

# The Integration of Biodiversity into National Environmental Assessment Procedures

National Case Studies

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THE WORLD BANK

# 1 AFGHANISTAN

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# CASE STUDY 1: AFGHANISTAN

## 1.1 Introduction

AFGHANISTAN lies between 29° 35' and 38° 40' northern latitude and between 60° 31' and 75° 00' eastern longitude. The country's area is 653,000 sq. km. The population in 2000 was 25 million, including the nomadic population. The official languages are Pashto and Dari. The country is divided into 29 provinces. Afghanistan is bounded to the North by the former USSR (2380 -km), the North-East by China (96 km), on the South and East by Pakistan (2310 km), and on the West by Iran (825 km).

### 1.1.1 Physical-geographical features:

Mountains dominate the central and eastern part of Afghanistan, covering about three quarters of the country. The huge mountain system of the Hindukush with its highest peak Nawshakh (7485 m) stretches from the North-East to the South-West, where it borders with the Kohi Baba, Feroz Koh, Tirbande Turkistan and some smaller ranges, surrounded by a belt of deserts. In the north-eastern outskirts the Hindukush borders with the Plateau of Pamir and the range of Karakorum. The southern and western parts of the country are covered by deserts lying at altitudes of between 500 and 1000 m above sea level: the sand desert in Registan and the clayey-rocky Dashti Margo are the largest. A loess plateau, sloping towards the north, covers the northern part of the country; it borders with outskirts of the huge desert Kara Krum where the lowest point of Afghanistan (259 m) is situated. Due to a diversified geological structure Afghanistan is quite rich in mineral resources, which include deposits of uranium, crude oil, gas, iron, copper, chromium, zinc, lead, beryl, barite as well as gold and precious and semi-precious stones.

The sources of most of Afghanistan's rivers lie in the mountains. The level of water in the rivers oscillates greatly. The highest level is in spring and early summer; in the remaining seasons the rivers may change into small streams or entirely disappear. The following three systems of rivers can be differentiated in Afghanistan:

- ❑ The confluents of the Indus (mainly the Kabul and its confluents), which flow into the Arabian Sea;
- ❑ The rivers flowing northwards towards the border river Amudarya (those which are not the confluents of the Amudarya, like the Balxab or the Samangan, disappear in the desert sands, forming alluvial cones);
- ❑ The rivers flowing towards the lake of Sistan, and into the lake, like Hilmand river (1400 km). The border river Amudarya is one of the most important rivers in Central Asia.

Lakes are scarce. Those in the mountains are mostly small lakes of post-glacial origin; those in the deserts are often salt lakes, drying up in summer. A complex of five small lakes (Bandi Air in the Kohi Baba Mountains), at a height of 2916m, is regarded as very picturesque.

Afghanistan has mainly a dry, continental climate with a large diurnal temperature range. The great variety of terrain and altitude results in different climatic types that are associated with rich biodiversity. Areas, such as north-eastern and central Afghanistan, lying over 2400 m above sea level, have long winters (over six months). At an altitude of 1300-2400 m above sea level (e.g. the zone of Kabul), the climate is temperate, with four distinct seasons, and annual precipitation up to 400 mm. The zone at an altitude between 900 and 1300 is characterized by hot summers and annual precipitation below 200 mm. In areas at altitudes less than 900 m annual precipitation is less than 100 mm and the

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climate is dry and hot. Some small areas in the country's east (Jalalabad, Khost) are influenced by southeastern monsoons and the climate is subtropical. The highest temperature was recorded in Zarjan (+51 c), the lowest in Shahrak (-52.2 c). The highest amount of precipitation (1212mm) was noted at the station Salangi Shamali; the lowest in Zaranj (34mm).

The soils in the high mountains are desert-steppe or meadow-steppe; in the river valleys the soils are alluvial or meadow-alluvial. Seozems and brown desert soils cover large portions of the country in the North and south-west loess is also found in the North. Sands cover the deserts.

### 1.2 The Status of Environment in Afghanistan - trends, issues

The chaotic situation in war-torn Afghanistan has had serious repercussions for the nation's survival. More than two decades of war has played havoc with the physical environment here. Beside loss of more than two million people and crippling of an additional half a million, the natural resources and infrastructure of the country have suffered a tremendous loss. According to some rough estimates, the war had cost the country around 800 billion dollars by 1988 which is huge for a nation with weak economic status. All the vital sectors including social, economic and educational institutions were either totally destroyed or becoming crippled by the ongoing war. Most of the factories and about 50 % of agricultural land and more than 50% of the livestock were eliminated. The damage to infrastructure was about 75%. About half of the Kabul City was destroyed. One third of the population with all their skills and capacities took refuge in neighboring and other foreign countries. Many of the intelligentsia and bureaucrats have left the country, leaving a great intellectual vacuum that can not be filled in the near future due to the crippled educational and training institutions.

Losses of natural resources are beyond estimation. Damage to the environment is second only to human loss. The pace of deforestation accelerated with loss of control by the central government. Opportunists and the timber traders mercilessly cut down the trees that otherwise are badly needed for reconstruction of the war-torn Afghanistan and for its environmental health. With the help of power saws they can denude large tracts of forest in a single day. The timber is then transported to the borders with Pakistan and sold to foreign agents. The situation is so serious that after very few years the forests will all be gone. Already, the local population feels the scarcity of wood for their various needs. Beside the natural forests, the trees were chopped down and the plant cover removed from vast expanses leaving the land barren and prone to soil erosion, deadly floods and landslides. Most of the greenery in the large cities has been removed for satisfying needs for fuel in the harsh winters of the past. Hunting of some big animals and birds has increased due to lack of education and awareness about conservation and ecological principles. The open doors of Afghanistan encouraged smugglers of strategic and important wild animals. A large number of hunting parties enter Afghanistan from Pakistan territory and resort to mass killing of Houbara bustard and catching of falcons, for example.

Use of heavy machinery has exacerbated problems of soil erosion, especially by wind. The protected areas (national parks, wildlife sanctuaries) lost their status and are being harshly exploited for various uses. Mines (especially those for precious and semi-precious stones) were looted and excavated by crude means and smuggled with no benefit to the public.

The restrictions and regulations were all violated and ignored in the absence of a centrally effective authority and an operative legislation. As a result of the war, firearms fell into

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the hands of irresponsible people who shoot at every moving object. Total ignorance and lack of education largely are responsible for natural resource depletion throughout the country.

Abject poverty, destruction of infrastructure and the absence of services in urban centers has further exacerbated problems of health and sanitation in the cities. Widespread displacement left large parts in rural Afghanistan desolate and uninhabited. Many young laborers leave the country to seek lucrative job markets especially in Iran, which further deprives villages of manpower for agriculture, livestock and local industries. Large tracts of very productive agricultural land are increasingly grown with illicit crops. This further intensifies scarcity of food, distances the country from food security and contributes to international anguish that further isolates Afghanistan.

The disruption of watershed management and plant cover has threatened the life of hydro-power-plants throughout the country. Some of these water reservoirs are partially or wholly filled with sedimentation washed away by rains from denuded valleys. This has seriously depleted power production capacity, presenting the country with an intensified energy crisis. Large-scale looting of state-owned machinery and equipment hindered the rebuilding of crippled power plants. The country is therefore faced with a serious food shortage and an energy crisis.

### 1.2.1 Unprecedented Drought

Beside the shattered economy and numerous natural and man-made disasters, Afghanistan is currently in the grip of the worst drought since 1971. In 1999 the country witnessed much less snowfall than the previous year, which was itself a drought year. With reduced rain- and snowfall in 2001, less water is available in the rivers and in the water table. In particular, those areas at the end of water chains are severely affected. Afghanistan does not receive summer rains. The drought has adversely affected rain-fed crops and animal husbandry. The effects of the drought may persist for several years, as the country will not be able to recover rapidly from the shock.

### 1.2.2 Summary of major environmental concerns for Afghanistan

- Deforestation, devegetation and overgrazing/destruction of rangelands and watersheds
- Drought
- Soil erosion, landslides and loss of soil fertility
- Serious biodiversity loss and an uncertain future for the protected areas
- Urban environmental problems, pollution and health hazards
- Poverty, food insecurity and massive unemployment and serious brain drain
- Expansion of illicit crop production and a lucrative trade in illegal drugs
- Loss of cultural/historical heritage and apathy of general public toward them
- The energy crisis
- The demographic problems -population explosion, refugees, displacements
- Landmine problem
- Infrastructure destruction
- Disruption of education and training institutions
- Political instability and civil war
- Lack of environmental frameworks and absence of legislation and its enforcement for protection of natural resources
- Absence of planning and strategies for conservation

The following measures are suggested for environmental safety and sustainable development in Afghanistan:

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- ❑ National reconciliation, political stability and securing territorial integrity of the country following the war and establishment of an effective central government;
- ❑ Conservation of natural resources or at least slowing the pace of their depletion; sustainable utilization and of these resources
- ❑ Integration of environment within the major decision and policy making mechanisms; environmental impact assessment of the project, programs and policies
- ❑ Creation of new agencies and strengthening and capacity building of institutions working for an improved environment;
- ❑ Environmental education/awareness and advocacy among the general public, authorities and concerned organizations worldwide;
- ❑ Sustainable agriculture, forestry, range-lands and preservation of biodiversity;
- ❑ Poverty alleviation, creation of job opportunities and engagement of the warring factions in productive activities and trades;
- ❑ Alternative sources and conservation of energy for both domestic and industrial requirements of the country;
- ❑ Preparation of environment profile of Afghanistan
- ❑ Environmental legislation, regulations and setting standards and their enforcement for protection of environment.

### 1.3 Biodiversity richness and areas of ecological importance

Situated in the middle of the Eurasia continent, Afghanistan is a land-locked country with a wide diversity of habitats and ecosystems, ranging from steppes, semi-deserts, rainforests and lakes to scrub land, mountain woodlands and mountains. Of a total area of 65.2 million hectares, approximately 30 million are rangelands, 7.9 million arable land and 1.7 million or so forests. Phyto-geographically, the greater part of Afghanistan belongs to the west Asiatic region; the southern lowland belongs to the African-Indian desert regions and the eastern part belongs to the Sino-Japanese region. Zoo-geographically, Afghanistan is situated at the confluence of Palearctic and oriental zones. Altitudinal range and climatic differences have created conditions suitable for rich biodiversity.

#### 1.3.1 Fauna

Many animals adapted to arid steppe or mountain conditions characterize the Afghan fauna. Altogether, one hundred and nineteen mammalian species are recorded in Afghanistan. The large herds of wild ass (*Equus hemionus*) and gazelles (*Gazella* spp), which until recent times populated the steppes, have been almost exterminate by hunting. Similarly their predators, the cheetah (*Acinonyx jubatus*) and to a lesser degree the hyena (*Hyaena hyaena*), have declined. Their associated arthropod fauna, such as the dung beetles (Scarabaeidae), which are often host specific, have also presumably disappeared. The forests and mountains harbored large numbers of wild goat (*Capra aegagrus*), urial (*Ovis orientalis*), ibex (*Capra ibex*), markhor (*Capra falconer*), and Bactrian deer (*Cervus elaphus bactrianus*), feral yak (*Bos grunniens* (E)), otter (*Lutra lutra*), marten (*Martes foina*) and long tailed marmot (*Marmota candata*). They also have been much reduced by hunting and habitat degradation.

Predators, much sought after for their furs such as the Turanian tiger (*Panthera tigris virgata*) which is now probably extinct in Afghanistan, the snow leopard (*Panthera unica*), the leopard (*Panthera pardus*), wolf (*Canis lupus*), red fox (*Vulpes vulpes*), brown bear (*Ursus arctos*), ermine (*Mustela ermin*) and lynx (*Lynx lynx*), are now rarely seen. Only relatively protected or isolated areas such as the Pamirs with its famous Marco Polo sheep (*Ovis ammon poli*) have retained their fauna to any degree.

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As in many countries, man has strongly influenced the fauna, both directly by hunting and indirectly altering its habitat by grazing livestock, burning practices and fuel collection. In addition the prolonged war has taken its toll on wildlife and bird species and their habitats. Indiscriminate hunting, destruction of suitable habitats and deterioration of range conditions have decimated the carnivore and ungulate populations in many parts.

In the migration season huge numbers of birds migrate from Siberia through Afghanistan to the warmer Indian peninsula and Africa. There are about 400 bird species found in Afghanistan of which 23 are thought to breed here. During these seasons the wetlands throughout the country serve as essential resting place for the thousands of waders, ducks and other waterfowl. The rare Siberian crane (*Grus leucogeranus*), the greater flamingo (*Phoenicopterus roseus*), falcon (*Falco cherrug*) are among these species. For these birds, the Afghan wetlands are an essential stop for resting and feeding during their migrations. Many birds also over-winter in these wetlands.

Fish and amphibians are scarce in such an arid country. Trout are found however in many mountain streams and reptiles are abundant. The insect fauna is poor in species but certain pest species such as the desert locust are quite numerous at times.

Fourteen species of mammals, five species of birds, and two species of reptiles are threatened in Afghanistan.

It is impossible to obtain an accurate estimate of current wildlife populations. Due to the prolonged war an active and effective management of wildlife by government is not possible. Access to important wildlife habitat areas is severely restricted due to warfare and/or mined areas. There are few local sightings of wildlife species. Villagers in the mountainous areas of northeast mention occasional wolf and fox sightings. Substantial numbers of wolf and fox pelts appear in fur shops in Kabul along with less numerous pelts of snow leopard and leopard and baby leopard. Strings of ducks and other waterfowl are frequently seen in the market in Kabul indicating that the indiscriminate shooting of these birds continues. Falcons and other raptors have been captured and sold for Arabian falconry purposes or killed indiscriminately. It is reported that birds such as the rare Siberian crane (*Grus leucogeranus*) have been captured in Bannu, south Waziristan where there is a traditional trade in capturing cranes to tame as domestic pets and watch dogs.

Pressure on species from hunting has been increasing for the past several decades with the increase in the number of firearms due to the war, coupled with increased necessity for food and money. Wildlife species have been hunted, shot and trapped at an increasing rate. There may be hope that some wildlife habitats temporarily cut off from hunting pressure due to warfare may provide a temporary sanctuary for remaining species, allowing some populations to increase. There is a widespread fear that without stringent regulations many species will be doomed to extinction before long.

Our present knowledge about Afghanistan's fauna is limited. Little research has been done in the field of zoology, mainly due to inaccessibility, difficulty in travel, lack of trained personnel and disinterest in nature and the environment on the part of government authorities and the general population.

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### 1.3.2 Vegetation and Forests

Afghanistan has a rich flora. There are representatives of cosmopolitan plants, plants distributed through the northern hemisphere, the pantropic plants, the Eurasiatic plants, central Asiatic elements, eastern elements and endemic plants. There are many endemic species in Afghanistan. Generally speaking, the families, which are supposed to be most advanced in their respective orders, have many endemics such as Composite of Camponulatae, Leguminosae of Rosales, Labiatae of Tubiflorae and Cruciferae of Ghoeadales.

Gymnosperms are represented by 14 species, monocotyledons by 397 species including 165 species of Graminae. Among the dicotyledones, Choriptalae is represented by 1254 species and Sympetalae by 1015 spp. There are 121 species of deciduous fruit, six species of deciduous nuts and 12 species of evergreen fruits, (belonging to a total of 22 genera) cultivated in Afghanistan. Diversity is very rich in Afghanistan due to climatic variation as outlined earlier. For example one could find about 40 cultivars of pomegranate, 77 cultivars of grapes, more than 100 cultivars of almonds as well as apples and others. About 31 different species of vegetables are cultivated and probably more than 12 wild species of vegetables are found in Afghanistan.

According to historic evidence, the natural vegetation of the country was originally woodland and forests, but centuries of destruction have resulted in almost complete disappearance of forests from plains and valleys in many parts of Afghanistan. Scattered remnants of juniper stands on the northern slopes of the Hindukush give evidence of the previously large forests on the now barren slopes. The formerly extensive tamarix forest of southwestern Afghanistan has been heavily over-exploited and now exists as scattered bushy stands. As far as diversity is concerned, on the basis of the dominant species and ecological distribution we can distinguish 10 types of forests in Afghanistan: Spruce-fir forest association, deodar forest, oak forest, juniper forest, pistachio forest, almond forest, olive forest, Tamarix forests and Haloxylon forest.

Loss of forest resources, including natural forests and plantations, is the major environmental problem facing Afghanistan today. According to a World Bank report of 1978, 10 times the sustainable yield of timber was extracted from Afghanistans forests annually and the situation is much worse today.

### 1.3.3 Areas of Ecological Significance (Biodiversity Hot Spots)

Although protected areas such as parks, ecological reserves and sites of cultural historical significance have been given little attention over the past few decades, it must be noted that Afghanistan has some world-class candidate sites in all of these categories. These sites, if intact when peace returns, may once again generate international interest and tourism revenue on behalf of Afghanistan.

There is one official National Park, Bande Amir, and Ab-i-Estada and Dashte Nawar waterfowl sanctuaries have been gazetted in response to petitions submitted to the Head of State in the 1970s. Afghanistan ratified the World Heritage Convention on March 20 1979. However with the onset of war in 1979 it has been impossible for the Government to undertake further actions in the field of conservation and expansion of protected areas. The Government of Afghanistan has had the intention to establish the following six areas as National Parks once peace returns to Afghanistan:

#### ***Ab-I-Estada and Dashte Nawar Waterfowl Sanctuary***

Located in the Hindu Kush Highlands in Ghazni Province, South-east Afghanistan, Ab-I-Estada together with Dashte-Nawar to the North is a vital staging ground for migratory



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waterfowl and waders of the Siberian-Kazakhstan/Pakistan-India population: in particular the rare Siberian crane *Grus leucogeranus*. It is also an essential breeding ground for the greater flamingo *Phoenicopetrus roseus*. The international importance of the two sites was recognized at the 1971 International Conference on Wetlands and Waterfowl, which adopted the Ramsar Convention. Ab-I-Estada is also an important archaeological site exhibiting stratigraphic sequences. Several mounds representing early dwellings have been discovered with accompanying artefacts, which suggest occupation Palaeolithic to Buddhist times.

In addition to damage from war, threats to the area exist from irrigation projects diverting water resulting decreased water levels and increased salinity, as well as extensive grazing by domestic stock. Egg collection, disturbance during breeding and hunting throughout the year are significant problems. In 1978 there were an estimated 70 Siberian cranes in the Indo-Soviet flock; only 17 Siberian cranes were known to survive in 1990. Now the number has further decreased to only one pair with a chick. Siberian cranes have historically used Ab-I-Estada as a stopover rest site. SAVE's expedition team visited the lake for the last five years but could not confirm whether this is still the case.

### ***The Ajar Valley Wildlife Reserve***

In the Hindu Kush Highlands northwest of Bamiyan, the area was used as a hunting reserve by royalty since the turn of the century and protected as such since early 1950s. Proposed as a national park in 1978 the area contained ibex (*Capra ibex*), Bactrian deer (*Cervus elephus bactrianus*), feral yak (*Bos grunniens* (E)), snow leopard (*Panthera unica* (E)), leopard (*P. pardus* (V)), lynx (*Lynx lynx*), wolf (*Canis lupus* (V)), jackal (*Canis aureus*), fox (*Vulpes vulpes*), otter (*Lutra lutra*), marten (*Martes foina*) and long tailed marmot (*Marmota candata*). The avifauna is the most diverse recorded in the Hindu Kush with 60 species identified. Ajar Valley represents the largest tract of land in Afghanistan with a history of effective conservation and environmental protection.

### ***Pamir-Buzurg Wildlife Sanctuary***

In the western Wakhan Corridor on the border with Tajikistan in Badakhshan Province, the Afghan Pamirs are among the most spectacular landscapes of Central Asia providing habitat for the famous Marco Polo sheep (*Ovis ammon poli*) along with seventeen other mammal species including ibex (*Capra ibex*). Carnivores include wolf (*Canis lupus*), red fox (*Vulpes vulpes*), brown bear (*Ursus arctos*), ermine (*Mustela ermina*), lynx (*Lynx lynx*), and snow leopard (*Panthera uncia*) (E).

The Afghan Pamir is one of history's greatest crossroads and migration routes for travellers. It contains valuable archaeological sites including petrography probably dating to pre-Islamic times in the Wakhan Valley in addition to the well-known sites in the Small Pamir.

### ***Bande Amir National Park***

In the Hazarajat Mountains of the western Hindu Kush, Bamiyan Province, the six lapis lazuli lakes of Bande Amir National Park are nestled between 300m high magenta rock walls in the Bande Amir valley. Their deep blue colour is a result of the water's purity and high lime content. This area is reported to be one of the most beautiful landscapes in Afghanistan, and has been a popular tourist attraction since the 1950s with day tours operating from Bamiyan. In 1978 it was reported that the area was becoming seriously degraded from unlimited grazing, harvesting of reeds and uprooting shrubs.

### ***Kole Hashmat Khan Waterfowl Sanctuary***

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On the southeastern outskirts of Kabul, Lake Hashmat Khan was used as a hunting ground since Mongol times. In the 1930s King Mohammed Zahir Shah declared it a waterfowl reserve. As of 1978, there were over 30,000 migratory birds using the lake with 157 species being identified up to 1978. The lake lies in the Hindu Kush flyway and marsh area of the formerly expansive marshlands of Kabul. Prior to the war the lake was threatened by pollution of the Logar River, grazing of domestic animals, cutting of reeds, indiscriminate shooting of birds, water diverted for irrigation and laundering of clothes in the lake. Since 1979 the area has been restricted for security reasons and management activities have not been possible.

The high number of waterfowl available in the markets in Kabul would indicate that indiscriminate shooting of waterfowl from Lake Hashmat Khan continues in 1991. The lake appears to be badly degraded by heavy human use of water for irrigation and livestock even laundry by the neighbouring community.

Of these six major protected areas candidate sites it is feared that many of the original values of the areas may have been lost during the war years. As is reported most of these protected areas are unprotected nowadays. The most severely damaged areas are likely to be Kole Hashmat Khan because of its close proximity to Kabul, and Bande Amir National Park with its high density of human settlement. Ecological values may be intact in Pamir-Buzurg National Park due to its relative isolation in the Pamir. This was ascertained by a SAVE team visited the area in 1997. However one cannot be sure of this until field visits are made to all of these sites following the end to war in Afghanistan.

### 1.4 National Biodiversity Strategy and Action Plan (NBSAP)

The National Biodiversity Strategy and Action Plan (NBSAP) has not yet been prepared in Afghanistan. This very important document, which most of the developed and developing countries have prepared and implemented, has not been produced in Afghanistan so far due to the war and political instability, lack of resources, lack of professional expertise and finally lack of awareness about the Strategy among the public and government authorities alike.

It would seem that this might be an appropriate time to initiate some preliminary work in developing a NBSAP, to reverse the present trend of biodiversity destruction and to mobilise the people of Afghanistan and the involvement of international financial and scientific communities for the well-being of the Afghan nation and humanity at large.

Though there has not yet been any systematic work on the Strategy and Action Plan, some initial steps that can be counted as prerequisite for such an undertaking had already been taken in the seventies before the war in Afghanistan. The Forest and Range Department, being in charge of the management and utilization of the natural resources of the country, initiated surveys in the seventies in Pamire Buzurg, Badakhshan, Dara-Ajar, Banded Amir, Bamyan province, Ab-I-Estada and Dashte Nawar and Ghazni province under a UN assisted project, (AFG/74/016 Wildlife Preservation). These five places covered by the project are of great national and international significance. The surveys served as a first step towards conservation in the country. As war broke out, these activities came to a stand still. However, the findings can serve as baseline data for future conservation activities in the country.

The only recent work in this direction was carried out by a mission composed of environmental consultants for the World Conservation Union (IUCN) under contract during February-April, 1991 to the United Nations Office of the Coordinator for

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Humanitarian and Economic Assistance (UNOCHA) programs related to Afghanistan. The aim of the mission was to ensure that the planning and implementation of Afghanistan's projects paid adequate attention to critical environmental factors, both in the current short-term emergency aid situation and during the transition to long-term developmental assistance. In doing so, UNOCHA recognized that the successful rebuilding of Afghanistan ultimately depends on the sustainable use of the rangeland, wetlands, agricultural and forest resources that were the basis of survival for the peoples of Afghanistan prior to the war.

The document produced by the mission was not meant to include a National Conservation Strategy (NCS) similar to those being produced in many developing countries throughout the world. Unfortunately, inadequate baseline data, the lack of a national institutional framework and the significant constraints of war render the development of an NCS premature at this time. The mission expressed the hope that their work will contribute positively to a National Conservation Strategy when peace returns to Afghanistan.

Other important information was provided in a Convention of Environment Workshop sponsored by the Society for Afghanistan Viable Environment (SAVE) in 1998. The aim of the workshop was to highlight the conservation issues and start a systematic work on sustainable resource utilization in the country. Proceedings of the workshop could serve as a first step toward working for the Afghan NBSAP in the future. As part of recommendation of the workshop, SAVE is trying to work on the environmental profile of the country and is endeavoring to attract attention for initiation of work on NBSAP for Afghanistan.

Production of National Biodiversity Strategy and Action Plan is hindered by the inability of the government authorities to sign and ratify the CBD and in particular for the recent bans on Taliban in Afghanistan. According to the provisions of this Convention, Afghanistan is not eligible to be granted support for NBSAP. The fragmentation of the country also is a hindrance on this process. Although the Taliban controls more than 95% of the country, the UN and most of the world community still recognize the opponents of the Taliban, making them unauthorized to sign any international treaties or conventions. The following gaps and driving forces are affecting the future NBSAP in Afghanistan:

- ❑ lack of primary scientific data information and documentation
- ❑ lack of relevant professional expertise (there are almost no wildlife biologists, and taxonomists or conservation managers etc. in the country any more)
- ❑ lack of legal framework
- ❑ lack of environmental policy
- ❑ lack of regulatory power
- ❑ inadequate awareness and commitment to biodiversity conservation (authorities and general public)
- ❑ lack of education about the values of biodiversity

These problems need to be overcome before Afghanistan will be able to produce a viable NBSAP.

### 1.4.1 National Conservation Non-Governmental Organizations

Most of the Afghan NGOs came into being during the war of liberation in Afghanistan and mostly were based in Peshawar of Pakistan. Their primary function was initially provision of services in relief to the Afghan refugee population. Later, they were also

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involved in relief operations inside Afghanistan. Eventually, they started working on reconstruction and rehabilitation and educational activities. Establishment of Afghan conservation and environment NGOs started in the early 90s. First the AREA emerged after winding up of the GTZ energy saving project for the Afghan refugees. Main activities of this organization were saving and provision of alternative sources of energy within Afghanistan. The first NGO that started functioning for conservation of biodiversity and environmental protection was the Society for Afghanistan Viable Environment (SAVE). This organization for the first time introduced environmental education, conservation of some of the strategic species and environmental impact assessment training programs for Afghanistan. SAVE was able to serve as a focal point for Afghanistan and also able to raise the question of Afghanistan's deteriorating environmental condition and especially the status of natural resources including biodiversity loss throughout the conservation circles and flora around the world.

### 1.5 Data and information on biodiversity

Current data related to the natural resource base of Afghanistan are practically non-existent. Even natural resources information dating back to the 1970's is difficult to locate physically due to the many political changes within government offices over the past 22 years. The 1991 IUCN Mission visited several government departments within the Ministry of Agriculture where there was no evidence of previous reports and data for example, the baseline data available in 1981 to an FAO team preparing a document entitled National Parks and Wildlife Management in Afghanistan-a contribution to a Conservation Strategy could not be found in either government offices or UN offices in Kabul. The Ministry of Agriculture had colored maps using pre-war information on vegetation areas, traditional nomadic routes and pistachio forests.

Lack of information has presented obvious difficulties in assessing the status of natural resources in Afghanistan. However, given the limitations imposed by 22 years of war and the need to start planning for long-term rehabilitation of the country, it is useful if not necessary to try to make assessments of the status of forests, agricultural land and water. There is not enough information about biodiversity to make informed decisions. Even the information that remains is inaccessible. It is certainly not available in such a way that it can be easily used in impact assessment (e.g. we need special biodiversity indicators for use in EIA). The collection of comprehensive countrywide baseline data and other information necessary for planning has ground to a halt due to the security situation and lack of infrastructure to carry out data collection. Ongoing monitoring has also been impossible during the war.

#### 1.5.1 Legislation and biodiversity issues

An important gap and a major hindrance in conservation of biodiversity is the absence of an effective legislative base for the sound management of resources in Afghanistan. While draft legislation exists for forestry, wildlife and environmental management, it is meaningless in the present circumstance of war. There is a complete lack of infrastructure to administer, interpret and enforce such legislation. There is no evidence of any existing legislation in Afghanistan to contain any explicit requirements for inclusion of biodiversity in impact assessment. The reason for this can be lagging behind of the country and its institutions to closely follow the movement of environmental protection and conservation throughout the world. At a time when worldwide the issue of environment and conservation has got momentum and the world bodies carry out extensive and expansive efforts, Afghanistan remained isolated and preoccupied by war. There was no effort on the part of the governments to bring necessary changes in the laws

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or include environmental and conservation concerns into its legislation. When peace returns to Afghanistan, bringing a countrywide system of administration and enforcement, these pieces of legislation should be examined in light of principles of environmental management and sustainable use of resources. Hope is expressed that environmental legislation including legislation governing the management of forests, livestock, wildlife, rangeland, toxic, and hazardous wastes, chemicals will be enacted and enforced.

### 1.6 The EIA System in Afghanistan

#### 1.6.1 Environmental Planning and screening capacity

Over the past two decades of the War, Afghanistan has missed many opportunities, among them the benefits and developments in the environmental planning field experienced by most countries around the world. Some advanced environmental assessment and screening methods and techniques, however, have been refined for application in public and private sector development projects and policies. These innovations in environmental planning and screening that should have been made available by now to all levels of resource users and planners in Afghanistan, including the Government and private sector development projects and policies, unfortunately remained unused. Preparation of environmental guidelines for development projects in Afghanistan did not happen due to preoccupation of the nation in war. Only very few scattered regulations existed and there were some official checks not to destroy important shrines or historic places during construction of major highways in the country. Other than this there is no official record to show that preservation of biodiversity ever had any particular significance in developmental activities.

The techniques of EIA have not been applied in Afghanistan so far. Almost all projects have been preceded with very little consideration for environmental effects, although not many major developmental schemes are being executed in the country so far. Most of the larger developmental projects were undertaken in the country before the advent of EIA in the 60's. Afghanistan shares almost all problems inherited by the developing countries plus many more exclusive to this country. I believe there has been very little legislation and no regulatory mechanism on the part of government for protection of the environment or any requirement from it for undertaking rehabilitation and developmental projects either before or after the war. The inability of the government to enforce any protection act is evident from the lack of capacity, resources and capable institutions.

At this stage of EIA in Afghanistan, only a few assistance agencies are demanding some slight consideration for environment on a project-by-project basis, not as a response to a widespread indigenous demand for better environmental safety. The legal basis of EIA is non-existent. A formal legislative base has to be established in Afghanistan to look after any undertaking that substantially changes the environment. Afghanistan should prepare EIA legislation using the experience of the other countries already advanced in the field but with similar social and economic situation. The difficulties of assessing environmental impacts in developing countries including Afghanistan most of which are still faced also by industrialized countries include for instance the following:

- ❑ Lack of awareness of environment and ecology both among the people and authorities.
- ❑ Lack of political will and financial resources.
- ❑ Lack of trained human resources, institutions and indigenous capability-lack of institutional arrangements for preparing and reviewing impact assessment reports.
- ❑ Lack and inaccuracy of baseline socio-economic and environmental data.

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- ❑ Non-existent legislative arrangements and policies to guarantee enforcement of standards and laws.
- ❑ Lack of adequate infrastructures for environmental monitoring and auditing.
- ❑ Lack of coordination between agencies at the national and local levels.
- ❑ Lack of participation of the different social and pressure groups in the decision-making process.
- ❑ Biodiversity and its preservation have very little importance in decision-making before by the planners and now the developmental agencies for lack of proper knowledge and awareness.

There is a need for an independent indigenous body to provide EIA services for the projects being implemented by government, the private sector, UN agencies and NGO communities. This body can serve as a clearance house and should have the necessary authority and enactment power. Most of the countries have functional and environmental protection agencies that are closely looking after environmental safety and have legal jurisdiction to regulate enforcement of legislation and laws. Experience in other countries under similar circumstances has shown that imported services always failed to genuinely assess the projects for the intricate socio-economic conditions prevailing in each country. Lack of relevant baseline data and the degree of attaching different significance to EIA are the main reasons for having such an indigenous programme. For Afghanistan appropriate methodologies have to be developed to suit a highly specific set of circumstances.

Afghanistan needs mandatory EIA-requirements clearly designed to cover all the types of actions that have the potential to cause environmental damage. In Afghanistan social as well as environmental impacts should be studied and also positive as well as negative impacts need to be emphasized. Conservation of biodiversity in the course of EIA should be closely watched and safely guarded. Poverty in some cases leaves no choice for alternatives. EIA should become an essential part of development process, as it already has been in other developing countries. Sustainability of a proposed development scheme should be considered while assessing projects.

It is essential to enhance understanding of the desirability of environmental assessment in addition to technical training, and to develop a culture of cooperation and collaboration among agencies, both governmental and non-governmental, working in Afghanistan. The aid agencies can play a major role in bringing about effective EIA in the absence of national EIA requirements. Because of limited development, lack of knowledge, popular support for the environment and political will on the part of government, the EIA principle has not as yet been introduced and enforced in Afghanistan.

We expect a greater pace of change in Afghanistan following peace in the war-torn country. It will require a center of expertise as well as resources in order to achieve real progress toward sustainable development. The science behind impact prediction needs to be translated into government decision-making. This is currently limited in Afghanistan because of the low level of environmental knowledge among decision-makers environmental scientists and engineers who have to educate decision-makers for EIA results to be used effectively.

It is essential that environmental planning assistance be given at an early stage (before project definitions) in order to maximize the identification of natural resource-based opportunities and to minimize the piecemeal approach, which tends to concentrate on problems rather than opportunities. Screening and critical review at the project approval stage are also necessary. However by then it is often too late in the game for alternatives to be identified, and the process becomes instead a mitigative one of patching up projects.

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### 1.6.2 EIA Implementation

The types of projects that are underway in Afghanistan are generally very small in scale and are mostly implemented through the aid community rather than the central authority. They tend to involve irrigation and rehabilitation, provision of drinking water, crop improvement and small-scale health and sanitation programs. Presently there are no major development projects underway in Afghanistan and most of the small- medium size projects are undertaken by the UN agencies, national and international organizations. With the exception of UNDP, which is a leading UN organization and has a major role to play here, no agencies or organizations have specific environmental screening guidelines or a formal procedure for assisting projects for sound environmental planning and practice. Nor do agencies or NGOs have any specific in-house environmental planning expertise for use during the conceptual stages of a project or to advise reconnaissance missions. This means that missions have made promises that may not have been environmentally sound to local people.

UNDP's approach has several facets: the preparation of environmental overviews; the screening of UNDP activities and politics; the preparation of an Environmental Management Strategy for selected activities; the identification of key "actors" or stakeholders; the establishment of environmental check-points in a project cycle as well as in-country programs and technical cooperation; and the formulation of alternatives in project design. The short-term emergency orientation of projects in Afghanistan makes some of these steps impossible to take, however, several stages of the UNDP environmental process are possible to be adapted.

UNDP Kabul has recognized the need for an environmental focus within the Government and has requested that an environmental cell be established within the Deputy Prime Minister's Office. In response to a growing demand for EIA both from the donor community and following concern about the negative impacts of intervention projects in Afghanistan, the Society for Afghanistan Viable Environment (SAVE) was asked to assist UNDP/OPS and other agencies in training of their national professionals in EIA as an initial step towards the introduction of EIA in Afghanistan. Also, a manual was prepared to act as a field guide for the agencies' professional staff.

In Afghanistan as in many other developing countries environmental concerns have not generally been of high priority and have tended to be overshadowed by other pressing needs for economic development and growth. The political system was interested in projects with quick benefit. At this stage, most of the efforts are for restoration and revival of basic provisions in the country. Inclusion of biodiversity concerns is a far-off ideal that needs to be tackled through a stage-wise approach. A governmental agency with the necessary jurisprudence and legal framework should closely and scientifically watch preservation of biodiversity during all stages of project execution.

The existence of an established and effective set of environmental laws can facilitate the achievement of a successful programme of environmental management and better performance of EIA. The lack of adequate environmental law is an important constraint in the country. There is a pressing need to establish both general environmental legislation and define laws requiring the use of EIA, appropriate environmental quality criteria, and guidelines to include biodiversity, etc.

### 1.7 Biodiversity and EIA

The world's biological diversity is a vast and undervalued resource. Biodiversity encompasses every form of life, from the smallest microbe to the largest animal, plus the

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ecosystems that they form. It provides humanity with an abundance of goods and services, from food, energy and fiber to the genes that help us to control pests and diseases. It also underpins the natural processes that help control soil erosion, purify water and air and recycle carbon and nutrients.

Biodiversity represents the very foundation of human existence. Yet by our heedless actions we are eroding this biological capital at an alarming rate. Even today, despite the destruction that we have inflicted on the environment and its natural bounty, its resilience is taken for granted. But the more we learn of the workings of the natural world, the clearer it becomes that there is a limit to the disruption that the environment can endure.

Beside the profound ethical and aesthetic implications, it is clear that the loss of biodiversity has serious economic and social costs. The genes, species, ecosystems and human knowledge, which are being lost, represent a living library of options available for adapting to local and global change. Biodiversity is part of our daily lives and livelihood and constitutes the resources upon which families, communities, nations and future generations depend.

The threat to biodiversity has never been so great as it is today. Human activities are affecting the distribution and abundance of species, ecological systems and genetic variability and thus undermining the basis for life everywhere.

In Afghanistan there is a growing recognition of the need for protection of biodiversity and the associated benefits from conservation and sustainable utilization of these resources. Unfortunately, many human factors cause loss of biodiversity and many people even among the authorities are unaware about the values that can be associated with biodiversity. The general trend is toward decreasing number of species of both wild plants and animals. In poor countries (and Afghanistan is not an exception) where the minimum daily subsistence caloric intake is an issue; it is hardly surprising that concern over the longer-term conservation of species is a low priority. This has catastrophic effects, especially for edible species.

The conservation and sustainable use of biodiversity "depends fundamentally on integrating biodiversity concerns into decisions made in every facet of our lives" (Bagri *et al*, 1998). While the continuum of human decision-making is vast, EIA is widely recognized as an important mechanism for systematically considering the likely impacts of development proposals before decisions are made, and has been widely adopted in approval processes for development applications.

While EIA has always tackled impacts on flora and fauna, and endangered habitats and species, it was only recently that biodiversity has received explicit attention in Environmental Impact Statements (EIS), particularly in terms of impacts expressed at the level of genomes or, at the other extreme, ecosystem. Its treatment in EIA has paralleled the wider community's growing understanding of the range of variation encompassed by the term 'biodiversity' and of the steady diminution of habitat resulting from the cumulative effects of human development.

No example can be cited where biodiversity has been considered during any assessments in Afghanistan. Biodiversity concerns are not reflected and managed through any screening or regulatory including EIA for the following reasons:

- ❑ No comprehensive EIA procedure so far exists in the country to include biodiversity.
- ❑ Appreciation of and information about the values of biodiversity among the public and government authorities are almost non-existent.
- ❑ There is no an authorized framework to follow closely the developmental planning.



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- ❑ There is no screening mechanism to check whether a proposed action could culminate in biodiversity loss in the country.
- ❑ There is very little or no conservation education to inculcate the value and benefits of biodiversity among the general public for the prosperity of present and future generations.
- ❑ Information about biodiversity is not sufficient and in most cases is non-existent. Some information that was gathered before the war is still used in the scientific circles. Even this information is hardly available now due to destruction of institutions and their libraries.
- ❑ Conditions of War for over two decades now and the conditions this has created in the form of abject poverty and lack of basic amenities make many people less careful about the future.
- ❑ Every action other than relief is considered luxurious even among the donor communities. There is no outlet for helping Afghanistan save its resources and ensure their wiser utilization even among the UN Agencies that naturally should have been concerned about the present devastating trend in the country. Unfortunately, the UN has been entangled in the policies and influenced by the affluent countries to impose a ban on the country already being devastated by war. The ban has severely affected the drive toward revitalization of its institutions and the economy thus deteriorating the life of Afghans and making them even less well disposed towards preservation of natural resources, biodiversity included.

### 1.8 Final conclusions

1. Biodiversity loss is a significant global concern, and it must be introduced as a prominent component in any sustainable development strategy. Therefore, it is important to note the following tasks related to biodiversity conservation in the context of development:
2. Biodiversity conservation should be an integral part of any effort being undertaken in the developmental plans and strategies
3. Biodiversity hot spots and protected areas should be preserved through production of management and system plans without delay, and status of all protected areas should be determined as soon as possible.
4. Effective legislation should be promulgated to open the way for protection of biodiversity
5. Public education should be supported together with awareness programmes for biodiversity.
6. To facilitate flow of resources for preparation of the NBSAP, the Convention for Biological Diversity should be ratified by Afghanistan and its provisions closely translated into letter and spirit in future decision-making.
7. Relevant departments in the universities in Afghanistan should be supported to enhance biological sciences and the understanding of biodiversity resources in the country.
8. UNEP and IUCN should be involved in promoting the drive for sustainable use of natural resources in the country with their capacities and capabilities.

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9. Both the governmental and non-governmental organizations which need institution building and capacities beside financial resources should be strengthened to keep up the mission of preserving the environment and biodiversity in the country.
10. The World Bank and the Asian Development Bank, Islamic Bank and other financial international institutions should commence some work to support the country preserve and develop its resources.

It must be born in mind that conservation of all forms of life, is an underlying tenet of Islam. Thus, the respect shown to all plants and animals is a form of spiritual observance in itself. So spiritual leaders and ulema (religious scholars) can be pursued to work on this aspect. The present Taliban administration can only be convinced if there is some correlation exists between any intervention and Islamic teaching in the sphere of conservation.

The lack of an institutional focus within the Government of Afghanistan on environmental matters is a major obstacle to a sound development planning. Such a focus can help ensure that the developmental undertakings are environmentally sound. It could be established within the framework of present settings or an independent Ministry of the Environment, or an environmental cell within the Deputy Prime Minister's office, the Planning Commission or the Ministry of Agriculture and Land Reforms. If it were not possible financially for the government of Afghanistan to establish a Ministry of Environment, then the appropriate options would be a cell within existing ministries or the Prime Minister's office. Environmental expertise for the new environment cell could be provided through Technical Assistance Agreements when the political situation allows direct aid to the Government of Afghanistan.

The EIA process does not exist so far in Afghanistan. Its inclusion in the future procedures, however, would be helpful in protection of biodiversity in the country. Information about biodiversity and its availability will allow proper consideration of biodiversity in the future.

After political settlement, the international banking and development community will likely return to Afghanistan. There will be a natural tendency to accept financial assistance under almost any conditions in the rush to begin badly needed reconstruction projects. It is important that Government of Afghanistan have adequate environmental planning and assessment expertise to screen large scale development proposals from the World Bank, bilateral and multilateral agencies and to put forward the development terms that are appropriate for Afghanistan.

An environmental planning consultant could be made available through UNOCHA/UNDP and ACBAR to NGOs and UN agencies to assist in preparing of environmental guidelines for project planning and conceptualization, to suggest linkages between natural resource based projects, and to be available to advise on the types of natural resource development and conservation. The environmental guidelines can be adapted for field staff to assist in checking environmental aspects in particular biodiversity preservation of projects at critical points.

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### 1.9 Appendix 2:

#### 1.9.1 Checklist for reviewing biodiversity coverage in EA

There are no large-scale developmental schemes undertaken at present, therefore, loss of biodiversity cannot be associated with most types of projects. The small to medium size projects are often approved without any requirement for EIA, thus to include conservation of biodiversity is a far-off question. No checklist for reviewing biodiversity coverage has been developed specifically for Afghanistan yet. There are not any examples recorded where biodiversity monitoring has been recommended in the country in any phase of the project design, implementation or audit.

### 1.10 Appendix 3:

#### 1.10.1 Guidelines for case studies of treatment of biodiversity within individual projects

As has been mentioned earlier, no record of inclusion of biodiversity in any screening process has been recorded. Yet, some ecological and environmental aspects of some of the trends and projects are cited here:

#### 1.10.2 The Environmental Impact of Landmines and Demining In Afghanistan

Landmines have had devastating effect on environment of Afghanistan, compounding already existing problems such as deforestation and overuse of marginal wildlife species. Some of the species are being pushed to extinction. Meanwhile, the demining process also had some negative impact on biodiversity loss and on the environment, which should have been studied in advance, and mitigation measures taken.

According to one post-war assessment, the pressures of the war have placed rare animals, such as the snow leopard, in danger of extinction. The net loss to natural resources forests, productive land, access to water resources as a result of landmines has been enormous. In addition to the human suffering and economic losses caused by mines, they have exacerbated environmental degradation of the natural resources base. Hundreds of irrigations systems have been destroyed by mines. The UNDP has expressed concern that access to traditional summer and winter rangeland has been cut off by mined areas. As a result, nearby ranges and woodlands have been over exploited.

The problems tend to be worst in provinces bordering Pakistan, and in areas where fighting was the heaviest. A severe environmental impact has been reported in areas surrounding refugee camps, both in Pakistan and inside Afghanistan. According to a 1994 report by UNCHR, in less than a year the area around Hesar Shahi refugee camp became severely deforested. Another cause for concern has arisen over the extraordinary trend among returning Afghans to settle in cities rather than the rural areas. According to refugee advocates, this trend is caused by the increasing fears of scarcity of food in the rural areas plus a threat of the mined land in interior of the country. Many of the refugees say that they can't plough their farms because of the fear of mines. This urban migration presents a variety of problems: overcrowding, water shortages, lost agricultural production, and increased dependence upon external aid.

The demining process which has been carried out by several demining NGOs coordinated and sponsored mostly by the UNOCHA (first by Operation Salaam) in Afghanistan has

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also had some repercussions for the environment in quite the opposite way. The Afghan resource base being utilized in an unsustainable way for centuries had some respite because of existing of mines in and around ecological important sites. This limited access to those areas allowed partly recovery for rangelands and some of the smaller animals. The demining of some areas and subsequent repatriation of refugees to these areas deteriorated the environmental problems and biodiversity loss. Several causalities were reported when people returned home triggered by demining. The demining work was carried out without assessing its positive and negative impacts on the environment or people.

### 1.10.3 Other Projects

As some projects facilitated repatriation, as a result deforestation rates have accelerated because of the collapse of community control, the short-term benefits of selling precious old forests and fruit trees for timber and firewood, and the desperation caused by arable land having been mined. As the UNDP has emphasized, "millions of land mines are a formidable hurdle.. to rehabilitation. Unless carried out with a view towards sustainability, rehabilitation could worsen the environmental problems of Afghanistan.

Rehabilitation of access roads to the forest area and areas of ecological significance prior to the revival of social controls, for example, has caused elimination of the few remaining trees and endangered species in Kunar and Paktia provinces in the east and southern part of the country. An IUCN Mission in Forests in 1991 observed that the new roads opened here for agricultural and other development purposes have facilitated the smuggling of valuable timbers from the eastern provinces to Pakistan and Middle East and this have caused loss of biodiversity in these areas.

During the implementation of Helmand and Arghandab project in the late 50s in southwestern Afghanistan, because of ease in accessibility of the project personnel, numerous large animals were hunted in the plains around Helmand province. The whole project, which had been a very major one in Afghanistan, had been carried out without consideration of environmental elements or biodiversity. The environmental problems created during and after completion of the project are not known to anybody. Similarly, all the hydropower generating projects and associated dams were constructed without any assessments in the sixties and seventies.