Kabul and 55 km west of Bamyan town. The Band-e Amir lakes lie in an east-west trending valley at approximately 2900-meter elevation. From west to east, the lakes are Gholaman, Qambar, Haibat, Panir, Pudina and Zulfiqar.[6] The individual lakes (Figure 6) differ markedly in character. Band-i-Gholaman is shallow, has extensive reed beds and is commonly used by waterfowl. Band-i-Qanbar is filled only seasonally and forms a large, wet marshy area. Band-i-Haibat has deep waters and a narrow, vertical-sided travertine dam on the eastern end. The dam on Band-i-Panir has a broad, smooth and undulating creamy-white surface. Band-i-Pudina is small and surrounded by a labyrinth of small, interconnected potholes, streams and dense vegetation. Band-i-Zulfiqar is large, deep and surrounded by steep cliffs virtually devoid of vegetation.

[4] CSO updated population for 1394
[5] Provincial Profile for Bamyan, Regional Rural Economic Regeneration Strategies (RRERS)
[6] National Biodiversity Strategy and Action Plan (NBSAP) 2014-2017, National Environmental Protection Agency (NEPA), United Nations Environment Program (UNEP).

Band-e Amir was declared as Afghanistan's first National Park on September 30, 1973, in response to a petition from the Afghan Tourist Organization. The World Database on Protected Areas lists Band-e Amir as IUCN Category II protected area (i.e., a national park). However, the database indicates that there is currently no active management. Band-i-Amir is currently on the UNESCO World Heritage Convention Tentative List of World Heritage Sites based on a submission by the Ministry of Irrigation, Water Resources and Environment and Ministry of Agriculture on 8 September 2004 (18 Aqrab 1383). (http://whc.unesco.org/en/tentativelists/194/).

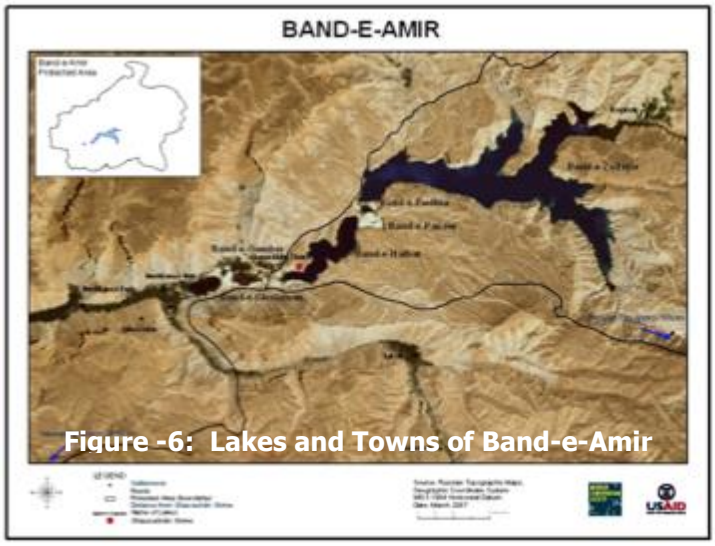


Figure -6: Lakes and Towns of Band-e-Amir

- **Topography and Hydrology:**

Band-i-Amir lies in a westward extension of the Hindu Kush Mountains just north of the Koh-i-Baba Range. The lakes lie at an altitude of 2900 meter with the surrounding countryside mostly in the range of 3200 – 3400 meter. Mountains in the northern part of the watershed reach almost 3800 meter in height. The land to the south of the lakes is largely an upland plateau, which becomes sharply dissected to the east. Band-i-Amir weather is strongly continental with low air humidity, high evaporation, wide temperature fluctuations, heavy winter snowfalls, and virtually no summer precipitation.

The surface streams and groundwater feeding Band-i-Amir lakes are the headwaters of the Band-i-Amir River, which flows west and then north to join the Balkh River. The Balkh River ultimately disappears into the sands north of Mazar-i-Sharif. The surface waters flowing into Band-i-Amir Lakes have their origins in numerous small streams, many spring-fed, all arising within 20 km of the west, north and south of the lakes. The lakes are the headwaters of the Band-i-Amir River.

- **Human Population**

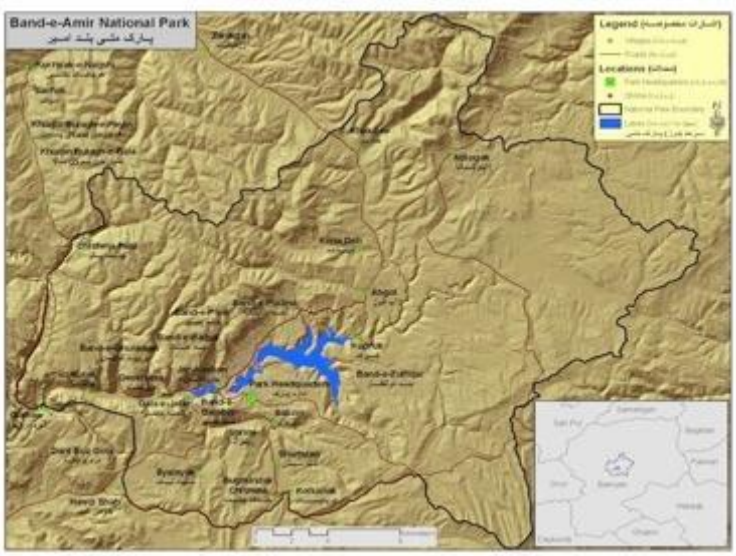


Figure 7: Location, boundaries, lakes, villages & major roads.

The boundaries of the Park downstream of Band-e-Amir Lakes is primarily intended to include all communities that are considered by local inhabitants as "Band-e-Amir communities. There are 15 villages with total population of 4,774 people from Hazara tribe in the area of Band-i-Amir. The population can be expected to grow significantly in the future putting greater pressure on the environment for irrigated and rain-fed fields, pastureland, fuel and space for building houses. In September 2007, the Band-i-Amir Protected Area Committee (BAPAC) was formed to facilitate cooperative government/ community management of Band-i-Amir. Controlling the number of residents is outside the mandate of the Park. They recommended management approach is limited to provide dwelling will only be permitted within the boundaries of the settlement Zones.

- ***Terrestrial Fauna:***

The fauna of Band-i-Amir appears to be very impoverished as a result of a long history of land

degradation. Eighty-four species of birds have been recorded at Band-i-Amir, although some of these sightings need to be verified. Evans (1994) lists Band-i-Amir as one of the internationally Important Bird Areas (IBAs) of the Middle East[7]. The Birdlife International website provides more information on the IBA characteristics of Band-i- Amir[8]. Birdlife International also cites the Afghanistan Mountains as a Secondary Endemic Bird Area (EBA)[9].

- ***Aquatic Fauna and Flora:***

Terek (1983) found pelagic zooplankton to be sparse with most occurring near shore or in isolated pools. Macrozoobenthos was also found to be impoverished and nearly limited to the near shore. The freshwater sponge forms green masses in the littoral shoreline and cascade zones. Terek (1983) provides a list of 37 taxa of zooplankton and 10 of zoo benthos.[10] Fish appear to be abundant at Band-i-Amir, but they have not been properly surveyed or identified. The predominant fish are loaches (Family Cobitidae) and cyprinids (Family Cyprindae), and the taxonomy of both groups is very difficult and uncertain. The fish fauna of Band-i-Amir is impoverished and may have endemic characteristics. Terek (1983) cites two species of fish; *Schizothoraicthys* (i.e., *Schizothorax*) *intermedius*, the common marinka, and *Noemacheilus* (i.e., *Triplophysa*) *stoliczkai*, the Tibetan stone loach.

- **Land Use**

  - **Irrigated Farmland** lies predominantly above lake levels and is mostly fed from water derived from small surface streams running towards the lakes. About half the irrigated land is planted in wheat and barley with the remainder planted in potatoes and fodder.
  - **Dry land Farming** (rain-fed) wheat and barley fields are of particular environmental concern because they destroy rangeland, reduce plant diversity and contribute to soil erosion and loss of soil fertility. Band-i-Amir people understand the significance of allowing *rain-fed* to rest preferably every other year, but circumstances often do not allow this best practice. The authorities because of the precarious food security of Band-i-Amir people effectively ignore use of rain-fed.
  - **Grazing** of livestock is the major economic activity at Band-i-Amir. Millennia of grazing pressure have completely altered natural plant communities. This has significantly reduced the carrying capacity of the land. Healthier and more profitable livestock could be realized if scientific grazing practices were introduced leading to enhanced plant biomass and more palatable plant species.
  - **Reed cutting:** The reed *Phragmites australis (*local name= *nai)* is found along the lakeshores throughout Band-i-Amir, but is concentrated at Band-i-Gholaman and the large wetland between Dewkhana-i-Payin and Kotak. *Phragmites* is a grass in the Poaceae family and grows to a height of 3 meter at Band-i-Amir. Reeds make excellent habitat for waterfowl and other wildlife. Most accessible reeds are cut in the fall for fuel, fodder and livestock bedding. Communities have established and traditional reed cutting rights to certain lakes. Currently, no community has reed-collecting rights at Band-i-Gholiman, which explains why reeds often remain on that lake year-round.
  - **Fuel Collection:** The people of Band-i-Amir depend heavily upon uprooted shrubs and dung for heat and cooking fuel. Fossil fuels are not affordable by most residents. There are very few trees and therefore no fuel wood. Shrubs are used by all residents for bread baking and by most for heating. Shrub collection reduces range biomass, alters plant communities, and increases soil erosion. Dung collection ultimately leads to loss in soil fertility.
  - **Hunting:** Waterfowl hunting remains a prestigious activity at Band-i-Amir. Other species, such as Rock Doves, are occasionally hunted.

[7] Evans, M.I. 1994. Important bird areas of the Middle East. Birdlife International, Series No. 2. Cambridge, UK
[8] http://www.birdlife.org/datazone/sites/index.html?action=SitHTMDetails.asp&sid=8007&m=0
[9] http://www.birdlife.org/datazone/ebas/index.html?action= EbaHTMDetails.asp&sid=372&m=0
[10] Terek, J. 1983. To the Knowledge of aquatic fauna of Band-e-Amir Lakes (Afghanistan)

- **Main Issues and Threats to the National Park**

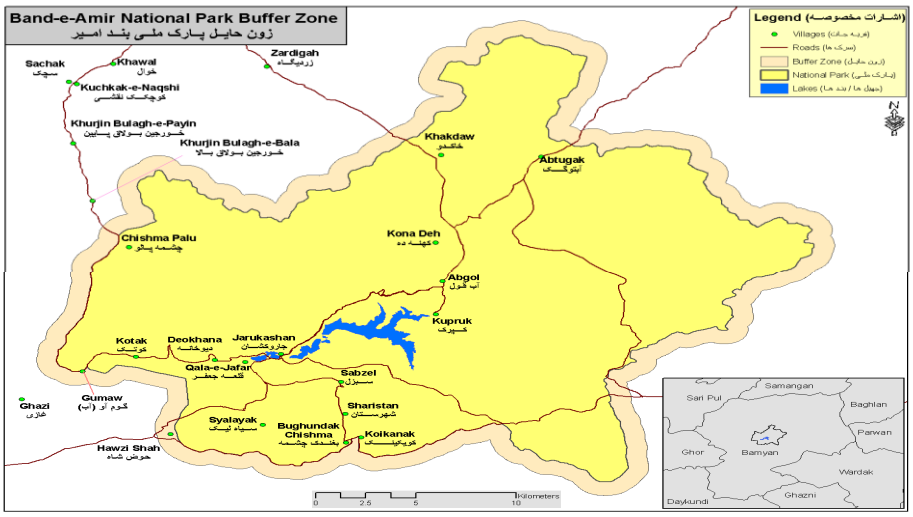
  - The Park is heavily overgrazed that has been leading to wide-ranging effects on biodiversity.
  - Shrubs are the primary source of fuel for heating and cooking. Large scale uprooting of shrubs is the greatest environmental concern at Band-e-Amir.
  - Reeds are collected from shallow water areas. This practice is currently considered to have minimal impact on biodiversity
  - The most significant threat to Band-i-Amir is damage to the travertine dams, particularly Band-i-Haibat. Travertine formation is a dynamic and continuous process creating an ever-renewing "living rock". The environmental and chemical conditions supporting such a process are fragile and not well understood at Band-i-Amir.
  - Water pollution in the source waters of Band-i-Amir and in the lakes themselves is of primary concern. Travertine precipitation depends heavily on the biological processes of algae, bacteria and higher plants. Pollutants that harm these organisms could affect travertine deposition and the integrity of the dams.
  - Siltation from erosion resulting from overgrazing and intensification of dry land farming.
  - Nutrient introduction (particularly phosphorus) from soaps used in bathing, laundry and car washing.
  - Increased use of fertilizer and pesticides on agricultural land.
  - Disposal of garbage into the lakes by local communities, restaurants and visitors.
  - Lack of management capacity including shortage of staff, lack of staff training, little equipment for staff etc.

- **Band-e-Amir Management Plan**

The first Band-e-Amir management plan produced for five year (2008–2011) and the second plan from (2011-2015). The natural resource management department of MAIL together with NEPA and WCS are working on next phase management plan (2016-2020). According to them there is no major change in the planning objectives and activities. Band-e-Amir according to its management plan has identified five protected areas (five zones) in the Park areas. The names and areas of these zones are shown in Table -6.

Table -6: Areas of Band-e-Amir management zones#	**Area (Km2)**	**% Of Park**	**Definitions**
Conservation Zone	592.6	96.6	The purpose of the Conservation Zone is to protect watersheds, maintain landscape scenic values, protect and recover plant and animal species and contribute to the welfare of local people.
Strict Protection Zone	2.7	0.4	This area is for the protection and management of fragile resources. The protection of this area is necessary for protection of lakes from siltation and pollution.
Facilities Zone	0.9	0.1	The area in which the visitor canter and other facilities that are required for the management of the protected area is located. Five Facilities Zones are currently defined for Band-e-Amir.
Settlement Zone	17.1	2.8	The Settlement Zone also called the Special Use Zone is an area occupied by human settlement at least five years prior to the declaration of the Band-e-Amir as a provisional national park in 1388 (2009).
Buffer Zone	139.7		The Buffer Zone is the area outside of the Park between the boundary and a line drawn one kilometer outside the Park boundary (Figure - 8). The Buffer Zone does not include any villages. The intent of the Buffer Zone is to minimize the harm done by activities in close proximity to, but outside, the Park and to engage people living close to the Park who might be affected by Park management. The only Park Regulation that shall apply to the Buffer Zone is the restriction on exploration and exploitation of non-renewable resources.

Figure - 8: Band-e-Amir National Park with one kilometer wide Buffer Zone.



- **Areas of Interventions for SGP-OP6 in Band-e-Amir**

The management plan of Band-e-Amir consists of six goals, 12 objectives and 28 activities that will be considered during the five years period (2016-2020). The following table indicates the appropriate intervention for SGP to consider during its 6th Implementation phase. By rendering these activities the SGP will contribute in achieving GEF-6 strategic initiatives no. 1 *(Community Landscape/seascape Conservation)* and no. 2 *(Climate Smart innovative Agro-ecology)*. Please refer to Table-7.

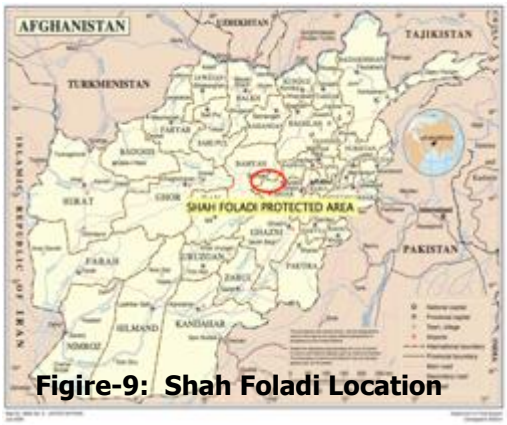
Table 7: Area of Intervention for SGP OP6 in Band-e-Amir *(as per 5-yrs management plan)*

Objective	SGP OP6 Interventions / Activiities	Indicator
Goal 3: Conserve and recover the biodiversity and environment of Band- e-Amir;		
Objective 3-2: Conservation of vegetation in Band-e-Amir	• Provide locals with alternative energy options to protect rangelands in the area. • Establish community woodlots in Settlement Zones by planting and rising trees	• List of alternative energy options provided • Number of trees planted and surviving
Goal 4: Provide opportunities for quality recreational, aesthetic, cultural and religious experiences for Afghan citizens and international travellers		
Objective 4.2: Greater visitor awareness of the Park	• Develop and distribute awareness materials to visitors (public awareness initiatives at provincial and national level). • Develop and distribute materials promoting Band-e-Amir as a tourist destination. (Both protected areas and ecotourism concepts will be included)	• List of materials developed and numbers distributed • List of promotional materials developed
Goal 5.: Ensure that local communities are actively engaged in development and management of Band-e-Amir		
Objective 5.1: Engage residents more effectively	• Strengthen the role of the Social Organizations • Deliver Park awareness programs to communities	• Reports on programs delivered
Objective 5.2: Improve role of local people in management decision-making	• Train BAPAC members in park management	• Audit on effectiveness of local people in BAPAC's decision-making
Goal 6: Develop the capacity of Park Staff to manage Band-e-Amir		
Objective 6.2: Band-e-Amir Staff	• Delivering specialized training courses commensurate with the staff duties, • Provide technical advises to rangers during on-the-ground management.	• Number of training conducted and number of person days interacted with rangers
Others: • Solid and liquid waste management and recycle system for BANP. • A program for conveying conservation awareness to local people should be developed and delivered by community liaison officers. This program should emphasize local peoples' responsibility and engagement in conservation.		

2.2. Shah Foladi Mountain Landscape Conservation Area:

- **General Overview:**

Shah Foladi Mountain Landscape Conservation Area is located 15km south of Bamyan City and covers an area of approximately 7000km^2 with over 5000 inhabitants that have lived in a balance with their natural resources for generations. The Shah Foladi area is a landscape of outstanding natural beauty. It forms part of the Koh-e Baba mountain range, which stretches over Bamyan and Wardak provinces in Afghanistan's central highlands. Standing at an impressive 5,050 m high, the Shah Foladi peak is the crown of the Koh-e Baba mountain range. The area exhibits a diverse range of habitats, species, and human settlements, and along with the nearby city of Bamyan, famed for its UNESCO World Heritage Cultural Site. This mountain range is the geological and geomorphological core of Afghanistan's Central Highlands.



Figire-9: Shah Foladi Location

The Shah Foladi area is a glaciated landscape with abundant cirques, glacial lakes, moraines, sharp ridgelines, pyramidal peaks, and U-shaped valleys. The mountains are the birthplace of all of Afghanistan's most important watersheds. The numerous alpine lakes, glaciers and extensive pastures, store water and release it throughout the year, feeding creeks, canals, and rivers throughout the entire country. Water originating in the Shah Foladi, and the wider Koh-e Baba mountain range, feed five of the major river systems in the country, the Hari-rud, Helmand, Kabul, Kunduz, and Balkh rivers. The Kunduz and Balkh rivers eventually feed into the Amu Darya before flowing directly to the Aral Sea.

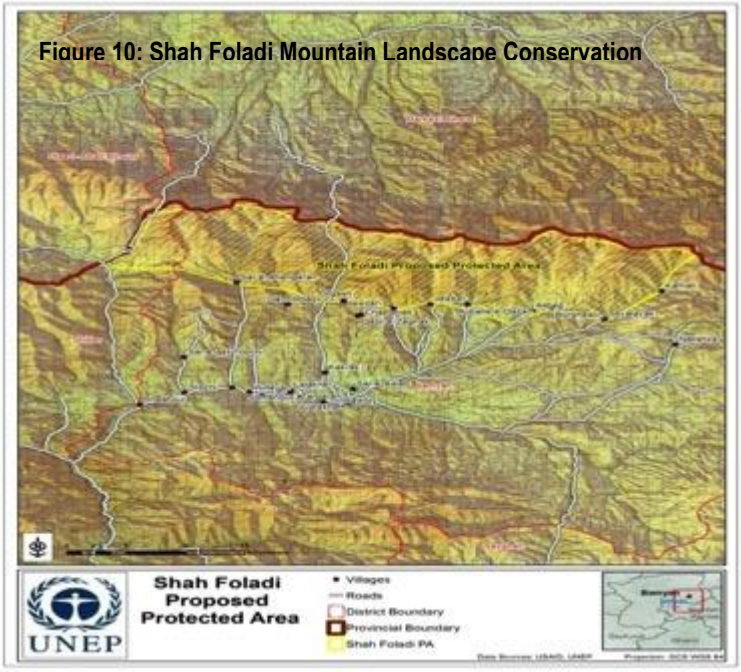


Figure 10: Shah Foladi Mountain Landscape Conservation

The Shah Foladi area has a harsh and challenging high-mountain climate, with long winters, limited growing seasons, and marginal mountain soils. Despite these environmental challenges the landscape harbors an impressive diversity of fauna and flora. The rangelands, a carpet of rich floral diversity throughout the spring and summer, are a haven for endemic plant species and are an important resource of fuel, food, livestock fodder and medicine for resident human populations. Despite a history of persecution and hunting, there remains a great diversity of wildlife, including species such as gray wolf (*Canis lupus*), red fox (Vulpes vulpes), European lynx (Lynx lynx) among other wild cats, Siberian ibex (Capra Sibrica), urial (Ovis orientalis vignei) and more than 110 species of bird. Historically, Persian leopard (Panthera pardus ciscancasicas), brown bear (Ursus arctos), and wild boar (Sus scrofa) inhabited the area, but no records exist from recent decades of the presence of these species.[11]

- **Justification for Shah Foladi as a SGP-OP6 Focal Area**

Shah Foladi is an area of spectacular scenic beauty, deriving as much from the interaction between the works of nature and humanity as from the intrinsic value of the natural features themselves. This highly diverse and environmentally fragile landscape provides essential habitat for large numbers of endemic and endangered species that are under pressure from both environmental change and human activities. It is also home to many endemic species of flora and fauna. This diversity is important for

[11] Proposed Shahfoladi Mountain Landscape Conservation Area Justification report, by NEPA, MAIL & UNEP, July 2014

maintaining both global biodiversity and ensuring the longevity of local livelihood practices, which includes a rich traditional knowledge and usage of a high diversity of medicinal and edible plants. These types of places, and the communities that live in them, are important in themselves and for the lessons they can teach all of us about resource management, sustainable living, and environmental resilience.

The Shah Foladi's broad range of bioclimatic zones and habitats, rich natural and cultural resources, and regionally and globally significant biodiversity provide a wide variety of attractions for national and international visitors, scientists, students and trainees. The area also holds an additional draw due to its high potential for recreational activities and sustainable, low-impact and local income generation through international and nation visitation. In both the summer and winter there are abundant recreational activities available in the Shah Foladi, including amongst many others, sightseeing, skiing, snowboarding, trekking, rock climbing, horseback riding, and bird watching.

Shah Foladi's ecosystem provides a wide array of services to the local community. Examples of provisioning services include medicinal plants, regulating services such as the protection provided by vegetation from natural hazards (e.g. avalanche), supporting services such as habitat for birds and mammals, and finally various cultural services including space for recreation. In addition as a major water catchment area, the Shah Foladi provides ecosystem services of national, regional and global importance. Millions of people, both in Afghanistan and neighbouring countries, depend on the ecological goods and services supplied by the Shah Foladi water catchment area. Likewise, the Shah Foladi is also a regionally important migratory bird area, more than 270 bird species pass through the Shah Foladi each year on migration. The Shah Foladi is an important pit stop for birds migrating from India and Pakistan to Russia as well as being an important breeding ground for birds that eventually over-winter in Sub-Saharan Africa. Lastly, the extensive rangelands in the Shah Foladi are a carbon sink of global importance. Ensuring the conservation of rangelands and other carbon sinks, such as wetlands, is of great importance to climate change mitigation efforts in Afghanistan.

In recent years numerous community-based environmental projects have been initiated in the Shah Foladi by national and international NGOs, UN agencies, and various line ministries in Bamyan province. The UNEP has initiated community-based natural resource management, environmental resilience, and climate change adaptation projects in more than 20 communities in the area. The majority of these focal villages form the gateway to the proposed Shah Foladi Protected Landscape. These villages have so far received significant capacity building with the aim of having local communities as the stewards of the Shah Foladi area. Thus, the Shah Foladi as it stands today is an excellent field example of community-based conservation of biodiversity, as well as best practices in protected areas planning and management to the rest of Afghanistan.

- ***Land use***

People have been utilizing the land of the Shah Foladi for thousands of years thus the area is essentially a humanized landscape. Current and historic human activity is an integral part of the management of the environment. Land use activities include settlements, irrigated and non-irrigated (rain-fed) cultivation, livestock grazing, fodder harvesting, shrub harvesting for fuel, hunting, and collection of plants for food and medicine. Most of the villages in the region are strategically located along drainages and rivers originating in the Shah Foladi area of the larger Koh-e Baba mountain range. Houses are generally built on valley slopes while the more productive valley bottom is reserved for irrigated crops and tree plantations. Livelihoods consist largely of farming and livestock production supplemented by wage labor. (Photo-6)

Photo-6: View of Shah Foladi villages

The communities in the proposed protected area depend heavily on rangelands due to the limitations of high altitude farming and long winters. Rangelands account for 1.3 million ha or 92.4% of the

whole of Bamyan province, and are used extensively for livestock grazing and harvesting of critical plant resources for fuel. Local communities in the Shah Foladi practice animal husbandry and keep a variety of livestock. People report that they usually graze animals on community pastures from April to mid-November, but from mid-November onwards it is too cold and the risk too high from predation by wolves for grazing and as a consequence communities bring their livestock to graze in areas closer to the village. During the coldest months with the highest snowfall, animals are often fed at home in special stalls constructed next to or under the house.

- **Zoning plan**

In the fragile higher elevation alpine areas, the Protection Zone, the park vision is to "protect, restore, sustain and share" the heritage here. In the rangeland areas and the buffer zones bordering the main valleys of the greater Shah Foladi ranges, the protected area will work to "protect, and restore the traditional and ecological agricultural systems and use sustainably" For communities living and working in the gateway communities bordering the alpine regions "sustain the wellness of people and the land".

Table 8. Zoning Plan in Shah Foladi Protection Area

Zone	Management objective	Allowed uses
Protection/High Elevation Alpine Zone	Protect, restore, sustain and share	Conservation, Restoration, scientific research
Conservation/Rangeland Areas	Protect, and restore the traditional and ecological agricultural systems and use sustainably	Managed Use
Buffer Zone	Protect, and restore the traditional and ecological agricultural systems and use sustainably	Centralized Admin, Service/Visitor Centre
Special Use Zones	Sustain the wellness of people and the land".	Gateway Villages, Transport Hubs

- ***Flora***

Shah Foladi is biogeographically unique, with a large diversity of endemic species of flora and fauna. The tree line extends up to about 3000 meters above sea level. The broad classification of vegetation type for the Shah Foladi is defined as "thorny cushions, subalpine, and alpine semi-deserts and Meadows" within this there is a diverse mosaic of plant communities, which correspond to the diverse topography and land use of the area. Above 4000 meters high-mountain flora and algae can be found clinging to rocks and sheltering in niches in south facing slopes.

Most notable of these plant communities are the alpine rangelands where the summer flocks are grazed; and then the subalpine zone spreading down and merging into the semi-desert foothills. In both these lower zones dense, cushion-like thorny plants termed 'tragacanths' are found. They form one of the most characteristic features of the Central Highlands. Then within these zones are specialized communities such as those; inhabiting scree slopes, gullies, and fenland and flood plain meadows. Finally, spreading upwards to various levels and merging other floral communities are a variety of habitats with their specialized plants, such as the plateaus, which have characteristic flora in the spring, caused by moist soils and relatively high air humidity in addition to higher temperatures. In these plateaus one can find a large number of species flowering, in particular annuals and geophytes.

- ***Mammals:***

There exist many historical records of large mammals, such as big cats and ungulates, in the proposed area. Ibex and Urial are present as judged from recent field and community observations. More research is needed with regards to large mammal diversity. Camera trap surveys are currently being planned for the area to capture evidence of large mammals and to estimate their population sizes within the Shah Foladi. Several small mammals have been documented in Bamyan province, including the Afghan pika (*Ochotona Rufescens)*, the long-tailed marmot (*Marmota Caudata*) and mustelid species.

- ***Birds:***

To date, a comprehensive bird inventory of the Shah Foladi has not been compiled; however, a list prepared by Bird Life International in 2012, speculates that approximately 273 species of birds are likely to occur in Bamyan province. Afghanistan has one known endemic species, the Afghan Snow

finch (*Montifringilla theresae*). It breeds in mountainous regions across Afghanistan. It has been documented in the Shah Foladi inhabiting open rocky and grassy slopes in precipitous mountain valleys at 2450 -3100 meter. Three near endemics are likely to occur in the Shah Foladi region; the Yellow-eyed (Pale-backed) Pigeon (*Columba eversnmanni*), which is categorised as being vulnerable, *Phylloscopus neglectus*, and the Variable Wheatear (*Oenanthe picata).* The Shah Foladi is almost certainly a sanctuary for some of Afghanistan's most charismatic birds of prey. The Lammergeyer, Golden eagle and the Steppe eagle are commonly sighted in the alpine zone of the Shah Foladi. Populations of the Yellow-eyed (Pale-backed) Pigeon (*Columba eversmanni*) are of particular conservation concern because the species is rare and its populations are declining throughout its Central Asian range and may become globally threatened if the current population trajectory continues.

Main Environmental Issues and Threats

- People have lived in the Shah Foladi for centuries and have developed natural resource management traditions that are unique and highly adapted to the harsh environment of this area. Despite the short growing season, people of Shah Foladi have learnt to survive by growing adapted crops and managing the rangelands sustainably so they can produce enough food for the rest of the year including winter months when communities are mostly isolated from the rest of country. As a result, the biodiversity of the area is able to survive and flourish within this humanized landscape.
- Poaching and capturing of birds is recorded as being practiced in the Shah Foladi area. Young men are often seen netting birds in the springtime. Many of these birds end up in the Bamyan Bazaar in cages where they are sold as pets.
- Afghanistan's recent history of conflict and social disruption has disrupted the balance between nature and natural resource use. Farmers and herders have responded to insecurity and instability by adopting survivalist agricultural practices such as overgrazing of rangelands. Short-term decision-making dominates strategies of natural resource use to ensure survival, while displacement has disconnected generations and resulted in the loss of traditional knowledge with regards to resource use best practices. In addition, population growth is contributing significantly to the unsustainable use of land and resources. Rhetorical evidence and the results of ecological surveys suggest that the rangelands and other parts of Shah Foladi's ecosystem are under great pressure. Unless the traditionally sustainable interaction between people and nature is protected and restored, Shah Foladi's ecosystem will be threatened by further degradation.

Shah Foladi Management Plan

UNEP in partnership with NEPA have completed extensive work at the national and local levels with other government entities, civil society organizations, and local communities on the development of the Shah Foladi protected area. This has included five years of direct engagement with villages in the Shah Foladi on community-based natural resource management and environmental planning, as well as the 2010 establishment of the Shah Foladi Protected Areas Committee. Management plans have been developed for the Shah Foladi and larger Koh-e Baba landscape. The long-term goal of the management plan is *"the protection and maintenance of biodiversity, whilst at the same time providing a sustainable flow of goods and services for community needs."*

The Koh-e-Baba Management Plan identifies 20 management goals in nine areas for next five-year plan (2016-2020) to consider. SGP can contribute to all these areas but the activities/strategies listed for areas # 2 *(use of natural resources)*, area # 5 *(on reducing negative impacts of pollution)*, Area # 6 *(support the involvement of indigenous people)*, and Area # 7 *(education and awareness programs)* are appropriate programs for SGP to be involving in these areas. Please refer to the Table-9 to find the list of SGP selected activities for each planning areas. Through accomplishments of these activities, SGP will contribute in achieving GEF-6 strategic goals.

Table– 9: Koh-e-Baba Management Plan and Best Area of Interventions for SGP OP6

Planning Areas	Management Goal	Management strategies
1. Conservation of Biodiversity	1. To apply ecosystem-based management to the Koh-e-Baba Protected Area 2. To ensure that the abundance of species diversity flora and fauna communities and ecosystem processes in the protected area are not adversely affected by human activities; 3. To promote the maintenance of the high water quality and functioning watershed. 4. To foster broad community stewardship and commitment to the protection of the diverse values of protected area	1) To work with the Afghan Government agencies in the interacted planning and management of the Koh-e-Baba's ecosystems. 2) To restrict and prohibit activities inconsistent with the maintenance of biodiversity, habitat, ecosystem structure and function; 3) To support the improved management of rangelands. 4) To provide educational material aimed at promoting an awareness of the ecological values of the protected area, promoting community stewardship and reducing the impacts of human use on the rangelands, alpine meadows and slopes. 5) To encourage research to increase knowledge of biodiversity and ecosystem processes.
2. Use of Natural resources	5. To increase the knowledge of flora and fauna communities and species and key ecological processes 6. To protect the long-term sustainability of livestock grazing. 7. Increase measure of community wellbeing (income, social conditions). 8. Increase in flow of benefits attributable to natural products and services.	6) Develop Community conservation programs with income generation and community cooperative programmes. 7) Analysis of potential natural capital in the protected area. Add value to natural products by processing them in local communities e.g. honey, Jams, Chutney. 8) Introduction of more efficient cooking and heating stoves to reduce the amount of biomass required. 9) Educate communities about sustainable harvesting techniques and encourage community imposed restriction on shrub collection. 10) Encourage the multiple uses of woodlands, including as sustainable energy sources. 11) Implement coordinated native shrub and planting in restricted harvesting area.
3. Flooding/ drought	9. To reduce potential negative impacts on the values of Koh-e-Baba Protected Area and lower areas from flooding and drought.	12) Implement landscape scale regeneration using native rangelands plants, trees and shrubs. 13) Encourage industry which uses woodlands on a sustainable basis (e.g. well- managed charcoal production, small-scale timber production) 14) Create conservation sites in key wetland areas.
4. Tourism	10. To provide for the operation of low impact tourism activities which add to the recreational and educational experience of the protected area users. 11. To ensure that tourist operations do not negatively impact on the ecological or cultural heritage values of the Koh-e-Baba Protected Area. 12. To ensure tourism is carried out in an ecologically sustainable manner.	15) To review guidelines for human interaction with flora and fauna. 16) To consider on a case by case basis commercial tourism proposals and potential allow the activity under permit. 17) To provide educational material to village guesthouses/interpretation centres aimed at increasing appreciation of the environment and reducing any negative impacts of tourism in the Koh-e-Baba Protected Area. 18) Plan a transport hub from Bamyan Centre (UNEP 2011) 19) To construct trails and associated bridges and fords in accordance with Koh-e-Baba Protected Area Physical planning (UNEP 2011) 20) To develop Ailoq camping areas (UNEP 2011)
5. Pollution	13. To reduce potential negative impacts on the values of the Koh-e-Baba Protected Area from potentially polluting activities.	21) To undertake education and information programs in cooperation with other national agencies, as appropriate, aimed at: reducing litter which may negatively impact on wildlife and water quality, and minimizing the discharge

		water quality, and minimizing the discharge of sewage and other wastes from dwellings.
6. Indigenous and Cultural Heritage	14. To support involvement of indigenous people in management of the Koh-e-Baba Protected Area as appropriate.	22) Maintain liaison and consultation with local indigenous communities 23) Support the full involvement of the SHAFPAC in the management of the protected area. 24) Local indigenous people should be consulted regarding any use of their cultural knowledge and traditions.
7. Education	15. To improve public awareness, understanding and appreciation of the ecosystems and habitats of the Koh-e-Baba Protected Area and the potential impacts of human activities on these environments. 16. To reduce the negative impacts of human activities on the values of the protected area and engender community stewardship of the mountain environment through public education.	25) Prepare an education strategy which includes: • Providing information to increase public awareness and appreciation of the natural, physical and cultural values of the Koh-e-Baba Protected Area. • Providing information on the potential negative impacts of human activities on the values of the Koh-e-Baba Protected Area and ways to minimise these impacts. • Utilising the facilities at the Tourist Centre in Bamyan Centre and other such facilities • Providing and distributing information via written material, the Internet and face-to-face contact and investigating other options for the provision of visitor information.
8. Research	17. To encourage research that will improve knowledge of the values of the Koh-e-Baba Protected Area and inform its management. 18. To ensure that information form research is made available to managers of the Koh-e-Baba Protected Area. 19. To provide opportunities for research, which is of intrinsic benefit to science and humanity, provided these do not impact negatively on the values of the protected area. 20. To minimize potential negative impacts from research on the values of the Koh-e-Baba Protected Area.	26) Prepare a research plan to include areas of priority research required for management. 27) Develop and implement mechanisms for providing feedback of research results to management. 28) Develop and implement mechanisms to encourage appropriate research at the Koh-e-Baba Protected Area. 29) Utilise existing scientific data from a variety of sources such as those generated from previous research studies. 30) Research, which involves the killing, injuring or taking of endangered species, should be assessed on a case-by-case basis.
9. Stakeholder and community Liaison	21. On-going stakeholder and community liaison should be carried out as part of the planning and management of the Koh-e-Baba Protected Area. The SHAFPAC should be the major forum for regular formal liaison between relevant government and non-government agencies. The involvement of outside expertise will be sought as appropriate.	<u>Other Proposed Activity for SGP</u> SGP will work for empowerment of SHAFPAC and advocates for their rights and also involve others community stakeholders in their program.

Note: SGP can contribute to all above areas. The selected activities (italic and bolded) in the table fit best to SGP strategic initiatives.

3. Badakhshan Province

- **Geography and location**

Badakhshan Province with 44,059 Square kilometre area largely known as one of the lush green and mountainous provinces of Afghanistan. It is located in the north-eastern region between the Hindu Kush Mountains and the Amu Darya River. It shares border with Tajikistan, Pakistan and China. Badakhshan's height is 1,800 above the sea level and the provincial capital (Faizabad) is located 470 kilometers away from Kabul. It has a relatively cold climate, in many areas allowing only one crop per year. Many of its 27 districts are inaccessible by vehicle in the winter, and a few Darwaz and Khahan districts for instance have no road access to the provincial capital. Badakshan's most distinctive feature is the Wakhan (Wakhan Corridor), a long narrow panhandle that passes between Tajikistan in the north and Pakistan in the south, linking Afghanistan with the Xinjiang region in China. Badakhshan is rich in natural resources with abundant in minerals Ruby and Azure reserves.

Figure 11: Map of Badakhshan

The population of the province is about 950,953, which is a multi-ethnic rural society (96% is rural population). Dari-speaking, Tajiks make up the majority followed by Uzbeks, Khowar, Pashtuns, Hazara, and Qizibash. The Kyrgyz and Wakhis live Wakhan corridor. Overall, the human capacity in the province is poor. Opium addiction is a major issue mainly in Wakhan and Shegnan district.

- **Historical Sites:**

The province has immense historical importance. As many as 21 historical sites are registered with the Information and Culture Department located in Faizabad and other districts. Among them Pul-e-Khisti of Kokcha River, Khirqa-e-Mobarak Graves of Miryari Beg, Mir Ghias and Hakim Nasir Khusru are widely known places that thousands of tourists visit every year. Similarly, another 75 historical towers including Baharak, Ishkashim and Tobkhana ruins and Bala Hisar and Qala-e-Panja are also among the historical monuments. Badakhshan has high mountains and roaring rivers. The most important mountains are Khaja Mohammad, Hazar Chashma and Safid Khirs. The peak of Hindukosh is called Naw Shakh. The Pamir, which is famous with the name of Roof of the World, is located in Wakhan District at the border of China. Ruby mine is located in Serghilan District and Azure is in Kiran-o-Manjan District. Similarly Badakhshan has Iron and copper mines as well and in some areas, the people collect gold from river sands with local tools to lead their life.

- **Natural Resources:**

Two of five watersheds in the Amu River Basin (the Panj and Kokcha watersheds) are located in Badakhshan. The Panj watershed, which originates from the high Pamir, drains many rivers on the route. The Ab-i-Pamir and the Wakhan Rod combine to form the Panj River, which is also fed by the Sheva, Darwaz, and Kufab and Ragh rivers in Badakhshan. The largest lake of the Panj watershed is the Sheva Lake, which cover an area of 5.67 Sq. Km. The rangelands, which accounts of about 64% of the watershed dominates the Panj watershed. Permanent snow cover accounts from about 26%. The irrigated land accounts for about 0.7% of watershed. The Kokcha drains from the high Hindu Kush Mountains of the Kuran WA Munjan district of Badakhshan. The Tagab-i-Anuman and the Tagab Munjan combine to form the Kokcha. The Warduj River joins Kokcha below Baharak. The Kishim River joins Kokcha, which eventually joins the Amu River at Takhar. Rangeland dominates this watershed, accounting for about 60%.

Wakhan is home of five mammal species (Snow Leopard, Brown bear, Wolf, Marco Polo sheep, and Siberian ibex. Most of them are listed in the IUCN's Red List of Endangered species. Furthermore, the region hosts a number indigenous plan species, birds, insects and other animals that are of high scientific interest, be it for their local specificity or their coping capacity with the harsh living condition. The Tugai Forest, an important and characteristic wetland ecosystem of the dry lands of central Asia, is found in Kuran Munjan district and stretches along the Kokcha River. This ecosystem consists of reeds *(Phragmites)* interspersed with Tamarix and Salix trees. The Tugai forest also has potential for eco-tourism.

Of the 73 million coal reserves identified in the country, part of it is reported to be in Badakhshan. However, there has been no major commercial mining of coal in the province. Wood products meet the bulk of energy needs, leading to a severe deforestation. Badakhshan is a major source of terms and mineral, most importantly Lapis Lazuli. The province has the highest seismic risk in the county. The region is also prone to flash floods and landslides. This has an impact on livelihood opportunities. Despite massive mineral reserves, Badakhshan is one of the most destitute areas in the world.

- **Agriculture Overview**

There are diverse agro-ecological zones within Badakhshan. Consequently, the farming systems and the agriculture calendar are also diverse. For instance, the harvest season in Baharak and in Jurm valleys starts in late May and continues till the end of July. In the higher altitudes of Khash and Jurm, harvest begins in July and ends in September. Similarly, while Baharak, Jurm Valley and Kishim are very fertile; Wakhan is very poorly endowed. Within Badakhshan, there are niches where certain crops and varieties are specialized. For instance, paddy is grown more in Kishm district. Baharak and Jurm districts provide an ideal place for dry fruits. Pistachios are best grown in Shar-e-Buzurg, Arog and Kishim. Walnuts are a specialty in Shahada, Warduj, Yamgan and Shegnan. Kishm, Jurm and Shegnan provide a good environment in growing Mulberries. The irrigated land accounts for 302,544 hectares. Wheat is cultivated in both as irrigated and rain-fed crop.

The pasturelands dominate the province. According to MAIL, there are 2,800,601 hectares of pastureland in the province. Forests account for 906,009 hectares. Fir forests in the highlands of Badakhshan include conifers, oak, pistachio and pines. The cultivation of poplar and willow trees is undertaken along watercourses and also in plantation. Poplars are the main source of timber for construction in the region. The growth of poplars in plantation could be encouraged. Poppy is also an important crop grown in the province. Badakhshan is currently the 5th largest poppy cultivating province in Afghanistan. According to the World Wildlife Fund, Badakhshan contains temperate grasslands; savannas and shublands as well as Gissaro-Alai open woodlands along the Pamir River. Common plants found in these areas include pistachio, almond, walnut, apple, juniper and sagebrush.

The tourism industry has potential for growth in the province. The marketing of niche tourism in Wakhan has indicted the growth potential. The marketing of Wakhan as a tourist destination has had a good impact on services such as guesthouses, cooks, guides and transport industry.

- **Medicinal Aromatic Plants in Badakhshan:**

Badakhshan geographically located at the junctions of Asia's mightiest mountain ranges − the Himalaya, Karakoram, Hindu Kush and Tine Shan − harbors rich floral and faunal diversity. The affinities with different mountain ranges and high vertical relief of Pamir Badakhshan offer diverse habitats to different varieties of species, thus supporting rich and unique biodiversity. Medicinal plants are an important natural resource in Badakhshan as they play a vital role in the maintenance of human health, especially in poor communities where even relatively low-priced modern medicines remain beyond the purchasing power of most people. Despite the long tradition of using these medicinal plants, their proven effectiveness and lack of affordable alternatives, the availability of many of these medicinal and aromatic plants is in jeopardy. Various factors are responsible for diminishing these valuable plant resources, though nearly all have human origins.

According to research done by AKDN in both Badakhshan provinces in both sides of the Afghan-Tajikistan borders, it is revealed that in Gorno - Badakhshan, local residents use 92 different species of plants belonging to 34 families and 60 genera. Among this number, 25 species are included in the official Pharmacopeia of the former USSR (State Pharmacopeia of USSR, 1990). However, the situation is quite different in Afghan-Badakhshan that the number of medicinal plants and usage was comparatively lower: 31 species of plants belonging to 20 families and 27 genera were used against various human ailments. This may be because of a lack of information regarding the medicinal values of different species of plants or because of accessibility issues as much of the plant resources and vegetation covers in Afghan-Badakhshan have been removed by the local populace for fuel and fodder purposes.

The study further reveals that there is a common understanding of herbal remedies among the people of both Tajik- and Afghan-Badakhshan around certain plant species on the use of these medicinal plants toward a number of human ailments. This is reflected in how the plants are collected, dried, and stored as well as how the recipes and medicines are prepared and administered. Out of the plants identified in

Badakhshan, 68% have similar uses in both Afghan- and Tajik-Badakhshan for treating illnesses, although some variations in usage of specific medicinal plants by Tajiks and Afghans were recorded.

It should also be noted that the vernacular names of plants often varied from district to district and village to village in both Badakhshan. The local and scientific names of the common medicinal plants used in both Tajik and Afghan Badakhshan are given in the Table -10.

Table - 10: Medicinal and Aromatic Plants in Both Tajik and Afghan Badakhshan

#	Scientific Name of Plants	Tajik Name of plants	Afghani Name of Plants
1	*Equisetum arvense L.*	*Bandakwokh*	*Bandakkah*
2	*Juglans regia L.*	*Gooz, bojak*	*Chormagz*
3	*Urtica dioica L.*	*Caginc, chaginc*	*Pich-pichonak*
4	*Crataegus korolkowii L. Henry*	*Inzekh, gegn*	*Dulona*
5	*Rosa canina L.*	*Akhar*	*Gulkhor, kikek*
6	*R. fedtschenkoana Regel.*	*Akhar*	*Gulkhor, kikek*
7	*Glycyrrhiza glabra L.*	*Muthq*	*Shirinbuya, malakhch*
8	*G. uralensis Fisch.*	*Muthq*	*Shirinbuya, malakhch*
9	*Melilotus officinalis (L.) Pall*	*Shorgarj, shorgarjak*	*Zardrishqa*
10	*Peganum harmala L.*	*Sipandar, sipand, sipandona*	*Sipandona, hazorispand, ispand*
11	*Hippophae rhamnoides L.*	*Chung, galagat, xinshuth*	*Gilgitak, siyohkhor*
12	*Daucus carota L.*	*Zardak*	*Zardak*
13	*Carum carvi L.*	*Bobak*	*charmak*
14	*Datura stramonium L.*	*Bangi dewona*	*Bangi dewona*
15	*Plantago major L.*	*Ragakwokh, ragwokhak, ragwokh*	*Rishtakashak*
16	*Artemisia absinthium L.*	*Sadikhs*	*Kundikak*
17	*A.vulgaris L.*	*Sadikh*	*Kundikak*
18	*Cichorium intybus L.*	*Kisnachkiznachkeznach chesnach, chukhniz, cikhniwc*	*Kosni*
19	*Taraxicum officinale Wigg*	*Shorbobgulak, zarezgulak, shoburbur, chukhat - chakhak, cacawokhak, cavincgulak*	*Shirkahak*
20	*Tussilago farfara L.*	*Filgush*	*Khargush*
21	*Juniperus semiglobosa Regel*	*Imbawsambaws*	*Murpon*
22	*J. seravshanica Kom*	*Imbawsambaws*	*Murpon*
23	*J. sibirica Burgsd.*	*Imbawsambaws*	*Murpon*
24	*J. schugnanica Kom*	*Imbawsambaws*	*Murpon*
25	*Ephedra intermedia Schrenk et C. A. Mey*	*Amojak zimojakzimoj*	*Modrag*
26	*Salix excelsa G. Gmel*	*Vurut*	*Bed*
27	*Betula pamirica Litv*	*Vawzn, vegzn, bruch, brugm*	*bruch*
28	*B.schugnanica (Fedtsch.) Litv.*	*Vawzn, vegzn, bruch, brugm*	*Bruch*
29	*Morus alba L.*	*Tud, uslai tud*	*Tut*
30	*Morus nigrum L.*	*Shatud*	*Tut*
31	*Polygonum coriarium (Grig.) Sojak.*	*Mest, kooz*	*Toron*
32	*Rheum maximowiczii Losinsk.*	*Wadar*	*Rawosh*
33	*Rumex crispus L.*	*Shalkha*	*Shalkha*
34	*Amaranthus retroflexus L.*	*Toji khurus*	*Tojkhurus*
35	*Delphinium brunonianum Royle*	*Buyambar, buyambarg, gulambar, gulambarg, gulubmar*	*Gulambar*
36	*Berberis heterobotrys E. Wolf.*	*Thirb, rithb, zirgul*	*Zargul*
37	*B. integerima Bunge*	*Analogous to above species*	*Zargul*
38	*B.nummularia Bunge*	*Analogous to above species*	*Zargul*
39	*Capparis herbacea Willd.*	*Chiber, vuzak chiber*	*Kawar*
40	*Sisymbrium loeselii L.*	*Zirdakwok, zirdwokhak, zirdgulak, atherich, cirawij*	*Charog*
41	*Ribes janczewskiiPojark*	*Qaraqot,ginood*	*Orti*
42	*R.meyeri Maxim*	*Qaraqotshirivd*	*Qaraqot*
43	*Crataegus songarica C.Koch*	*Inzekh, gegn, shithirb*	*Dulona*
44	*Rosa achburensis Chrshan.*	*Akhar*	*Gulkhor*
45	*R.beggeriana Schrenk*	*Akhar*	*Gulkhor*
46	*R.huntica Chrshan.*	*Akhar*	*Gulkhor*
47	*R.kokanica (Regel) Juz.*	*Akhar*	*Gulkhor*
48	*R.korshinskiana Bouleng.*	*Akhar*	*Gulkhor*
49	*R. nanothamnus Bouleng*	*Akhar*	*Gulkhor*
50	*R.popovii Chrshan.*	*Akhar*	*Gulkhor*
51	*R. webbiana Wall. ex Royle*	*Akhar*	*Gulkhor*
52	*Melilotus albus Medik.*	*Shorgarj, shorgarjak*	*Zardrishqa*
53	*Trifolium pretense L.*	*Sebargarushgulak*	*Saftal, sebarga*
54	*Alcea nudiflora (Lindl.) Boiss*	*Jermesk jeramesk jarmeskarwukhk*	*Garmash*
55	*Elaeagnus orientalis L.*	*Seezd*	*Sinjid*
56	*Angelica ternata Regel et Schmalh.*	*Kirifs, charefs*	*Karafs*
57	*Bunium badachschanicum R.Kam*	*Zira*	*Zira*
58	*B. persicum (Boiss.) B. Fedtsch*	*Zira*	*Zira*
59	*Ferula foetidissima Regel et Schmalh*	*Revzak, kamul, kamol, uch*	*Row , kamol*
60	*Ferula grigoriewii B. Fedtsch*	*Revzak, kamul, kamol, uch*	*Kamol*
61	*Heracleum lehmannianum Bunge.*	*Kurukhkukh, chimoth*	*Krush*
62	*Prangos pabularia Lindl.*	*Warkh*	*Ogun*

63	*Primula macrophylla D. Don*	*Gulibunafsh*	*Guli banafsh*
64	*Macrotomia euchroma (Royle) Pauls.*	*Khipikhkhipikhk, pikh-pikh*	*Surkhchuk, surkhshuk, sukhsoch*
65	*Mentha asiatica Boriss.*	*Wuthn, withm, wern*	*Warn, pundina, humba*
66	*M. arvensis L.*	*Wuthn, withm, wern*	*Warn, pundina, humba*
67	*Nepeta glutinosa Benth.*	*Khi hichofgarth, khichefgarth, khichofgarg*	*Mumicek, shikastaband*
68	*Ziziphora pamiroalaica Juz.*	*Jambilak, jambilakwokh, pukhtai withm, validolwokhak*	*Jambilak*
69	*Solanum nigrum L.*	*Karopch*	*Kryopch*
70	*Plantago lanceolata L.*	*Ragakwokh, ragwokh, ragwokhak, kalgacak*	*Rishtakshak*
71	*Valeriana ficariifolia Boiss.*	*Sunbul*	*Sunbul*
72	*Achillea beibersteinii Afan.*	*Zirdos, zirdados, zirdathaws*	*Zardsarak*
73	*Achillea filipendulina Lam.*	*Zirdos, zirdados, zirdathaws*	*Zardsarak*
74	*A. scoparia Waldst. Et Kit.*	*Vidirmeej*	*Jorubi watani*
75	*A. sieversiana Wild.*	*Buin sakikhs*	*Push*
76	*A. vachanica Krasch. Ex Poljak.*	*Suthm*	*Push*
77	*Pyretrhum pyrethroides (kar. Et Kr.) B. Fetsch. Ex Krash.*	*Kakhchiver, kakhchivergulak*	*Spurgak*

The number of globally threatened species of medicinal plants has been calculated at about 15,000 species. As it pertains to the current status of medicinal plants in Badakhshan, that medicinal plan resources were abundant in the region 15-20 years back. However, over the years, these precious resources are depleting at an alarming rate because of natural and climatic factor such as prolong drought and biotic pressure. Additionally, because of the increasing human population, more and more land is being brought under cultivation while natural vegetation is removed from the mountain slopes for fuel and fodder purposes, causing the fragile mountain slopes to become more prone to erosion and land degradation. Thus, the natural habitat of these plants deteriorates, putting the very survival of some of the most precious medicinal plants in this region in jeopardy.

Photo - 7:

- Ferulla foetidissima Regel et Schmath (revzak, kamul, kamol, uch.row) Species young plants uprooted and sold along the road side in Tajik Badakhshan
- Ferula sp. Species in Vishkharv ravine of Darvaz, Tajikistan

Photo- 8:

- Glycerrhiza uralensis Fish. (Shirinboya), muthq, matk, malakhch) Shop in Khash District of Afghan Badakhshan.
- Young boy collect *Glycerrhiza uralensis* to sell in local market in Ishkashim Afghan Badakhshan
- Over exploitation of Glycerrhiza uralensis from natural habitat- truck loaded with Glycerrhiza uralensis at Khash district Afghan Badakhshan.

Photo - 9:

- *Ribes janczewskii* Pojark (Qaraqot, ginood, arty) in Ishkashim Afghan Badakhshan
- Polygonum sp (mest, toron) exploited and being sold along the road side in Tajik Badakhshan

Photo - 10:

- *Peganum harmala L* (Spand Sipandar, sipand, sipandona, hazorispand) in Ishkashim Afghan Badakhshan
- *Polygonum coriarium (Grig.) Sojak. (mest, kooz, toron) associatio in Bartang valley of Roshan, Tajikistan*
- *Rheum maximowiczii* Losinsk. (Rawash/Chokri, wadar) uprooted and being sold along the road in Darwaz area of Tajik Badakhshan

Some medicinal plant species like *Ferulla sp, Glycirrhiza glabra, Bunium persicum, Polygonum sp and Rheum sp,* are being over exploited on both sides of Badakhshan. In many instances, school children were seen collecting and selling the plants along the roadside without knowing the time of collection, the parts that can be used as medicine, and the active ingredients in the plants. *Bunium persicum* (Zira), which was once a cash crop for the mountainous people of Afghan Badakhshan, is now very sparsely available; with the passage of time, its population is drastically decreasing in its natural habitat. The same is true with *Nepta glutinoza* and *Rosa species,* which are being ruthlessly over exploited in both Tajik and Afghan Badakhshans. Commercial collectors are also negatively affecting the status of medicinal plants. The latter generally harvest medicinal plants without any care for sustainability, as can be seen in case of the *Peganum harmala* population in Gorno-Badahshan as well as *Glycyrrhiza uralensis* in Afghan-Ishkashim and Wakhan areas of Afghan-Badakhshan.

Another threat to medicinal plant use is loss of indigenous/traditional knowledge of plant usage. The few local healers (Tabibs) use indigenous knowledge and practice therapeutics in great secrecy. This knowledge is passed down to select children or close relatives who may not be interested in practicing indigenous systems of healing and treating human ailments. Thus, this precious knowledge and practice is quickly disappearing, as written records are rarely kept by the Tabibs. In sum, the major reasons of medicinal plant depletion in both Tajik-and Afghan-Badakhshan are as follows:

1. Lack of awareness among the communities regarding the importance of medicinal plants for their livelihoods and sustenance.
2. No clear government policy for the conservation and management of non-timber forest products
3. Overexploitation and unsustainable harvesting of medicinal plants by the local dwellers from their natural habitat.
4. Removal of vegetative cover from the mountain slopes for fuel and fodder purposes
5. Prolong drought coupled with desiccating winds in high altitude pastures and mountains
6. Over grazing of pastures and rangelands by local residents as well as nomads

- **Conservation & Sustainable Management of MAPs in Badakhshan and Pamir Region**

Due to rising health consciousness among people − especially in developed countries − many are turning to organic/natural products in their daily lives and to herbal remedies to treat a number of ailments. Promotion and processing of plant-based products have been given a fresh impetus in developed and developing countries. Thus, there is a niche for medicinal and aromatic plants and associated products in national and international markets. The existing market trend demands that important and marketable medicinal plants and their habitat should be conserved, promoted, and sustainably managed for the benefits of the mountain communities.

- **Area of Interventions for SGP in preserving and sustainability harvesting of the MAPs:**

1. Community awareness regarding the importance of conservation of medicinal plants should be created through trainings/conferences and by developing promotional materials in local languages.
2. There should be clear government policy regarding conservation and management of medicinal plants and other non-timber forest products. CSOs and government dialogue in this regard is recommended.
3. Over exploitation of medicinal plants by the local residents as well as by nomads should be controlled, and there should be proper pre- and post-harvest management training for the people involved in this business.
4. Deforestation, brutal cutting of trees, and uprooting of shrubs from mountains should be checked.
5. On-farm cultivation of select, marketable, medicinal plants should be encouraged to reduce pressure on natural/wild medicinal plant resources.
6. There is a need to link traditional knowledge of herbal remedies with modern medicine so that necessary research can be initiated to test the indigenous knowledge and practices with herbs.
7. Further research is needed on the subject, especially in Afghan-Badakhshan, to explore the benefits medicinal and aromatic plants to the outside world.
8. Chemical analyses of select medicinal and aromatic plants should be carried out, with the plants identified based on ethno-botanical surveys, to demonstrate the link between indigenous knowledge of plants and modern medicines in the market.
9. The indigenous knowledge of medicinal plants passed down between generations in both parts of Badakhshan should be documented and preserved. This will help to revive and record the diminishing traditional indigenous knowledge about plants and recount it to the local communities. In this way, the orally transmitted knowledge can be conserved as part of the living cultural and ecological systems, thus helping to maintain a sense of pride in local cultural knowledge and practice and reinforcing links between communities and the environment, which are essential for conservation.

3.1. Wakhan Corridor / Wakhan National Park

The Wakhan is a narrow strip of land in the extreme northeast of Afghanistan nearly 350 km in length lying between Tajikistan and Pakistan and abutting China in the east. It was created in1893 to act as a buffer between Russia and British India. The Karakorum, Pamir and Hindu Kush mountain ranges all meet in the Wakhan to form the "Pamir Knot". The Hindu Kush lies on the south side of the Wakhan and encompasses Afghanistan's highest peaks. The north side of the Wakhan is dominated by the Pamirs, which are mostly high altitude, rolling hills and open, glaciated valleys. The rich biodiversity of the Wakhan Corridor includes yaks *(Bos grunniens)*, which are frequently used by local people for transportation, milk and meat.

Wakhan is divided into three geographical areas:

- The narrow Wakhan Valley, running approximately 110 km from Ishkishim to Qala-i-Panja, bordering Pakistan on the south and Tajikistan to the north
- The Big Pamir, lying between the Pamir and Wakhan Rivers in the north-central portion of the Corridor and bordering Tajikistan
- The Small Pamir consists of two mountain blocks at the eastern end of the Wakhan, separated by the Waghjir River and borders on Pakistan, China and Tajikistan.

Sedentary Wakhi people inhabit the Wakhan Valley and Big Pamir while the Small Pamir is home to the transhumant Kirghiz herders. The Big Pamir is a high mountain and plateau area rising to 6100 meter and dominated by alpine vegetation with grasses and sedges in the valley bottoms. The area is most famous for the magnificent Marco Polo sheep *(Ovis ammon poli)*. In 1950s, King Zaher Shah ordered that wild sheep be protected in a single valley of the Big Pamir and in the 1970s this protection was extended to four major valleys comprising 679 km². The Afghan Tourist Organization ran a successful tourist-hunting program in the Big Pamir from 1968 – 1979. The Big Pamir was gazette as a Wildlife Reserve in September 1978.

The Small Pamir has never had protected status. In 1973, 760 Marco Polo sheep were observed in the Small Pamir, not including the Waghjir Valley. Intensive surveys have not been undertaken in recent years, but the UNEP team considered that the Small Pamir population remained larger than that of the Big Pamir. WCS biologists observed 545 Marco Polo sheep in the Small Pamir in 2004 and 106 in Waghjir in 2007. WCS has recommended that an area of ca. 250 km² at the eastern tip of the small Pamir be designated a strictly protected area. This area is at present not used by the local Kirghiz herdsmen, and thus the habitat is in excellent condition and does not conflict with human use patterns.

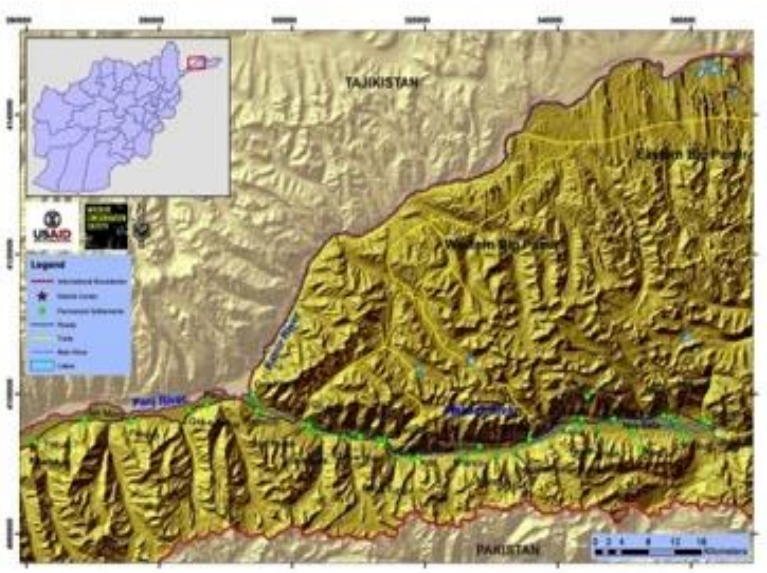


Figure 12: The western Big Pamir and associated Wakhi villages

The government together with UNEP and WCS and Wakhan –Pamir Association (WPA) has being developing the management plan for Big Pamir and that has made the Wakhan Corridor eligible to be the SGP focal point. For the purpose of baseline and availability of this government plan, this baseline report address issues of concerns of only Big Pamir.

- **Big Pamir Wildlife Reserve Landscape**

The Big Pamir is located between the Pamir River to the north and the Wakhan River to the south (Figure 12). The Big Pamir is dominated by high elevation mountains that slope down to more rolling terrain near the Pamir River. Crops do not grow at elevations above the Wakhan River, but there are scattered alpine sedge meadows and a few shrubs and small trees in sheltered areas. The highest point in the proposed Big Pamir Wildlife Reserve is 6273 meter, the lowest point 3749 meter with an average elevation of 5117 meter. The climate of the Big Pamir is cold, dry and heavily influenced by elevation. The coldest month is January with average temperatures of between -15 and -20° C and the warmest months are June through August when temperatures average between 10 and 15°C at 4000 meter elevation. The Wakhi community has 42 village Shuras also called Community Development Council (CDCs), aggregated into nine clusters. The Wakhan-Pamir Association (WPA) was registered in 2009 as an official Social Organization with the Government of Afghanistan primarily to address conservation issues throughout the entire Wakhi portion of the Wakhan Corridor. All Wakhan villages are represented in the WPA.

- **Land Cover and Vegetation**

Over 68.3% of the Big Pamir area is rock, snow and ice. The most common vegetation type is Alpine Grass covering 12.4% of the area followed by Artemisia Steppe at 8.9%. The remaining 9 vegetation types comprise only 10.5% of the area. Researchers have noted the significance of Sedge Meadows and Wet Meadows to Marco Polo sheep, yet these vegetation types together comprise only 3.9% of the area. **Figure 13** is a classified satellite image showing these land cover and vegetation types.

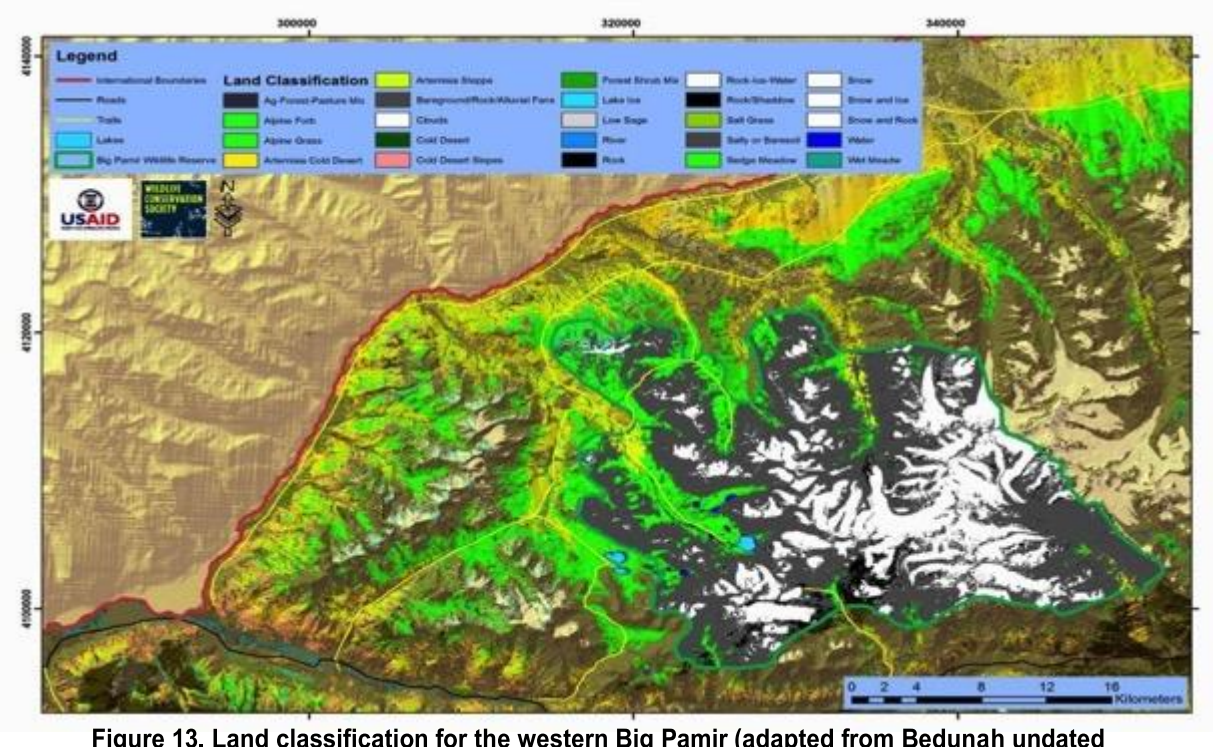


Figure 13. Land classification for the western Big Pamir (adapted from Bedunah undated

- **Fauna**

  - Mammals: The presence of the following mammals was reported in 1978 in the Big and Small Pamir:
    - Snow leopard *Uncia* (*Panthera*) *uncia*
    - Lynx *Lynx lynx*
    - Wolf *Canislupus*
    - Red fox *Vulpes vulpes*
    - Stone marten *Martes foina*
    - Ermine *Mustela erminea*
    - Otter *Lutra lutra*
    - Brown bear *Ursus arctos*
    - Marco Polo sheep *Ovis ammon polii*
    - Siberian ibex *Capra sibirica*
    - White-toothed shrew *Crocidura russala*
    - Cape hare *Lepus capensis* (but probably the Tolai hare, *L. tolai*)
    - Large-eared pika *Ochotona macrot*is
    - Long-tailed marmot *Marmota caudata*
    - Field mouse *Apodemus sylvaticus*
    - Grey dwarf hamster *Cricetulus migratorius*
    - Mountain vole *Alticola royalei*
    - Juniper (Pamir) vole *Microtus juldaschi*

  - Birds: The BPWR is listed by Bird Life International as an Important Bird Area indicating that it is of global significance to bird conservation. The listing is based on the presence of two globally threatened species (Saker Falcon *[Falco cherrug]* and Egyptian Vulture [*Neophron percnopterus*]) and on the presence of 14 biome-restricted species. A total of 141 species are listed for the Big Pamir area.

- **Grazing**

Herding patterns are based on *ayloqs*, which are owned and occupied by specific households. During summer, residents of each *ayloq* close-herd young sheep and goats in separate groups from adults while allowing yaks to free range. Cattle are kept in close proximity to the *ayloq*. Livestock from nearby *ayloqs* may graze the same pastures, but tend to be concentrated near their *ayloq* because herders generally bring the animals back in the evening. At different seasons, herds may be moved from one *ayloq* to another. There are five major grazing regions in the BPWR and Buffer Zone; (i) Istimoch, (ii) Manjulak, (iii) Jemasirt, (iv) Senin and (v) Sargaz. Livestock from *ayloqs* in these regions generally do not overlap.

- **Tourism**

WCS is planning to promote the BPWR as a tourist destination. The area has the advantages of being relatively accessible and having spectacular scenery and wildlife viewing opportunities. The Aga Khan Development Network has helped the Wakhi set up a number of privately owned guesthouses in the Wakhan Valley and has trained local people in providing basic tourism services. WCS has trained cooks and guides, is helping to rehabilitate walking trails (including the main access trail to the BPWR), provided English language training to the community, and will be carrying out a visitor survey in 2011 to better understand Wakhan's tourism industry as a means of improving it over time.

- **Current Issues and Threats to BPWR**

Currently, the greatest environmental threats to the Western Big Pamir are those faced by Marco Polo sheep; primarily illegal hunting and over-utilization of winter range by livestock. Wakhan community, through their participation in the WPA, has expressed concern that engagement with government in development and management of a protected area will jeopardize their *de facto* control of land in Big Pamir. Wakhan communities also recognize that creation of a protected area will entail loss of access to some grazing lands currently being used. They are willing to accept some restrictions so long as they are party to decision-making and management and derive some tangible benefits from the BPWR.

There are two major constraints facing effective management of the BPWR.

- The first is the protection of Marco Polo sheep winter range. Biologists agree that a major factor limiting recovery of the wild sheep population is the quality and area of winter range. These ranges are largely outside the proposed park boundaries and therefore do not fall within the protection afforded by the BPWR. Finding a socially acceptable manner of reducing the grazing pressure on these ranges in the Buffer Zone is the single biggest challenge facing this protected area.
- The second is the area's remoteness with the accompanying lack of communication and transportation. Currently, it takes roughly 5 hours to travel from Ishkashim to the Park headquarters at Qila-e-Panja. At certain times of the year the road is completely impassable. From the provincial seat in Faizabad to Ishkashim is another 7-8 hours over a road that is currently not fully secure. There is limited mobile telephone service in the Wakhan, although WCS has an excellent satellite internet connection at Qila-e-Panja. Such constraints make it difficult for communities to meet together, for government to meet with communities and for day-to-day contact between protected area staff and government agencies. Government oversight will necessarily be at a distance with most decision-making made locally.

- **Big Pamir Management Plan**

The Big Pamir Protected Area Committee together with Wakhan Pamir Association, MAIL and NEPA produced BPWR management in November 2014. A stakeholder group comprised of WPA, NEPA and MAIL and local herdsmen decided upon a revised boundary to replace those proposed in 1978. These boundaries do not extend down to the Pamir River or as far to the west as did the previous ones and encompass approximately 577 km^2. When combined with the Buffer Zone of 965-square kilometres, the entire managed area comprises 1524 square kilometres.

Afghanistan's Environmental Law recognizes six classes of protected areas: strict nature reserve, national park, natural monument, habitat/species management area, protected

landscape, and managed resources protected area. Of these categories, the Big Pamir best fits the class of "habitat/species management area". The primary goal of the protected area is to protect Marco Polo sheep and the biodiversity of the Pamir Mountains. The BPWR management plan indicates management zones in Big Pamir landscape. The names and description these zones are shown in the following table.

Table-11: Areas of Big Pamir Management Zones

Strict Protection Zones	One Strict Protection Zone, encompassing 74 km2 is located in the upper Istimoch Valley. Written permission from the Warden is required for entry into the Strict Protection Zone.
Settlement Zones	There are no human settlements in the BPWR and therefore Settlement Zones are not necessary.
Facility Zones	A ranger station will be constructed near Darah Big. Six patrol outposts will be built at locations to be decided upon in the future. These areas will be designated as Facility Zones if they are located within the BPWR. Currently there are no Facility Zones in the BPWR.
Conservation Zone	The purpose of this area is primarily to conserve Marco Polo sheep and biodiversity. The entire BPWR will be considered as being in the Conservation Zone. All Regulations apply to the Conservation Zone.
Buffer Zone:	The Buffer Zone is the area outside the BPWR between the Pamir and Wakhan Rivers as far east as the Tila Bai Valley. The area of the Buffer Zone is 965 km2. Regulations apply to the Buffer Zone only if specifically indicated.

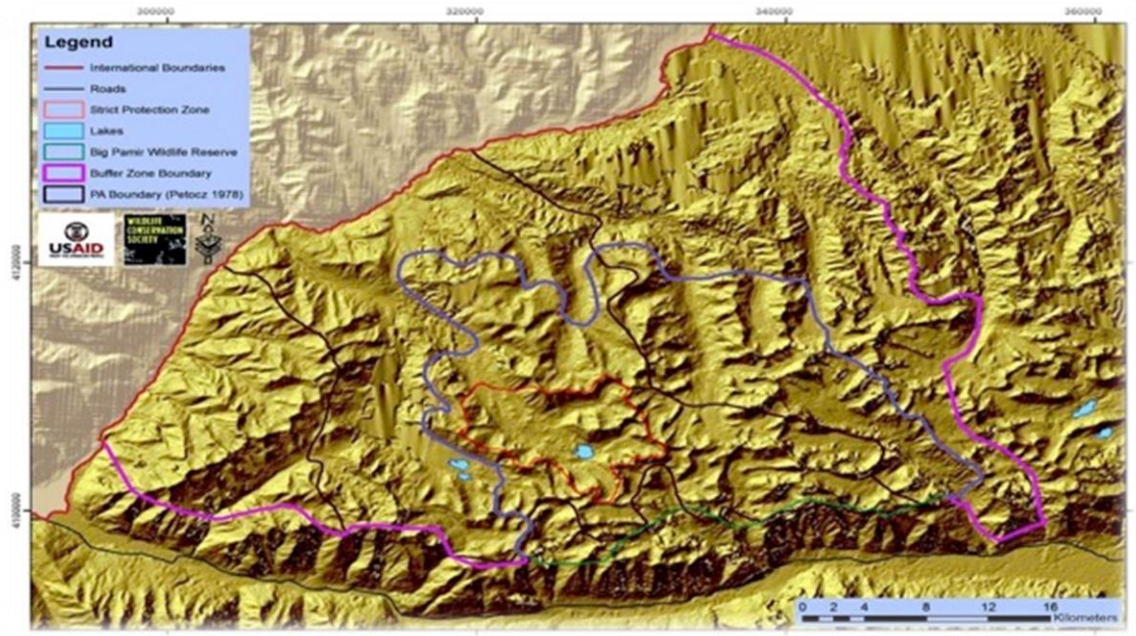


Figure 14: Boundaries of Big Pamir Wildlife Reserve, Buffer Zone, Strict Protection Zone and the 1978 Wildlife Reserve. The joint Buffer Zone/BPWR boundary is shown in green.

- **Areas of Interventions for SGP OP6 in BPWR Landscape**

  The management plan for the big Pamir contains six goals, 13 objectives and 36 actions for the next five-year period (2016-2020). The plan has not classifying the activities to be accomplished by CSOs therefore; the SGP partners; organizations in consultations with community stakeholders could select any actions of management as area of intervention for their project. Please refer to the following table to goals, objectives and the actions of BPWR management plan.

Table - 12: Goals, Objectives and actions of BPWR Management Plan

Goal and Objectives	Actions
Goal-1: Marco Polo sheep populations increased to levels at which the species can be removed from Afghanistan's list of Species at Risk	
Objectives 1: Sheep population in Big Pamir shows an increasing trend by end of Year.	• Develop a robust wild sheep monitoring methodology. • Undertake at least two complete population surveys each year in both summer and winter. • Reduce grazing competition by enforcing livestock restrictions. • Check the health and vaccinate all yaks and cattle against foot and mouth disease each year. Mark all vaccinated animals. • In consultation with communities develop a strategy to protect wild sheep winter range.
Objectives 2: Foster greater cooperation with Tajikistan for Marco Polo sheep conservation.	• Discuss trans-boundary cooperation for conservation with the relevant individuals in Tajikistan.
Goal-2: The biodiversity and environment of the Big Pamir is conserved and recovered.	
Objectives 3: Local people act to conserve biodiversity	• Undertake effective enforcement of the park prohibitions through regular patrols.
Objective 4: Vegetation conserved	• Investigate sustainable grazing and shrub collection strategies • Enforce grazing regulations. • Undertake precise boundary determination and marking using GPS • Establish and regularly document a series of vegetation photo plots.
Objective 5: Ibex population shown to be stable or increasing.	• Develop a robust ibex monitoring methodology. • Undertake at least two complete population surveys each year in both summer and winter • Document the distribution and ecology of ibex in the Big Pamir.
Goal -3: Local people fully engaged in planning and management of the BPWR	
Objective 6: Engage residents more effectively	• Strengthen the role of the WPA • Deliver Protected Area awareness programs to Communities
Objective 7: Improve role of local people in management decision-making	• Train BPPAC members in protected area management and in member roles and responsibilities.
Goal – 4: The economic conditions of local people are improved	
Objective 8: The income of residents increased	• Direct a portion of park revenues to communities. • Facilitate business and employment opportunities for local People
Objective 9: Health, education and services of Wakhan residents are improved	• Facilitate appropriate development • Facilitate learning opportunities for locals.
Objective 10: Potential for Ibex trophy-hunting program investigated	• Trophy-hunting feasibility study developed with all stakeholders • Facilitate learning opportunities for locals. • Technical input into legislation for legal hunts for ibex. • Subject to feasibility study, local people trained to manage and implement a trophy hunt. • As appropriate make available accommodation for tourist ibex hunters.
Goal 5: Opportunities provided for quality recreational and cultural experiences for Afghans and international travellers	
Objective 11: Visitors experience enjoyable and rewarding stays in the Big Pamir.	• Complete a comprehensive plan for visitor services. • Provide visitor services at the Qila-e- Panja Ranger Station • Gather information at entrance on visitor numbers and characteristics. • Develop at least two campgrounds for trekkers. • Develop detailed brochure for trekking in the BPWR and Buffer zone.
Objective 12: International recognition of the BPWR is increased.	• A "brand recognition" strategy for BPWR developed. • BPWR recognition strategy implemented.
Goal -6: The capacity of staff to manage the BPWR developed	
Objective 13: Rangers have sufficient resources to undertake their tasks.	• Build and equip a Ranger Station HQ. • Build and equip 4 Ranger Patrol buildings • Ranger patrol buildings. • Ranger training plan developed and implemented. • Equipment and operations plan developed and implemented.

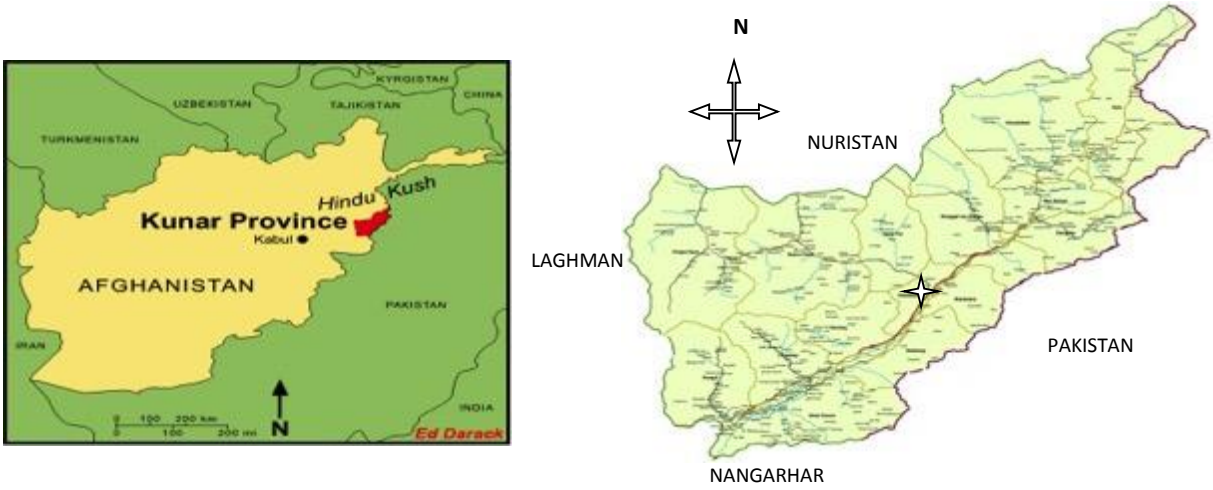
In addition to above activities, SGP can involve itself in research to identify best model of housing (house design), and using solar energy for heating that are suitable for high elevation areas. The SGP can introduce and disseminate these technologies to population in Wakhan National Park.

4. Kunar Province

- **Geography and location**

Kunar Province covers an area of 4339 square kilometer. Nearly 86% of the province is mountainous and forested and 12% of the area is made up of flat land. It is located in the northeast of Afghanistan, and shares a 250 kilometers open border with Pakistan. Its provincial capital is Asad Abad, 175 kilometer away from Kabul by road. There are more than 1000 germ mines in Pech Valley and Chapa Dara Districts of Kunar for which the locals without any proper government control extract the germs and sell in Pakistan.

Figure – 15: Map of Kunar Province



- **Human Population:**

About 450,652 people live in Kunar Province. Around 99% of population (436,700 people) lives in rural areas while 1% lives in the urban areas[12]. Majority of the population belongs to Pasthun ethnicity, followed by Safi, Salarzai, Mammond, Meshwani, Tajiks (Daigan) and Kuchis (nomad) as in minority. Gujar and Mushwani, which comprises 5-10% of the total population, are the seasonal migratory group. Most of them are landless and are mainly involved in livestock rearing.

- **Agriculture**

Kunar River is major sources of irrigation. Three other major rivers (Landay, Pech and Asmar) feed this river. Pech and Asmar rivers join Kunar River at Asad Abad while the Landay Rivers joins the Kunar River at Barikot. According to the Department of Agriculture in Kunar, out of 24000 hectares of agriculture land 18000 hectare is classified as irrigated and 6000 hectare as rain-fed and 9000 hectares as waste land unsuitable for agriculture. According to estimates of irrigation and Water Resources Department in Kunar, 97% of the irrigation is done through canals and the rest through spring and Karezes. Two crops are grown on irrigated land. Wheat, maize, rice, sugarcane, lentils, barley, beans cotton and vegetables are grown in irrigated land. On rain-fed land mostly wheat, barely, mustard and watermelon are grown. Fruit trees are grown on an area of approximately 30 hectare in the province. Fruits grown in the province are grapes, apricot, orange, walnut, persimmon, guava plum and almond. Almost every household in the flat areas of the provinces keeps sheep and cows for domestic consumption.

- **Forest**

A few centuries ago deciduous and evergreen forests covered 5% of Afghanistan's current land area, including one million hectares of oak and two million hectares of pine and cedar growing mostly in the eastern part of the country. Today most of the original forests have gone. By the middle of the 20th century, the total forest cover of Afghanistan was estimated at 3.1–3.4 million hectares. Forest now occupies less than 1–1.3 million hectares (2% of county's total area). The forest area declined at the rate of 3% a year from 2000 to 2005 (equal to annual removal and conversion of 30,000 hectares of forestland).[13] The largest areas of forest are located in the eastern provinces of Nuristan, Kunar and Nangarhar. Remote sensing (satellite image analysis) of these provinces in 1978 and 2002 revealed that

[12] CSO update population for 1394 (2015 – 2016)

[13] Afghanistan environment 2008, by the UNEP and NEPA

forest cover there has been reduced by more than 50%. The data indicates that Conifer forests in the provinces of Nangarhar, Kunar and Nuristan were reduced by over a half between 1978 and 2002.

According to FAO, before war about 66,500 hectares of Conifer's forest is existing in Kunar area that comprises about 25 million cubic meters of industrial wood from the total of 29 million cubic meters in province. Therefore, Kunar is one of the largest and significant forest areas of Afghanistan. The major industrial wood trees are including *Picea snithesis, Codrus deodara, Abies spectabilis and Pinus vallichicia.* During 1973, about 145,000 cubic meters of wood trees have been cut down in the forest but only 86,000 cubic meters of wood have been gained as useful wood because of traditional plant cutting techniques, fragile transportation facility and lack of skilled workers in wood preparation, which means that about 59,000 cubic meters of wood have been wasted from the cutting stages to the preparation stages. The forest had potential to produce about 100,000 cubic meters of industrial wood but if the wood wastage continuing at the same rate, this potential will fall to 60,000 cubic meters. Due to increasing demands for wood about 1,000 hectares of land becomes deforested each year. The latest studies show that 70% of wood is wasting from the tree cutting stages to the timbers preparation, which mainly takes about 18 months of time to proceed.

Kunar is one of the four provinces of Afghanistan still having a significant cover of natural coniferous forests. According to Kunar Department of Agriculture, Kunar has 54,260 hectare of forest area and 38,460 hectare of pastureland. During the war, these forests have indiscriminately cut and mainly sold to bordering Pakistan markets. WCS using satellite imageries undertook a tentative assessment of forest loss and deforestation trend of Eastern Afghanistan. The analysis revealed a significant drop in forest cover in Afghanistan. As an example, forest cover in the three eastern provinces of Nuristan, Kunar and Nangarhar was reduced by 43%, 24% and 22% respectively during the last 15 years. Figure 16 clearly illustrates the significant reduction in the forest cover in what is generally through to be one the most forest regions of Afghanistan.

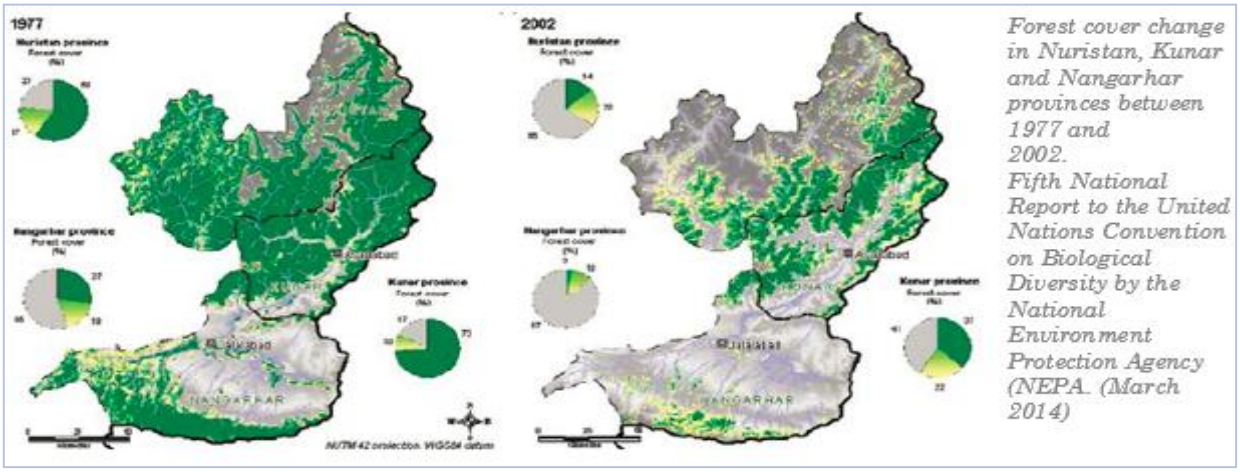


Figure – 16: Afghanistan Forest Cover Change in Eastern Afghanistan between 1977 and 2002

Source: NEPA Report to UNCBBD – 2014

Several factors are driving the rapid decline and degradation of forests:

1. In addition to providing for basic cooking, heating and construction needs, War has also inflicted damage on forest ecosystems.[14] Illegal logging today depletes forests. As many as 200 timber trucks a day – representing the loss of up to 200 hectares of forest – have been observed on the main road in Kunar.
2. Demand for timber for trading in Afghanistan and abroad, especially neighboring Pakistan. In 1992–2002, including the Taliban's use of the forest trade as a source of revenue, massive logging and smuggling significantly contributed to forest reduction (50–200 timber truckloads a day or 150,000–500,000 cubic meters of wood annually) in the eastern provinces of Afghanistan.

[14] Afghanistan environment 2008, by the UNEP and NEPA

3. Local communities have lost control of their resources in these eastern provinces, where warlords, 'timber barons' and foreign traders control illegal and highly lucrative logging operations. Organized crime groups and traders now largely use Forest resources for immediate profit.

4. Poor forest management, lack of incentives for reforestation, lack of community involvement and awareness and agricultural and urban encroachments on forestland also contribute to the severe decline of forest cover in Afghanistan.

- **Area of Intervention for SGP in Kunar Province**

The NSC of SGP selected Kunar Province as focal area to consider two main issues during OP6.

1. *Deforestation:*
   Based on analysis, if deforestation continues at its present rate, all forest in Afghanistan will have disappeared in another three decades. Therefore, Any project that addresses the problem of deforestation in eastern region mainly Kunar Province, will be funded by SGP. This projects includes awareness rising, introduce of eco-friendly technologies and other to organizing advocacy campaigns to pressure government to protection and development forests in Kunar Province.

2. *Conservation of Endangered Medicinal and Aromatic Plants (MAPs):*
   Kunar province is a habitat of varieties MAPs, which provides livelihood support for local population. The districts, which are located near to the hilly areas and lush green hillocks on both sides, are place for its habitation and provide a pleasant aesthetic value to the dwellers. MAPs are playing a significant role in the livelihood of a particular floristic area. Local people are generating their income from the collection, trading and exporting of the plant species. As a natural and economical resource, MAPs are unwisely collected and uprooted by different people and this uncontrolled collection has threatened the survival of existing plant species. Any project to conserve the MAPs including collection and documentation of the folk assets of indigenous knowledge; and create awareness regarding the importance and conservation, link with livelihoods and training for sustainable collection and cultivation will be considered by OP6.

   The SGP intervention in above areas, will achieve the GEF-6 strategic objectives # 1, 2 and 3.

Promotion of Social Inclusion

A. Gender:

Worldwide a strong, well-documented relationship exists between gender and environment: through hardly any significant work has been conducted in Afghanistan on aspects such as (a) compilation of statistics of gender-disaggregated environment al goods and services, (b) Targeted interventions to address the environmental issues that impact women more adversely such as indoor air pollution, lack of access to drinking water, promotion of health and sanitation within the family etc.: (c) Recognition of women's specific contribution to sustainable environmental management.[15] The government has developed national action plan (2007 – 2017) for the women of Afghanistan Women constitute about 49% of Afghanistan population. The development of women's human capital is strongly articulated in principle # five of the Afghanistan Compact and highlighted as one of the three goals of gender equity in the Afghanistan National Development Strategy. This vision captures the three main themes of the United Nations Decade for Women - peace, development, and equality. Since the International Women's Year of 1975, these themes have underlined the development of international policy instruments on women, including the Convention on the Elimination of all forms of Discrimination against Women and the Beijing Platform for Action. The themes are inextricably interlinked and are meant to be pursuing in a holistic way. Inarguably, peace and equality are preconditions for development; and without equality, development and peace would not be sustainable.

In rural areas men and women have distinct roles and agricultural responsibilities. According to the World Bank (2004), surveys focusing on Laghman, Ghazni, Badakhshan, Bamiyan, Paktia, Helmand,

[15] Environmental Strategy 2007/08/2012/13, AND, Afghanistan government

Faryab and Saripul provinces showed that women and girls in these villages were involved in an array of farm-based activities ranging from seed bed preparation, weeding, horticulture and fruit cultivation to a number of post-harvest crop processing activities such as cleaning and drying vegetables, fruits and nuts for domestic use and for marketing. Another survey by Action aid (2001) shows that women and men in Ishkashim, Warduj and Argu districts contributed similar time to agriculture activities with men focusing on land preparation, planting/sowing and fertilizer application while women were involved more in activities like weeding, seed planting and harvesting.[16]

B. Indigenous people:

Indigenous peoples and local communities are defined by their relationship with and dependence on natural resources, including land and water resources. This long association and reliance upon local resources has resulted in the accumulation of local and traditional knowledge that contains insights, innovations and useful practices that relate to the sustainable management and development of these areas. Local communities and indigenous peoples make substantial contributions to global conservation efforts and sustainable development. Local communities and indigenous peoples make substantial contributions to global conservation efforts and sustainable development. While these communities are often the primary 'resource stewards' who rely on ecosystems to meet food security, livelihood and health needs The significance of community-based action for biodiversity, ecosystems and sustainable livelihoods is captured in the Aichi 2020 targets under the Convention on Biological Diversity (CBD), including in Aichi Target 11 (Protected Areas, including "other effective area-based forms of conservation"), Target 14 (Ecosystem Services), and Target 18 (Traditional Knowledge). In consideration of UN Declaration on the right of indigenous people, the SGP-OP5 has funded the local institutions of indigenous people in Bamyan and Badakhshan and these financial and technical supports will continue during the course of SGP OP6 implementation.

The local communities live in and around national protected areas, and the Afghan farmers, experienced horticulturists, nurseries owners, and the farmers with the extensive experiences in ecosystem management practices are the indigenous most vulnerable individuals in axis of environmental threats. In rural areas some of the farmers, agriculturist and natural resources users paly a demonstrative role and most of the local populations are copying the model and experience he/she owned at local level. These individuals can play vital and leadership role in introducing new technological and academic practices by using very limited resources, to be helped.

C. Youth:

Based on the Central Statistics Organization's (CSO) 2014 estimates, 63 percent of Afghanistan's 27.5 million people are under the age of 25 and those between 15 and 24 years of age comprise 17% of the population. Examples from other countries have shown that with a commitment to making youth the focus of development and poverty reduction, a sizable youth population can be turned into a demographic dividend. Afghanistan has developed National Youth Policy in 2014. The key policy issue of this policy is to (a) to strengthen youth-led organizations and networks at national and sub-national levels, (b) promote and support youth volunteerism towards preserving vital national interests, (c) encourage dialogue among youth, government and CSOs at the national and sub-national levels. The Youth National Policy emphasize that all stakeholders should promote and support the active participation of youth in preserving and rebuilding Afghanistan's environment through the following measures:

- Promote awareness on environmental issues and practices amongst youth through curricula in schools, religious seminaries and universities.
- Support youth organizations to work for environmental sustainability and appreciate youth who work hard to protect the environment.
- Involve the media in disseminating information on environmental issues and best practices for environmental preservation.
- Work with the growing Afghan youth movement on nature and outdoor programs in mountains, practical action, environmental restoration and rehabilitation.
- Support youth to participate in national and global days for forests, soil, water, environment, peacemaking, climate and biodiversity.

[16] Women and Natural Resources in Afghanistan, United Nations Environment Program (UNEP), 2009

- Create a high level committee on environmental preservation between government and CSOs.
- Support disaster risk reduction and preparedness amongst communities at risk of natural disasters.
- Enable Afghan youth to take on climate action and climate justice concepts and strategies as part of the Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) and the Afghanistan National Adaptation Plan of Action (NAPA). [17]

SGP Afghanistan has made good progress in achieving SGP OP5 global objectives on improving vulnerable groups through increasing local benefits generated from environmental resources, and mainstreaming gender consideration in community based environmental initiatives. SGP OP5 have funded nine women led projects, five youth led projects. In-addition, three projects directly supported indigenous groups, two project supported disabled and displaced families. This support will continue throughout SGP OP6 implementation.

The youth generation, involved with the agriculture activities in rural areas, is mainly responsible for provision of livelihood to their families. About 50% of the human resources involved with the agriculture comprise youths and children involved alongside their elders in agriculture sector to produce agriculture products for sale and families usage purposes. The weeding, ploughing, watering and harvesting of the crops are main areas of youth's involvement in agriculture sector. In most of the areas, children and youths are involved with the livestock raring and foddering activities.

D. Other Vulnerable Groups:

In Afghanistan there is little reliable data on disability issues including the number of those with impairments. Estimates indicate 4% of the population to be disabled that means that there are approximately 800.000 people who are disabled in Afghanistan. Many believe, however that the number of disabled people is much higher than that considering the long years of war and continued active mine fields in the country.[18]

The Ministry of Refugees and Returnees Affairs (MoRR) puts the total number of IDPs at 828,000 IDPs in Afghanistan – both conflict and natural disaster-induced (end December 2014). Beyond the exact numbers, the trends matter: over 166,000 IDPs in 2014 have been displaced by conflict, with a peak in displacement during the summer, and vulnerabilities heightened during the winter. Yearly displacement trends show a sharp increase in numbers. Internal Displacement in Afghanistan includes conflict-induced, natural disaster-induced, protracted displacement and rural to urban displacement. In order to cope with displaced people problems the government has developed national policy on IDPs in Afghanistan.

The IDPs and Kochis are the front line population towards the threat of desertification. The Kochis are nomad people moving around the country on seasonal basis. They shift their location on the basis of availability of fodder facilities for their livestock. Kochi's comprises an important part of agro-economy but the severe drought years during 2,000 mostly effected the Kochis and IDPs population. The widespread desertification greatly reduced the grazing areas and effected the rangelands which were hotspots for Kochis as grazing areas for their sheep's and herds. The scarcity of drinking and irrigation water extremely reduced Kochis ability during drought years in watering and feeding their cattle and to find proper fodder facilities. During those years of drought, about 70% of the country's livestock wiped out due to lack of watering and fodder facilities.

[17] Afghanistan national Youth Policy, Ministry of Information and Culture - 2014

[18] The comprehensive national Disability Policy in Afghanistan – 2003, Ministry of Martyrs and Disabled

References

- A Socio-economic Demographic Profile: Households Listing, UNPFA & Afghanistan Central Statistic Office, 2003
- Afghanistan's National Biodiversity Strategy and Action Plan (2012 – 2017)
- Afghanistan National Development Strategy (ANDS), Islamic Republic of Afghanistan, (2008 – 2013)
- Afghanistan National Youth Policy, Ministry of Information and Culture, Islamic Republic of Afghanistan, 2014
- Afghanistan Post-Conflict Environmental Assessment, UNEP, 2003
- Aziz Ali and Anzurat Akobirshoeva, *"Status and Potential Use of Medicinal and Aromatic Plants in Pamir Region of Tajik and Afghan Badakhshan"*, AKDN. May 2013
- Band-e-Amir National Park Management Plan (1390 – 1394/2011-2015), BAPAC, MAIL, NEPA, Islamic Government of Afghanistan, March 2011
- Band-e-Amir Provisional National Park Preliminary Management Plan (2008-2011), NEPA & MAIL, Islamic Republic of Afghanistan, March 2008
- Sher Ali Yecha, *"Environmental Issues in Kabul, Outlook Afghanistan"*, 20 June 2013
- Environmental Strategy 2007/08/2012/13, Afghanistan National Development Strategy, Islamic Republic of Afghanistan
- Evans. M. I. (ed.), 1994, Important Bird Areas in the Middle East, Bird Life Conservation Series No. 2. Bird Life International, Cambridge, UK.
- Kabul City Green Belt Project Power Point, MAIL, 2016
- Koh-e-Baba Mountains Protected Area Management Plan-Draft, NEPAL and MAIL, Islamic Republic of Afghanistan, June 2015
- Management Plan for Big Pamir Wildlife Reserve, Big Pamir Protcted Area Committee, Wakhan
- Management Plan for Kol-e-Hashmat Khan Wetland, Afghanistan, NEPA, MAIL, Islamic Republic of Afghanistan, March 2016
- Pamir Association, MAIL, NEPA. November 2014
- Provincial Development Planning Profile, Ministry of Rural and Rehabilitation and Development, Islamic Republic of Afghanistan, 2008
- Provincial profiles, Regional Rural Economic Regeneration Assessment and Strategies Study, Ministry of Rural Rehabilitation and Development, Islamic Republic of Afghanistan, GRM International. October 2006
- Provincial Profile of Kunar Province – UNAMA, 2010
- Saeed Naqibullah Mostafawi & Dr. Stephane Ostrowski, *"Birdlife monitoring in Kol-e-Hashmat Khan, Kabul, Afghanistan (March 2007-April 2010)",* Wildlife Conservation Society / Afghanistan, August 2010
- Shah Foladi Mountain Landscape Conservation Area, NEPA, MAIL, Islamic Republic of Afghanistan, July 2014
- State of Afghan Cities, Volume one, UN Habitat, 2015
- Terek, J. 1983, "to the Knowledge of aquatic fauna of Band-e-Amir Lakes-Afghanistan
- The comprehensive national Disability Policy in Afghanistan, Ministry of Martyrs and Disabled, Islamic Republic of Afghanistan, – 2003
- Women and Natural Resources in Afghanistan, United Nations Environment Program, 2009