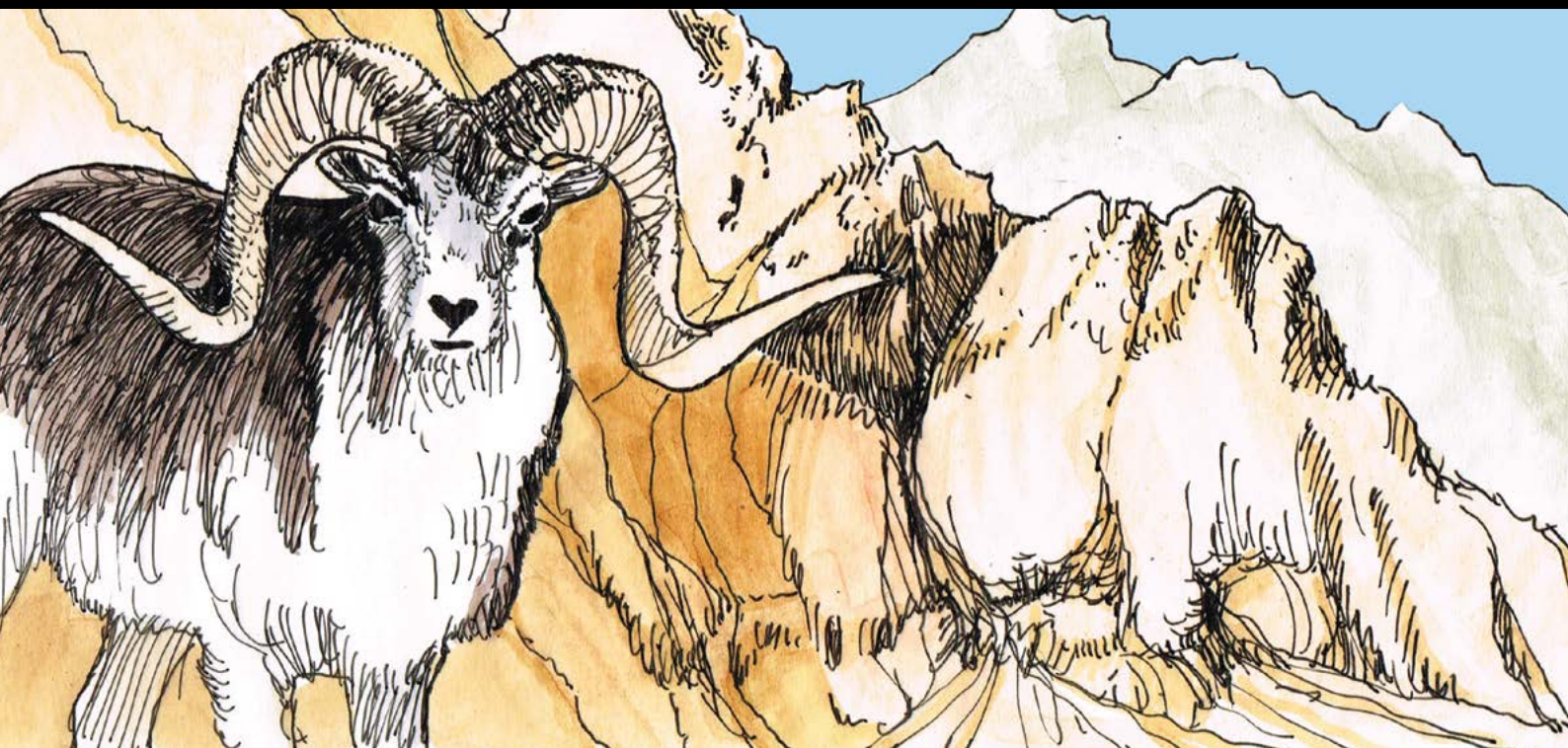




Government of the Islamic Republic of Afghanistan

# FIFTH NATIONAL REPORT TO THE UNITED NATION'S CONVENTION ON BIOLOGICAL DIVERSITY



Submitted by the  
National Environmental Protection Agency,  
31 March 2014





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31 March 2014



**Building Environmental Resilience**

**تقویت تاب آوری محیط زیستی**

## **Acknowledgements**

This report was produced by a team from the National Environmental Protection Agency of the Islamic Republic of Afghanistan, led by Director-General, Mr. Mostapha Zaher and Technical Deputy Director General Mr. Ghulam Mohammad Malikyar.

Many colleagues from government and non-government partners contributed to this report. They are too numerous to mention all here, but special thanks must go to NEPA Chief of Staff Ezatullah Sediqi, NEPA Natural Heritage Protection Division, who patiently coordinated the editorial stage and to the Natural Resources Management Division at the Ministry of Agriculture, Irrigation and Livestock who are responsible for management of biodiversity programmes in the government.

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# FOREWORD

As Director-General of the National Environmental Protection Agency (NEPA) of the Government of the Islamic Republic of Afghanistan, I have had the privilege to personally survey many of Afghanistan's diverse species and ecosystems. This field experience has helped to reinforce my lifelong passion for Afghanistan's biodiversity and rich natural heritage.

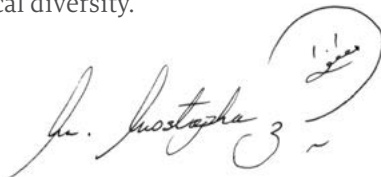
Biodiversity provides us with a wide range of plants, animals, and other materials that are essential to our lives. Moreover, biodiversity underpins vital economic sectors, such as agriculture, and provides the basis for ecosystem services that sustain our lands and rivers, as well as reduce the risks of natural disasters.

Raising awareness of biodiversity issues is a vital step in meeting our objectives with regard to preventing further biodiversity loss in our country and protecting our ecosystems. If we can inform and influence key stakeholders, be it farmers, the business sector or the wider public, of the connection between biodiversity and the services we all rely on, we will improve the success of the actions we are taking to protect Afghanistan's biodiversity. It is particularly important to raise that awareness with youth and children as they will carry these messages with them throughout their lives and help pass them on to their families and the next generation.

Conserving our natural environment is not an easy task, especially given the many other competing priorities in Afghanistan today. The current data that we have shows that the country's ecosystems continue to be degraded and species numbers are decreasing. However, much effort has been made to change these trends and the future looks brighter. With new university courses on environmental management, new technical trainings for our young conservation leaders, policy makers and conservation practitioners, and our citizens taking an ever-increasing interest in the environment as a whole, we are stepping forward with confidence.

This Fifth National Report to the United Nations Convention on Biological Diversity is an important update on our national efforts to protect Afghanistan's precious biodiversity. As this report shows, we have a long way to go to achieve our own targets, as well as the global Aichi Biodiversity Targets; nevertheless, a new era of conservation in Afghanistan is dawning and the National Environmental Protection Agency, together with key partners, will continue its efforts to raise biodiversity conservation to a higher place on the national and local agenda.

I am pleased to launch this report, and look forward to hear from all those who read it and use it in supporting our important work to protect and manage Afghanistan's outstanding biological diversity.

A handwritten signature in black ink, reading "Mostapha Zaher". To the right of the signature is a circular stamp containing the name "مستوفى" (Mostafy) in Persian script.

**Mostapha Zaher**

Director-General  
National Environmental Protection Agency  
Government of the Islamic Republic of Afghanistan

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## EXECUTIVE SUMMARY

*Afghan society has always been rooted in its environment.*

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Afghanistan is one of the world's most significant centres for the origin and development of crop plants. Consequently, there are numerous local landraces of wheat and other crops currently in use by farmers. Approximately 20% of cropland is currently irrigated while the remainder is based on dryland or rain-fed farming. There are three Global 200 ecoregions in Afghanistan, all of which are in the mountainous regions of the northeast. Of these ecoregions, 38% of Afghanistan's land areas are endangered while 61% are classified as vulnerable, and only 1% as stable. The ecoregions which are most threatened are located in an arc around the country's mountain areas and consist of both open and closed woodlands covering approximately 49,124 km<sup>2</sup> or 8% of the country. The World Wide Fund for Nature (WWF) classifies 70% of this biome as globally endangered, 26% as vulnerable, and 4% as stable. Closed forest is now only represented by 3% of its original forest cover representing 0.25% of the country's area. Recent satellite imagery has only been able to detect open woodland in two provinces, suggesting that open woodlands may now be on the verge of being seriously threatened as a viable ecosystem throughout much of the country. With increasing populations, ranges near inhabited areas are becoming denuded of shrub vegetation with dried shrubs and dung the major sources of fuel in much of the country's rural areas. There has been little data available until 2013 on trends in the rates of loss of Afghanistan's natural habitats, but the recent project on land cover with the Ministry of Agriculture, Irrigation and Livestock (MAIL) will be of great value in showing change over time and variation.

Nine local breeds of sheep are found in Afghanistan, along with eight breeds of cattle, and seven of goat. There are 137-150 mammal species, 428-515 bird species, 92-112 reptile species, 6-8 amphibian species, 101-139 fish species, 245 butterfly species, and 3,500-4,000 native vascular plant species. The range given for each species is somewhat uncertain and the validity of some records requires further research. Siberian Ibex (*Capra sibirica*) populations in the Ajar Valley have declined from approximately 5,000 animals in the late 1970s to less than 250 today. Since the late 1970s, Marco Polo sheep had remained stable or declined slightly in the Small Pamir or were declining at a rate of about 5% per year in the Big Pamir. However, recent surveys in the Wakhan area have suggested an increase in numbers. Overall, anecdotal evidence suggests populations of most species in Afghanistan have been reduced dramatically in the past 30 years but national-scale extinctions are not recorded. It



appears that most species and environments are in decline and that the rate of this decline has increased since the onset of the conflict at the end of 1978. The extent of some of Afghanistan's biodiversity loss and ecological degradation is so profound and extensive that halting the decline and restoring a level of ecological integrity to the country will require a massive and long-term undertaking.

Scarce biodiversity information exists for the 1979-2002 period and information after this time is largely limited to the relatively secure central and northeastern parts of the country. In 2012-2013 a series of field observations have again started and new information will be forthcoming in 2014. Consequently, trends in biodiversity can only be assessed based on opportunistic measurements, remote sensing, published statistics, intuitive interpretation, and anecdotal information. Additional basic biological surveys and synthesis work need to be undertaken to better understand the conditions related to biodiversity in the country. The planned 2015 State of the Environment Report and the FAO Landcover Atlas will assist greatly in this regard.

## **MAIN PRESSURES ON THE ENVIRONMENT AND THE DRIVERS OF CHANGE TO BIODIVERSITY (DIRECT AND INDIRECT)**

The main threats to Afghanistan's biodiversity are conversion of land for agriculture and housing, illegal hunting, deforestation, over-grazing, shrub collection, dryland farming, water diversion, and climate change. These threats have become more serious during the last three decades. For instance, deforestation continues today and it has been estimated that firewood harvest for the Kabul market alone results in the destruction of 10,000 ha of oak forest and 15,000 ha of juniper forest each year in Paktia and Khost Provinces. Illegal export of timber to neighbouring countries is significant, but unquantifiable because of security and access challenges. According to national experts, catastrophic landslides, rockslides, mudslides, floods, flash floods associated with spring rains combined with snowmelt, and less protective land cover have become increasingly common during the last 50 years. Water schemes and regular droughts are impacting wetlands and rivers with unmeasured effects on aquatic biodiversity. Desertification in Afghanistan already affects more than 75% of the total land area in the northern, western and southern regions as a result of grazing and deforestation and possibly climate change. Afghanistan is in the Very High risk category for desertification according to global studies from UNFCCC and USDA.

Hunting, trapping, and habitat destruction are the greatest threats to many large mammals and birds in Afghanistan. In the past, waterfowl hunting was widely practiced, while large mammal hunting was undertaken for sport by some irresponsible individuals in some places or opportunistically by some of the local people. However, in recent years the rule of law and enforcement capacity of the national government has gradually improved. Though challenges remain, progress is being made and needs to be recognized. While large animals are now very rare and remain limited to the upland areas due to illegal hunting and the proliferation of weapons, governmental access and community environmental awareness is now much stronger and will continue to improve. The major underlying threat to biodiversity is the issue of timing and urgency to carry out conservation programmes, in a context where many of the citizens are dependent on natural resources and biodiversity for their livelihoods and economic survival. A rapidly increasing human population is the major underlying challenge to biodiversity conservation and quality of life. While gains are being made for much of biodiversity, time is not on its side. A Presidential Decree that bans hunting is currently being enforced, while a hunting and wildlife management law is in the process of being developed in the very near future.

## **MEASURES TO ENHANCE IMPLEMENTATION OF THE BIODIVERSITY CONVENTION**

### **IMPLEMENTATION OF THE NBSAP**

Afghanistan received funds to develop its National Biodiversity Strategy and Action Plan (NBSAP) which was submitted to the Convention on Biological Diversity on 30 April 2012. A Global Environment Facility (GEF) 5 STAR allocation proposal for USD 7,400,000 (seven million and four hundred thousand) has been approved and will be delivered by the National Environmental Protection Agency (NEPA) of the Government of the Islamic Republic of Afghanistan and the United Nations Development Programme (UNDP) in 2014-2017.

An additional medium sized project has been approved by GEF for Strengthening National Capacity to engage with Multilateral Environmental Agreements, 2014-2017. The project focussed in particular on the Rio Conventions, which includes the CBD. NEPA and UNEP will execute this project. In addition, to date, the National Adaptation Programme of Action (NAPA) and the National Capacity Self-Assessment (NCSA) have been the only other planning initiatives undertaken specifically to address the CBD.

### **ACTIONS TAKEN TO ACHIEVE THE 2020 AICHI BIODIVERSITY TARGETS**

NEPA is taking the lead to update the current NBSAP, which will include alignment with the 2020 Aichi Biodiversity Targets. Some practical actions are also taking place in situ. NEPA, together with MAIL and the Wildlife Conservation Society (WCS), as well as national, provincial and local government and communities, have been working on Afghanistan's first National Park, situated in Band-e-Amir, Bamyan Province, which was declared on 22 June, 2010. Accomplishments there include providing conservation education, establishing and improving existing walking paths, and management of the national park. Promoting community livelihoods in and around Band-e-Amir's 14 surrounding villages has been a key strategy in reducing the pressures of desertification and shrub collection. In 2009, UNEP, working together with NEPA and MAIL, initiated efforts to establish the Shah Foladi in the Koh-e-Baba Range, Bamyan Province, as a landscape conservation protected area. This community conservation site has completed the initial planning phase and formal establishment of the protected area began in January 2014. The Wakhan District in Badakhshan Province, which is one of Afghanistan's foremost natural landscape and provides habitat for at least 17 species of mammals, ungulates, and birds, was declared as the country's second National Park on 30 March 2014, with provisions to protect the majority of habitats and landscapes throughout the different natural valleys. Work is on-going to protect the target of 2% of the county's total area by 2015. NEPA and MAIL are in the process of identifying potential conservation sites in another 29 out of the country's 34 provinces.

The Government of Afghanistan is expanding its practical field focus on environmental and biodiversity conservation through the National Priority Programme on Environmental Conservation and Natural Resources Management. In recognition of the need to address both poverty and resource overuse, a number of non-governmental organisations (NGOs) are carrying out poverty and environment initiatives in nearly every province in the country. Additionally, NEPA is leading the GEF Small Grants Programme (SGP), aimed at supporting such organisations in Afghanistan with environment projects. These include a sustainable land management programme that aims at combining bio-physical watershed restoration activities with support for income generation and the provision of agricultural services. Interventions range from the construction of water harvesting schemes to community-based re-vegetation programs in support of agro-enterprise activities. For the first time, GEF SGP has engaged national NGOs to advance environmental conservation and to also work with communities and government agencies. The purpose is to encourage and support community-based resource management initiatives that include biodiversity protection components in selected micro-watersheds of the Central Highlands and Northeast Afghanistan.

Biodiversity conservation and implementation of the CBD have been taken into serious consideration by the Government of Afghanistan, despite the need that many citizens have more for survival over with nature conservation. In fact many citizens recognize the importance of biodiversity in a deep,

intuitive manner and good progress has been made on awareness raising across the country at both the government and community levels. This work needs to be continued and enhanced, including by committing significant additional resources.

### **SUPPORT MECHANISMS FOR NATIONAL IMPLEMENTATION (LEGISLATION, FUNDING, CAPACITY-BUILDING, COORDINATION, MAINSTREAMING)**

The greatest success during the last decade has been in developing environmental policies, laws, and procedures that effectively incorporate best current practices. For instance, in the past seven years, Afghanistan promulgated the Environment Law which was the first law unanimously passed by the then newly elected National Assembly of the country. In addition, there exists the Forest Law and the Environmental and Social Impact Assessment (ESIA) Regulation, Guidelines and Procedures. Several more laws and regulations are in the pipeline, including the Protected Area Regulations, Hunting and Wildlife Management Law, and the Rangeland Law.

In total, conservation-related projects have received approximately USD70,000,000 (seventy million) in the past 14 years with more than USD20,000,000 (twenty million) in the pipeline. There has also been good progress on the development of a suitable institutional framework that supports effective implementation of projects.

The Afghan Constitution gives full rights to all of the citizens of Afghanistan. Article 15 of the Constitution states that: "The State shall be obligated to adopt necessary measures to rehabilitate, preserve, and protect all aspects of the environment." The regulatory, policy-making and technical role for the management of natural resources lies with NEPA, in cooperation with MAIL and other stakeholders.

The need to strengthen administrative and technical capacity and adequate funding to the government has challenged governmental implementation of biodiversity policy and programmes at the field level. Institutions and NGOs had stepped in to fill this gap but, by necessity, have expended most of their time and resources on developing the conceptual, legal, and policy structures that will provide the foundation for future implementation, which has been most lacking in terms of field-level protection of biodiversity.

### **MECHANISMS FOR MONITORING AND REVIEWING IMPLEMENTATION**

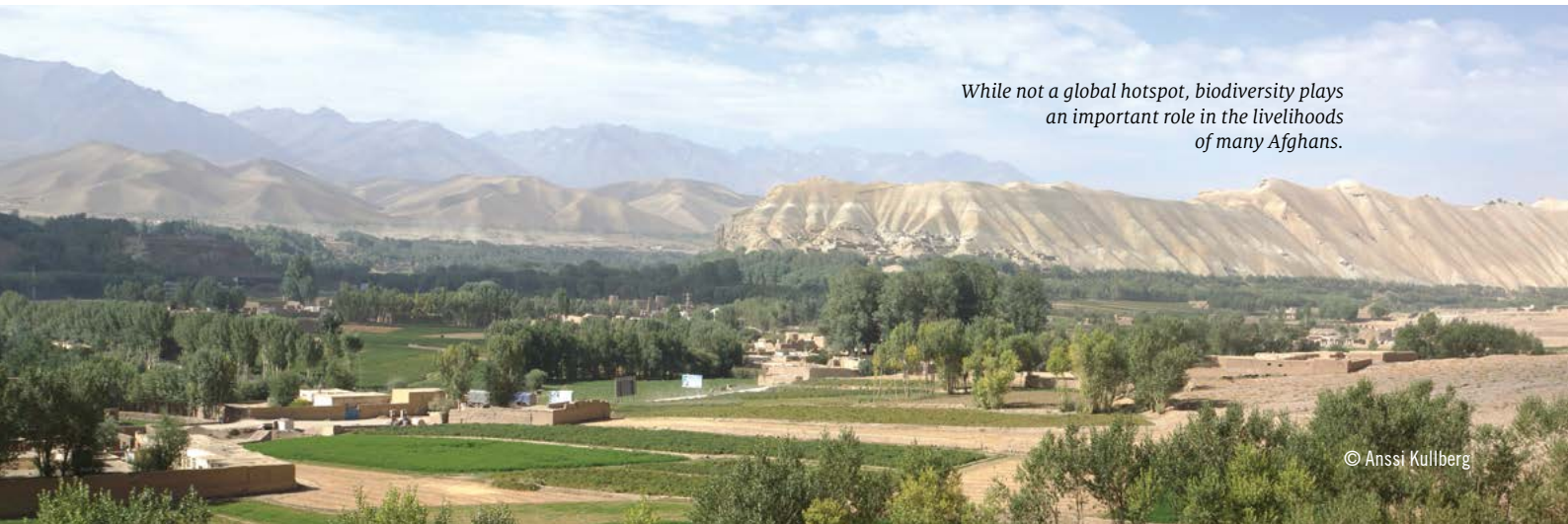
NEPA and MAIL have government offices in each of the 34 provinces of Afghanistan. As the decentralisation process that is being implemented through the Civil Service Reform Commission continues its good work, these subnational offices will continue to be strengthened. They provide excellent opportunities for monitoring and reviewing implementation of the plans related to biodiversity such as the NBSAP, the Rangeland Plan, and the National Forest Plan and National Water Strategy. In addition, the university system throughout Afghanistan with geoscience, agricultural science and environmental science provides an excellent academic partner. There is added opportunity for faculty and students to engage in monitoring and evaluation work, whilst learning and training at the same time. This will require significant investment however as the university system is still being updated and upgraded.

At a project level, the environmental impact assessment (EIA) regulations, under the 2007 Environment Law, are intended to provide environmental safeguards at early stages in project development in Afghanistan. They contain significant sections on natural heritage protection and biodiversity. EIA and Strategic Environmental Assessment are now being formally integrated into development planning in Afghanistan, through the leadership of NEPA.

An ongoing challenge for monitoring and evaluation remains the physical access in some areas of the country. Government personnel continue to be targeted on visits to some regions, but the national security forces are becoming highly organised and effective, and the national level political and peacebuilding processes continue to bear fruit. The trend is positive and it is to be hoped that full national mechanisms for monitoring progress on biodiversity and reviewing NBSAP implementation will be in place given enough time.

1

**AN UPDATE ON  
BIODIVERSITY STATUS,  
TRENDS, AND THREATS,  
AND IMPLICATIONS FOR  
HUMAN WELL BEING**



*While not a global hotspot, biodiversity plays an important role in the livelihoods of many Afghans.*

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## **WHY IS BIODIVERSITY IMPORTANT FOR AFGHANISTAN?**

Afghanistan is a medium-sized (652,230 km<sup>2</sup>), land-locked country with six neighbours: Iran, Turkmenistan, Uzbekistan, Tajikistan, China and Pakistan. The Hindu Kush mountain range extends from the east into the centre of the country, limiting relatively flat relief to the north-west and southwest, and elsewhere to river valleys. Elevation varies from 258 m to 7,485 m, the highest point being the Now Shakh peak in the Pamir Mountains near the Chinese border in the far east. The overall climate is considered semi-arid steppe, with cold winters and dry summers, and only an estimated 12% of the land area is arable. The estimated population of Afghanistan in 2013 was around 27 million (Afghanistan Central Statistics Office 2013), nearly double the population at the beginning of the period of war and civil strife in 1978. This figure represents the upper estimate for the 2005 population predicted by the World Bank in 1978 (Sayer and Van der Zon 1981; p. 13).

Afghanistan remains a predominately rural nation, but is rapidly urbanizing. In 1970, only 11% of the population was urban; however, by 2003 this figure rose to 23.3%, and is expected to reach 41.9% by 2030 (United Nations Population Division 2006). The country's natural growth rate is 2.6% per year, as compared to the 2000 global growth rate of 1.4% (Population Reference Bureau 2005). Moreover, 46% of the population is under 15 years of age (Afghanistan Central Statistics Office 2013), setting the stage for rapid population growth in the future, and the present population doubling time is less than 30 years. Since 2001, more than 3.5 million refugees have returned to Afghanistan, while nearly two million still remain abroad (UNHCR 2013). The rapidly increasing population of Afghanistan presents the major underlying challenge to biodiversity conservation and ultimately to the quality of life of people in the country.

The primary value of biodiversity in Afghanistan lies in the tangible goods and services that biodiversity provides to people through functioning ecosystems. The most obvious of these are the direct uses of the components of biodiversity such as traditional crops, fruits, grazing, fuel, timber harvesting, fishing, and hunting. Less obvious are the indirect "ecosystem services" provided by biodiversity. These include soil fertility, erosion control, crop pollination, and climatic stability, to name a few. The ecosystem services provided by biodiversity are vital and require more study.

Biodiversity has been termed "the wealth of the poor" (World Resources Institute 2005) because the poor tend to be rural people living close to the land and dependent on it for the goods and services provided by biodiversity, e.g. productive crop and grazing land, fuel, building materials, wild fish and game. Land rich in biodiversity is a form of wealth, even if that wealth cannot be measured in strictly monetary terms. Without the basic goods and services provided by biodiversity it is not possible for rural people to make a living from the land. Poverty and emigration are the only options. Afghanistan needs to manage its biodiversity well in order to develop into a vibrant and economically secure nation.



The Agriculture and Rural Development Cluster National Priority Programme 1: National Water and Natural Resources Development Programme has set its goal to be to “ensure effective utilization, together with proper management, of existing water and other natural resources to accelerate agricultural productivity and provide safe drinking water and a hygienic environment, with viable rural energy options for rural prosperity” (Government of Afghanistan 2012). It therefore has a series of three overarching objectives:

1. Better irrigation systems that will conserve water, expand agriculture, and increase access to potable water.
2. Water, forests and rangeland will be restored and protected by incentivized communities with technical support.
3. Enhancing access to rural energy will improve rural livelihoods and allow opportunities for new agribusiness to create sustainable jobs.

Through the collation and analysis of existing data, the programme aims to improve future environmental conservation and management with strengthened governance mechanisms and the design and implementation of practical community-based natural resource management (CBNRM), environmental conservation, and management interventions. It therefore aims to restore at least 15% of existing degraded forests and rangeland areas (195,000 ha (1,950 km<sup>2</sup>) of forests and 4.5 million ha (45,000 km<sup>2</sup>) of rangelands). It also expects a substantial increase in the protected area network, with at least eight new protected areas established and fully operational with management structures in place and biodiversity conservation interventions initiated (Government of Afghanistan 2012).

## **WHAT MAJOR CHANGES HAVE TAKEN PLACE IN THE STATUS AND TRENDS OF BIODIVERSITY IN AFGHANISTAN?**

Afghanistan is not a global biodiversity “hotspot,” Groombridge and Jenkins (1994) calculated a comparative index of biodiversity for all countries over 5,000 km<sup>2</sup> based on the number of mammals, birds, reptiles, amphibians, vascular plants and endemic species. The index is scaled to account for the different sizes of countries. A score of “0” is the median with half the countries having a higher biodiversity index and half a lower one. Afghanistan’s index is -0.296, indicating its biodiversity index is lower than the median. Indices of neighbouring Pakistan (-0.121) and Iran (-0.194) are higher, but still below the median. Indices for Turkmenistan (-0.572), Tajikistan (-0.536), Uzbekistan (-0.413), and Kazakhstan (-0.581) are all lower than Afghanistan’s. Afghanistan’s relatively low score results largely from the lack of vertebrate endemics.

A number of international databases list the number of species in Afghanistan, but they differ from one another and are usually not explicit on their data sources. The vertebrate checklists are very conservative in that they include only species for which there are citable references for occurrence in Afghanistan. Many other species are suspected to occur in Afghanistan, but no authority citing first-hand evidence could be found. It suggests that there are 789-916 species of vertebrates in Afghanistan and 3,500-4,000 species of vascular plants. New efforts to improve data collection and databasing will improve these actual results in the coming years.

Analysis of species records in UNEP-NEPA (2009) indicates 137-150 species of mammals, 428-515 birds (including migratory species), 92-112 reptiles, 6-8 amphibians, 101-139 fish, 245 butterflies, and 3,500-4,000 vascular plant species native to Afghanistan. The range in numbers results from uncertainty in taxonomy and the validity of some records. Only seven vertebrate species (mammals, none; birds, Afghan Snow Finch (*Montifringilla theresae*); reptiles, Leviton’s Gecko (*Asiocolotes levitoni*), *Cyrtopodion voraginosus*, *Eremias aria*, Point-snouted Racerunner (*Eremias afghanistanica*); Amphibians, Paghman Mountain Salamander (*Batrachuperus mustersi*); fish, *Triplophysa farwelli*) are known to be endemic to Afghanistan, but estimates for endemic plant species range as high as 30% (Breckle 2007). Much more basic biological survey work and synthesis needs to be done to fully understand the country’s biodiversity.

A variety of processes assess the status of species in Afghanistan and assign a level of threat. The International Union for the Conservation of Nature (IUCN) Red List assesses risk at the global scale



using quantitative criteria. Afghanistan has very recently formed the Afghanistan Wildlife Executive Committee (AWEC), an independent scientific authority in NEPA, to assess risk of species at the national scale using IUCN regional criteria. The AWEC also recommends to NEPA whether species should be legally listed as Harvestable or Protected according to Article 47 of the Environment Law. To date, AWEC has produced three Protected Species Lists, with the fourth list due in April 2014. The Convention on the International Trade in Endangered Species (CITES) lists species on Appendices if they are threatened by international trade. The UNEP World Conservation Monitoring Centre (UNEP-WCMC 2009) provides a list of species in Afghanistan of “conservation concern,” but the list is so broad and the criteria for inclusion so uncertain that it is not particularly valuable for prioritization purposes.

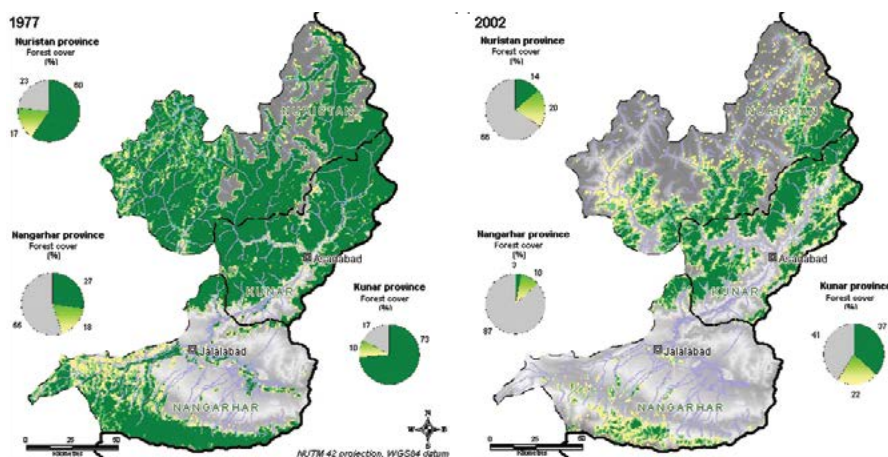
As a broad generalization, biodiversity appears to be declining at an accelerating rate throughout Afghanistan. Satellite image analysis and assessment of commercial wood volumes show that forests, both closed forest and open woodlands, are rapidly disappearing, while overgrazing and shrub collection for fuel is markedly reducing plant biomass and altering plant communities.

Diversion of water and increasingly frequent drought is drying wetlands and rivers with unknown effects on aquatic biodiversity. The ubiquity of weapons following years of war is leading to the loss of large mammals throughout much of the country. Footprint analysis shows that Afghanistan's per capita bio-capacity is declining (GFN 2014). Large scale remote sensing analysis suggests that Afghanistan's nearly 8,000 km<sup>2</sup> of land was degraded between 1981 and 2003 (Bai *et al.* 2008).

Afghanistan's extremely varied mountain and desert topography results in numerous habitat types. Temperature and precipitation change dramatically with elevation differences, resulting in a variety of habitats and differing suites of species adapted to them. These mountains also act as a barrier to precipitation, resulting in higher moisture in the eastern part of the country, considerable snow at higher elevations, and a rain shadow to the north and west. The result is a variety of species adapted to the entire gamut of moisture regimes, ranging from desert to monsoon forest.

Afghanistan is on the boundary of Palaeartic. The Argali or Marco Polo sheep (*Ovis ammon poli*) inhabits the mountain areas of central Asia above 1,000m. The Argali is a vulnerable species (IUCN 2013) threatened by hunters for their highly prized horns and habitat loss from the grazing of domestic sheep and Indo-Malayan Realms. Although the majority of species are Palaeartic in origin, it is possible that Indo-Malayan species have dispersed into Afghanistan, although hard evidence of this is not forthcoming.

The number of species in an ecosystem tends to be greatest at moderate levels of productivity, with fewer species in areas of very high or very low productivity. Afghanistan is a dry, high altitude, and human disturbed country with low primary productivity; however, it is also a continental country with no major mountain barriers to the north and west, allowing the free mixing of species of Palaeartic origin with neighbouring countries. Consequently, Afghanistan has relatively few endemic animal species. As a land-locked country it lacks marine biodiversity.



**Figure 1.1** Forest cover change in Nuristan, Kunar and Nangarhar provinces between 1977 and 2002. The trend is considered to have continued unabated since this time (National Environment Strategy 2007).

## WHAT ARE THE MAIN THREATS TO BIODIVERSITY?

Afghanistan's rapidly increasing human population presents the major underlying challenge to biodiversity conservation and ultimately to the quality of life in Afghanistan. The official statistics (Afghanistan Central Statistics Office 2013) indicate a population of approximately 26.4 million. Variations in these counts may be due to the existence of registered and non-registered refugees and migrant workers living in Pakistan, Iran and elsewhere.

Currently the natural growth rate is estimated as 2.29% per year and the actual growth rate, incorporating immigration, at 3.85% per year (UN Department of Economic and Social Affairs, Population Division, 2014). The former figure places Afghanistan as the 27th fastest growing country in the world and the latter as the 3rd fastest. The median age of 18.1 years is one of the lowest in the world and will ensure that the country's population will continue to rise rapidly. Afghanistan's population can be expected to increase to 56.1 million people by 2050 (UN Department of Economic and Social Affairs, Population Division, 2014). According to these sources, over 60% of the population is under the age of 24 years. Demographic trajectories predict that in 15 years' time 69-72% of the population will be under the age of 18 years. This would mean that the country would have the youngest population in the world. The current average size of an Afghan family is calculated as 7.3 persons per family. This figure is slightly higher in remote rural areas, and the margin of error is calculated at  $\pm 3\%$

Associated with rapid population growth is the major underlying threat to biodiversity – the current relatively low level of economic development. Afghanistan is one of the poorest nations on Earth with a Human Development Index ranking of 175th out of 186 countries (UNDP 2013). Consumption footprints are the lowest of 150 countries surveyed and show dramatic decline over the past 40 years. Per capita income estimates vary widely, but one recent citation indicates that 42% of citizens live on less than \$1 per day (Chatterjee 2009). Faced with poverty and a lack of alternatives to the use of natural resources, unsustainable exploitation of biodiversity will continue. This will lead to conflict among resource users, degradation of habitats, unsustainable hunting practices, and illegal trade. Unless this issue is more effectively and more rapidly addressed, biodiversity in Afghanistan faces a challenging future.

Traditional natural resource management has a long history in Afghanistan, and was in balance with natural systems. Excellent plans and approaches have been developed but need to be updated and professional planning and training continued. In addition a lack of social security has led to poor environmental law enforcement and implementation. Financial constraints and other national concerns have led to a lack of education and awareness regarding biodiversity and natural resources amongst the general population. Access to rural areas continues to be difficult for government staff, and there has been limited coordination among government agencies. At the same time there has been an increasing awareness of the role of local leaders and local communities in managing biodiversity, with major successes in a number of provinces where communities and government working together have developed common plans and activities.

In addition to broad-scale threats that include natural disasters such as flooding, drought and harsh winters, more proximal threats to Afghanistan's biodiversity are over-hunting, deforestation, overgrazing, shrub collection, dryland farming, water diversion, climate change and desertification.



## HUNTING, TRAPPING AND TRADE

Hunting and trapping of large mammals and birds continues to this day, despite much improved national government and community conservation capacity. Prior to 1979, firearms were generally rare, primitive or small calibre. Many firearms were single-shot muzzle-loaders. The most common modern firearm was the low-powered .22, widely called a mooshkoosh (mouse-killer). While firearms and ammunition were generally unavailable to the average Afghan, this all changed with the onset of hostilities when firearms and ammunition became ubiquitous. As quoted in Alikuzai (2013), one person in Badakhshan stated that “counting sheep in Badakhshan province may be more difficult but shooting them is easy enough when the weapon of choice is an AK-47”.

During the war years, wildlife suffered as heavily armed individuals were dispersed widely throughout the countryside and depended partially on wild meat for subsistence. Today, waterfowl hunting is widely practiced, especially in the winter months, while large mammals hunting is undertaken for sport by the elite in some places or opportunistically by local people. However, large animals are now so rare that many once keen hunters have given it up.

There remains a thriving fur trade in Kabul, Mazar-e-Sharif, and other centres. Many of the species represented are not native and clearly imported. It remains unclear what proportion of native species actually originate from Afghanistan. One of the major outlets for furs is the markets on military bases. Cooperative efforts by the military, the US State Department and WCS have been successful in removing CITES listed species from most of these venues.

There are active bird bazaars in Kabul and Mazar-e-Sharif (Ostrowski 2006a and b, Ostrowski *et al.* 2008) as well as other Afghan centres that trade a wide variety of wild caught native species and captive-bred imports. Falcon-trapping is extensive with most of the desirable species (e.g., Saker Falcons (*Falco cherrug*), Peregrine Falcons (*Falco peregrinus*) being sold to middlemen in neighbouring countries who in turn sell them to wealthy people in some

Arab states of the Persian Gulf. Falconry in Afghanistan is practiced largely with lower value species such as Sparrowhawks (*Accipiter nissus*). Chukar Partridges (*Alectoris chukar*) are extensively trapped and commonly kept for fighting and show, while small birds are trapped or netted for food.

On 20 March 2005, President Hamid Karzai issued Decree No. 53 banning hunting in any form for a period of 5 years. However, although significant steps have been taken towards enforcement, most ordinary citizens are unaware of the Decree, while powerful and influential persons simply ignore it. A Fauna Conservation and Hunting Regulation is under development which will regulate hunting, but it may be several years before it is approved by the Cabinet and even longer before it can be effectively implemented.

## DEFORESTATION

Afghanistan has two basic forest types: closed forest of oak and conifer in the monsoon-influenced areas of eastern Afghanistan and savannah-like, open pistachio woodlands originally located in an arc around the mountain regions.

Closed forests (not including northern juniper communities) may once have covered about 5% of the country or about 34,000 km<sup>2</sup>. There were about 3,600 km<sup>2</sup> of closed canopy forest remaining in the late 1970s; meaning approximately 11% of pristine forest covered then. Based on a number of assumptions, as much as half of that has been lost since the 1980s leaving some 1,800 km<sup>2</sup>. Although there are many uncertainties, Afghanistan is probably left with roughly 5% of its pristine closed forest vegetation representing about 0.25% of the country's area (UNEP 2009).

Open woodlands originally comprised some 38% (ca. 250,000 km<sup>2</sup>) of the country's landscape. In the late 1970s, approximately 32,000 km<sup>2</sup> remained, representing about 13% of the original open woodland and 5% of the landscape (UNEP 2009).

Deforestation appears to continue unabated today. Wingard *et al.* (2008) esti-

mated that firewood harvest for the Kabul market alone results in the destruction of 10,000 ha of oak forest and 15,000 ha of juniper forest each year in Paktiya and Khost Provinces. Smuggling of timber to Pakistan through the lawless tribal areas is significant, but unquantifiable because of security concerns. The Presidential Decree banning cutting of the forests is not well known understood and needs to be more broadly shared throughout the country.

## OVER-GRAZING

Afghanistan has been grazed by sheep, cattle and goats for the past 4,000-5,000 years and plant communities have accordingly adapted to heavy grazing pressure. Perennial grasses and herbs exhibit features such as bulbs, rhizomes, root-stocks, dormant seed, awns, and barbs. Many forb species are annuals. Shrubs tend to be armed with thorns or have high levels of protective toxic compounds.

Nine local breeds of sheep are found along with eight breeds of cattle and seven breeds of goats (Zaher n.d.). A detailed census of Afghanistan's livestock was undertaken in 2002-2003, which showed that there were 3.7 million cattle, 8.8 million sheep, 7.3 million goats, 1.6 million donkeys, 0.2 million camels and 0.1 million horses (FAO 2008). Based on these figures, year-round stocking rates for the ca. 300,000 km<sup>2</sup> of rangeland are about 0.15 animal unit months (AUMs) per ha. This is a low stocking level relative to similar environments elsewhere in the world and shows considerable declines from the 18.4 million sheep reported in 1991 (FAO 2008). These figures, together with the lack of herd increase following drought, suggests very generally a) that Afghanistan's ranges are near carrying capacity, and b) that millennia of overgrazing has reduced carrying capacity relative to the potential of the land. The apparent conclusion that livestock are taking nearly all available herbage biomass certainly has a profound effect on biodiversity, but the lack of baseline data makes this impact impossible to document.

## SHRUB COLLECTION

Much of Afghanistan is dominated by thorny cushion-shaped shrubs. This vegetative community itself results from thousands of years of livestock grazing on a landscape that may have been mostly grass – *Artemisia* steppe.

Together with dried dung, shrubs are the major source of fuel in much of rural Afghanistan. Shrubs are dug up by the roots and burned for bread-making, general cooking, and heating. As settlements grow, ranges near inhabited areas are becoming denuded of shrub vegetation and shrub collectors are being forced to travel further afield. Little information is available on recovery rates of shrub vegetation. Loss of shrubs is of particular concern because their dense, thorny matrix provides protection from grazing for a vast number of native herbaceous and grass species, many of which are endemic. Shrub loss also increases soil erosion by wind and water. According to some communities, catastrophic landslides and floods associated with spring rains and snowmelt have become increasingly common in recent years.

## DRYLAND FARMING

By some estimates, only about 25% of cropland is currently irrigated with the remainder being dryland or rain-fed farming (World Bank 2007). However, FAO (2013) reports that this figure is 59%. In the arid and semi-arid Afghan environment, dryland farming is usually a risky undertaking and often an act of desperation borne of food insecurity. Rain-fed cropland is most productive when newly plowed and lies fallow for long periods with the result being that ever-increasing amounts of productive grazing land are converted to erosion-prone fields.

## WATER DIVERSION AND LOSS OF WETLANDS

Afghanistan has few lakes, water bodies and wetlands relative to neighbouring countries and many of those that do exist are increasingly at threat from a combination of water diversion and drought. Few systematic data are available to determine the extent of this threat, but there is anecdotal evidence from Afghanistan's best known wetlands.

Kol-e-Hashmat Khan is a seasonal wetland located within the city of Kabul. It is an important staging area for waterfowl and was used as a hunting ground for Afghan royalty for nearly 500 years. Water diversions from the Logar River have reduced the amount of water reaching the lake and therefore the area flooded and the time that the lake contains water have both declined (Petocz 2006). NEPA can report that the decline has continued in the last eight years since then.

Dams on the Gardez and Ghazni Rivers and tube-wells threaten the viability of Ab-e-Estada, a 290 km<sup>2</sup> saline wetland in Ghazni Province (Khan 2006). Ab-e-Estada was once a staging area for the Critically Endangered Siberian Crane (*Grus leucogeranus*); however, the last breeding pair was sighted in 1986. The male crane is known to have been shot and no Siberian Crane has been seen since 2006 (G. Archibald, International Crane Foundation, pers. comm.).

Although there are no recent data, Ab-e-Estada was once an important breeding area for Greater Flamingos (*Phoenicopterus roseus*). The Sistan wetlands on the Afghanistan-Iran border are a waterbird area of international importance. The entire system of shallow lakes essentially dried up in the period 2000-2004 (UNEP Post-Conflict Branch 2006).

In future, the problem of wetland loss can be expected to worsen as Afghanistan diverts more water for irrigation, hydroelectric and flood control, as wetlands are drained for agriculture and urbanization, and as drought becomes more common through climate change.

## CLIMATE CHANGE AND DESERTIFICATION

Mean annual temperatures in Afghanistan have increased by 0.6°C since 1960 or about 0.13°C per decade. Increased temperatures have been most pronounced during the autumn, with increases of 0.29°C per decade. Mean rainfall has decreased slightly at an average rate of 2% per decade, mainly due to decreases in spring precipitation (Savage *et al.* 2008).

Afghanistan has historically experienced climate cycles of about 15 years, of which 2-3 are generally drought. In recent years, however, there has been a marked tendency for this drought cycle to occur more frequently than the historical model predicts. Since 1960, the country has experienced major drought in 1904-1908, 1923-1927, 1946-1949, 1963-64, 1966-67, 1971-1973 and 1987-2006, interspersed with minor droughts or somewhat drier years. The period 1998 to 2005/6 marked the longest and most severe drought in Afghanistan's known climatic history (Shah 1973, ECHO 2006). This increased frequency of drought in recent years appears to be a consequence of increased temperature coupled with reduced spring precipitation (Savage *et al.* 2008).

Modeling reported by Savage *et al.* (2008) indicates that by 2030, mean annual temperatures are likely to rise by about 1.4°C with little change in overall precipitation. By 2090, increases in average temperature are likely to be between 2-6°C higher, dependent upon global emissions scenarios. Conditions will become drier, especially in spring, with reductions in rainfall of between 10-40mm and with drier conditions in the south.

The US Department of Agriculture world map depicting threat of human-induced desertification shows most of Afghanistan to be in the Very High risk category. Most of the remainder of the country is already classified as desert. According to the MAIL 2006 National Report, desertification in Afghanistan already affects more than 75% of the total land area in northern, western and southern regions where widespread grazing and deforestation have reduced vegetation cover and catalyzed accelerated



land degradation.

Savage *et al.* (2008) predict that Afghanistan will be confronted by a range of increased climatic hazards. These are likely to be primarily drought related, and associated with increased desertification and land degradation. Drought is likely to be regarded as the norm by 2030, rather than as a temporary or cyclical event. They suggest that flood impacts will likely be amplified by more rapid spring snow melt combined with greater runoff associated with land degradation, loss of vegetative cover and land mismanagement.

Increased soil evaporation, reduced river flow from earlier snow melt, and less frequent rain during peak cultivation seasons will all impact agricultural productivity and crop choice availability. Crop failures will probably increase in frequency and areas of abandoned, uncultivated land will likely increase. Crop choices will shift to more drought hardy species and by 2060 agriculture will likely become marginal, without significant investment in water

management and irrigation (Savage *et al.* 2008).

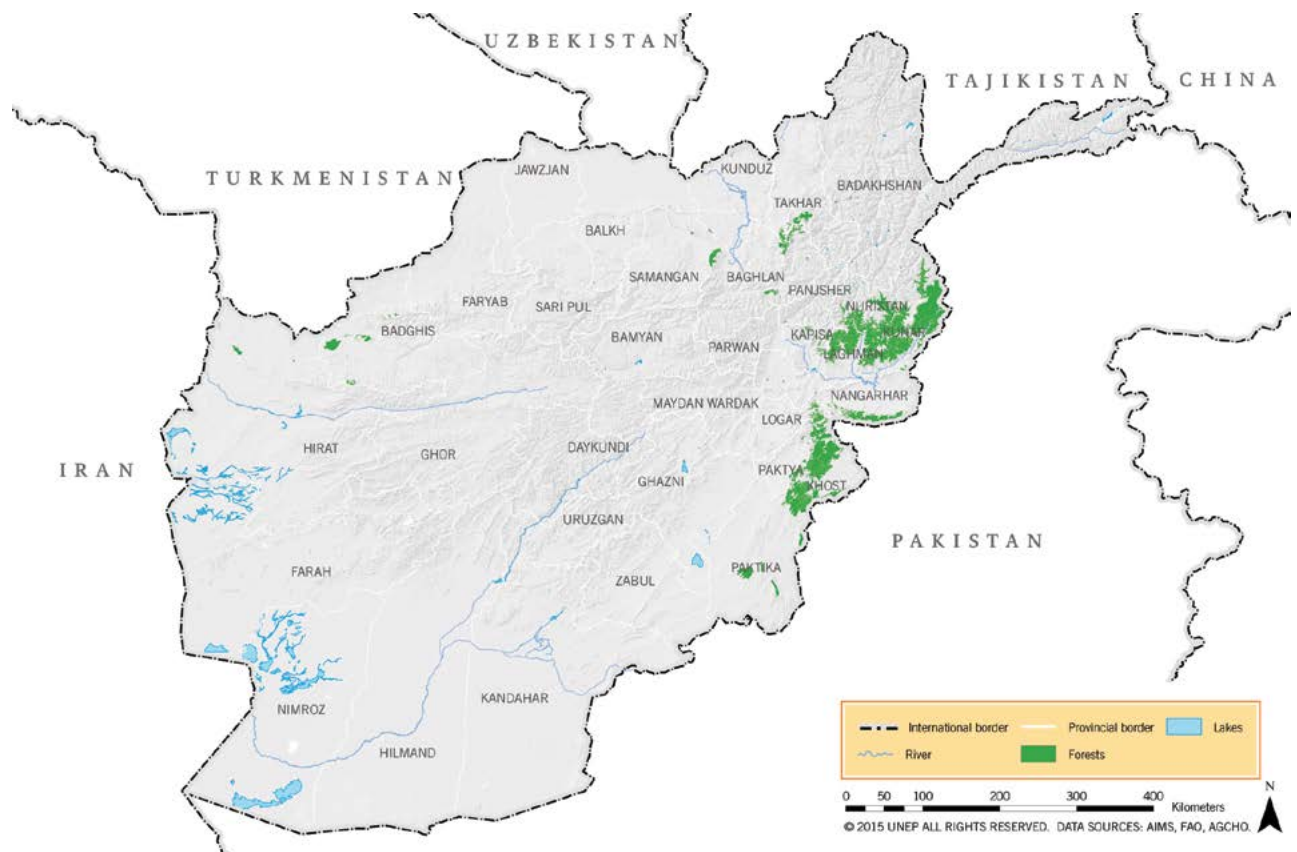
Climate change can have a significant negative impact on the urban and rural livelihoods of all citizens. As such there have been a number of national planning exercises undertaken, with the National Adaptation Plan of Action, the National Capacity Needs Self-Assessment and the 2012 Initial National Communication on Climate Change. In 2013, the first full-sized Climate Change Adaptation Project was started with GEF funds. Executed by NEPA, with MAIL, MRRD, MEW, ANDMA and the Afghan Meteorological Authority, its aim is to apply an ecosystem-based approach to building climate change adaptation and resilience in national plans and actions in four provinces. As the first of a series of globally funded environmental programmes in Afghanistan, it is to be hoped that linking climate change and biodiversity as mutually connected national issues will create significant new capacity and positive biodiversity results in coming years.

## URBANIZATION

The increasing human population in Afghanistan has led to a drastic loss of species and habitat through urbanization. According to the World Bank, the rate of urbanization in Afghanistan is approximately 3-5% per annum (World Bank 2014). The conversion of agricultural land in peri-urban areas, and the demand for wood, water and other resources for construction, fuel and basic essentials, have resulted in the loss of forests and wetlands, as well as other natural and semi-natural habitats across the country. Fragile mountain ecosystems are considered to also have suffered as a result.

The causes of such migration have been determined as being both social (to find employment and insecurity) and natural (as a result of floods, drought, and seismic activity). Data are not available on the current trends of habitat loss and resource use in relation to urbanization in Afghanistan, but it is considered to be unparalleled (FMO 2007).

Figure 1.2



## **WHAT ARE THE IMPACTS OF THE CHANGES IN BIODIVERSITY FOR ECOSYSTEM SERVICES AND THE SOCIO-ECONOMIC AND CULTURAL IMPLICATIONS OF THESE IMPACTS?**

Afghanistan's natural resources – its land, water, forests and mineral deposits – are critical to the country's prospects for a peaceful and prosperous future. An estimated 70-80% of the country's population rely on agriculture, animal husbandry and artisanal mining for their livelihoods. The country needs to harness these assets to create jobs, generate revenue to fund basic government services and lift the country from its position near the bottom of the Human Development Index.

Traditionally, biodiversity and ecosystem services in Afghanistan provide the main sources of the livelihoods of rural population, despite their often unsustainable use. Their degradation or loss can therefore be catastrophic for the people of this country. As a result, the Government is attempting to take an ecosystem approach as a tool for Sustainable Economic Development.

### **PROVISIONING SERVICES**

The economy in rural Afghanistan is largely based on subsistence and the main economic activities are irrigation and rain-fed farming and Animal Husbandry. The provisioning services provided by functioning ecosystems are therefore extremely important for the well-being of the communities. Biodiversity loss directly affects the availability of these services.

#### **TREE AND BUSH COLLECTION**

Forests may be Afghanistan's most important renewable resource, as forest products (firewood, timber, animal fodder, and tree crops) contribute to the livelihoods of millions. Forests provide a range of important ecosystem services; they are a critical source of rural energy but they also reduce the risk of soil erosion, land degradation and landslides.

Over the past 30 years, near-continuous conflict and a growing demand for timber and firewood have led to steep drops in forest cover. Meanwhile, the illegal timber trade, though limited to a few eastern provinces, plays an important role in on-going instability in these areas. It has created a lucrative shadow economy that reaches across the border into Pakistan, providing incentives for powerful groups profiting from timber smuggling to perpetuate instability.

Bushes are often collected by pulling the plant up from the roots and leaving no parts to regenerate, and increasing populations are putting more pressure on the abundance of plants. However, alternative methods of shrub collection are possible. Meanwhile, the forestry industry in the eastern part of the country, if managed accountably and sustainably, has the potential to generate much needed revenue for the government and jobs for the local population. Traditionally, communities elected or appointed Zangal Wal – groups of woodsmen who were tasked with protecting the forests and woodlands.

Afghanistan's forest sector faces two quite distinct challenges. The first is to reduce the rate of deforestation for firewood (increasing supply by planting woodlots and involving communities more closely in the management of their local forests). The second is to combat the illegal trade in high-value timber. One way to begin to address the illegal timber trade is to raise awareness of the impacts of the trade. Future steps could include some kind of certification scheme that provides a market for sustainably produced, conflict-free timber.

#### **FOOD FOR PEOPLE AND LIVESTOCK**

With around 50% of Afghanistan's economy based on agriculture (World Bank 2014), functioning agro-ecosystems are vitally important to the economic welfare of the entire country.



In particular, the loss of biodiversity can greatly impact the health of such ecosystems, and therefore the well-being of the local communities who rely on them for subsistence. For instance, in mountainous areas, agricultural land is limited and only available in narrow areas located in valleys (UNEP 2012). Food crops (wheat and potato) and vegetables (e.g. onion, carrot, radish) are the main source of food in these areas. While potato is often sold as a cash crop to generate income, other crops are consumed locally. Similarly, livestock also depend on the land available locally for food. Fodder crops (alfalfa and clover) are planted by farmers and stored as livestock food during winter months. During summer months, livestock are usually taken to summer shelters (ailoqs) in higher altitudes for grazing and the natural vegetation on the rangelands provides the food for animals during these months. Women are the main caregivers to livestock and spend months at a time at summer shelters. Any threats to the provision of these services through biodiversity loss are likely to have a severe impact on such economic gains as well as the social structures that exist in such communities.

Rangelands are key ecosystems for livestock grazing, particularly in winter, but are somewhat undervalued. They occupy about 30 million hectares, roughly 45% of the country's territory, but are considered 'barren land' or 'waste land' despite providing habitat and forage for nearly 35 million livestock as well as numerous wild animals. However, they are in poor condition, with overgrazing a common problem, while competition between farmers for the use of scarce productive rangelands is increasing (NEPA & UNEP 2008).

## **FRESHWATER**

Afghanistan is a largely arid country and the provision of freshwater is essential. Agricultural production in Afghanistan is limited by very high dependence on water from melting snow and ice and rainfall (NEPA & UNEP 2008). As a result, crop harvests vary dramatically from year to year depending on the weather. More than 80% of Afghanistan's water resources originate in the Hindu Kush Mountains at altitudes above 2,000 metres. The mountains operate as a natural storage facility and source of water through the accumulation of snow during winter, snow melt and rainfalls during spring, and release of frozen water from glaciers in summer sustaining the vital flow in rivers. The Amu Darya River basin, which is shared with Tajikistan, Uzbekistan and Turkmenistan, covers approximately 15% of the surface area of Afghanistan and holds more than 55% of country's water resources. The basin has the largest potential for irrigated agriculture and hydropower. In contrast the Helmand River basin, which covers around 45% of the country, contributes only about 10% of the country's total water resources (NEPA & UNEP 2008).

As a result, maintaining the natural functions of these watersheds is essential for the future prosperity of the country. Loss of vegetation and the potential impacts of climate change could have severe effects on the water cycle with direct severe impacts on the communities living downstream. Overgrazing is the main factor in increased soil erosion and forest degradation, hampering forest regeneration. According to farmers' observations, changes in vegetation and its productivity (as well as changes in climatic patterns such as rain, snow and the length of the vegetative season) have forced them to shift grazing from traditional to higher ranges. This in turn increases pressure on the alpine ecosystems, where vast areas of vegetation – formerly highly productive grasslands – have been converted into grazing-resistant cushion shrub lands (NEPA & UNEP 2008).

In addition, enhanced cross-border cooperation with the country's neighbours is required to ensure that any extraction or construction on the water systems do not adversely impact local communities in either Afghanistan or the neighbouring countries.

## **MEDICINAL AND AROMATIC PLANTS AND WILD FOOD**

The rangelands also have significant potential to generate income for the rural population via medicinal plants (e.g., *Ferrula*, *Bunicum*, *Rosa*, etc), although the pressures on the ecosystem listed above also causes adverse impacts in this regard (NEPA & UNEP 2008).

An example from the Koh-e-Baba area is that the closest clinic (shafa khaneh) is a few kilometers away in Bamyan centre and in the winter months accessibility to the clinic is difficult. As a result the communities rely heavily on the high number and diversity of medicinal plants that are harvested for domestic use. Many aromatic plants and wild food (e.g. mushrooms) also grow in the area and are harvested for domestic use. Women are the main collectors of these plants and if the market becomes available, aromatic plants such as cumin can provide alternative sources of income to women (UNEP 2012).

## REGULATING SERVICES

### SOIL RETENTION

According to the global assessment of soil degradation (GLASOD) about 16% of Afghanistan's land area is severely affected due to anthropogenic activities, whereas the country's vulnerability to desertification is one of the highest in the world (75% of Afghanistan is vulnerable to desertification) (NEPA & UNEP 2008). The geological, topographic and climatic features of Afghanistan naturally increase the country's susceptibility to the processes of soil erosion, however human activities can significantly exacerbate them through farming of steep slopes, deforestation and de-vegetation of lands, and unsustainable use of scrub and grasslands. Such activities can lead to desertification and increased floods.

Soil erosion is a prominent issue in the Koh-e-Baba mountains. Overgrazing, unsustainable methods of shrub collection and rainfed farming on steep slopes have resulted in high levels of soil erosion. Rainfed farming is especially detrimental to soil retention but is practiced because of the low availability of irrigated land. In many villages, farmers are forced to annually bring large amounts of topsoil from distant areas. Preserving the natural vegetation on the slopes would prevent soil erosion and enhance the productivity of the land that provides the main source of livelihoods (UNEP 2012).

### REDUCTION OF RISKS FROM NATURAL HAZARDS

In Afghanistan, more than 80% of the population relies directly on natural resources to meet its daily needs. As a result, widespread environmental degradation poses an immense threat to livelihoods. Flooding and mudslides are real dangers in the mountains and valleys, particularly in spring and summer when snow and ice-covered glacier lakes melt causing destructive flash floods. Prolonged drought and dust storms can also wreak extensive damage, with nationwide impacts. Severe drought may result in up to 10,000 casualties per year. Furthermore, the country is located in a zone of high-seismic activity and earthquakes are common (NEPA & UNEP 2008).

Destruction of natural resources and rapid urban growth are the main factors aggravating vulnerability to hazards in many parts of the world, and the same applies to Afghanistan. Poverty and socio-economic pressures, such as migration, unemployment and land tenure practices have increased the vulnerability of some people by forcing them to live in disaster-prone locations, often on unsafe lands and in unsafe shelters or low-cost dwellings, there being no other land available.

The large reliance on natural resources both as part of everyday subsistence, and especially following disaster events, has meant that pressure on these ecosystems is high. Uncontrolled resource use and competing demands from other sectors all erode the safety net that the natural environment provides and reduces the resilience of communities.

### POLLINATION

Pollination is another important regulating service in Afghanistan. Many fruit trees depend on pollinators for reproduction and efforts have been initiated by other organizations to breed honeybees as an alternative source of income.

## SUPPORTING SERVICES

Supporting services such as habitat availability and genetic diversity ensure the functioning of all other services.

While few studies have examined the role of supporting services in Afghanistan, UNEP (2012) highlighted the importance of the biodiversity of Koh-e Baba in underpinning the provision of all ecosystem services in the area. In addition to being home to a large number of breeding and migratory birds and supporting diverse plant species and wildlife such as wolves, fox, wild cats, rabbit, deer, bats, and numerous birds, there is also considerable genetic diversity of wild relatives of wheat and other flora that can provide genes of resilience and resistance to disease. Such an ecosystem service is of particular importance in a predominantly agricultural area.

## CULTURAL SERVICES

Cultural services refer to non-material benefits from nature such as aesthetic appreciation and recreation. Many areas of Afghanistan have significant cultural value to the local communities. For example the snow line on the peak of the Koh-e-Allah Mountain is believed to spell out the word “Allah” and is therefore of important cultural significance. Similarly a natural hot spring is important to the local communities beyond its direct use. This area previously provided many opportunities for recreation to the people of Afghanistan. Locals recall that guesthouses were full and tourists were plenty before the outbreak of the war. The area continues to provide great opportunities for hiking and backcountry skiing as well as ecotourism to local communities and tourists and local communities. Such opportunities can potentially provide great benefit to local communities.

There are many caves that have ancient animal carvings that locals visit. A natural spring in one of the valleys is of cultural importance as well. In the mountains there are also shrines that commemorate significant events. These shrines are well-tended to and represent important parts of the landscape that should be taken into consideration in future land use plans.

A mix of formal and traditional institutions govern a patchy and uncertain land tenure system. The Afghan government has attempted to modernise the land management system and since 2011 a new regime for managing land rights has existed in the form of the Afghan Land Authority, but the organisation is still in its infancy.

As natural land continues to degrade, the demand for fertile and productive land is increasing. Ultimately the success of the various formal and traditional land management structures will be a function of how well they can address three challenges. The first challenge is to manage the growing demand for land: rapid population growth, returning refugees, and environmental degradation are simultaneously constraining the amount of productive land available and increasing competition over land both in rural areas (for agriculture) and in urban centres (for building). The second challenge is to stop land grabbing: weak and inconsistent land management, endemic corruption, and insecurity have permitted opportunistic land grabs by powerful elites, which undermine the rule of law, and breed resentment among local people. Finally, the third challenge is to put in place the structures to resolve land disputes: Afghanistan needs to develop more effective mechanisms to resolve land disputes, which are inhibiting development and negatively affecting community relations.

**THE NATIONAL  
BIODIVERSITY STRATEGY  
AND ACTION PLAN, ITS  
IMPLEMENTATION, AND  
THE MAINSTREAMING OF  
BIODIVERSITY**

*Any conservation action must also seek to ensure the sustainable provision of services to the local communities.*



## WHAT ARE THE BIODIVERSITY TARGETS SET BY AFGHANISTAN?

The strategy for the conservation and sustainable use of biodiversity in the immediate future is to begin to address all relevant goals of the CBD in a more structured manner than has previously been possible. Given that government capacity is somewhat limited, it is anticipated that the implementation of biodiversity conservation activities will continue to rely on donor-funded programming for the foreseeable future. This programming has to-date generally been well-focused and appropriate, and has contributed materially to the development of a knowledge base and maintenance of Afghanistan's biodiversity resources.

A key objective of the NBSAP is to provide a point of reference for setting future, long-term action priorities, and for ensuring that available resources are focussed on both the most urgent and most relevant biodiversity conservation issues. Below are listed the 11 preliminary national targets based on current priorities for biodiversity conservation and management actions in Afghanistan. The conservation and management actions were prioritized from a long, all-inclusive list developed from previous conservation planning, field reports, expert consultations, and provincial and national level consultations. It is recognised that further work will be required for the NBSAP 2014-2020 to set SMART (Specific, Measurable, Attainable, Relevant, Time-bound) national targets based on this preliminary list.

**Afghanistan preliminary target 1:** at least 10% of each ecological region effectively conserved, and areas of particular importance to biodiversity protected

**CBD Aichi target 11:** By 2020, at least 17% of terrestrial and inland water, and 10% of coastal and marine areas are conserved through systems of protected areas

**Strategy 1.1** to continue ongoing assessments of Afghanistan's floral and faunal communities, with the overall aim of improving understanding of Afghanistan's biodiversity resources and their conservation requirements

**Strategy 1.2** to expand the protected areas system to ensure that it is representative of all major ecosystems and areas of outstanding conservation or natural heritage value

**Strategy 1.3** to develop and implement the support mechanisms (incentives, rules, regulations, environmental education, public awareness) necessary for the effective conservation of biodiversity and other natural resources

**Afghanistan preliminary target 2:** populations of species of selected taxonomic groups restored, maintained or decline reduced; status of threatened species improved

**CBD Aichi Target 12:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained

**Strategy 2.1** to continue ongoing assessments of the status of Afghanistan's floral and faunal species, consistent with actions 1 and 2, with the overall aim of improving understanding of Afghanistan's biodiversity resources and their conservation requirements

**Afghanistan preliminary target 3:** genetic diversity of crops, livestock and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained

**CBD Aichi Target 13:** By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives is maintained

**Strategy 3.1** to develop the mechanisms required for effective conservation of economically important species

**Afghanistan preliminary target 4:** biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity

**CBD Aichi Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

**Strategy 4.1** to develop and implement mechanisms to ensure sustainable use of biodiversity resources, including funding, capacity and policy considerations

**Afghanistan preliminary target 5:** rate of loss and degradation of natural habitats decreased

**CBD Aichi Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced

**Strategy 5.1** to prevent the illegal or unsustainable use of biodiversity resources

**Afghanistan preliminary target 6:** pathways for major potential alien species controlled, and management plans for major alien species that threaten ecosystems, habitats or species in place

**CBD Aichi Target 9:** By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment

**Strategy 6.1** to develop and implement mechanisms for preventing damage to natural ecosystems from invasive alien species



**Afghanistan preliminary target 7:** resilience of the components of biodiversity to adapt to climate change maintained and enhanced; pollution and its impacts on biodiversity reduced

**CBD Aichi Target 8:** By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

**CBD Aichi Target 10:** By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

**Strategy 7.1** to control impacts on biodiversity resources resulting from climate change, desertification and pollution

**Afghanistan preliminary target 8:** capacity of ecosystems to deliver goods and services maintained; biological resources that support sustainable livelihoods, local food security and health care, especially of poor people, maintained

**CBD Aichi Target 14:** By 2020, ecosystems that provide essential services, including services are restored and safeguarded

**Strategy 8.1** to develop and implement mechanisms and plans for maintaining goods and services obtained from critical ecosystems, focussing on forests and woodlands

**Afghanistan preliminary target 9:** traditional knowledge, innovations and practices protected, and rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefits sharing, protected

**CBD Aichi Target 18:** By 2020, the traditional knowledge, innovations and practices of indigenous and local communities and their customary use, are respected

**Strategy 9.1** to maintain cultural diversity by recognizing and valuing traditional knowledge and land uses

**Afghanistan preliminary target 10:** all access to genetic resources in line with the Convention on Biological Diversity and its relevant provisions, and benefits arising from the commercial and other utilization of genetic resources shared in a fair and equitable way with the countries providing such resources in line with the Convention on Biological Diversity and its relevant provisions

**CBD Aichi Target 16:** By 2015, the Nagoya Protocol on Access and Benefits Sharing is in force and operational

**Strategy 10.1** to manage genetic resources for the benefit of all citizens of Afghanistan Action

**Afghanistan preliminary target 11:** new and additional financial resources and technology transferred to Afghanistan, to allow for the effective implementation of commitments under the Convention

**CBD Aichi Target 20:** By 2020, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, should increase substantially

**Strategy 11.1** to ensure that NEPA and MAIL have sufficient capacity and resources to carry out Afghanistan's obligations as a signatory to CBD and other MEAs

## **HOW HAS AFGHANISTAN'S NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN BEEN UPDATED TO INCORPORATE THESE TARGETS AND TO SERVE AS AN EFFECTIVE INSTRUMENT TO MAINSTREAM BIODIVERSITY?**

The recent development of Afghanistan's first NBSAP was a participatory process led by NEPA, with the technical guidance of a nineteen-member Biodiversity Working Group comprising senior representatives from NEPA, MAIL, the Ministry of Labour, Social Affairs, Martyr and Disabled (MoLSAMD) and Kabul University.

Development of the NBSAP was based on the following process and activities:

- A review of the CBD and its guidance on NBSAP preparation.
- A review of NBSAPs from surrounding countries, and representative NBSAPs from elsewhere, to extract lessons and guidance on best-practice approaches and techniques.
- A comprehensive assessment of available information on biodiversity status and threats to biodiversity in Afghanistan, based on a review of available reporting and interviews with government, international donors and NGO personnel. The review of background and scientific information was based on English language reporting, as little if any original reporting is available in other foreign languages or in the two national languages of Dari and Pashto.
- Provincial-level consultations in Bamyan, Balkh, Herat, and Kabul Provinces, primarily involving personnel from provincial NEPA offices, but also community members, NGOs and journalists. The provincial level consultations were designed to solicit information on biodiversity status, threats, and management options, and included representatives from 27 of Afghanistan's 34 provinces. Follow up telephone interviews were conducted by NEPA to solicit information from the remaining seven provinces.
- A comprehensive review and ranking of management options (as developed through the above process) by the Biodiversity Working Group.
- Preparation of a threats assessment, including ranking of threats to biodiversity in Afghanistan by the Biodiversity Working Group.
- Preparation and review of a strategic framework for the future conservation of Afghanistan's biodiversity resources, identifying priority actions required to address the 11 goals and 13 strategic objectives incorporated in the strategy, the proposed timeframe for each action, the responsible government organization (RGO) under existing legislation policy, and the designated implementing government organization (IGO).

## **WHAT ACTIONS HAS AFGHANISTAN TAKEN TO IMPLEMENT THE CONVENTION SINCE THE FOURTH REPORT AND WHAT HAVE BEEN THE OUTCOMES OF THESE ACTIONS?**

Afghanistan received funds to develop its NBSAP which was submitted to the CBD on 30 April 2012. A GEF 5 STAR allocation proposal for USD 7.4 million has been submitted by NEPA and UNDP, while an additional USD one million project for Rio Conventions (including CBD) has been submitted to GEF with NEPA. Otherwise, to date, the NAPA and the NCSA have been the only other planning initiatives undertaken specifically to address the CBD.

NEPA is taking the lead to update the current NBSAP, which will include the 2020 Aichi Biodiversity Targets. Some practical actions are also taking place in situ. WCS, together with national, provincial and local government and communities has been working on Afghanistan's first national park, Band-e-Amir. Accomplishments there include providing conservation education, establishing and improving existing walking paths, and clearing garbage from around lakes and dams. Due to variety of institutional reasons, the government legally designated this first National Park, but work is in progress. In 2009, NEPA and MAIL, with the technical support of UNEP, worked together and

**Figure 2.1** The existing and proposed protected areas in Afghanistan



initiated efforts to establish the Shah Foladi in the Koh-e-Baba Mountain Range, Bamyan Province, as a landscape conservation protected area. This community conservation site has completed the initial planning phase. Formal establishment started in January 2014. There are five additional sites in the final stages of progress in the country, notably in Kabul, Bamyan, Badakhshan, Takhar and Herat Provinces that will be declared in due course.

The Government is expanding its practical field focus on environmental and biodiversity conservation, through the National Priority Programmes in Environmental Conservation and Natural Resources Management. This is referred to as National Priority Programme 16.

## CIVIL SOCIETY ENGAGEMENT

Biodiversity conservation and implementation of the CBD are growing issues in Afghanistan. Government policy is to engage private sector and civil society in conservation of nature, environment and ecosystem as a means of facilitating sustainable development. NEPA assessments indicate a 7% rise in public awareness on the environment and biodiversity throughout the country. Working through respected religious scholars and educational institutions has had a particularly positive impact.

In recognition of the need to address both poverty and resource overuse, a number of NGOs are carrying out poverty and environment initiatives in almost every province in the country. NEPA is leading the GEF Small Grants Programme (SGP), aimed at supporting such organisations in Afghanistan with environment projects. These include sustainable land management programme that aims at combining bio-physical watershed restoration activities support for income generation

and the provision of agricultural services. Interventions range from the construction of water harvesting schemes to community-based re-vegetation programmes in support of agro-enterprise activities. GEF-SGP also works with communities and government agencies to encourage and support community-based resource management initiatives that include biodiversity protection components in selected micro-watersheds of the Central Highlands, Northeast, and Southeast of Afghanistan, in accordance with new laws on water, rangelands (under process), forests, and local government.

## **UNIVERSITY COURSES, STRENGTHENING AFGHAN UNIVERSITIES AND INSTITUTIONS**

Following the development of the Ministry of Higher Education (MoHE), environmental conservation courses have restarted across Afghanistan. In fact, the higher education sector was known up to the 1960s for its excellence in research, teaching, and planning. For biodiversity conservation, there are currently extensive courses on forestry, land, geosciences, and water issues, with more than eleven higher-level degree courses on offer, which bodes well for training the next generation of conservation leaders. In addition to individual departments and courses, the government has facilitated the establishment of the first faculty of Environmental Science in the country, at Kabul University. Presently, there are around 300 enrolled undergraduate students.

Aside from degree level training, as of 2014 there are 80 agricultural colleges, with their own vocational environmental and horticultural, forestry, and land management curriculums, training over 10,000 young natural resource management professionals to practical diploma course level.

## **FIELD VISITS AND OBSERVATIONS FROM SUBNATIONAL LEVEL**

In June 2013, and again in October–November 2013, a series of field observations of the entire length and breadth of the Wakhan Corridor was undertaken by a high-level delegation of government officials and was the first of its kind in over 42 years. The damage that has been already done to the glaciers in the Small Pamir and Big Pamir in the Wakhan Corridor, as well as, in the glacier regions adjoining it in Tajikistan, Pakistan, and China, was particularly noted (M. Zaher and G. Malikyar, pers. comm.).

More positively, the biodiversity appeared to have improved, thanks largely to the fact that the Wakhi and the Kyrgyz communities of the Wakhan have been working closely with the Government. It was observed that not a single gun was seen, nor any gunshots heard during the two visits and the Marco Polo sheep is considered to have risen in numbers (M. Zaher and G. Malikyar, pers. comm.). This is in an area where a species of small songbird (the Thick-Billed Reed Warbler, *Iduna aedon*) has recently been re-discovered, having been considered to be locally extinct for over 138 years. On 30 March 2014, the whole of the Wakhan District was declared as the country's second National Park and comprises at least 18 bird sanctuaries, protected areas and wildlife reserves within the Wakhan National Park.

The glacier lakes have also been studied albeit briefly. There has been a series of 17 short studies of the Urial, Ibex, Markhor, Snow Leopard, Marmot and other ungulates and mammals. Further studies on the identification of rare butterflies, insects, reptiles, amphibians and medicinal plants are needed.

In other parts of the country, insects, reptiles, flowers, medicinal plants, shrubs, sub-shrubs, trees and aquatic living organisms have been observed by both foreign and national amateurs and enthusiasts in their respective fields, which enriches existing databases and knowledge. The three wetlands of international importance have also received some new data. Further studies of bird populations both endemic and non-endemic, their migratory flying patterns, breeding grounds and patterns have been carried out between 2010 and 2013.

**Figure 2.2** Subjective classification of human impact on composition, structure and function of some of the WWF-US Eco-regions in Afghanistan (UNEP 2008).



	IMPACTS ON ATTRIBUTES OF AFGHAN ECO-REGIONS		
	Composition	Structure	Function
<b>Forests</b>			
East Afghan Montane Conifer Forests	High	High	Medium
Baluchistan Xeric Woodlands	Very High	Very High	High
<b>Open Woodlands</b>			
Central Afghan Mountains Xeric Woodlands	High	Very High	High
Paropamisus Xeric Woodlands	High	Very High	Medium
<b>Semi-Desert</b>			
Afghan Mountains Semi-Desert	Medium	High	Medium
Badkhis (Badghis)-Karabil Semi-Desert	High	High	High
Central Persian Desert Basins	High	Medium	Low
Registan-North Pakistan Sandy Desert	High	High	High
<b>Montane Grasslands and Shrublands</b>			
Pamir Alpine Desert And Tundra	Medium	Medium	High
Hindu Kush Alpine Meadow	High	Medium	Medium
Ghorat-Hazarajat Alpine Meadow	Medium	Medium	Medium



## **CAPTIVE BREEDING**

Afghanistan has a highly endemic native avifauna of which significant portions have been lost due to lack of conservation activities and diseases. Balkh Province's Captive Breeding and Conservation Centre was inaugurated in early 2012, and now includes breeding, incubation, and brooding complex with advanced laboratories, fledging aviaries, office space, and a neo-natal food preparation area. Additional structures include a permanent captive centre building including conservation areas with a good number of aviaries, and training space.

## **HOW EFFECTIVELY HAS BIODIVERSITY BEEN MAINSTREAMED INTO RELEVANT SECTORAL AND CROSS-SECTORAL STRATEGIES, PLANS AND PROGRAMMES?**

Attempts are on-going to mainstream environment and biodiversity concepts into national strategies and policies. The National Priority Programmes of the current Afghanistan National Development Strategy includes Biodiversity Conservation in its new five-year action programme (NPP). The national priorities are by their nature cross-cutting, though in particular biodiversity conservation is described in the NPP as a task for the MAIL and MRRD with technical guidance from NEPA and the Afghanistan National Disaster Management Authority (ANDMA).

UNEP has had an important role in drafting the new United Nations Development Action Framework (UNDAF) for Afghanistan which runs from 2015-2019, where environmental management, sustainability and ecological approaches are given heavy emphasis. Some early work is now being carried out with NEPA, the Ministry of Economy and the Ministry of Foreign Affairs on ecological economics and natural capital approaches to development, such as The Economic of Ecosystems and Biodiversity (TEEB) and the UNEP Natural Capital Initiative.

Extensive regional cooperation on the Istanbul Process (Afghanistan and its six neighbours), the Shanghai Process on Security Co-Operation is taking place. There is no specific mention on biodiversity conservation and more work needs to be done here to raise the profile. The South Asian Association for Regional Cooperation (SAARC) does offer extensive regional partnership opportunities. Furthermore, the Economic Co-operation Organization (ECO) and the South Asia Co-operative Environment Programme (SACEP) has been most useful in this field.

## **HOW FULLY HAS AFGHANISTAN'S NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN BEEN IMPLEMENTED?**

Afghanistan has recently developed its first NBSAP. Implementation of the actions therein, although based on existing initiatives and programmes in Afghanistan (see Section 2), has yet to be carried out in full. Early actions have included focus on capacity building, setting up a system of conservation areas, and carrying out further surveys, science, and research in three main areas in Central Highlands and the Northeast.

PROGRESS TOWARDS **THE**  
**2020 AICHI BIODIVERSITY**  
**TARGETS** AND CONTRIBUTIONS  
TO THE RELEVANT **2015**  
**TARGETS OF THE MILLENNIUM**  
**DEVELOPMENT GOALS**











## WHAT PROGRESS HAS BEEN MADE BY AFGHANISTAN TOWARDS THE IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020 AND ITS AICHI BIODIVERSITY TARGETS?







### PROGRESS TOWARDS THE AICHI TARGETS

Key to indicator assessment of change over time:

- ✓ = improving
- ≈ = little or no overall change
- ✗ = deteriorating
- ⋯ = insufficient or no comparable data

#	AICHI TARGET	RELEVANT AFGHANISTAN PRELIMINARY TARGET	PROGRESS
<b>Strategic Goal A:</b> Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society			
1	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	N/A	✓
2	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	N/A	✓

#	AICHI TARGET	RELEVANT AFGHANISTAN PRELIMINARY TARGET	PROGRESS
3	By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.	N/A	
4	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	N/A	
<b>Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use</b>			
5	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	5. Rate of loss and degradation of natural habitats decreased	
6	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	N/A	
7	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	4. Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity	
8	By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	7. Resilience of the components of biodiversity to adapt to climate change maintained and enhanced; pollution and its impacts on biodiversity reduced	
9	By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	6. Pathways for major potential alien species controlled, and management plans for major alien species that threaten ecosystems, habitats or species in place	
10	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	7. Resilience of the components of biodiversity to adapt to climate change maintained and enhanced; pollution and its impacts on biodiversity reduced	

#	AICHI TARGET	RELEVANT AFGHANISTAN PRELIMINARY TARGET	PROGRESS
<b>Strategic Goal C:</b> To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity			
11	By 2020, at least 17% of terrestrial and inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	1. At least 10% of each ecological region effectively conserved, and areas of particular importance to biodiversity protected	
12	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	2. Populations of species of selected taxonomic groups restored, maintained or decline reduced; status of threatened species improved	
13	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	3. Genetic diversity of crops, livestock and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained	
<b>Strategic Goal D:</b> Enhance the benefits to all from biodiversity and ecosystem services			
14	By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	8. Capacity of ecosystems to deliver goods and services maintained; biological resources that support sustainable livelihoods, local food security and health care, especially of poor people, maintained	
15	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	N/A	
16	By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	10. All access to genetic resources in line with the CBD and its relevant provisions, and benefits arising from the commercial and other utilization of genetic resources shared in a fair and equitable way with the countries providing such resources in line with the Convention on Biological Diversity and its relevant provisions	



#	AICHI TARGET	RELEVANT AFGHANISTAN PRELIMINARY TARGET	PROGRESS
<b>Strategic Goal E:</b> Enhance implementation through participatory planning, knowledge management and capacity building			
17	By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	N/A	✓
18	By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	9. Traditional knowledge, innovations and practices protected, and rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefits sharing, protected	≈
19	By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	N/A	≈
20	By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	11. New and additional financial resources and technology transferred to Afghanistan, to allow for the effective implementation of commitments under the Convention	✓

## WHAT HAS BEEN THE CONTRIBUTION OF ACTIONS TO IMPLEMENT THE CONVENTION TOWARDS THE ACHIEVEMENT OF THE RELEVANT 2015 TARGETS OF THE MILLENNIUM DEVELOPMENT GOALS IN AFGHANISTAN?

The Millennium Development Goals (MDGs) have helped to rally development actors around commonly agreed policy priorities and catalyse energy and resources towards the achievement of tangible and quantified targets. However, Afghanistan was not among the 191 United Nations Member States represented at the Millennium Summit in September 2000, where the Millennium Declaration was adopted. After the fall of the former regime, the new Government of Afghanistan endorsed the Declaration, as well as the MDGs, in March 2004, by an official Letter from H.E President Hamid Karzai to the Secretary-General of the United Nations.

Following this endorsement, an intense process of national consultations was initiated in order to build a broad national consensus around the development priorities and firmly anchor the MDGs into the Afghan reality. Recognising the capacity constraints, and acknowledging that for Afghanistan the 1990s was a “lost decade” for development, the Technical Working Groups recommended that the Government extend the time period for meeting the MDG targets from 2015 to 2020 so as to have a realistic chance of meeting the targets. The Government has thus adopted a “Vision 2020” for meeting most of the MDGs.

Furthermore, the Afghanistan MDGs contain additional targets to take account of Afghanistan’s specific constraints in areas such as gender equality and maternal health. Finally, Afghanistan

decided to add a ninth MDG to recognise the special importance of security as a precondition for the achievement of sustainable development in Afghanistan.

Since the publication of the first Afghan MDG report in 2005, the Government of the Islamic Republic of Afghanistan has taken major steps to operationalise this vision. First, the Afghanistan Compact, which was agreed at the 2006 London Conference, spelled out in more detail, with quantified benchmarks, the steps to be taken by the international community and the Government of Afghanistan to advance development in the country until 2011. Secondly, the Afghan National Development Strategy (ANDS) has been developed, identifying priority policies and programmes that will be implemented in 17 sectors, including security, to achieve the MDGs. The ANDS, which is aligned with Vision 2020 and the Afghanistan Compact Benchmarks, was endorsed by the International Community at a donor conference in June 2008.

### **MDG1: ERADICATE EXTREME HUNGER AND POVERTY**

The poverty goal of the MDGs addresses issues of extreme poverty, hunger and malnutrition, which are closely related to the livelihoods and vulnerability of households. Rural households in Afghanistan derive a significant proportion of their food and income from biological resources and, therefore, the availability and sustainability of biological resources is of direct relevance to poverty reduction for these people. Additionally, a large proportion of poor people live in marginal environments and in areas with low agricultural productivity or in fragile lands.

Afghanistan does not participate in the International Comparison Programme (ICP) and therefore no Purchasing Power Parity (PPP) estimates are available to compute the first indicator “Proportion of population below USD 1/day poverty.” Poverty monitoring in Afghanistan is based on the “Proportion of the population below the national absolute poverty line.” The national absolute poverty line for Afghanistan was first set using the National Risk and Vulnerability Assessment (NRVA) 2007-08 and it was estimated following the Cost of Basic Needs (CBN) approach. According to NRVA 2007-08 estimates the proportion of population below the national absolute poverty line in Afghanistan is 36%, meaning that approximately nine million Citizens are not able to meet their basic needs. While 36% of the population cannot meet basic consumption needs there are many more people who are highly susceptible to becoming poor. In particular, more than half of the population is consuming at a level of less than 120% of the poverty line. One small, negative shock has the potential to move many individuals into poverty.

The fieldwork of the new NRVA 2011-12 survey was completed in October 2012 and the survey was released in the first quarter of 2014. Preliminary analysis seems to indicate that consumption patterns have not changed significantly since 2007-08, possibly suggesting limited change in both poverty and poverty vulnerability over time. If this result was to be confirmed with the official release of the new survey, the target of reducing the share of population below the poverty line to 24% by 2015 would be somewhat difficult to achieve. Concerns regarding the progress in poverty reduction are in line with the findings of other studies. According to the World Bank report “Afghanistan in Transition: Looking beyond 2014,” higher level of outside of government budget spending has had a modest effect on poverty, a situation which could deteriorate with transition unless appropriate policies are adopted (World Bank 2012). Based on these preliminary findings Afghanistan could increasingly face hardship in its attempts to reduce poverty in the coming years which would require focused efforts and specific policy interventions on the part of government and donors.

### **MDG2: ACHIEVE UNIVERSAL PRIMARY EDUCATION**

Biodiversity directly affects access to women’s education by impacting on the time taken for women to perform certain household duties, and thus the time available to attend schools or universities. Degradation of biological resources and subsequent non-availability of fuel, non-timber forest products (NTFPs) and potable water can result in significant time being spent collecting these resources every day.

Achievements in education have been one of the main highlights Afghanistan's successes post-2001. The sector has enjoyed unprecedented level of progress; 8.6 million children and youth are attending schools (over 5.29 million boys, and over 3.35 million girls), whilst hundreds of thousands attend universities, and similarly tens of thousands who for any reason were deprived from regular education are accessing literacy classes and vocational training. While gender gaps and disparity still persist, however, it has significantly improved over the years.

Net enrolment ratio in primary education has seen steady improvement over the years with the data available for 2012 indicate the net enrolment ratio 77% and progress toward the 82% target set for 2015 is on track. Similarly, gross enrolment ratios in primary education have improved and progress is on track which is reflective of the improved absorption capacity (since 2002 to 2012) within the education system and the rate of attendance. However, the proportion of pupils starting grade one who reach the last grade of primary education in 2012, 64%, is relatively low and the target for 2015, 76%, might be difficult to achieve. Moreover, primary completion rate is also improving and the target of 80% ratio completion rate for 2020 is achievable. Literacy rate has also improved; the target of 50% for 2015 is likewise achievable.

### **MDG3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN**

Biodiversity directly affects access to women's empowerment by impacting on the time taken for women to perform certain household duties, and thus the time available for other activities. Degradation of biological resources and subsequent non-availability of fuel, NTFPs and potable water can result in significant time being spent collecting these resources every day. Gender equality has figured prominently on government's agenda; considered as a major cross cutting issue within the MDGs-based ANDS 2008-2013, gender equality has now been adopted as one of the 22 NPPs.

The situation of access to education for females has drastically improved since 2001. The ratio of girls to boys in primary education is 71% and by 2015 the target is to improve this ratio to 83%, which, however, will be difficult to achieve. The ratio of girls to boys in secondary education has also steadily improved from just over 30% to 57%, according to the data collected for 2012. Similarly the target for 2015, which is 70%, may be difficult to achieve. However, the gaps still remain wide concerning the ratio of girls to boys in tertiary education.

The value recorded for 2012 reveals this ratio to be 36%, accounted for the ratio of girls to boys in universities and other higher learning institutions, whilst accounting universities only, the ratio is low as 22%. Progress towards achieving the 70% ratio however is off-track. The ratio for the female to male literacy rate (15-24 years of age) has improved to 52%, according to data collected for 2012, while the 70% ratio for 2015 is a target difficult to achieve.

Women's position in the labour market is weak and significantly weaker than that in the South Asia region. While data for ratio of representation of women in representative bodies is not available, it is likely to be between 20 to 25% ratio. Similarly, data for appointed political seats and access to justice could not be ascertained for accuracy. The targets for 2015 and extendedly 2020 will be difficult to achieve.

### **MDG4: REDUCE CHILD MORTALITY**

Biodiversity provides one of the significant contributions to achieving MDGs 4, 5 and 6. Studies led by Harvard Medical School revealed that biodiversity plays a crucial role not only in providing medicines to deal with issues of health and nutrition, but ecosystems play a significant role in dealing with diseases like malaria and others (Chivian 2002).

Consistent improvement in child mortality reduction is recorded throughout the years since the base year 2003. Under-five mortality since the base year of 257 deaths (per 1,000 live births), with value recorded for 2012 indicate 102 deaths (per 1,000 live births) reveals 60% reduction. The targets set for 2015, 93 deaths per 1,000 live births and extendedly 76 deaths per 1,000 live births in 2020, are both achievable. Infant mortality rate from 165 (per 1,000 live births) is reduced to 74 (per 1,000 live births) according to data recorded for 2012, while the target for 2015 to further reduce it to 70 and 46 deaths

per 1,000 live births by 2020 are also achievable.

Progress on the proportion of one-year-old children immunized against measles is slow (62% in 2012), and to reach 90% target by 2015 may be somewhat difficult to achieve.

#### **MDG5: IMPROVE MATERNAL HEALTH**

The latest data available for maternal mortality is that of 2010, with the number of maternal mortalities recorded was 327 reduced from its base year (2003) value of 1,600 mortality rate (per 100,000 live births). The target for 2015 which is the maternal mortality rate reduced to 320 is likely already achieved or will certainly be achieved before 2015.

The target for proportion of births attended by skilled birth attendants is likely already achieved for 2015, again while data could not be accurately verified though it is safe to assume that the target at minimum will be achieved before 2015. Over 40% of births are attended by skilled birth attendants relative to the 6% that was recorded for base year 2003.

Different surveys have reported the fertility rate (number of births per woman) to have declined from its original 6.2 base value with the latest data available for 2010 through Afghanistan Mortality Survey (AMS) has reported the rate to be 5.1. Fertility rate is higher in rural areas than in urban areas and the rate of 4.7 targeted for 2015 based on the decrease over the past years may be achievable. With antenatal care there has been satisfactory level of progress; the 25% and 50% targets for 2015 and 2020, respectively, are already achieved, the targets for the mentioned years have been revised to 65% and 100% and progress towards the revised target for 2015 is on track.

#### **MDG6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES**

The World Health Organisation estimates that 80% of the world's population from developing countries relies mainly on traditional medicines for primary health care. Of the 119 chemical compounds derived from 90 plant species, 74% of these are used as drugs.

HIV/AIDS prevalence is very low among the general population (possibly the lowest in the world), but it has increased during the past decade. There has not been a general survey to determine the percentage of people suffering from HIV/AIDS in Afghanistan, its prevalence among blood donors however has decreased constantly from 0.13% in 2005 to 0.01% in 2012. The Ministry of Public Health has established numerous centres in the country and developed public awareness programmes. Related outreach has even occurred in remote areas such as the Wakhan, Badakhshan Province.

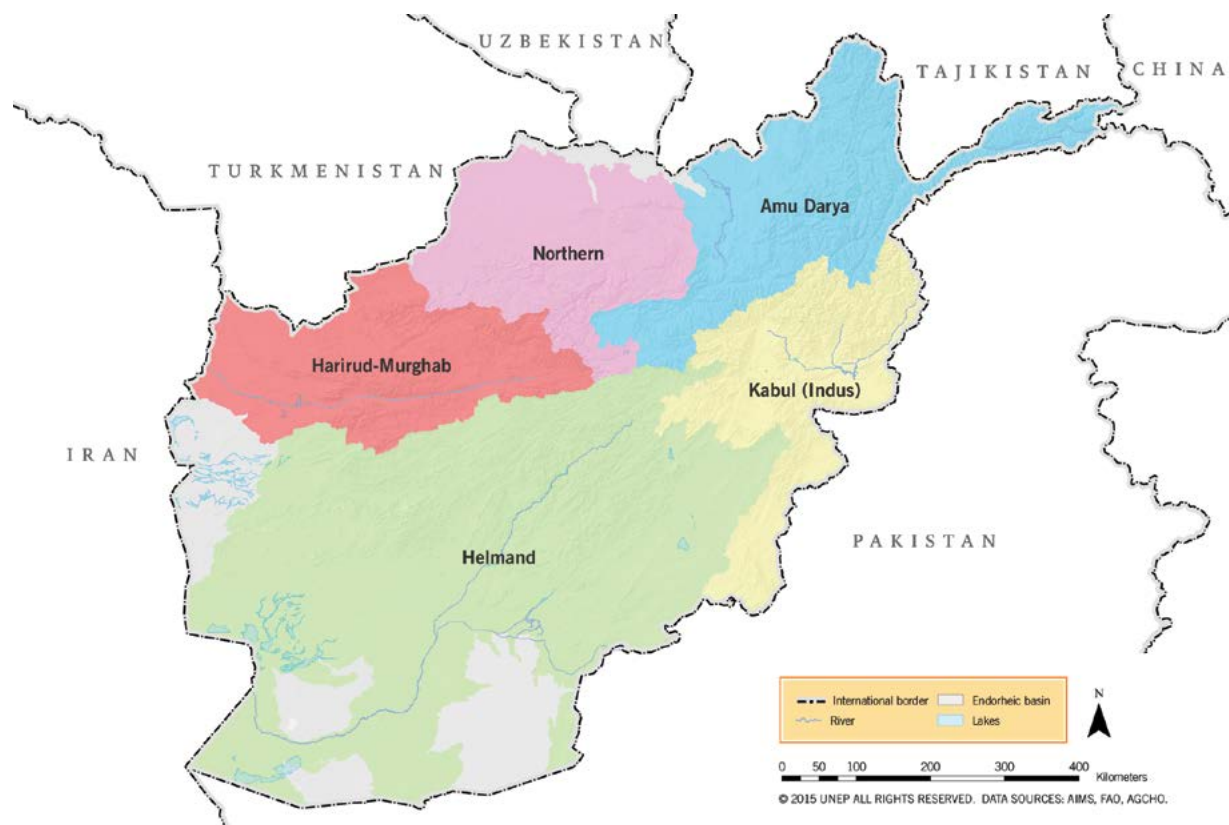
There have also been achievements in reduction of malaria and tuberculosis. In 2008, an estimated number of 46 malaria related deaths were reported, whilst in 2012 this number was reduced to 36, though to reduce this number to five by 2015 may be difficult to achieve, hence progress is problematic. Similarly, with regards to incident rates associated with malaria, and reduction of proportion of population in malaria risk areas using effective malaria prevention measures, and under-fives sleeping under insecticide treated nets, progress would be slow but steady with the targets set for 2015 probably not likely to be achieved.

In regards to the prevalence rate of tuberculosis, its reduction from the value of 351 (per 10,000 people) to 224 in 2015 may be ambitious to achieve, while progress on the reduction of death rate associated with tuberculosis from the current 39 (per 10,000 people) to 36 by 2015 is on-track.

#### **MDG7: ENSURE ENVIRONMENTAL SUSTAINABILITY**

Poor people are affected by natural resource degradation and biodiversity loss much more than the better off because of their limited assets and access. Improving environmental management to reduce poverty requires local understanding of how environmental conditions relate to poverty, and the ability to identify and set priorities on alternative policy options and evaluate their effectiveness and impact.

**Figure 3.1** Afghanistan's river basins



Since its inception, NEPA has worked towards incorporating principles of sustainable development into the laws, regulations, policies and strategies of the country. NEPA is the country's environmental regulatory body. Eighteen sets of laws, regulations, guidelines and procedures are developed with regards to environmental issues. Afghanistan is party to 10 Multilateral Environmental Agreements and three Protocols and the official process of Conventions on Migratory Species and the Nagoya Protocol have been finalized and are currently being proposed to be sent to their respective Secretariats. Identifying and enlisting of at least 138 endangered-species (3% of the native species), initiation of a Presidential Decree to protect endangered animals and importantly incorporating environmental curriculum into education curricula of the country are some of NEPA's attempts toward the incorporation of the principles of sustainable development into laws, policies, and strategies of Afghanistan.

Although slow in pace, the proportion of land area covered by forests is increasing through efforts led by the Government, local communities and the international donors in reforestation and afforestation. As of 2012, some 2% of Afghanistan's area is covered by forests, with considerable efforts occurring in the affected areas. Ratio of areas protected to maintain biodiversity to surface area is increasing as well, and NEPA in cooperation with MAIL has developed a National Protected Areas System Plan to keep track of these locations.

Regrettably, carbon dioxide emissions have increased; however, consumption of ozone-depleting substances has decreased with a shift from use of solid fuels to natural gas and electricity.

Proportion of people having access to an improved water source and improved sanitation has increased slightly; however, with respect to targets for these indicators, achievements are marginal in this area and the progress is behind schedule.

Unfortunately, slum dwelling has increased as well. While the main reason for slum dwelling is said to be poverty and economic misfortunes, accounting for 75% of these populations, the issue is also driven by Internally Displaced Persons (IDPs) owing to ongoing conflict in some parts of the country. Most of the IDPs have taken refuge in slums of major cities including the capital thus increasing the



number of slum dwellers. They have also settled in barren lands in outskirts of the cities therefore creating new slums.

## **MDG8: DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT**

Goal 8 of the MDGs focuses on means of achieving the first seven goals. In the spirit of this goal, developed and developing countries need to work in partnership to address sustainability issues. Increasing the quantity and effective delivery as well as use of aid is essential to ensure the poorest countries have resources to finance the investments required to reach critical thresholds in infrastructure, education and health. To ensure the effectiveness of the aid, developing countries need to improve economic and democratic governance and implement policies for effective poverty reduction.

Technology transfer and benefit sharing are also key issues that affect people in developing countries and their path towards sustainable development. Technological innovations can increase productivity resulting in increased household incomes and provide solutions to many development problems such as disease, transport, energy, water supply and sanitation. It is vital that developed countries share technological progress with developing countries and invest more into technology development that addresses issues of poverty reduction. Recognition of indigenous knowledge, including knowledge about genetic material and technology, and benefit sharing for access to and use of this knowledge is also vital for meeting conservation and development goals as well as meeting the provisions of the CBD for the fair and equitable sharing of the benefits arising out of the use of genetic resources.

Afghanistan at the time being is an aid-dependent country and is financially able to fund only approximately 60% of its operational budget. The rest of its development budget is funded through grants and aid provided by the international community, as well as loans. While international aid has been central to the rehabilitation, reconstruction, and development of Afghanistan since 2001, the utilization of this aid, however, was not as effective as desired due to the lack of capacity, transparency, security, and overall inadequate aid effectiveness due to complex and multiple agendas, unclear goals and lack of coordination among donors, with and within the government of Afghanistan.

The Government of Afghanistan and the international community have continuously dialogued and adopted measures to make aid more effective, efficient and accountable as part of the efforts of the Paris Declaration on Aid.

Effectiveness was adopted, as well as in both the Kabul and Tokyo Conferences key socio-economic and political issues were addressed and clearer commitments were made to improve effectiveness of aid in Afghanistan. The Tokyo Mutual Accountability Framework (TMAF) emphasise stronger monitoring of issues such as the introduction and implementation of reforms, good governance and fighting corruption; the Aid Management Policy (AMP) prepared by the Government of the Islamic Republic of Afghanistan which is structured around principles of increasing ownership of the Afghan government in the development process, enhancing alignment of aid with national priorities, and improving accountability.

Donor accountability to the Government on fund investment by amount and sector has been less than satisfactory. While there has been progress and improvement, investments do not match the volume and areas of need in the MDGs sectors and other priorities of the Government. Aid still has to be better adjusted to Afghanistan's needs whereby sustainable and inclusive growth is fostered. A good example is the agriculture sector which forms the backbone of the country's economy, and as such productivity and development of this sector just as in any LDC (Least Developed Country) is essential for sustainable and inclusive growth, receives just around 5% of international aid. 35-40% of all aid according to some estimates has been "wrongly spent."

The level of aid channelled through the Afghan government budget has increased and donors have committed to ensuring more of their aid is "on-budget" and aligned to national priorities. Key to these negotiated and endorsed policies on aid effectiveness, especially the AMP endorsement, it can optimistically be speculated that in the future, aid to Afghanistan will be more easily accounted for, and be better utilized for the improvement of the life of ordinary people of country. The government,

through the NPP and AMP will work to ensure adequate provisions are in place to further ensure aid effectiveness, improved cooperation and accountability. The aid will be utilized to enhance the development of the country and improve the lives of ordinary citizens.

### **MDG9: ENHANCING SECURITY**

Security is critical for Afghanistan's reconstruction. Without an adequate level of security, not only will the country fail to achieve the MDGs, but also progress achieved during the last four years will be reversed, increasing the likelihood of resumption of instability. The United Nations added a ninth MDG Goal of Enhancing Security to help maintain the growth of the other eight MDG goals. Its link to biodiversity is indirect, with conflict over natural resources being a contributing factor to political and social instability in Afghanistan.

### **WHAT LESSONS HAVE BEEN LEARNED FROM THE IMPLEMENTATION OF THE CONVENTION IN AFGHANISTAN?**

Afghanistan had very strong natural resource management and environmental capacity during the period from 1950 to 1980s. This capacity was then dispersed due to conflict and insecurity in the country until early 2000s. In countries such as Afghanistan, in an early recovery stage emerging from conflict, it is critical to ensure strong and careful capacity development and national ownership of the CBD actionable content and reporting processes. Building the capacity and interest of a diverse group of national champions, scientists, local leaders and communities, and managers is critical to ensure the somewhat new concepts of "biodiversity" and related international biodiversity language are localised and accepted.

Many Afghan state and non-state institutions that continued to exist after decades of conflict are still in an early stage in their redevelopment since 2002. The national capacity is increasing considerably and, with confidence, authority and control, national biodiversity leaders and technicians can once again be nurtured. Special support needs can include careful, experienced teachers and trainers, a strong communication and outreach plan, and a focus on youth.

However, overall financial and human resources capacity for effective biodiversity conservation and management remain relatively low. Some of the biggest challenges in implementing the articles and decisions of the CBD come from the coordination of responsibilities and activities across the range of relevant agencies in the country. Since Afghanistan ratified the CBD in 2002, the responsibility for implementation has been shared among a number of agencies, whose relevant mandates have changed as new agencies or increased capacity has emerged.

Responsibility for management of biodiversity resources at the national level is currently split between two agencies: NEPA and MAIL, and both agencies currently have a presence at both the national and provincial levels. Responsibility for environmental management in Afghanistan is under NEPA, while the mandate of MAIL covers natural resource management of forests, rangeland, protected areas and wildlife. In addition to a number of national NGOs, which focus largely on development issues, there exist a range of community-based organisations at the more local level which, while not biodiversity-specific in focus, play an important role in encouraging and setting up locally-appropriate environmental management systems. Examples of this include the Community Development Councils (CDCs), which are elected bodies at the village level to support livelihood development and resolving local disputes concerning access to natural resources.

In addition to the national agencies, Afghanistan is served by a very large number of international organisations, both intergovernmental and non-governmental. With regards to biodiversity conservation, UNEP and UNDP provide support to the relevant government agencies on wildlife and landscape management. There are also a number of international NGOs operating in Afghanistan (e.g., WCS, ICIMOD, among others) that play an active role in support of biodiversity assessment and conservation initiatives.

Finally, there is a major reliance on international financial support through bilateral and multilateral sources, including GEF. Afghanistan does not prioritise biodiversity management, with a number

of major social and economic challenges to address. While the natural environment is a vital tool in assisting to overcome these issues, it is still not sufficiently recognised by many government bodies. Donor funding requirements therefore need to allow for such challenges in demonstrating the successful impacts of conservation intervention.

The recent development of Afghanistan's NBSAP has highlighted the need and opportunities for enhanced cooperation and coordination, and every effort should be made to ensure that all relevant stakeholders know and understand their roles. The minimisation of duplication of effort and competition for limited financial resources, as well as human capacity, is imperative. It is also important to set SMART targets in developing CBD planning and in particular addressing local capacity as a primary aim, and with sufficient resources to have an effective and sustained impact.

# APPENDICES

## ANNEX I : INFORMATION CONCERNING THE REPORTING PARTY AND PREPARATION OF THE FIFTH NATIONAL REPORT

### REPORTING PARTY

**CONTRACTING PARTY** Islamic Republic of Afghanistan

**NATIONAL FOCAL POINT**

**Name and title of contact officer** Mostapha Zaher - Director-General

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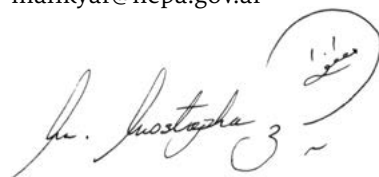
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### SUBMISSION

**Signature of officer responsible for submitting national report**



**Date of submission** 31 March 2014

### PROCESS OF THE PREPARATION OF THE FIFTH NATIONAL REPORT

Primary responsibility and ownership of the report as well as extensive essential input has been provided by Director-General Mostapha Zaher and Deputy Minister Ghulam Mohammad Malikyar as well as their whole staff and technical experts in NEPA, MAIL, and other government and university departments. The process was led by a joint team from the National Environmental Protection Agency of the Islamic Republic of Afghanistan, with support from the UNEP consultant, Mr. Tristan Tyrrell, working with the UNEP Afghanistan office under the guidance of UNEP Country Programme Manager Mr. Andrew Scanlon.

Interviews with key national knowledge, planning and policy experts took place during January-March 2014, in addition to extensive desk reviews and research. The contributions of Mr. Abdul Wali Modaqiq, NEPA Deputy Director-General (Policy and International Relations), Mr. Ezatullah Sediqi, NEPA Chief of Staff, Mr. Amanullah Hussaini, NEPA Executive Secretary, Mr. Sayed Naqib, National Biodiversity Expert, and Dr. Stephane Ostrowski, WCS are also acknowledged.



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**Adil, Abdul Wajid. 2001. The Integration of Biodiversity into National Environmental Assessment Procedures. National Case Studies. Afghanistan. Produced for the Biodiversity Planning Support Programme (GEF, UNDP, UNEP, The World Bank).** Provides an overview of the state of the environment in Afghanistan; summarizes major environmental concerns, biodiversity richness and areas of ecological importance; and argues the need for a National Biodiversity Strategy and Action Plan and environmental impact assessment procedures.

**Biodiversity and Wetlands Working Group. 2008. Final Thematic Report. A technical output of the National Capacity Needs Self-Assessment for Global Environmental Management (NCSA) and National Adaptation Programme of Action for Climate Change (NAPA) Projects. GEF/Government of the Islamic Republic of Afghanistan/UNEP.** Provides a profile of biodiversity in Afghanistan, reviews existing institutions and capacity, reviews status of stocktaking activities, and identifies priority capacity needs and opportunities for capacity development at the individual, organizational and systemic levels. Priorities for implementation of the Convention on Biological Diversity in Afghanistan are to participate fully in the activities of the CBD; to develop a National Biodiversity Strategy and Action Plan; to determine the status of Afghanistan's biodiversity and initiate a national red-listing process for Afghan mammals; to develop a representative protected areas system; to implement CITES; to enhance public awareness about biodiversity and sustainable use; to establish community-based management of forests, rangelands and wetlands; and to understand and utilize traditional practice and knowledge of conservation and sustainable use.

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**NEPA and UNEP. 2007. A guide to Afghanistan’s 2007 Environment Law. UNEP Capacity Building and Institutional Development Programme for Environmental Management in Afghanistan. European Commission/Government of Finland/Global Environment Facility.** Reviews and explains the Environment Law, how and why it was developed,

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and implications for Afghan citizens and the government.

**NEPA and UNEP. 2008. Afghanistan's Environment 2008. National Environmental Protection Agency of the Islamic Republic of Afghanistan and United Nations Environment Programme.** Reviews the state of the Environment in Afghanistan as of 2008 including key challenges and opportunities; geography, economy and population; environmental governance; water resources; rangelands, forests and biodiversity; land use, agriculture and soils; urban environment; natural disasters and climate change; and energy and mineral resources. Significant gains have been made in environmental management in the last five years. Substantial gains are expected from mainstreaming environmental into the reconstruction agenda and the national budget.

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**NEPA. 2013. Journey on Yak Back - NEPA Expedition Mission to Wakhan Oct-Nov 2013:** An observatory appraisal report by H.E Mostapha Zaher – Director General and DDG/Technical Ghulam Mohammad Malikyar from NEPA to Wakhan in Oct and Nov 2013, highlights the requirement of conservation efforts in Wakhan. A package of local community's recommendation in this report, has further strengthened the idea of establishment of Wakhan National Park.

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**UNEP and NEPA. 2007. A Guide to Afghanistan's 2007 Environment Law. UNEP Capacity Building and Institutional Development Programme for Environmental Management in Afghanistan. United Nations Environment Programme and National Environmental Protection Agency.** Describes the purpose and institutional background of the new environment law, which "creates a regulatory framework for the sustainable use and management of Afghanistan's natural resource base, and provides for the conservation and rehabilitation of the environment



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towards achieving specified social, economic, reconstruction and ecological goals”.

**UNEP and NEPA. 2008. Afghanistan's environment 2008. National Environmental Protection Agency of the Islamic Republic of Afghanistan and United Nations Environment Programme.** Reviews the state of the Environment in Afghanistan as of 2008 including key challenges and opportunities; geography, economy and population; environmental governance; water resources; rangelands, forests and biodiversity; land use, agriculture and soils; urban environment; natural disasters and climate change; and energy and mineral resources. Significant gains have been made in environmental management in the last five years. Substantial gains are expected from mainstreaming environmental into the reconstruction agenda and the national budget.

**UNEP and NEPA. 2009. National Capacity Needs Self-Assessment for Global Environmental Management (NCSA) and National Adaptation Programme of Action for Climate Change (NAPA). Final Joint Report. United Nations Environment Programme.** Provides comprehensive reporting on the NCSA and NAPA processes and follow-up action that needs to be taken. NAPA objectives are to “identify priority projects and activities that can help communities adapt to the adverse effects of climate change; 2) seek synergies with existing MEAs and development activities, with an emphasis on both mitigating and adapting to the adverse effects of climate change; and, 3) integrate climate change considerations into the national planning processes”.

**UNEP, NEPA and GEF. 2009. Biodiversity Profile of Afghanistan. An Output of the National Capacity Needs Self-Assessment for Global Environmental Management (NCSA) for Afghanistan. United Nations Environment Programme, Post-Conflict and Disaster Management Branch.** Provides a detailed summary of the current state of knowledge about the status of Afghanistan's biodiversity, including priority conservation actions, and a bibliography of over 500 publications.

**UNEP. 2003. Afghanistan post-conflict environmental assessment. United Nations Environment Programme, Nairobi.** Provides a detailed assessment and analysis of the post-conflict environmental situation in Afghanistan, including descriptions of the country context, urban environment, natural resources and environmental governance, and detailed recommendations many of which are of direct relevance to protected areas and biodiversity conservation.

**UNEP. 2008. Multilateral Environmental Agreements: A Handbook for Afghan Officials. Post-Conflict and Disaster Management Branch, United Nations Environment Programme.** Describes the MEAs relevant to Afghanistan, including (with specific reference to biodiversity) the Convention on Biodiversity, the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change, the Convention on International Trade in Endangered Species of Fauna and Flora, the Convention on the Conservation of Migratory Species of Wild Animals, and the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat.

**UNEP. 2009. From Conflict to Peace building. The Role of Natural Resources and the Environment. United Nations Environment Programme, Nairobi.** Provides a global overview and recommendations for integrating environment and natural resource issues into peace-building interventions and conflict prevention, including case studies from Afghanistan.





# ACRONYMS

<b>AMP</b>	<u>Aid Management Policy</u>
<b>AMS</b>	<u>Afghanistan Mortality Survey</u>
<b>ANDMA</b>	<u>Afghan National Disaster Management Authority</u>
<b>ANDS</b>	<u>Afghanistan National Development Strategy</u>
<b>AWEC</b>	<u>Afghanistan Wildlife Executive Committee</u>
<b>CBD</b>	<u>Convention on Biological Diversity</u>
<b>CBN</b>	<u>Cost of Basic Needs</u>
<b>CBNRM</b>	<u>Community-Based Natural Resource Management</u>
<b>CITES</b>	<u>Convention on the International Trade in Endangered Species</u>
<b>ECO</b>	<u>Economic Co-operation Organization</u>
<b>EIA</b>	<u>Environmental Impact Assessment</u>
<b>ESIA</b>	<u>Environmental and Social Impact Assessment</u>
<b>FAO</b>	<u>Food and Agriculture Organization of the United Nations</u>
<b>GEF</b>	<u>Global Environment Facility</u>
<b>GLASOD</b>	<u>Global Assessment of Soil Degradation</u>
<b>ICP</b>	<u>International Comparison Programme</u>
<b>IDPs</b>	<u>Internally Displaced Persons</u>
<b>IGO</b>	<u>Implementing Government Organization(s)</u>
<b>IUCN</b>	<u>International Union for the Conservation of Nature</u>
<b>LDC</b>	<u>Least Developed Country</u>
<b>MAIL</b>	<u>Ministry of Agriculture, Irrigation and Livestock</u>
<b>MDG</b>	<u>Millennium Development Goal</u>
<b>MEW</b>	<u>Ministry of Environment and Water</u>
<b>MoHE</b>	<u>Ministry of Higher Education</u>
<b>MoLSAMD</b>	<u>Ministry of Labour, Social Affairs, Martyr and Disabled</u>
<b>MRRD</b>	<u>Ministry of Rural Rehabilitation and Development</u>
<b>NAPA</b>	<u>National Adaptation Programme of Action for Climate Change</u>
<b>NBSAP</b>	<u>National Biodiversity Strategy and Action Plan</u>
<b>NEPA</b>	<u>National Environmental Protection Agency</u>
<b>NGO</b>	<u>Non-Governmental Organization(s)</u>
<b>NPP</b>	<u>National Priority Programme</u>
<b>NTFP</b>	<u>Non-Timber Forest Produce</u>
<b>PPP</b>	<u>Purchasing Power Parity</u>
<b>RGO</b>	<u>Responsible Government Organization(s)</u>
<b>SAARC</b>	<u>South Asian Association for Regional Cooperation</u>
<b>SACEP</b>	<u>South Asia Co-operative Environment Programme</u>
<b>SGP</b>	<u>GEF Small Grants Programme</u>
<b>SMART</b>	<u>Specific, Measurable, Attainable, Relevant, Time-bound</u>
<b>TEEB</b>	<u>The Economic of Ecosystems and Biodiversity</u>
<b>TMAF</b>	<u>Tokyo Mutual Accountability Framework</u>
<b>UNDAF</b>	<u>United Nations Development Action Framework</u>
<b>UNDP</b>	<u>United Nations Development Programme</u>
<b>UNEP</b>	<u>United Nations Environment Programme</u>
<b>UNFCCC</b>	<u>United Nations Framework Convention on Climate Change</u>
<b>USDA</b>	<u>United States Department of Agriculture</u>
<b>WCS</b>	<u>Wildlife Conservation Society</u>
<b>WWF</b>	<u>World Wide Fund for Nature</u>



## Building Environmental Resilience



تقویت تاب آوری محیط زیستی