

Justification for Proposed:

**Shah Foladi
Mountain Landscape Conservation Area**

Islamic Republic of Afghanistan

**National Environmental Protection Agency
&
Ministry of Agriculture, Irrigation, and Livestock**

July 2014

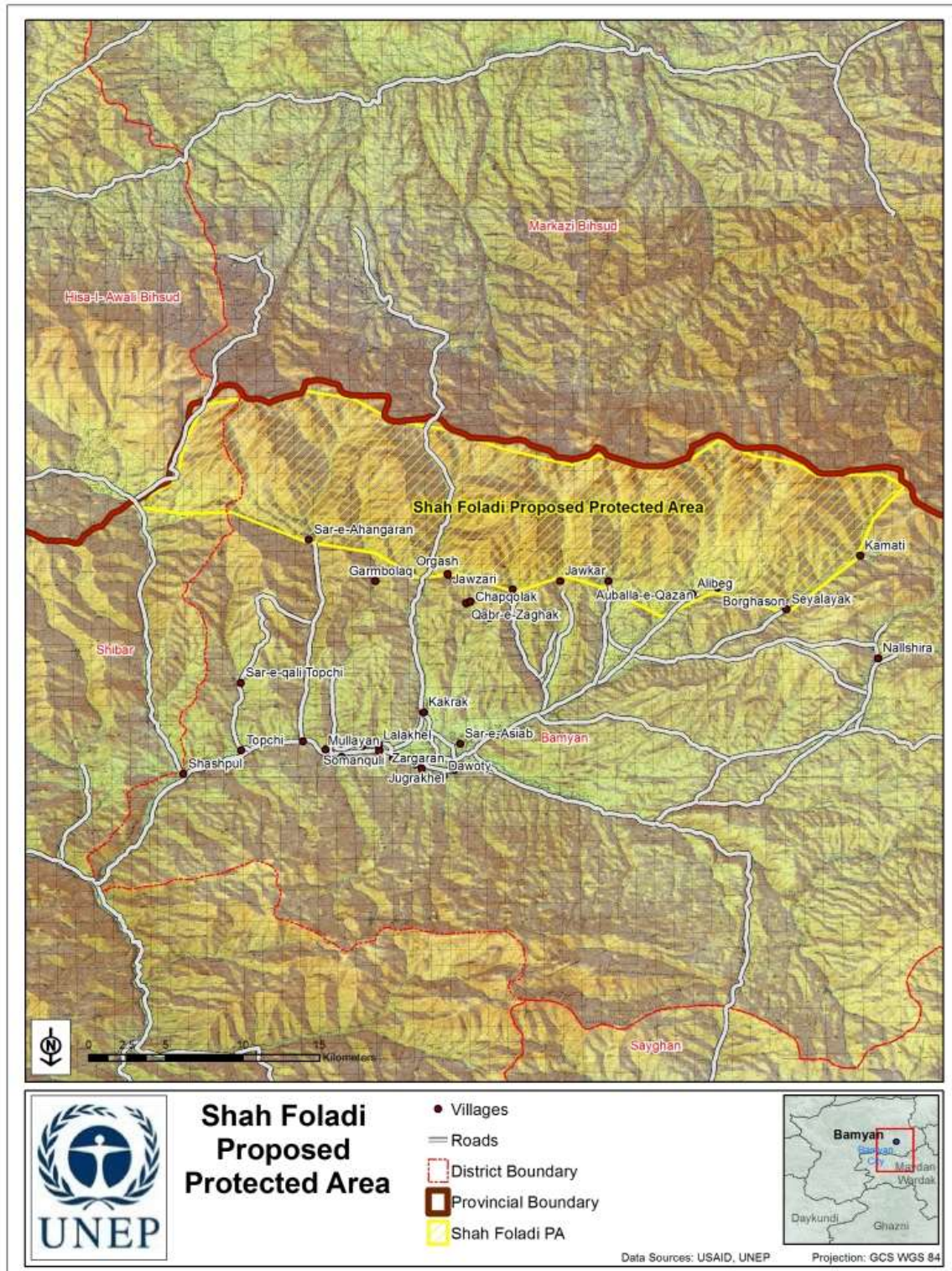


Figure 1: The Proposed “Shah Foladi Mountain Landscape Conservation Area” is located 15km south of Bamyan City and covers an area of approximately 7000km² with over 5000 inhabitants that have lived in a balance with their natural resources for generations.

1. Introduction

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.

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.

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 Sibirica*), 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.

The following document provides information and justification for the legal designation of the Shah Foladi National Protected Area as Afghanistan's third protected area as stipulated in Article 42(2) of Afghanistan's Environment Law. The proposal to designate Shah Foladi includes the following elements:

- Justification for the establishment of the protected area and the category of protection proposed. This will include the objectives for the national protected areas as well as an evaluation of the advantages and disadvantages of establishing the protected area;
- A physical survey of the proposed protected area;
- A socio-economic survey of the local human population with a description of the traditional uses of natural resources in the area proposed for designation and the potential impact of each category of protection provided in Article 40;
- A report on collaboration with central and local relevant government departments and local communities, in determining the boundaries and category of the area proposed for designation.

- Comments and suggestions from relevant ministries, central and local relevant departments and local communities concerning the proposed area and designation of the protected area.
- A description of any compensatory measures that may need to be taken into consideration as a result of establishment of the protected area.

The following sections of this proposal address each of these requirements.

2. Justification for Designating Shah Foladi as a Legally Protected 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 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 neighboring 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 United Nations Environment Programme (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 and further afield. There are currently 14 national and international development partners working with communities and government in the Shah Foladi landscape to link ecology and community together to support and strengthen this world-class conservation area.

3. Justification for International Recognition as a Protected Area

For the Shah Foladi to be internationally recognized as a protected area, it should meet the International Union for Conservation of Nature (IUCN) definition for protected areas:

“A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.”

Term by term, the Shah Foladi meets the criteria defined by the IUCN for a protected area in the following aspects:

- **DEFINED SPACE**: the Shah Foladi has clearly defined natural boundaries created by the valleys and peaks it encompasses within the larger landscape of the Koh-e Baba mountains. The watershed's boundaries are naturally defined by ridges and a core buffer area.
- **RECOGNIZED**: from both ecological as well as cultural perspectives, the Shah Foladi is widely recognized by government, civil society, and intra-governmental organizations as an area important for conservation and management.
- **DEDICATED**: the people of the Shah Foladi are dedicated to conservation and this is supported through provisions within the Environment Law.
- **MANAGED**: the Shah Foladi is actively managed for conservation by the local communities and government.
- **LONG-TERM**: community-based conservation management in Shah Foladi is established with no foreseen end date.
- **CONSERVATION OF NATURE**: local communities and government have proved they are effective at protecting Shah Foladi's natural resources;
- **CULTURAL VALUES**: future management of Shah Foladi places emphasis on protecting the unique cultural and historical values of the landscape.

In summary, the Shah Foladi meets all of the criteria put forward by the IUCN to be internationally recognized as a protected area.

4. Justification for Proposing a Category V Protected Area

Shah Foladi meets the Objectives of the National Protected Area System Plan, as defined in Afghanistan's Environment Law:

- Conserve the natural and cultural heritage;
- Preserve present and future sustainable development options by conserving, and where necessary restoring, representative ecosystems, habitats and natural and cultural features, and integrating their management into local and national land use plans;
- Ensure the sustainable use of natural resources by involving local communities in all activities related to protected areas, including designating and delimiting areas, developing integrated management plans, and managing protected areas.

IUCN and the Afghan Environment Law both recognize the same six classes of protected area:

Category Ia: Strict Nature Reserve

Category Ib: Wilderness Area

Category II: National Park

Category III: National Monument or Feature

Category IV: Habitat/Species Management Area

Category V: Protected Landscape/Seascape

Category VI: Protected Area with Sustainable Use of Natural Resources

Examination of the criteria suggests that Shah Foladi most closely corresponds to Category V: Protected Landscape/Seascape.

“A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.”

Term by term, the Shah Foladi meets the criteria defined by the IUCN for a category V protected area in the following aspects:

- 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.

- 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.

A Category V protected area provides opportunities for protection of the natural, cultural, and historical values, as well as upholding the livelihood needs of the people living in the Shah Foladi. This represents an integral balance between people and nature that can sustain traditional agricultural, natural resource use and forestry systems while providing protection and ecological rehabilitation to the area.

It is further suggested that there would be certain advantages to naming the proposed category V protected area: "Shah Foladi Mountain Landscape Conservation Area". This would likely be acceptable to IUCN and doing so would increase the area's marketability, elevate its recognition as a landscape of outstanding natural value, and strategically position Shah Foladi for UNESCO Man and the Biosphere nomination in the future.

5. Advantages of Shah Foladi as a Protected Area

Designation of Shah Foladi as a Category V protected area will provide a legal basis for the management and protection measures necessary to conserve the natural and cultural environment. The conservation measures necessary for protecting the landscape are not expected to place restrictions on land use by local people beyond measures they are already undertaking through traditional resource use cycles. As a legally recognized protected area, Shah Foladi will ensure that benefits accrue to local people in an organized and effective manner.

As mentioned above, designation as a Category V protected area that is named "Shah Foladi Mountain Landscape Conservation Area" will also provide the international recognition that is essential to marketing the area as an attractive tourist destination, and will position it for future UNESCO World Heritage nomination.

The Shah Foladi Mountain Landscape Conservation Area will help conserve the landscape's natural heritage by continuing to prescribe the management actions necessary to protect wildlife, forests, rangelands, watersheds and other important natural resources. This proposal also calls for the full documentation of cultural heritage in Shah Foladi and for protection of historic sites.

The protected area will also maintain options for sustainable livelihoods by continuing to develop strategies for land use that harmonize with nature, and offsetting the economic impacts of land use restrictions with income derived from tourism and park activities.

Management of the protected area will continue to involve local communities and a Protected Area Committee, in all matters of park planning and management as outlined in a Collaborative Management Agreement and a Terms of Reference for the Protected Area Committee.

6. Physical Survey of Shah Foladi Area

Extensive field surveys on flora, fauna, agriculture and water management, community and environmental management issues have been carried out in the Shah Foladi area over the past ten years, building on much earlier studies undertaken in the 1960's and 1970's by national authorities.

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.

Water for household use and irrigation is often collected directly from streams and springs, which are largely fed by snowmelt and rainfall collected in the mountainous landscape. Due to the altitude, mountainous landscape, and long winters, the region has limited cultivatable land relative to the rest of Afghanistan. Only 33,790 ha or two percent of the land can be irrigated in Bamyan province, which is primarily represented in the drainage areas. Irrigated land is used for cultivating wheat, barley, and potato, as well as a limited number of fruit trees, legumes and vegetables. In areas where the mountain slopes are less rocky and enough wheat seed is available, the mountain is ploughed and rain-fed lands are also cultivated.

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 percent of the whole of Bamyan province, and are used extensively for livestock grazing and harvesting of critical plant resources for fuel. Communities in the Shah Foladi report that the sale of livestock and animals products accounts for over 60 percent of their household income, while the mountainous landscape of the protected area limits the extent of rangelands as a consequence of high elevation and the rocky alpine slopes of the Shah Foladi landscape.

Local communities in the Shah Foladi practice animal husbandry and keep a variety of livestock such as donkeys, goats, sheep, cows and chickens. 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. Communities in the Shah Foladi rely on livestock for food, sale, organic fertilizer, and fuel, and are therefore considered as objects of wealth and insurance for lean times or emergencies. Households in the Shah Foladi also collect shrubs and dung from pastures for heating and cooking, which is less expensive than wood and coal which must be purchased and transported from the bazaar in Bamyan city.

Flora

Shah Foladi in the Central Highlands region 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” (Breckle 2007); 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 'tragacanth' 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, fenland and flood plain meadows. Finally, spreading upwards to various levels and merging other floral communities is 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. Ground cover can be between 40% and 90% and provides a valuable resource for pollinating insects. In the summer, as a consequence of high temperatures and reduced water availability, most plants do not survive.

Because of a long history of grazing and human use, plants that have developed adaptive strategies to cope with grazing, such as *Acantholimon*, *Acanthophyllum*, *Cousinia*, *Eremurus* and *Eremostachys*, have dominated the landscape. However, even these resilient species are vulnerable to being uprooted through harvesting for fuel. This negates any potential for regrowth and leaves the soil bare and without a root system which contributes to soil erosion and loss of topsoil. Olsen (2005) categorizes the Afghan semi-desert eco-region PA1301 as being critically endangered (IUCN) thus further emphasizing the need to actively conserve this area for local, regional and global benefits.

Many of Afghanistan's endemic plant species are also found in the Shah Foladi, including among others, *Cousinia bamianica*, *Silene bamianica*, *Anabasis bamianica*, *Salsola bamianica*, *Eremostachys bamianica*, *Phlomooides bamianica*, *Linaria bamianica*, and *Scrophularia bamianica*. In general, though, many of the endemic plant species in Afghanistan are thought to be more isolated than their nearest relatives. This situation provides evidence to the hypothesis

that Afghanistan, including the central highlands, is a historical center of development and evolution in floral kingdom.

Mammals

There exist many historical records of large mammals, such as big cats and ungulates, in the proposed area. Although recent surveys have not produced evidence of large populations. 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 (2012), speculates that approximately 273 species of birds are likely to occur in Bamyan province. Of these, 17 species are of global conservation concern according to the IUCN List of Threatened Species, including among others the sociable plover *Vanellus grgarius* (critically endangered) and the white headed duck *Oxyura leucocephala* (endangered), as well as seven vulnerable species and eight near threatened species.

Afghanistan has one known endemic species, the Afghan Snowfinch (*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 2,450-3,100 m. Three near endemics are likely to occur in the Shah Foladi region; the Yellow-eyed (Pale-backed) Pigeon (*Columba eversmanni*), 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 (*Gypaetus barbatus*), Golden eagle (*Aquila chrysaetos*) and the Steppe eagle (*Aquila nipalensis*) 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. Although no population studies have been made, Afghanistan may support significant numbers this species and further research is desperately needed.

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, including:

- European Goldfinch (*Carduelis carduelis*): year-round resident in Bamyan.
- Chukar (partridge) (*Alectoris chukar*): year-round resident in Bamyan, breeding ranges cover all of Afghanistan.
- Fire-fronted Serin (*Serinus pusillus*): year-round resident in Bamyan, breeding range includes the east of Afghanistan, including the Bamyan area.

- Bimaculated Lark (*Melanocorypha bimaculata*): is said to winter in the Bamyan area and migrate to breeding grounds in northwest Afghanistan approximately 2-300 km to the north and west of Bamyan province.

Invertebrates

There is currently limited information available on the terrestrial invertebrate population of Bamyan province and the Shah Foladi, in specific. In a rapid pollinator observation conducted by UNEP, over ten different species of pollinating invertebrates were recorded visiting one *Ferrula* sp. plant in the Shah Foladi. Further work by professional entomologists is necessary for additional documentation and surveying of invertebrate species present in the Shah Foladi.

Five species of honey bee occur across the Hindu Kush and are also presumed to occur in the Shah Foladi, though only two have been confirmed – *Apis mellifera* and *Apis labriosa*. *Apis florea*, *Apis dorsata*, *Apis labriosa* and *Apis cerana* are native and the European honey bee (*Apis mellifera*) which is an introduced species. Beekeeping projects continue to be implemented in Shah Foladi, and the non-native European honey bee is frequently chosen due to its superior levels of honey production.

7. Survey of the Human Population of Shah Foladi Conservation Area

There have been numerous social surveys in Bamyan province and within the Shah Foladi area. The government of Afghanistan, Provincial Government (PG) and the Central Statistics Office (CSO) has carried out population studies as part of its standard planning, elections and administration procedures. The Ministry of Rural Development (MRRD) has been working on its National Solidarity Programme (NSP) in the area since 2004. Ministry of Agriculture, Irrigation and Livestock (MAIL) experts have carried out extensive studies of farmland and rangeland within the proposed conservation area.

UNEP has conducted multiple village- and landscape-level surveys, research, and assessments throughout the Shah Foladi, as have other NGOs and UN agencies which have implemented livelihood and natural resource management projects in the region in recent years, including the Agha Khan Foundation (AKF), Wildlife Conservation Society (WCS), Solidarities France and Belgium, Catholic Relief Service (CRS), Conservation Organization for Afghan Mountains (COAM), and the Food and Agriculture Organization (FAO) among others.

8. Collaborative Planning

UNEP in partnership with their direct government counterpart, the National Environmental Protection Agency (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 5 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 (SHAFPAC). Management plans have been developed for the Shah Foladi and larger Koh-e

Baba landscape, which have played a significant role in bringing the Shah Foladi area to its current stage of proposal for designation as a legally recognized national park.

A final proposed management plan for the Shah Foladi National Park is in preparation with NEPA, the government body responsible for the designation of nationally protected areas, as well as MAIL, which is the government body responsible for the management of nationally protected areas. The management plan for the Shah Foladi area will serve as a government owned document to guide the national government and relevant line ministries at the national and provincial levels on the management of the area. As stated in the Environment Law and the protected areas procedures (“*tarzulamal*”), the preparation of management plans for protected areas in Afghanistan must involve provincial and district governments, as well as local communities.

9. Compensatory Measures

In certain instances, it is appropriate that individuals, communities, or businesses be compensated for rights, property, or opportunities lost through the creation of a protected area. In the Shah Foladi, the local communities are recognized as custodians of the landscape. In the management plan local communities are the stewards that will rehabilitate degraded areas, protect, and conserve the environment. Land tenure in the Shah Foladi is divided among family groups within the communities, with major land tenure issues being related to areas for livestock grazing and areas for cultivating. All efforts will be made to prevent conflict over the use of land and other resources in the Shah Foladi and therefore should not pose a significant challenge to the designation of the Shah Foladi as a protected area. This does not imply relocation of local communities or restrictions on traditional and ecologically based natural resource management and agriculture. In any instance where compensation is to be provided to an individual, community, or business for any loss of rights, property, or opportunities as a result of the creation of the Shah Foladi protected area, they shall be entitled to fair compensation, the specifics of which should be discussed in conjunction with local community leaders, the SHAFPAC, and local government representatives.

10. Recommendations

Shah Foladi is an area of outstanding natural, ecological, cultural, historical and aesthetic value, which merits formal protection and also meets the criteria detailed in the Environment Law necessary for being legally recognized as a protected area. With the local community well-prepared to be its custodians, the Shah Foladi is well suited for designation as a category V protected area, with many local, national and international benefits. Annexes to this document provide further detailed recommendations for physical planning, management and education within the proposed protected area.



Figure 2. National and provincial government team on site visit in proposed Shah Foladi conservation area in October 2012