



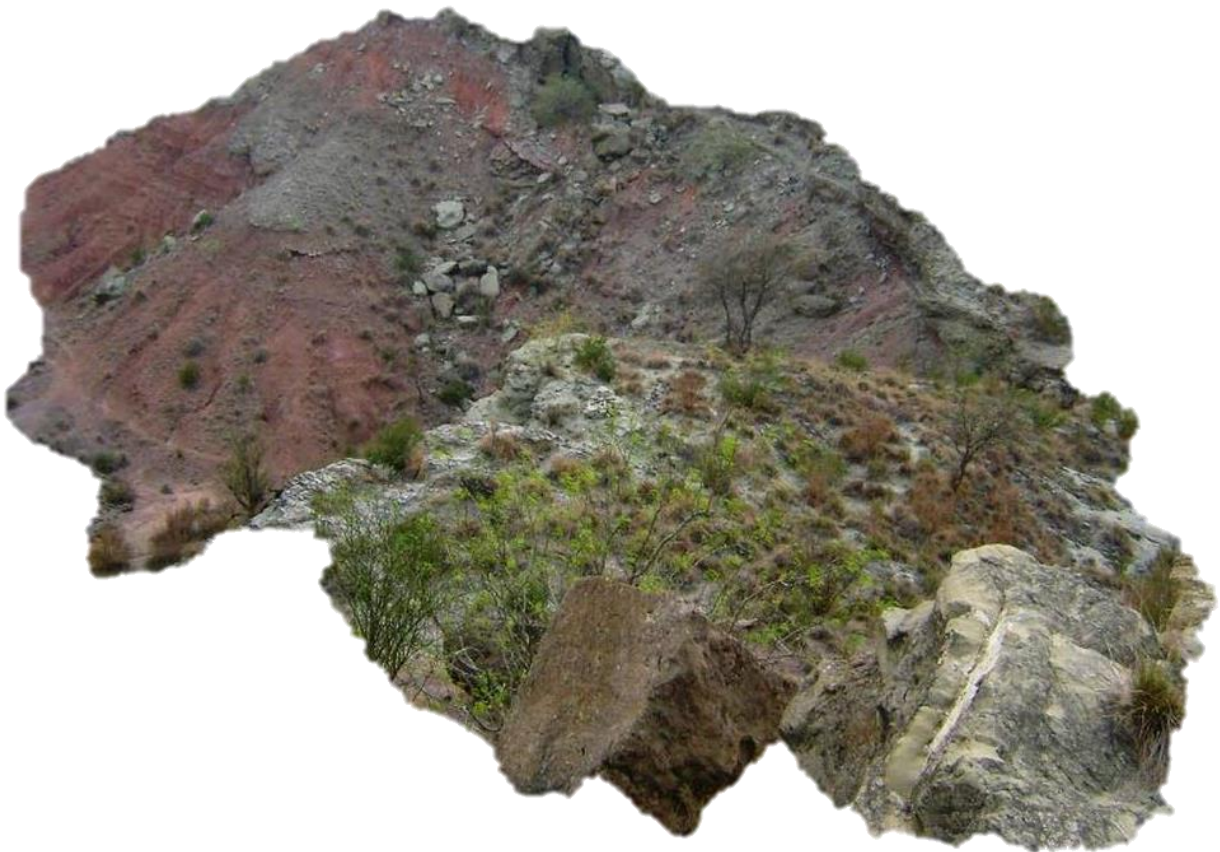
Forest, Wildlife and Fisheries Department

## Management Plan

# Chinji National Park

District Chakwal, Punjab, Pakistan

2020 - 2028



**Forest, Wildlife and Fisheries Department**

Government of Punjab  
Poonch House, Multan Road,  
Lahore

**2019**

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## List of Acronyms and Abbreviations

|               |  |
|---------------|--|
| ABTs:         | Aichi Biodiversity Targets   |
| CBD:          | Convention on Biological Diversity                                       |
| CBOs:         | Community Based Organisations  |
| CCAs:         | Community Conservation Areas   |
| CCHAs:        | Community Controlled Hunting Areas                                       |
| CSR:          | Corporate Social Responsibility  |
| DFO:          | Divisional Forest Officer  |
| FATA:         | Federally Administered Tribal Areas (now part of KPK)                    |
| GIS:          | Geographic Information System  |
| GPS:          | Global Positioning System  |
| IUCN:         | International Union for the Conservation of Nature and Natural Resources |
| Kgs:          | Kilograms  |
| Km:           | Kilometre  |
| KPK:          | Khyber Pakhtunkhwa   |
| M:            | Meters   |
| MACP:         | Mountain Areas Conservancy Project                                       |
| MoUs:         | Memorandum of Understandings   |
| NBSAP:        | National Biodiversity Strategy and Action Plan                           |
| NGOs:         | Non Governmental Organisations   |
| Nos.:         | Numbers  |
| NTFPs:        | Non-Timber Forest Produce  |
| PA:           | Protected Area   |
| PFRI:         | Punjab Forestry Research Institute                                       |
| PoWPA:        | Programme of Work on Protected Areas                                     |
| PWRI:         | Punjab Wildlife Research Institute                                       |
| SDFO:         | Sub-Divisional Forest Officer  |
| SDGs:         | Sustainable Development Goals  |
| TORs:         | Terms of References  |
| WWF-Pakistan: | World Wide Fund for Nature, Pakistan                                     |

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# 1.0. Protected Areas

## 1.1. Introduction

The “protected areas are locations which receive protection because of their recognized natural, ecological and or / cultural values” (Wikipedia). IUCN – The world Conservation Union defines Protected Area as “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means” to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

The protected area can be of several different kinds depending on the objectives of conservation ranging from strict nature reserves to sustainable use of natural resources without compromising the needs and livelihoods of local and indigenous communities. Protected areas are essential not only for conservation of natural biological heritage of country but also provide ecological goods and services for the social and economic well being of the people. The protected areas also provide a buffer against the unpredictable impending climate change and resulting natural catastrophes.

## 1.2. IUCN Protected Areas categories System

In 2000, protected area system review was undertaken which reclassified the protected areas according to IUCN protected area category system and identified areas that did not confirm to the internationally accepted standards. It also identified ecologically sensitive areas and suggested a framework of action. The following is the IUCN protected areas categories system.

**Ia. Strict Nature Reserve:** Category Ia are strictly protected areas set aside to protect biodiversity and also possible geological / geomorphic features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.

**Ib. Wilderness Area:** Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

**II. National Parks:** Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide as foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational and visitor opportunities.

**III. Natural Monument or Feature:** Category III protected areas are set aside to protect a specific natural monument, which can be landform, sea mount, submarine cavern, geological features such as a cave or even a living feature such as an ancient grove. They are generally quite small-protected areas and often have high visitor value.

**IV. Habitat / species Management Area:** Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats but this is not a requirement of category.

**V. Protected Landscape / seascape:** A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and science value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

**VI. Protected area with sustainable use of natural resources:** Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

## 1.3. Protected areas of Pakistan

The first serious action to conserve the key ecosystems and habitats in Pakistan was made when in large number of National parks, wildlife sanctuaries and game reserves were established under the Wildlife Act in

late 1960s and early 1970. When the protected areas started receiving attention of the global conservation community and data on protected area was gathered from the countries, Pakistan listed all of its national parks, wildlife sanctuaries and game reserves as protected areas. While a couple of reviews of the protected area system were undertaken but no follow up action was taken to plan a protected area system in Pakistan. Vast area of natural ecosystems, except those managed as forests by the government, have undefined land tenure and are generally degraded. Thus the managed forests offer a great opportunity to conserve biodiversity in Pakistan, but unfortunately have not made part of the protected area system.

There are 28 National Parks, 79 Wildlife or Game Sanctuaries, 83 Game Reserves and 114 CCAs covering an area of 109,969 km<sup>2</sup> or 12.54% of the area of Pakistan. Except for a few national parks, none of the other protected areas have a management plan. The management is limited to enforcement of wildlife laws for preventing illegal hunting and shooting. If one takes into consideration all the paper parks, coverage of protected areas exceeds international minimum recommended of 10% area.

### 1.3.1. Game Reserves

The wildlife related legislations in Pakistan describe a Game Reserve as “Government may declare any area to be a game reserve where hunting and shooting of wild animals shall not be allowed, except under special permit, which may specify the maximum number of animals or birds that may be killed or captured and the area and duration for such permit which shall be valid”. The summary of notified Game Reserves is given in Table 1.

**Table 1:** Summary of notified Game Reserves of Pakistan

| Provinces and Territories | Total area (km <sup>2</sup> ) | Game Reserves |                  |             |
|---------------------------|-------------------------------|---------------|------------------|-------------|
|                           |                               | Number        | Area (ha)        | Percentage  |
| Azad Jammu & Kashmir      | 12,431                        | 12            | 14,164           | 1.14%       |
| Gilgit – Baltistan        | 347,190                       | 9             | 124,099          | 0.36%       |
| Baluchistan               | 68,879                        | 6             | 511,214          | 7.42%       |
| Khyber Pakhtunkhwa        | 74,521                        | 38            | 371,066          | 4.98%       |
| Punjab                    | 205,345                       | 18            | 2,276,980        | 11.09%      |
| Sindh                     | 140,914                       | 0             | 0                | 0.00%       |
| Islamabad                 | 906                           | 0             | 0                | 0.00%       |
| FATA (Part of KPK now)    | 27,220                        | 0             | 0                | 0.00%       |
| <b>Total</b>              | <b>877,406</b>                | <b>83</b>     | <b>3,297,523</b> | <b>3.76</b> |

(Source: IUCN)

### 1.3.2 National Parks

The wildlife related legislations in Pakistan describe a National Park “with a view to the protection and preservation of flora and fauna in its natural state”. Government may, by notification in the official Gazette declare any area which is the property of the government or over which government has proprietary rights to be declared a National Park and may demarcate it in such a manner as prescribed. A summary of the total National Parks and their area in various provinces is summarized in the Table 2.

**Table 2:** Abstract of National Parks in Pakistan

| Provinces and Territories | Total area (km <sup>2</sup> ) | National Parks |                  |              |
|---------------------------|-------------------------------|----------------|------------------|--------------|
|                           |                               | Number         | Area (ha)        | Percentage   |
| Azad Jammu & Kashmir      | 12,431                        | 7              | 99,191           | 7.98%        |
| Gilgit – Baltistan        | 347,190                       | 5              | 2,016,745        | 5.81%        |
| Baluchistan               | 68,879                        | 2              | 643,539          | 9.34%        |
| Khyber Pakhtunkhwa        | 74,521                        | 6              | 196,649          | 2.64%        |
| Punjab                    | 205,345                       | 5              | 210,824          | 1.03%        |
| Sindh                     | 140,914                       | 1              | 308,733          | 2.19%        |
| Islamabad                 | 906                           | 1              | 17,386           | 19.19%       |
| FATA                      | 27,220                        | 0              | 0                | 0.00%        |
| <b>Total</b>              | <b>877,406</b>                | <b>25</b>      | <b>3,475,681</b> | <b>3.96%</b> |

(Source: IUCN)

### 1.3.3 Wildlife Sanctuaries

Wildlife Sanctuary represents the same management category except difference in their nomenclature as used in the wildlife laws. The wildlife related legislations in Pakistan describe a wildlife sanctuary as “(1) Government may by notification in the official Gazette, declare any area which is the property of the Government or over which Government has proprietary rights to be declared a Wildlife Sanctuary and may demarcate it in such a manner as prescribed, (2) the Wildlife Sanctuary shall be set aside as undisturbed breeding ground for the production of wildlife and access thereto for public shall, except in accordance with the rules, be prohibited and no exploitation of forest therein shall be allowed except for the reducing fire hazards, epidemics or insect attacks or other natural calamities”. There is not a single site in Pakistan that comes close to the description. The summary of notified Wildlife Sanctuaries in different provinces is given in the Table 3.

**Table 3:** Abstract of Wildlife Sanctuaries in Pakistan

| Provinces and Territories | Total Area (km <sup>2</sup> ) | Wildlife Sanctuaries |                  |              |
|---------------------------|-------------------------------|----------------------|------------------|--------------|
|                           |                               | Area (ha)            | Area (ha)        | Area (ha)    |
| Azad Jammu & Kashmir      | 12,431                        | 0                    | 0                | 0.00%        |
| Gilgit – Baltistan        | 347,190                       | 3                    | 164,100          | 0.47%        |
| Baluchistan               | 68,879                        | 14                   | 1,192,335        | 17.31%       |
| Khyber Pakhtunkhwa        | 74,521                        | 3                    | 34,212           | 0.46%        |
| Punjab                    | 205,345                       | 26                   | 843,323          | 4.11%        |
| Sindh                     | 140,914                       | 33                   | 744,755          | 5.29%        |
| Islamabad                 | 906                           | 1                    | 7,000            | 7.73%        |
| FATA                      | 27,220                        | 0                    | 0                | 0            |
| <b>Total</b>              | <b>877,406</b>                | <b>80</b>            | <b>2,985,725</b> | <b>3.41%</b> |

(Source: IUCN)

### 1.3.4. Community Conservation Areas

The local community initiatives for conservation and sustainable use emerged long after the wildlife legislations were made and therefore, are not legal management category. However, local communities who have set aside areas for conservation have plans for management are recognized as Community Conservation Areas (CCAs). The concept of CCAs was introduced through GEF pilot project in GB and KP during the mid 1990s and extended to conservancy level under Mountain Areas Conservancy Project (MACP). In KP, the CCAs are called Community Controlled Hunting Areas (CCHAs). Even before the GEF project, there were two areas in Balochistan (Torghar and Dureji) where local tribal leaders were conserving wildlife for suitable sport hunting in collaboration with local communities. A summary of the CCAs by province is given in Table 4.

**Table 4:** Abstract of Community Conservation Areas in Pakistan

| Provinces and Territories | Total area (km <sup>2</sup> ) | Community Conservation Areas |           |            |
|---------------------------|-------------------------------|------------------------------|-----------|------------|
|                           |                               | Number                       | Area (ha) | Percentage |
| Azad Jammu & Kashmir      | 12,431                        | 0                            | 0         | 0.00%      |
| Gilgit – Baltistan        | 347,190                       | 24                           | 447,000   | 1.29%      |
| Baluchistan               | 68,879                        | 2                            | 358,299   | 2.61%      |
| Khyber Pakhtunkhwa        | 74,521                        | 89                           | 432,668   | 5.81%      |
| Punjab                    | 205,345                       | 0                            | 0         | 0.00%      |
| Sindh                     | 140,914                       | 0                            | 0         | 0.00%      |
| Islamabad                 | 906                           | 0                            | 0         | 0.00%      |
| FATA                      | 27,220                        | 0                            | 0         | 0.00%      |
| Total: -                  | 877,406                       | 114                          | 1,237,967 | 1.41%      |

(Source: IUCN)

### 1.4. Status of Protected Areas in Punjab

Provincial Wildlife Departments are responsible for the establishment and management of National Parks, Wildlife Sanctuaries and Game Reserves in the country. The KP and Punjab have well developed and adequately staffed Wildlife Departments, whereas in other provinces and regions, the departments are relatively small. The level at which these departments are headed is given in following table: -

**Table 5: Heads of Provincial Wildlife Departments in Pakistan**

| Province             | Head of the Department              |
|----------------------|-------------------------------------|
| Azad Jammu & Kashmir | Director Wildlife and Fisheries     |
| Gilgit-Baltistan     | Conservator of Wildlife             |
| Balochistan          | Conservator of Wildlife             |
| Khyber Pakhtunkhwa   | Chief Conservator of Wildlife       |
| Punjab               | Director General Wildlife and Parks |
| Sindh                | Conservator of Wildlife             |

In Punjab, there is a single Administrative Department headed by the Secretary, who has three attached departments namely Forest, Wildlife & Fisheries working under his administrative control, whereas in other provinces such administrative structure does not exist. The set up in Punjab provides an opportunity to address the issue of Protected Areas especially for sites, which are required to be declared as protected areas are also state forest land. Hence, it provided two legislative covers i.e. Punjab Forest Act (Amended) 2010 and Wildlife Act 2007. It is due to the reason that most of the Game Reserves, Wildlife Sanctuaries and National Parks are on forest lands. A total of 48 protected areas have been notified in Punjab.

The major forest types of Punjab include the coniferous forest, scrub forests, riverine forest and irrigated plantations. The flora and fauna present in these forests is different due to diversified ecological conditions. The protected areas, which are notified for the conservation of wildlife and located in these forests, also provide protection to the vegetation of the area. All the protected area including Game Reserves, Wildlife Sanctuaries and National Parks are notified under the section 16, 17 and 18 of Wildlife Act 2007.

However, there is no legal provision in the Punjab Forest Act (Amended) 2010 for declaration of any protected area. It explains the fact that the protected areas of Punjab are notified mainly for the conservation and protection of local wildlife of area, while protection of vegetation is an associated benefit of it.

### 1.5. Management Gaps

The establishment and effective management of a Protected Area system is essential not only to conserve the unique natural heritage of Pakistan but also to ensure sustainable supply of ecosystem goods and services and for climate change adaptation.

Although there are some success stories of effective management of the Protected Areas, yet Pakistan is far off from significant achievements in the Protected Area objectives and fully realizing the conservation values. It is hard to quantify the achievements of objectives or conservation values. There are still many paper parks, due mainly to lack of institutional and professional capacity, financial constraints and conflicting land use demands.

There is no national legal or policy instrument for management of the Protected Areas at the national level mainly because it is a provincial subject matter. The provinces have wildlife laws that govern the establishment of National Parks, Wildlife Sanctuaries and Game Reserves but have no policies for Protected Area management.

The wildlife legislations at provincial level were mostly enacted in 1974 and provide legal basis for the establishment of National Parks, Wildlife Sanctuaries and Game Reserves. The wildlife legislations in all the provinces are very similar to each other. The government of Punjab has developed a Protected Areas Act, which is in its final stages of approval.

In order to be part of the global system of Protected Areas, it is imperative that the sites included in the national list of Protected Areas meet the IUCN definition of a Protected Area and meets the globally recognized criteria for their establishment and management. There is not a single National Park, which comes close to its definition. Similarly by definition, the Game Reserves do not meet the criteria of a Protected Area but are included in the national list of Protected Areas.

In view of the above, it can be inferred that the operative part of management of all the Protected Areas is enforcement of law with gaps in stated objectives in the notification and actual situation. All efforts are made towards imposition of restriction on illegal hunting with negligible efforts towards management of habitat and

maintaining the natural ecosystem of the area by taking into consideration, the land use, socio-economic factors, public awareness and capacity building of human resource. Similarly, it is only wildlife that is considered to be responsible for the management of Protected Area without realizing the facts that there exist more than one department operative in the area with multiple stakes and land ownership. Moreover, in majority of the cases, the local communities have their direct or indirect dependence on the natural resources of the Protected Area. Therefore, it is imperative to have a detailed account of the entire situation including the key features of the area, threats and opportunities, existing land use, conflicting interests of stakeholders, environmental variables, natural disaster, dependence of communities for their livelihood, biodiversity ownership of land along with clear objectives linked with proposed action and strategies to meet those objectives.

The above approach could only be actualized provided a management plan of the protected area exists identifying various management option with clear responsibilities and highlighting the possible sources for financial inputs. Unfortunately, except for one Wildlife Sanctuary, there is not a single Protected Area in Punjab having a formal management plan with formal approval from the competent forum and which is being implemented in its true spirit. Hence, the absence of a management plan with well-defined ownership is the single most important gap towards management of the Protected Areas. Apart from the management plan, the other gaps in the management of Protected Area include non-representation of ecosystem, governance, capacity of departments, financial resources, legal and policy framework, professional skills, baseline information and awareness and communication.

### **1.6. Why to have a management Plan?**

The Protected Areas usually comprise of a complex relationship between the natural resource and its utilization by the surrounding communities. In most cases, an imbalance has occurred over a larger period of time disturbing to co-existence of human population and flora and fauna of the area. Although, the ecological changes are subtle in the Protected Areas, but at times the situation become quite obvious and the existence of natural ecosystem is considered to be at stake. At this juncture, appropriate interventions become inevitable.

In the foregoing scenario, the area is declared as a protected to eliminate or at least slow down the process of deterioration. The legal declaration of Protected Area may in terms of saving the entire ecosystem or protecting the population and habitat of specific species of flora and fauna. It is important to point out that in majority of cases, the legal notification of Protected Area alone is not sufficient enough to meet the objectives of its declaration. Hence, it becomes a dire necessity for the managers of the Protected Area to have a detailed account of situation in its histories perspective, changes occurred over a period of time; species became endangered or extinct, loss of habitat etc. along with a clear roadmap not only for mitigation but also for restoration. The document thus prepared is termed as a management plan that provides the objectives of management for a particular protected area coupled with ways and means to achieve these objectives. It has been observed that although much time and effort is put into management planning for protected area but the plan are not used or are unusable.

In certain cases, the need of management plan is also to fulfill the legislative requirement. Such legislation provides the managing organizations with statutory instructions to prepare a plan. Failure to manage a Protected Area in accordance with the plan may give rise to an offence and legal action. Legislation of this kind may also forbid certain action except where provided for under the management plan. Also, many donors that support Protected Areas projects require that a management plan be produced as a part of the funding agreement. Apart from meeting legislative requirement, the most compelling reason for producing management plan is to provide benefit to the Protected Area and those rely upon its good management.

The primary product of management planning should be more effective management of the Protected Area. Management planning encourages more effective management by having clear understanding of the area, providing guidance for managers, providing continuity and by helping to identify and define management effectiveness. Another benefit of a management plan include improved use of financial and staff resources, increased accountability, effective communication, implementation policies, developing ownership and creating mass awareness and providing research education opportunities.

The management planning of Protected Areas is a process - not an event. It does not end with the production of the plans; rather it is further built on the basis of lessons learnt during implementing and monitoring. The feedback during monitoring lead, adjustments to the original plan to keep it on the right track.

## 2.0. Legal and Statutory Requirements

### 2.1. Convention on Biological Diversity

The Convention on Biological Diversity (CBD) known informally as the Biodiversity Convention is an international legal binding treaty. The Convention has three main goals: conservation of biological diversity, sustainable use of its component and fair and equitable sharing of benefits arising from genetic resources. In other words, its objective is to develop national strategies for the conservation and sustainable development. Pakistan ratified the convention during 1994 and become part of the treaty with national responsibility to abide by its obligations.

Article 8 of the CBD encourages parties / member to establish a system of protected areas where special measures need to be taken to conserve biological diversity. The CBD adopted a Programme of Work on Protected Areas (PoWPA) in its 7<sup>th</sup> meeting held in Kuala Lumpur in 2004. The objective of the PoWPA is to establish and maintain a comprehensive, effectively managed and ecologically representative national system of protected areas that contribute to achieving the objectives of the Convention. The instant management plan could be considered as fulfillment of the obligation of the Convention at the provincial level for Chinji National Park as a significant protected area of the Punjab.

### 2.2. National Climate Change Policy (2012) and the Implementation Framework (2014-2030)

The year 2012 will always be remembered as a landmark in the history of Pakistan in its response to climate change as the Government of Pakistan approved National Policy of Climate Change. The policy has addressed all the emerging issues as a result of global climate change and suggested policy directions for adaption and mitigation measures to minimize the effect. It has also accounted for different vulnerable ecosystems in the country and ways and means to save these ecosystems from negative impacts of climate change. The policy also focuses towards protected areas in the country under its forestry and biodiversity sectors. Following policy measures are suggested for their management and conservation:

- Consider expanding protected areas in the country with respect to ecological parameters including conservation of wildlife and their habitats;
- Establish protected areas in all vulnerable ecosystems, particularly in coastal and marine areas;

Hence, in compliance to the above decisions contained in the National Policy of climate change, the instant Management Plan has been prepared for one of the important National Park / protected area of Punjab i.e. Chinji National Park.

### 2.3. National Forest Policy

The National Forest Policy of Pakistan of 2015 clearly explained the significance of Protected Areas in its goal described below:

“Expansion of national coverage of forests, protected areas, natural habitats and green areas for restoration of ecological functions and maximizing economic benefits while meeting Pakistan’s obligations to international agreements related to forests”.

Under one of its seven policy objectives, one objective discusses about protected areas i.e. “Establishing and managing protected areas and networking through ecological corridors”. The policy measures further demonstrates the following:

- Government of Pakistan, with the collaboration of all federating units, shall manage sustainably existing protected areas and shall establish new protected areas
- A system of inter linking protected areas in all federating units through biological corridors shall be established

### 2.4. National Biodiversity Strategy and Action Plan (NBSAP)

Pakistan developed its first Biodiversity Action Plan (BAP) in 1999 to implement the 2010 Biodiversity Targets. This document, Pakistan’s second NBSAP 2017-2030, has been prepared in line with Aichi Biodiversity Targets-ABTs (2011-2020) and Sustainable Development Goals (SDGs) and demonstrates Pakistan’s commitment to

implement the objectives of the CBD: conservation of biodiversity, the sustainable use of its components, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The NBSAP identifies legal, institutional, capacity, knowledge and technical gaps in implementing the ABTs and provides recommendations for overcoming these gaps. These include raising awareness and capacity, improving scientific and knowledge capabilities, mainstreaming biodiversity and thereby improving national coordination mechanisms, encouraging cross-sectoral collaboration and adopting a fresh financing strategy. The NBSAP comprises of 74 proposed actions across five strategic goals and 20 ABTs requiring \$74.8 million. The proposed actions are further classified into 31 thematic areas and discussed the conservation and management of protected areas, which are the cornerstone of the world's biological diversity.

## **2.5. Provincial policies and plans**

A range of provincial plans and policies are available that talks about conservation and management of biodiversity and forests within and outside the protected areas. These are at various stages of approval from the competent forums. These include the following:

- Punjab Biodiversity Strategy and Action Plan
- Punjab Climate Change Policy
- Punjab Wildlife Policy
- Punjab Wetlands Policy
- Punjab Protected Areas Act
- Punjab Environment Policy
- Punjab Forest Policy
- Punjab Forest Act

## 3.0. Description of the Area

### 3.1. Chinji Formation

The area south of the town of Dhulian is covered by the vast Chinji strata. The low, flat-topped hills in the area where the Chinji beds occur consist of bright red clays with pseudo conglomerates of siliceous nature. Pilgrim (1910) described this rock unit as Chinji zone, while Lewis (1937) used the term Chinji Formation. At type locality, the lower contact of Chinji Formation with Kamlial Formation is gradational, while the upper contact is conformable with the Nagri Formation. The Stratigraphic Committee recommended the name Chinji Formation with type section near Chinji.

### 3.2. Climate of the Region

The climate is one of the extremes in both winters and summers. During winters, the temperature goes below the freezing point while in summers the mean maximum daily temperature is above 40°C. July and August are the rainiest months. Some rainfall is also received in January and February but rains are erratic in general often coming in a few storms. Frost is common in winter season. Relative humidity can reach up to 80% in monsoon. The average annual rainfall decreases from east to west, and consequently the vegetation is more luxuriant in eastern part than in the west.

### 3.3. History of establishment of the Reserve Forest and a National Park

This forest was notified as a Reserved Forest via notification No. 361 on 21<sup>st</sup> August 1882 under section 19 of the Forest Act (VII of 1878) published in West Pakistan Gazette of 24<sup>th</sup> August 1882. This Chinji Reserved Forest was located in Revenue sub-division or Tehsil Talagang, District Attock at that time.

The same Reserved Forest was declared as a National Park vide Government of the Punjab Forestry, Wildlife and Fisheries Department Notification No. SOFT (Ext) XII-G/8/84 dated 27<sup>th</sup> July 1987. It is a protected area of IUCN Category II (National Park) located in Talagang Tehsil, Chakwal District.

### 3.4. Area of the National Park

Chinji Reserved Forest falls under the jurisdiction of Talagang Forest sub-division. The total area of the Chinji Reserved Forest is 15,003 acres with 115 compartments and three Beats. This area went through several revisions found under several settlement records but finally a balance of 1500.82 acres was transferred to Chakwal Forest Division to Government of Punjab, Forestry, Wildlife, Fisheries and Tourism Department Notification No. SOFT (EXT) VIII-60/84 dated 2<sup>nd</sup> November 1989.

### 3.5. Location and access to the National Park

Chinji National Park is located at N 32.66324 and E 72.37482 and is about 130 km away from Islamabad in the south; 300 km away from Lahore via Motorway towards North; 57 km away from Kalar Kahar; 50 km from Chakwal; 28 km from Talagang and 128 km away from Mianwali.

### 3.6. Land Use within the Park

In Chinji Reserve Forest, there are three Beats namely Chinji I, Chinji II and Chinji III covering 15,003 acres. The total area under vegetation is 10,443 acres and rest of it is the blank area. Out of the total blank area, 3,266 acres is the plantable blank area whereas 1,294 acres is the un-plantable area. This area cannot be put under plantable area as it consisted of rocks or the topography i.e. slope is too steep to support vegetation. The entire 3,266 acres of plantable area comes under dry afforestation, which is a difficult afforestation technique. It has been found in the records that an area of 10.5 acres of land is encroached. Compartment No. 50 (89 acres) and Compartment No. 51 (120 acres) are under the possession of Pak Army since 1990.

### 3.7. Elevation and topography

It is located at an elevation of 2,231 feet (680 m). Deeply eroded land of Chinji consists of sandstone to igneous rocks, combined with small deposits of rock salt from the Salt Range. Deep torrential streams and ravines slope into the Soan River, which passes through the area.

### 3.8. Important Flora of the Park

The Chinji National Park exhibits the deserts and xeric Shrublands biome and fall in the Ecoregion of Balochistan xeric woodlands. The area is characterised to have sub-tropical vegetation with many plant species ecological significance. The area is also a prime habitat for threatened species of Punjab Urial. The

major plant species include: *Cynodon dactylon*, *Acacia modesta*, *Dodonaea viscosa*, *Olea ferruginea*, *Gymnosporia royleana*, *Grewia tenax*, *Otostegia limbata*, *Desmostachya bipinnata*, *Eragrostis tremula*, *Cymbopogon jwarancusa*, *Salvia aegyptiaca*, *Chrysopogon plumulosus*, *Argyrolobium roseum*, *Periploca aphylla*, *Cenchrus pennisetum*, *Eulaliopsis binata*, *Asparagus adscendens*, *Lantana camara*, *Acacia nilotica*, *Tamarix troupii*, *Dichanthium annulatum*, *Taverniera cuneifolia*, *Fagonia cretica*, *Saccharum munja*, *Ziziphus jujuba*, *Plantago ovata*, *Dicliptera roxburghii*, *Saussurea candylicious*, *Acacia jacquemontii*, *Farsetia hamiltoni*, *Capparis decidua*, *Solanum incanum*, *Heteropogon contortus*, *Cenchrus ciliaris*, *Trianthema crystallina*, *Aristida depressa* and *Chenopodium album*.

### 3.9. Major Fauna of the Park and surrounding areas

There are numerous species of mammals, birds and reptiles found in the area with their typical behaviour and habitat. The majority of the fauna of the area is resident but there are number of birds which are migratory or passage migrants. The presence of large water bodies, in shape of lakes, in the area has provided a unique habitat that is not commonly available in the arid tract. The most important mammal in the Park is Punjab Urial (*Ovis vignei punjabiensis*), which is also a game animal. The Asiatic jackal (*Canis aureus*), Cape hare (*Lepus capensis*), Red fox (*Vulpes vulpes*), Scaly anteater or Indian Pangolin (*Manis crassicaudata*), Jungle cat (*Felis chaus*), Indian porcupine (*Hystrix indica*), Hedgehog (*Paraechinus micropus*), Indian mongoose (*Herpestes edwardsi*), Five-striped Palm squirrel (*Funambulus pennantii*), Indian musk shrew (*Suncus murinus viridescens*) are other mammals reported in the area. The reptiles found in the area are Bengal monitor lizard (*Varanus bengalensis*), Yellow-bellied house gecko (*Hemidactylus flaviviridis*) and Indian garden lizard (*Calotes versicolor*). Chukar (*Alectoris chukar*), See-see partridge (*Ammoperdix griseogularis*), Grey francolin (*Francolinus pondicerianus*), Common quail (*Coturnix coturnix*), Blue rock pigeon (*Columba livia*), Black winged stilt (*Himantopus himantopus*), Laughing dove (*Spilopelia senegalensis*), Red-wattled lapwing (*Vanellus indicus*), Crow pheasant (*Centropus sinensis*), White-throated kingfisher (*Halcyon smyrnensis*), Red-vented bulbul (*Pycnonotus cafer*), Black shouldered kite (*Elanus caeruleus*), Common kite (*Milvus migrans*), Common teal (*Anas crecca*) and Common pochard (*Aythya ferina*) are common bird species reported in the area. The endangered White-headed duck (*Oxyura leucocephala*) visits Khabeki Lake during winter.

### 3.10. Communities surrounding the National Park

Approximately 80,000 people live in the surroundings of the Chinji National Park in at least nine major settlements. There are three villages located in the northern boundary of the National Park while there are at least six major towns/villages in the southern side of the Park. The details are described below in the Table 6.

**Table 6:** Major Towns surrounding the National Park

| #                        | Villages   | Distance from the National Park (Approx. in km) | Total Population (Estimated) |
|--------------------------|------------|---|------------------------------|
| <b>Northern Boundary</b> |            |   |                              |
| 1                        | Chinji     | 4   | 10,000                       |
| 2                        | Kotaitra   | 4   | 7,000                        |
| 3                        | Bhalo Maar | 5   | 12,000                       |
| <b>Southern Boundary</b> |            |   |                              |
| 1                        | Jabba      | 1   | 10,000                       |
| 2                        | Pairra     | 1   | 5,000                        |
| 3                        | Kijar      | 1.5   | 7,000                        |
| 4                        | Kadar      | 1.5   | 5,000                        |
| 5                        | Padhrar    | 1   | 12,000                       |
| 6                        | Manara     | 2   | 10,000                       |

## 4.0. Situation Analysis

### 4.1. Status of the Area

The area is notified as a Reserved Forest by the Punjab Forest Department as well as IUCN Management Category II National Park. The Punjab Wildlife and Parks Department has also notified the area under Reserved Forest as a National Park. The details of this are already included in Chapter 3: Description of the area and the relevant notifications are attached in the Annexes.

### 4.2. Past and Current Land Use

The area has undergone several changes initially and finally a total of 15,003 acres was transferred to Punjab Forest Department in 1882 as a Reserved Forest. Two Compartments (Nos. 50 & 51) were taken over by Pakistan Army in 1990 covering an area of 209 acres. The Punjab Wildlife and Parks Department in order to promote the conservation of wildlife in the area fenced ten Compartments (Compartment Nos. 23, 48, 51, 52, 53, 54, 55, 56, 57, 85). The total area under vegetation is 10,443 acres. Out of the total blank area, 3,266 acres is the plantable blank area whereas 1,294 acres is the un-plantable area (rocks and steep slopes). It has been found in the records that an area of 10.5 acres of land is encroached. Currently, the area is under the control of Punjab Forest Department.

In addition, an 11-mile long jeepable track exists with several inspection pathways. One access road of approximately 500 meters long to Thatti Bungalow is there. Further a few infrastructures are also available such as Thatti Bungalow, Forest Guards Huts, and Ponds etc.

### 4.3. Mapping Stakeholders and their role

The major stakeholder is the **Punjab Forest Department** who is managing the Reserved Forest since its notification. There are two Block Officers and five Forest Guards who are responsible for the protection of the forest resources and other infrastructures.

**Punjab Wildlife and Parks Department** is the second major stakeholder who has a role to protect and promote this area as a National Park. However, there is very little contribution of the Department towards protection of its wildlife resources, as there is hardly any staff deputed for the National Park. Further the Department has fenced 10 compartments for the protection and management of wildlife resources of the National Park.

**Pakistan Army** is the third major and most important stakeholder who has a stake in the National Park, as two of the Compartments (Nos. 50 & 51) have been under their control since 1990.

The adjoining **local communities** from nine major settlements also depend on the National Park in one-way or the other. They graze their livestock, collect dried fodder and grasses and collect firewood from the National Park in order to meet their daily subsistence needs.

### 4.4. Existing Field Staff of the Stakeholder Departments

Table 7 describes the existing staff of the Punjab Wildlife and Parks Department deputed directly or indirectly for the National Park

**Table 7:** Existing field staff of Punjab Forest Department at Chinji National Park

| #            | NAME OF THE POST                         | BS  | EXISTING  |
|--------------|--|-----|-----------|
| 1.           | Divisional Forest Officer (Chakwal)      | 18  | 1         |
| 2.           | Sub-Divisional Forest Officer (Talagang) | 17  | 1         |
| 3.           | Block Officers                           | 11  | 2         |
| 4.           | Forest Guards                            | 9   | 5         |
| 5.           | Chowkidar                                | 1/2 | 1         |
| <b>Total</b> |  |     | <b>10</b> |

#### 4.5. Existing infrastructures at Chinji National Park

Table 8 describes the existing residential buildings, office and infrastructures at Chinji National Park

**Table 8:** Existing office and residential buildings and infrastructures at Chinji National Park

| #  | ITEMS                                       | EXISTING  | REMARKS   |
|----|---|-----------|---|
| 1. | Thatti Forest Lodge at Chinji National Park | 01        | Category B Condition – Need upgradation                         |
| 2. | Forest Guard Residence                      | 01        | 05 (old) – Need major upgradation                               |
| 3. | Pond areas                                  | 02        | -   |
| 4. | Jeep road (old)                             | 11 miles  | Need renovation   |
| 5. | Inspection Paths                            | 3-4 miles | Very old, need renovation                                       |
| 6. | Wildlife fenced area in 10 Compartments     | Yes       | Compartments include:<br>23, 48, 51, 52, 53,54, 55, 56, 57, 85, |
| 7. | Boundary pillars                            | Very Few  | Needs to be fixed all around the Reserved Forest                |
| 8. | Pond  | 01        | Old water storage tank near Thatti Forest Lodge                 |
| 9. | SDFO Talagang Office                        | 01        | Need a proper office  |

#### 4.6. Existing assets and transport facilities

Table 9 describes the list of available assets and transport facilities for the staff of Punjab Forest Department deputed directly or indirectly for the protection of Reserved Forest / National Park

**Table 9:** List of available assets for the staff of Punjab Forest Department

| #  | Name of the Post                              | Assets / Transport Available (Nos.) |
|----|---|-------------------------------------|
| 1. | Divisional Forest Officer (DFO) Chakwal       | One Double Cabin                    |
| 2. | Sub-Divisional Forest Officer (SDFO) Talagang | Nil                                 |
| 3. | Block Officer (2 Nos.)                        | Nil                                 |
| 4. | Forest Guards (5 Nos.)                        | Nil                                 |

## **5.0. Issues and Threats**

### **5.1. Forest Fires**

Forest fires break out in the Chinji Reserved Forest during pre monsoon and summer seasons and often destroy precious flora and the prime habitat for wildlife. Most of these fires are initiated by the local communities of the adjoining villages who burn their grasses either for land clearance or for the germination of fresh grass to feed their livestock. This has happened during the last few years and there is a evidence of at least 2-3 such fires in a year. Fortunately, not enough damage has occurred but it may lead to a big disaster if serious considerations are not made.

### **5.2. Firewood Collection**

There are at least six large towns settled on the boundary of the National Park. It has been noticed that the adjoining communities extract fuelwood occasionally from the National Park. It is not a very serious problem at the moment but it is illegal to extract anything from the Reserve Forest or National Park in this case. Through such activities, not only there is a threat of cutting and fire incidences but also a disturbance for the existing wildlife of the area. The area is deficient in alternate sources of fuel and free fuelwood is readily available at the National Park. The fuelwood is collected from the National Park for free. Average use of fuelwood per household is from 1200-1800 kg per month in winter and 600-1000 kg in summer.

### **5.3. Livestock grazing**

Most of the people from adjoining communities bring their domestic livestock to the Reserve Forest / National Park for grazing their livestock. There is no restriction on this activity by the Department. The graziers also collect firewood and grasses on their way back. However, keeping in view the integrity of the National Park, it is not allowed to graze livestock in the area, as it impacts natural regeneration, creates space, habitat and diet competition with wild animals and also has a great risk of disease transmission from wild to domestic animals and vice versa.

### **5.4. Human Resource and its skills for law enforcement**

As previously indicated in Chapter 5, there are only 2 Block Officers and 5 Forest Guards responsible for the protection of more than 15,000 acres of scrub forests. In addition, the field staff is not properly trained in protected areas management and law enforcement. Further, there are incidences of fire and fuelwood collection from the National Park, which may further aggravate the situation. It is important to discuss and highlight the issue of lack of human resources for the protected area and their existing skills for effective law enforcement.

### **5.5. Non-existent boundary pillars**

Either, there are very few boundary pillars available in order to demarcate the boundary of the National Park or these are non-existent. Lack of boundary pillars shows that the area is not delineated and no fixed boundaries exist, which means the area is not well protected. When the boundaries are not fixed, there may be chances of encroachment, illegal extraction of resources, and conflicts with the adjoining communities. Keeping in view the increasing population in the adjoining areas, this may become serious issue if the land of the National Park is not properly protected and demarcated.

### **5.6. Ineffective monitoring due to absence of infrastructure**

Resource monitoring is very essential for effective protected areas management. Population trends of certain key species, vegetation monitoring and protection of resources is not possible without the presence of a working infrastructure. Jeepable roads, inspection pathways, check posts, watch towers and access roads are important components of monitoring the resources i.e. controlling disease and fire incidences, illegal extraction of resources by adjoining local communities, encroachment and many others.

### **5.7. Extraction of Precious Fossils**

Chinji National Park is famous for ancient plant fossils available in Chinji Formation (geological terms). The people who have been visiting this place and who have interest in archaeology take away these fossils from the region, without the knowledge of Park management and information. In addition, it is also not legally allowed to take these fossils away from the National Park. During the extraction process, the habitat of key wildlife species is also damaged and wild animals are also disturbed.

### **5.8. Wildlife Poaching**

Hunting is probably one of the most crosscutting issues in the protected areas. The species most commonly found within and outside the protected area boundary are the partridges and also the Punjab Urial. The presence of agriculture areas in the adjoining areas of the National Park provides an ideal habitat to the partridges and thus seeks a safe refuge within the protected area. Punjab Urial lambs are being illegal poached from the region with the support from local communities.

### **5.9. Non-Timber Forest Produce**

Non-Timber Forest Produce (NTFPs) is one of the most important resources of scrub forest ecosystem. These include collection of firewood and dried grass, brushwood for agricultural equipment, zizyphus fruit, wild olives, sticks, animal fodder etc. The adjoining population exploits the resources in order to satisfy their basic needs providing them the livelihood. The unsustainable harvest, as is the practice, may lead to disastrous socio-ecological consequences in the long run.

### **5.10. Presence of exotic species**

During the field visit, it was observed that a good patch of exotic Eucalyptus species was planted sometimes back and is growing in a good shape. It is always important to not to plant exotic species as it is against the ecological integrity of any ecosystem. It is also vital to avoid exotic species in protected areas especially National Parks, which are considered to be the cornerstone of indigenous biodiversity. In addition, the presence of Mesquite (*Prosopis juliflora*) in the natural forest is also very destroying as it is not only an exotic species but also very invasive that can easily replace the slow growing flora of the scrub forest.

## 6.0. Aims and Objectives of the Management Plan

### 6.1. Vision

Chinji National Park is managed as the flagship of a system of protected areas management in the Punjab province under an approved Management Plan with due ownership of stakeholders. Under the Management Plan, definitive measures are implemented addressing various ecological processes according to the objectives for protection and conservation of natural heritage with enhanced participation of local stakeholders and creating awareness.

### 6.2. Guidelines for the Management Plan

In the process of development of the Management Plan, due consideration was given to various guidelines accepted globally with special reference to protected area management.

Moreover, management guidelines, which were kept in view for formulation of general and specific objectives of the management plan for Chinji National Park, are as under:

- a. An adequate situation analysis has been made to identify the core areas requiring special consideration in order to prioritize the same in the objectives.
- b. The management objectives were formulated with appropriate linkages with the issues being confronted in the National Park
- c. Special circumstances were taken into account which could help considerably in meeting the overall objectives of the protected area
- d. With the aim of providing ownership to the Management Plan, the gaps identified by the stakeholders were given due weightage

### 6.3. General objectives

The general objectives of the Chinji National Park management plan provides an overview of the outcomes of management options proposed in the plan:

- I. Flora and fauna are successfully protected along with the supplementation wherever necessary
- II. The prime habitat for wildlife in the core area has been restored and maintained
- III. The Chinji Reserved Forest has been notified as protected area for Punjab
- IV. Necessary infrastructure and institutional interventions including policy measures have been accomplished successfully.
- V. Management of Chinji National Park is based on the participatory and active involvement of all stakeholders including the local communities
- VI. Mass awareness and education of private and public functionaries has been created in terms of achievement of desired results for better management of Chinji National Park in the long term
- VII. Enabling environment for preservation and conservation of Chinji National Park has been developed with potential of further enhancement
- VIII. Road map for scientific research and studies has been developed for periodic monitoring of the Chinji National Park
- IX. Effective mechanism of monitoring and evaluation of implementation of management plan is in place

### 6.4. Specific objectives

The specific objectives define a mechanism and way forward towards achieving the general objectives. These objectives also focus on identification of special management activities for overall implementation of the management plan.

- I. The area of Chinji National Park, which is also the Reserved Forest, has been earmarked with GPS coordinates together with fixation of boundary pillars and legal notification.
- II. Enforcement of legislation is strengthened through institutional development with additional human resource and their capacity building at all levels.

- III. The available baseline data of selected flora and fauna has been collected for temporal studies for annual monitoring and evaluation of the results of the management plan.
- IV. Appropriate numbers of CBOs have been registered representing the stakeholder communities for meaningful interaction regarding optimal utilization of natural resources of Chinji National Park.
- V. Local Communities are organized into village level conservation committees for improved collaborative management of natural resources of the Chinji National Park and to reduce harmful practices.
- VI. The habitat enrichment activities in the Reserved Forest completed as well as necessary measures taken for rescue of animals in case of fire and flood incidences.
- VII. Species-specific management plans in the Reserved Forest for flora and fauna has been prepared and implemented.
- VIII. An appropriate reintroduction plan for viable population of special interest animal and plant species developed and implemented.
- IX. The Chinji National Park Management Committee notified with representation of all stakeholders and clear TORs to monitor, suggest means and facilitate the implementation of management plan under the overall supervision of Provincial Protected Areas Management Committee.
- X. The mass awareness level of public in general and local communities in particular is enhanced for effective management of resources through implementation of strategic plan proposed for the purpose in the Management Plan.
- XI. An Information Center is established at Chinji National Park for promotion of tourism and Education Center catering the needs of dissemination of tourism related information in collaboration with government departments.
- XII. Effective liaison is developed with different academia and research institutions for scientific studies on species and habitat management to ensure an integrated and coordinated effort.
- XIII. The proposed infrastructure interventions completed for effective protection regime and improvement of habitat of birds and animals at Chinji National Park.
- XIV. Various collaborative avenues for financial and management inputs are explored through developing partnership and establishing linkages with local, national and international donors and partners including big industries under their Corporate Social Responsibility (CSR).

#### **6.5. Duration of the Management Plan**

The commencement of implementation phase of the plan has been proposed during the financial year 2020-21, commencing from 1<sup>st</sup> July 2020. All the necessary interactive sessions including approval of plan with endorsement of stakeholders shall be completed by 30<sup>th</sup> June 2020. The duration of the management plan will be 96 months (Eight years i.e. July 2020 to June 2028).

#### **6.6. Monitoring & Evaluation**

The process of Monitoring and Evaluation is vital to ascertain the extent of implementation of prescriptions of the Management Plan. It provides an opportunity of focusing on issues devoid of appropriate attention during the implementation phase. The monitoring mechanism also suggests changes in the Management Plan if required over a period of time, making the implementation process efficient and flexible.

Broadly speaking, the interventions proposed in the Management Plan are basically the work plans to achieve the desired objectives. It is imperative to study, whether through the implementation of the Management Plan, the objectives are met with expected outcomes. It refers to a process termed as Evaluation. Evaluation could be conducted during the implementation phase as well as after the completion period of Management Plan.

It is recommended that the annual monitoring exercise should be conducted by the Punjab Forest Department through the Chinji National Park Management Committee formulated at local level. The first four annual monitoring reports will be useful during the midterm review of the plan, while all the eight reports will serve as informative data in formulation of complete evaluation of the Management Plan.

In order to develop a broader guidance for monitoring, it is suggested that the time period of the interventions proposed in the Management Plan can be considered as a standing yardstick. All the interventions with short-term time period may be monitored & evaluated during the first two years, while medium term time period in the next 3 years. Likewise, the interventions with long term time period should

be considered in sixth, seventh and eighth year of the gestation period of the Plan. However, the backlog of each time interval can be evaluated in the subsequent interval.

### **6.7. Revision of the Management Plan**

The implementation mechanism of prescriptions proposed in the Management Plan is discussed in Chapter-9. The proposed interventions are also assigned priority for their execution including the relevant organizations responsible for undertaking each activity.

It is recommended that beside quarterly meetings of the Chinji National Park Management Committee, annual meeting at provincial level will also be held to have an overview of the implementation process and suggest proposal for timely completion of targets. After the expiry of 48 months, a general meeting at provincial capital Lahore will be held as a mid-term review to be participated by all the members of the Chinji National Park Management Committee and stakeholders at provincial level. The mid-term review of the Management Plan will suggest necessary modification for revision of the management plan for the second half of its gestation period, if considered appropriate.

## 7.0. Management Plan of Chinji National Park

Chinji Reserved Forest is also the National Park has so far been managed primarily by Punjab Forest Department following a traditional system of management focused only on protecting and improving the existing forests. The Management Plan proposes a collaborative approach in the management paradigm.

It is the first Management Plan of the Chinji National Park, which will of course sets the basis for further work and it will provide the Punjab Forest Department and Punjab Wildlife and Parks Department an opportunity to improve and enhance the status of the resources of the Park. Earlier neither any management objectives were formally framed nor any consideration was made for collaborative management. During the preparation of the Management Plan, focus was made on basic issues of protection and conservation of the Park and its resources along with interventions focused on communities' engagement, ecotourism, research, awareness and staff capacity enhancement. Similarly, the involvement of Pakistan Army in its management has been ignored and therefore, mechanism is proposed for taking them on board in decision-making process. It is believed that the isolated interventions based on purely departmental priorities will not work in the National Park.

While framing the interventions special consideration was given to make them doable within the available resources with the stakeholder departments. To begin with the first Management Plan for the protected area, effort has been made to avoid a long wish list of interventions. It is due to the reason that the period of Management Plan has also been kept as 8 years. The periodic monitoring and evaluation will lead to understand the magnitude of success of implementation process. Based on the lessons learnt, the next Management Plan could be prepared with wider objectives and more expansion in the scope of interventions.

The management activities / interventions have been designed to address the issues and threats described in the previous chapters and in pursuit of management objectives (general as well as specific) already laid down. They provide guidelines for the Chinji National Park administration at different levels when drawing work programmes for the future day-to-day management. Management activities / interventions have been grouped into following nine categories:

1. Policy related interventions for Chinji National Park
2. Institutional development related interventions for Chinji National Park
3. Infrastructure development related interventions for Chinji National Park
4. Habitat management related interventions for Chinji National Park
5. Wildlife management related interventions for Chinji National Park
6. Social mobilisation related interventions for Chinji National Park
7. Communication, public awareness and education related interventions for Chinji National Park
8. Tourism and recreation related interventions for Chinji National Park
9. Research needs related interventions for Chinji National Park

A total of 84 interventions have been prescribed in nine different categories and are prioritised according to High, Medium and Low priority. Similarly, time period for the implementation of these interventions have also been fixed according to Short Term (< 2 years), Medium Term (>2 years - <5 years) and Long Term (>5 years – 8 years). For each intervention, primary and secondary responsibilities are also fixed, so that appropriate arrangements are made to implement these interventions with more clarity. In addition, estimated budget against each prescriptions have been mentioned in order to implement interventions accordingly.

## 8.0. Implementation of Management Plan of Chinji National Park

### 8.1. Policy prescriptions

The Management Plan has been prepared formally; it could be appropriate to identify certain policy issues to be addressed in the proposed interventions. These policy decisions mainly require action by various stakeholders including establishment of an independent local level committee making it responsible for implementation of the Plan. Similarly, decisions are also required to review various legal documents and agreements for necessary changes inconsonance to the present needs of the National Park. Table 10 describes the policy related prescriptions for Chinji National Park.

**Table 10:** Policy development related prescriptions for Chinji National Park

| # | Major Interventions                       | Prescriptions   | Responsibilities                     |                          | Priority | Time Period | Budget (Million PKR) |
|---|---|---|--------------------------------------|--------------------------|----------|-------------|----------------------|
|   |   |   | Primary                              | Secondary                |          |             |                      |
| 1 | Provincial Forest Policy                  | Provincial Forest Policy after approval from the provincial cabinet should have a detailed Implementation Framework (2020-2030), with specific focus on Protected Areas Management and protection of Reserved Forests, which are considered as biodiversity hotspots within the province. The implementation framework need to be developed in consultation with all the major stakeholders to ensure effective implementation of the Provincial Forest Policy  | Punjab Forest Department             | -                        | High     | Medium Term | 04                   |
| 2 | Notification of the National Park         | The GIS based notification of the Reserved Forest / National Park need to be developed and issued by the Punjab Forest Department in collaboration with its GIS lab   | Punjab Forest Department             | -                        | High     | Short Term  | 02                   |
| 3 | Chinji National Park Management Committee | Punjab Wildlife and Parks Department will notify a Management Committee along with suggested TORs comprising of Punjab Forest Department, Punjab Wildlife and Parks Department, Pakistan Army, Representative of the Local Community, and members of the nationally recognized Non-Government Organisations. The first meeting of the Chinji National Park Management Committee is recommended to be held at the provincial headquarter, during which the implementation plan will be explained to all members by the Director General, Punjab Wildlife and Parks Department. | Punjab Wildlife and Parks Department | Punjab Forest Department | Medium   | Short Term  | 0.10                 |

| # | Major Interventions  | Prescriptions  | Responsibilities                     |                                      | Priority | Time Period | Budget (Million PKR) |
|---|--|--|--------------------------------------|--------------------------------------|----------|-------------|----------------------|
|   |  |  | Primary                              | Secondary                            |          |             |                      |
| 4 | Ownership of the management plan by the Punjab Wildlife and Parks Department | The successful prescriptions of the Management Plan entirely depend upon the true ownership of it by all the stakeholders. Followed by the approval of the Management Plan, Punjab Wildlife and Parks Department being the principal stakeholder will notify a focal person by designation at the provincial level to ensure the effective follow up throughout the gestation period of eight years. | Punjab Wildlife and Parks Department | Punjab Forest Department             | High     | Short Term  | 0.80                 |
| 5 | Strategy for Implementation of the Management Plan                           | Punjab Wildlife and Parks Department will prepare a development project for a period of at least three years for the implementation of the Management Plan to cater the need of additional staff, their capacity building and conservation of desired infrastructure.  | Punjab Wildlife and Parks Department | Punjab Forest Department             | High     | Medium Term | 01                   |
| 6 | Management Plan for other Protected Areas or Punjab                          | Followed by the approval of Management Plan of Chinji National Park, Punjab Wildlife and Parks Department should initiate the process of preparation of Management Plans for all the National Parks in particular and other protected areas in general in Punjab.  | Punjab Wildlife and Parks Department | -                                    | Medium   | Long Term   | 15                   |
| 7 | Assess the implementation status of the Management Plan                      | Annual Review Meetings should be organized to review and assess the implementation status of the management plans of the protected areas in the province.  | Punjab Forest Department             | Punjab Wildlife and Parks Department | Medium   | Long Term   | 0.80                 |
| 8 | Provincial Level PA Management Committee                                     | Provincial Protected Areas Management Committee to be established to review the progress and implementation status of the forest and wildlife policies and frameworks  | Punjab Wildlife and Parks Department | Punjab Forest Department             | Medium   | Long Term   | 01                   |
| 9 | Empowering and strengthening field staff                                     | Provincial Forest Policy and the Punjab Forest Act need to be translated into Urdu for easy understanding of the field staff and to further empower and strengthen their capabilities. Regular refresher courses and trainings should be provided at Divisional Level to reach at the lowest level of enforcement  | Punjab Forest Department             | Punjab Wildlife and Parks Department | High     | Short Term  | 04                   |

| #            | Major Interventions                    | Prescriptions   | Responsibilities                     |                          | Priority | Time Period | Budget (Million PKR) |
|--------------|--|---|--------------------------------------|--------------------------|----------|-------------|----------------------|
|              |  |   | Primary                              | Secondary                |          |             |                      |
| 10           | Revision of Protected Areas Boundaries | Protected Areas boundaries within the province need to be revised keeping in the view the species habitat and their home range requirements. An evaluation of the Protected Areas in this context is vital to understand their roles in conserving biodiversity of the province | Punjab Wildlife and Parks Department | Punjab Forest Department | Medium   | Long Term   | 05                   |
| <b>Total</b> |  |   |                                      |                          |          |             | <b>33.70</b>         |

## 8.2. Institutional Development Prescriptions

Difficulties in monitoring law enforcement were mainly attributable to lack of equipment and staff skills. The National Park was seen to lack financial support to enable better enforcement practices through staff employment and training. Punjab Forest Department and Punjab Wildlife and Parks Department staff requires improved training, equipment and support to patrol the area. Area of the National Park, being mountainous in nature, is not easy to monitor without adequate equipment and field facilities. The long-term financial security of the National Park could be rated as dismal although its legal security as a National Park and Reserve Forest is considered adequate. The main problem identified is the area being managed by Punjab Forest Department as a Reserve Forest but Punjab Wildlife and Parks Department has no presence despite the area being notified as a National Park. This lack of human resources and coordination between Punjab Forest Department and Punjab Wildlife and Parks Department needs to be resolved through a meaningful dialogue that enables enforcement of Punjab Wildlife Act. Without resolving the management issues, little can be expected in terms of enforcement of legal conditions enforceable for the protection of a Reserve Forest and the National Park. Table 11 describes the institutional developed related prescriptions for Chinji National Park.

**Table 11:** Institutional development related prescriptions for Chinji National Park

| # | Major Interventions   | Prescriptions  | Responsibilities                     |                          | Priority | Time Period | Budget (Million PKR) |
|---|---|--|--------------------------------------|--------------------------|----------|-------------|----------------------|
|   |   |  | Primary                              | Secondary                |          |             |                      |
| 1 | Focal Point for Management Plan implementation              | Punjab Wildlife and Parks Department will notify its Deputy Director Wildlife, Salt Range as overall responsible for the implementation of the Management Plan, in close coordination with the Sub-divisional Forest Officer, Punjab Forest Department, based at Talagang. | Punjab Wildlife and Parks Department | Punjab Forest Department | High     | Short Term  | 0.80                 |
| 2 | Implementation of Punjab Wildlife Act, 1974 by stakeholders | Punjab Wildlife and Parks Department will translate the Punjab Wildlife Act in Urdu, vetted by legal/law department for easy understanding by the local field staff and communities ensuring effective enforcement   | Punjab Wildlife and Parks Department | Punjab Law Department    | Medium   | Medium Term | 02                   |

| # | Major Interventions  | Prescriptions  | Responsibilities                     |                                      | Priority | Time Period | Budget (Million PKR) |
|---|--|--|--------------------------------------|--------------------------------------|----------|-------------|----------------------|
|   |  |  | Primary                              | Secondary                            |          |             |                      |
| 3 | Enhancing coordination at the local level                                  | Punjab Wildlife and Parks Department and Punjab Forest Department will organize quarterly meetings in order to define the roles and responsibilities of both the departments and to address the issues related to coordination and ambiguities in roles.   | Punjab Wildlife and Parks Department | Punjab Forest Department             | High     | Long Term   | 1.6                  |
| 4 | Field staff recruitment for specific jobs                                  | The present staff of the Punjab Wildlife and Parks Department is to be brought upto the strength required to implement the management and development requirements of the National Park. The existing and proposed increase in the staff of both the Departments is shown in Table 12 and Table 13   | Punjab Wildlife and Parks Department | Punjab Forest Department             | High     | Medium Term | 16                   |
| 5 | Field Equipment and Tools for effective monitoring                         | The Staff of Punjab Forest Department and Punjab Wildlife and Parks Department shall be equipped with necessary equipment and tools required for effective monitoring of the resources. The existing and proposed equipment and tools is shown in Table 14   | Punjab Wildlife and Parks Department | Punjab Forest Department             | High     | Short Term  | 04                   |
| 6 | Enhancing staff capacity to address immediate threats to the National Park | The staff of the Punjab Forest Department deployed at Chinji Reserve Forest may be provided formal training to combat forest fires. In this regard, an action plan or SOP could be developed to avoid any panic situation in case of fire incidences.  | Punjab Forest Department             | -                                    | High     | Short Term  | 02                   |
| 7 | Training in Protected Areas Planning and Management                        | The staff of Punjab Wildlife and Parks Department needs to be trained in Protected Areas planning and management apart from law enforcement. Special modules be developed and selected staff be trained at the newly established Ghora Gali Forest School / Academy. Help can also be sought from nationally registered Non-Governmental Organisations in developing the training module | Punjab Forest Department             | Punjab Wildlife and Parks Department | Medium   | Medium Term | 03                   |

| #            | Major Interventions  | Prescriptions   | Responsibilities                     |                                      | Priority | Time Period | Budget (Million PKR) |
|--------------|--|---|--------------------------------------|--------------------------------------|----------|-------------|----------------------|
|              |  |   | Primary                              | Secondary                            |          |             |                      |
| 8            | Individual work planning for implementation of management plan | After the approval of the management plan, the local staff of both the Departments needs to develop their monthly work plan for the implementation of management plan of the Chinji National Park. It will enhance the level of responsibility and ensure implementation of the interventions   | Punjab Forest Department             | Punjab Wildlife and Parks Department | High     | Short Term  | 02                   |
| 9            | Strengthening law enforcement                                  | The law enforcement issues will be addressed, in terms of their effectiveness and clarity in understanding and adequate enforcement, in quarterly meeting to be participated by both the Departments.   | Punjab Forest Department             | Punjab Wildlife and Parks Department | Medium   | Long Term   | 02                   |
| 10           | Financial sustainability of the National Park                  | This is in addition to regular funding received for development and non-development interventions.<br><br>An assignment account of Chinji National Park will be opened with National Bank of Pakistan for deposit of funds obtained through various sources including donations by corporate sector, NGOs, Academia for subsequent utilization towards the improvement of Chinji National Park. The Deputy Director Wildlife at Salt Range will operate the account on the recommendations of Chinji National Park Management Committee and after approval by Director General, Punjab Wildlife and Parks Department. | Punjab Wildlife and Parks Department | -                                    | Low      | Long Term   | 01                   |
| <b>Total</b> |  |   |                                      |                                      |          |             | <b>34.4</b>          |

**Table 12:** Existing and proposed increase in the field staff of Punjab Wildlife and Parks Department at Chinji National Park

| #            | NAME OF POST                                 | BPS | EXISTING | INCREASE |
|--------------|--|-----|----------|----------|
| 1.           | Education Officer (Chinji National Park)     | 17  | -        | 1        |
| 2.           | Assistant Director, Wildlife (Chakwal)       | 17  | -        | 1        |
| 3.           | Head Wildlife Watcher (Chinji National Park) | 7   |          | 1        |
| 4.           | Wildlife Inspector                           | 9   | -        | 2        |
| 5.           | Wildlife Watcher                             | 5   | ??       | 5        |
| <b>Total</b> |  | -   | -        | 10       |

**Table 13:** Existing and proposed increase in the field staff of Punjab Forest Department at Chinji Reserve Forest

| #            | NAME OF POST                             | BPS | EXISTING  | INCREASE |
|--------------|--|-----|-----------|----------|
| 1.           | Divisional Forest Officer (Chakwal)      | 18  | 1         | -        |
| 2.           | Sub-Divisional Forest Officer (Talagang) | 17  | 1         | -        |
| 3.           | Block Officers                           | 11  | 2         | -        |
| 4.           | Forest Guards                            | 9   | 5         | 3        |
| 5.           | Chowkidar                                | 1/2 | 1         | 1        |
| 6.           | Sweeper                                  |     | 0         | 1        |
| 7.           | Gardner                                  |     | 0         | 1        |
| 8.           | Cook                                     |     | 0         | 01       |
| <b>Total</b> |  | -   | <b>10</b> | <b>6</b> |

**Table 14:** Details of necessary equipment and tools for Punjab Forest Department and Punjab Wildlife and Parks Department at Chinji National Park / Reserved Forest

| #  | Equipment and Tools                      | Available (Nos.) | Proposed (Nos.) |
|----|--|------------------|-----------------|
| 1  | Forest Fire Kits                         | Nil              | 03              |
| 2  | Global Positioning System (GPS) Handsets | Nil              | 10              |
| 3  | Camera / Smart Phones                    | Nil              | 10              |
| 4  | Binoculars                               | Nil              | 10              |
| 5  | Walky Talky sets                         | Nil              | 10              |
| 6  | Chargeable Search Lights                 | Nil              | 10              |
| 7  | Uniforms (winters and summers)           | Yes              | 2 Nos. Each     |
| 8  | Computers (Laptops) with Printers        | Nil              | 02 Sets         |
| 9  | Multi-media                              | Nil              | 01              |
| 10 | Hiking Shoes and survival kit            | Nil              | 10              |

### 8.3. Infrastructural Development Prescriptions

Since the establishment of Chinji National Park, there is no formal office of Wildlife Department exclusively responsible for the affairs of Chinji National Park. The District Wildlife Officer has his office at district headquarter, Chakwal, while the National Park is left at the mercy of lower supervisory field staff. Hence, it is imperative to have an independent set up of Punjab Wildlife and Parks Department ensuring the presence of officers and staff of the Department at site all the time. Necessary recommendations in this respect have been proposed in the Management Plan. The area under Chinji National Park is big and being mountainous in nature, it needs regular patrolling and checking for effective enforcement. In order to ensure adequate surveillance the establishment of new check posts and watch towers are essentially required in the area. The Punjab Forest Department has already established a Rest House cum information center at the entrance of the National Park with some basic facilities. An additional plan has been incorporated in the Management Plan for its up-gradation and enhancement in services to be provided at the Rest House cum center. Some other infrastructural interventions could also be made e.g. ponds, inspection road/paths, while boundary pillars are also proposed as permanent infrastructures for identification of legal boundary of Chinji National Park. Table 15 describes the infrastructural development related prescriptions for Chinji National Park.

**Table 15:** Infrastructure development related prescriptions for Chinji National Park

| # | Major Interventions  | Prescriptions   | Responsibilities         |                                      | Priority | Time Period | Budget (Million PKR) |
|---|--|---|--------------------------|--------------------------------------|----------|-------------|----------------------|
|   |  |   | Primary                  | Secondary                            |          |             |                      |
| 1 | Renovation of existing / depleted building                   | Some depleted buildings (Wildlife Watcher/Forest Guard huts) are present at site, which should be made functional by providing adequate funds after doing some necessary renovations. This is important to keep the presence of staff of both the departments in the field.                       | Punjab Forest Department | Punjab Wildlife and Parks Department | High     | Medium Term | 04                   |
| 2 | Thatti Rest House upgradation                                | The existing Rest House cum Information Centre will be upgraded through Civil Works and necessary articles / furniture will be provided at the information centre / Rest House to make it functional. The details are shown in Table 16 and 18.   | Punjab Forest Department | Punjab Wildlife and Parks Department | High     | Short Term  | 05                   |
| 3 | Provision of Transport Facilities                            | The most important impediment for effective watch and ward and enforcement is the inadequate facilities for staff regarding mobility to cover the entire area of Chinji National Park. In order to cater the requirements, provision of transportation has been recommended as shown in Table 17. | Punjab Forest Department | Punjab Wildlife and Parks Department | High     | Short Term  | 08                   |
| 4 | Fixing Boundary Pillars                                      | For maintaining the sanctity of the area under Chinji Reserve Forest / National Park and public awareness, boundary pillars shall be erected all along the boundary of the Protected Area with recorded GPS coordinates of each pillar and later shown on a GIS based map.                        | Punjab Forest Department | -                                    | High     | Short Term  | 04                   |
| 5 | Watch Towers to monitor National Park                        | The core area of the Reserve Forest is a potential habitat of Punjab Urial population and also vulnerable to fire incidences. It is proposed to establish at least five watchtowers in the core area for monitoring the fire as well as monitoring any illegal activities (Table 19).             | Punjab Forest Department | Punjab Wildlife and Parks Department | Medium   | Medium Term | 3.5                  |
| 6 | Upgradation of an existing water pond near Thatti Rest House | One existing water body be renovated and improved to provide a continuous supply of water to the Rest House and residential buildings of forest guards. This will also ensure the presence of staff in the area throughout the year (Table 19).   | Punjab Forest Department | -                                    | Medium   | Medium Term | 02                   |

| #            | Major Interventions                                       | Prescriptions   | Responsibilities         |                                      | Priority | Time Period | Budget (Million PKR) |
|--------------|---|---|--------------------------|--------------------------------------|----------|-------------|----------------------|
|              |   |   | Primary                  | Secondary                            |          |             |                      |
| 7            | Mini Dam for Soil and Water Conservation                  | A small water retention pond/mini dam will be developed for soil and water conservation at a specified location in order to support dry afforestation as well as water for wildlife of the Park (Table 19).                                   | Punjab Forest Department | -                                    | Medium   | Long Term   | 2.50                 |
| 8            | Check Posts   | At least three check posts should be built at the access points of Chinji National Park in order to effectively control poaching incidences.  | Punjab Forest Department | Punjab Wildlife and Parks Department | Medium   | Medium Term | 03                   |
| 9            | Main Entrance Gate of the National Park                   | Main entrance gate of the National Park / Reserve Forest will be built with natural material with simple look e.g. Yellow Stone National Park Entrance Gate. This should be erected at the main entrance of the Thatti Rest House (Table 19). | Punjab Forest Department | Punjab Wildlife and Parks Department | High     | Short Term  | 02                   |
| 10           | Access road to Thatti Forest Rest House and Parking Place | A nice parking place near Thatti Forest Rest House and the renovation of 400 m long access road to Thatti Forest Rest House should be constructed.  | Punjab Forest Department | -                                    | High     | Short Term  | 01                   |
| 11           | Jeepable Track crossing Reserve Forest                    | An 11-mile long existing jeepable track crossing the entire forest needs extensive renovation for effective watch and ward (Table 19).  | Punjab Forest Department | Punjab Wildlife and Parks Department | High     | Short Term  | 05                   |
| 12           | Inspection Pathways upgradation                           | At least four inspection pathways need to be renovated that emanates from the 11-mile long jeepable track (Table 19).   | Punjab Forest Department | -                                    | High     | Short Term  | 02                   |
| <b>Total</b> |   |   |                          |                                      |          |             | <b>42.0</b>          |

**Table 16:** Detail of necessary articles and furniture for Thatti Rest House at Chinji National Park

| #  | Equipment and Tools           | Available (Nos.) | Proposed (Nos.) |
|----|-------------------------------|------------------|-----------------|
| 1  | Single Beds with mattresses   | Nil              | 04              |
| 2  | Additional mattresses         | Nil              | 04              |
| 3  | Room Chairs                   | Nil              | 04              |
| 4  | Room Tables                   | Nil              | 02              |
| 5  | Generator (Thatti Rest House) | Nil              | 01              |
| 6  | LED TVs for two rooms         | Nil              | 02              |
| 7  | Chargeable Lights for rooms   | Nil              | 02              |
| 8  | Bed sheets                    | Nil              | 08              |
| 9  | Blankets                      | Nil              | 08              |
| 10 | Dinner Sets                   | Nil              | 02              |
| 11 | Tea Sets                      | Nil              | 02              |
| 12 | Towels (washrooms)            | Nil              | 08              |
| 13 | Sleepers                      | Nil              | 04              |
| 14 | Pillows                       | Nil              | 12              |
| 15 | Cooking Utensils (sets)       | Nil              | 02              |

| #  | Equipment and Tools                  | Available (Nos.) | Proposed (Nos.) |
|----|--------------------------------------|------------------|-----------------|
| 16 | Gas Cylinders                        | Nil              | 02              |
| 17 | Dinning Table with 8 chairs          | Nil              | 01              |
| 18 | Sofa sets with cushions              | Nil              | 02              |
| 19 | Side Tables and Centre Tables (sets) | Nil              | 03              |
| 20 | Cutlery sets with stands             | Nil              | 02              |

**Table 17:** Existing and proposed transportation facilities at Chinji National Park

| # | ITEM                 | EXISTING                       | PROPOSED                                    |
|---|----------------------|--------------------------------|---|
| 1 | Motor Cycles         | Nil                            | 10 (2 Block Officers; 8 Forest Guards)      |
| 2 | Motor Cycles         | Nil                            | 08 (Wildlife Watchers; Wildlife Inspectors) |
| 3 | Single Cabin Pick Up | -                              | 01 (Sub-Divisional Forest Officer)          |
| 4 | Double Cabin Pick Up | 01 (Divisional Forest Officer) | -   |
| 5 | Tractor Trolley      | 0                              | 01  |
| 6 | Van                  | 0                              | 01  |

**Table 18:** Details of necessary equipment for Conference Hall of the Thatti Rest House cum Information Centre at Chinji National Park

| #  | Equipment and Tools             | Available (Nos.) | Proposed (Nos.) |
|----|---------------------------------|------------------|-----------------|
| 1  | White Boards                    | Nil              | 02              |
| 2  | Rostrum                         | Nil              | 01              |
| 3  | Hall chairs for students        | Nil              | 50              |
| 4  | Refrigerator                    | Nil              | 01              |
| 5  | Generator (Thatti Rest House)   | Nil              | 01              |
| 6  | LED TV                          | Nil              | 01              |
| 7  | Multi media                     | Nil              | 01              |
| 8  | Chargeable Lights               | Nil              | 05              |
| 9  | Audio / Video Equipment         | Nil              | 01              |
| 10 | Exhibits for Information Centre | Nil              | 10              |

**Table 19:** Existing and proposed office and residential buildings and infrastructures at Chinji National Park

| #  | ITEM  | EXISTING  | PROPOSED   |
|----|---|-----------|--|
| 1  | Thatti Forest Lodge at Chinji National Park | 01        | Category B Condition and renovation requested                        |
| 2  | Forest Guard Residence                      | 01        | 05   |
| 3  | Wildlife Watchers Residence                 | 00        | 05   |
| 4  | Pond areas                                  | 02        | 00   |
| 5  | Mini Dam                                    | 00        | 01   |
| 6  | Jeep road (old)                             | 11 miles  | Renovation requested   |
| 7  | Inspection Pathways                         | 3-4 miles | Very old, need renovation  |
| 8  | Wildlife fenced area in 10 Compartments     | Yes       | Compartments include:<br>23, 48, 51, 52, 53,54, 55, 56, 57, 85       |
| 9  | Boundary pillars                            | <20       | Very few exists but needs to be fixed all around the Reserved Forest |
| 10 | Pond  | 01        | Old water storage tank near Thatti Forest Lodge                      |
| 11 | SDFO Talagang Office                        | 01        | Need a proper office   |
| 12 | Check Posts                                 | 00        | 02   |
| 13 | Watch Towers                                | 00        | 05   |
| 14 | Site Office                                 | 00        | 01   |
| 15 | Information Centre / Thatti Rest House      | 01        | Renovation   |
| 16 | Renovation of Existing Conference Hall      | 01        | Renovation   |

#### 8.4. Habitat Management Prescriptions

The local communities of Chinji National Park to a greater extent depend on the natural resources of the Park for their livelihood. Despite the restriction imposed by Punjab Wildlife Act, local communities have been

extracting fuel wood, fodder and other non-timber forest products (NTFPs) from the Park for subsistence purposes, which in fact has been causing damage to the Scrub Forest ecosystem of the protected area. Forest fires, illegal hunting, grazing, illicit cutting for fuel wood, forage and NTFPs extraction are few recorded ecological threats to the Park, mostly stemming from the management and socio-economic issues such as confused state of ownership, lack of coordination, weak enforcement of laws, increasing poverty, limited livelihood options and lack of information and awareness.

**Table 20:** Habitat management related prescriptions for Chinji National Park

| #            | Major Interventions                              | Prescriptions   | Responsibilities                     |                                      | Priority | Time Period | Budget (Million PKR) |
|--------------|--|---|--------------------------------------|--------------------------------------|----------|-------------|----------------------|
|              |  |   | Primary                              | Secondary                            |          |             |                      |
| 1            | Water Points to improve habitat for wild animals | The water bodies in the core zone of Chinji National Park and others will be replenished through improved watershed management to have sufficient water for all seasons. At present, there are two considerable sized water ponds and a potential mini dam in the Park. Plantation of local tree / shrubs species shall be carried out around these ponds to provide habitat for nesting of birds and also for large mammals. | Punjab Forest Department             | Punjab Wildlife and Parks Department | High     | Medium Term | 04                   |
| 2            | GIS based Mapping                                | GIS based maps of all these ponds will be prepared for identification and study purposes to see their impacts on wildlife   | Punjab Forest Department             | -                                    | High     | Medium Term | 01                   |
| 3            | Habitat Quality                                  | Habitat quality should be enhanced by carrying out dry afforestation at empty patches within the National Park. This will not only enhance the forest cover, but will also support soil conservation and water replenishment.   | Punjab Forest Department             | -                                    | High     | Long Term   | 10                   |
| 4            | Grazing Management                               | With the assistance of Chakwal Range Management division of Punjab Forest Department, the entire Chinji National Park will be surveyed for selection of suitable sites for reseeding intervention of perennial grasses for domestic and wild species in the core and buffer area.   | Punjab Forest Department             | -                                    | Medium   | Medium Term | 02                   |
| 5            | Strategy to minimize fire risks                  | Through local interaction, information will be gathered regarding the specific season, causes and frequency of fire incidences in the forest area. Based on the information, necessary strategic plan will be prepared to minimize the risk.  | Punjab Forest Department             | Communities, CBOs                    | High     | Short Term  | 02                   |
| 6            | Salting Points                                   | At least 6-8 salting points be established within the Park for the local wildlife. This is important to meet the sodium requirements of the animals   | Punjab Wildlife and Parks Department | Punjab Forest Department             | Medium   | Short Term  | 01                   |
| <b>Total</b> |  |   |                                      |                                      |          |             | <b>20.0</b>          |

### 8.5. Wildlife Management Prescriptions

There is no authentic report of wildlife of Chinji National Park. Even the Punjab Urial is not properly studied within the Park. A very few research studies are available on Chinji Formation, and flora of the Park but there is no records of fauna of the Park. However, the wildlife species listed here comes from the general wildlife of the surrounding regions and the threats faced by them. The wildlife especially Punjab Urial is susceptible to illegal hunting. The high hunting pressure is due to the fact that the surrounding areas of the Park are inhabited by a large number of people living in nine different settlements. Table 21 describes a few interventions related to wildlife management of the Chinji National Park.

**Table 21:** Wildlife management related prescriptions for Chinji National Park

| #            | Major Interventions                          | Prescriptions  | Responsibilities                     |   | Priority | Time Period | Budget (Million PKR) |
|--------------|--|--|--------------------------------------|---|----------|-------------|----------------------|
|              |  |  | Primary                              | Secondary   |          |             |                      |
| 1            | Regular Surveys of Punjab Urial              | Regular surveys (Summer and Rut Season) of Punjab Urial in the surrounding areas of Chinji National Park should be conducted to determine its population status and trends. This is important to note that increase in Urial population will find safe habitat in the Chinji National Park but there is a need to define ecological corridors. | Punjab Wildlife and Parks Department | Zoological Survey of Pakistan, Pakistan Museum of Natural History, WWF-Pakistan | High     | Short Term  | 3.2                  |
| 2            | Reintroduction of Punjab Urial               | A comprehensive assessment of the Chinji National Park should be carried out in order to determine the presence or absence of the Punjab Urial. A proper strategy needs to be devised to reintroduce Punjab Urial (Using IUCN Reintroduction Guidelines) in the Park and watch and ward is strengthened to protect the individuals.            | Punjab Wildlife and Parks Department | WWF-Pakistan, IUCN Pakistan,  | Medium   | Long Term   | 04                   |
| 3            | Wildlife Distribution, Habitat and Abundance | Establish a database on the distribution, habitat, abundance and behavior of wildlife species, both resident and migratory especially for species of concern. Based on the above data recommendation shall be framed for any proposed changes and alteration in the boundaries of Chinji National Park.  | Punjab Wildlife and Parks Department | Pakistan Museum of Natural History, Zoological Survey of Pakistan, WWF-Pakistan | Medium   | Long Term   | 05                   |
| 4            | Enhancing habitat for wildlife               | Artificial salt lick spots should be developed at selected sites within the Park in order to attract adjoining Punjab Urial population in the Reserve Forest.  | Punjab Wildlife and Parks Department | -   | Medium   | Medium Term | 01                   |
| <b>Total</b> |  |  |                                      |   |          |             | <b>13.2</b>          |

### 8.6. Social Mobilization Prescriptions

There are more than 80,000 people living outside the protected areas in nine different villages in its northern and southern boundaries. There are several organisations that have been active in the region for mobilizing communities. It is important to discuss with the communities about their possible engagement and a role that can benefit not only to them but also to the National Park and its resources. So far, only communities

have been on the receiving end and enjoying free benefits from Parks ecosystem services, but their role needs to be enhanced for effective protection of the area. Table 22 describes the role of communities in the management of the Chinji National Park.

**Table 22:** Social mobilisation related prescriptions for Chinji National Park

| # | Major Interventions   | Prescriptions  | Responsibilities         |  | Priority | Time Period | Budget (Million PKR) |
|---|---|--|--------------------------|--|----------|-------------|----------------------|
|   |   |  | Primary                  | Secondary  |          |             |                      |
| 1 | Strengthening local social institutions                     | The communities are located at least 2-6 km away from the Chinji National Park. Keeping in view their locations, it is important to include the adjoining communities in park management so that all shares benefits coming out of the Park. It is important to establish 4-6 CBOs representing the entire area of the surroundings of Chinji National Park. All activities of social mobilization and implementation of prescription of the Management Plan pertaining to local population will be implemented through these CBOs | Punjab Forest Department | Punjab Wildlife and Parks Department, National Rural Support Programme, WWF-Pakistan | Medium   | Long Term   | 03                   |
| 2 | Umbrella Community Management Committee                     | An umbrella Community Management Committee of local communities shall also be established to assist the official Chinji National Park Management Committee. The members of the Community Management Committee will be the representatives of all CBOs operating in the area.   | Punjab Forest Department | Communities, CBOs  | High     | Long Term   | 01                   |
| 3 | Representation in Chinji National Park Management Committee | One elected representative from all the CBOs should be included in the overall Park Management Committee so that social empowerment can be ensured and decisions made in collaboration with all the major stakeholders   | Punjab Forest Department | -  | Medium   | Long Term   | 01                   |
| 4 | Exploitation of Non Timber Forest Produce                   | Explore possibility of developing alternate livelihood for people engaged in exploitation of NTFPs that may reduce the pace of removal of natural resource of the area. Database will be developed to quantify such exploitation, convert into monetary gains and the end use of the produce to appreciate the role of forest ecosystem in the economic condition of communities.  | Punjab Forest Department | Academia, WWF-Pakistan   | Medium   | Long Term   | 02                   |

| #            | Major Interventions                                 | Prescriptions  | Responsibilities                     |   | Priority | Time Period | Budget (Million PKR) |
|--------------|---|--|--------------------------------------|---|----------|-------------|----------------------|
|              |   |  | Primary                              | Secondary   |          |             |                      |
| 5            | Socio-economic assessment                           | Socio-economic studies be carried out to determine the role of NTFPs in the livelihood of communities, wholly or partially dependent on their harvesting   | Academia                             | Communities   | Medium   | Medium Term | 03                   |
| 6            | Fuelwood consumption by local communities           | Research studies should be conducted to determine the average fuelwood consumption at household level and impact of alternative energy sources to appreciate the economic value of the forest ecosystem.   | Academia                             | National Rural Support Programme                                      | Medium   | Long Term   | 03                   |
| 7            | Community Watch and Ward                            | Strengthening of watch and ward shall be ensured through additional staff of wildlife, taking the local political leadership on board and by involving volunteer watchers at Chinji National Park.   | Punjab Forest Department             | Communities, CBOs, Chinji National Park Management Committee          | Medium   | Medium Term | 01                   |
| 8            | Engagement with local communities                   | In addition to the staff of Wildlife Department, volunteers' wildlife watchers among communities shall be selected and trained. The volunteer watchers shall also be provided with basic equipment for use during their patrolling. The skills of volunteer watchers for identification of birds and waterfowls shall also be enhanced through printed material. | Punjab Wildlife and Parks Department | Communities, CBOs   | Medium   | Medium Term | 03                   |
| 9            | Skill Enhancement of communities                    | Followed by training need assessment, skill enhancement trainings will be conducted for the communities to enable them to pursue other livelihood options, such as eco-tourism and home based enterprises, in order to enhance their incomes.  | National Rural Support Programme     | WWF-Pakistan, Punjab Forest Department                                | Medium   | Long Term   | 03                   |
| 10           | Training to local communities for skill development | Provide training to local communities in skill development and enhancement to improve their alternate livelihood including vocational, livestock and cottage industry.   | National Rural Support Programme     | Punjab Forest Department in collaboration with other line Departments | Medium   | Long Term   | 03                   |
| 11           | Green employment of the communities                 | Employ local activist in short term assignments pertaining to implementation for confidence building in management activities.   | Punjab Forest Department             | Punjab Wildlife and Parks Department                                  | High     | Medium Term | 05                   |
| 12           | Establishing linkages and partnerships              | Enhance linkage and partnership with other governmental or non-governmental programmes operational in the area for supporting local livelihood.  | Punjab Forest Department             | Punjab Wildlife and Parks Department                                  | High     | Long Term   | 01                   |
| <b>Total</b> |   |  |                                      |   |          |             | <b>29</b>            |

### 8.7. Communication, Public Awareness and Education Prescriptions

Communication, public awareness and education initiatives may be good means of promoting some changes and have already shown results in sensitizing the local communities towards the conservation of the Punjab Urial in the Salt Range. However, these need to be backed with tangible economic incentives for local people to ensure that any gains in conservation are not attained through a resultant increase in vulnerability of rural livelihoods. The focused mass awareness campaign for conservation of Chinji National Park is a pre-requisite for successful implementation of the management plan. It will not only serve as an activity for dissemination of information but also help self-reliance by the local population. Apart from awareness, the communication, and education campaigns could play a vital role towards promotion of touristic activities in the area. Table 23 describes selected interventions for promoting the role of Chinji National Park.

**Table 23:** Communication, public awareness and education related prescriptions for Chinji National Park

| # | Major Interventions                                     | Prescriptions  | Responsibilities                                      |   | Priority | Time Period | Budget (Million PKR) |
|---|---|--|---|---|----------|-------------|----------------------|
|   |   |  | Primary   | Secondary   |          |             |                      |
| 1 | Office of the Education Officer at Chinji National Park | The office of Education Officer (posted at Information Center) will be equipped with facilities e.g. multimedia, documentaries, films on Salt Range, Protected areas, Wetlands, Species and Chinji National Park, printed material (brochures, posters, cards, flyers, biodiversity profile, research papers etc.) for effective communication with the visitors and educating the groups, delegations and students visiting the center. The Education Officer would be trained in guiding the visitors for various touristic facilities as a publicity campaign | Punjab Wildlife and Parks Department                  | Tourism Development Corporation of Punjab; WWF-Pakistan | High     | Medium Term | 04                   |
| 2 | Highlighting the significance of Chinji National Park   | Involve electronic media highlighting the importance of Chinji National Park as a national heritage through interviews, documentaries, visit of delegations; student groups visiting information center and articles in the newspapers. In addition, the biodiversity value and the importance of ecosystem of the Chinji National Park shall be promoted to general public.   | Punjab Wildlife and Parks Department (Publicity Wing) | Support from WWF-Pakistan                               | High     | Long Term   | 03                   |
| 3 | Signage for Chinji National Park                        | Three types of signage (International standards) will be developed at Chinji National Park: directional, educational and warning for general public visiting the National Park. These signage should be placed at prominent locations within the Salt Range as well as in the National Park premises   | Punjab Wildlife and Parks Department                  | Support from WWF-Pakistan                               | High     | Short Term  | 03                   |
| 4 | Webpage for Chinji National Park                        | A webpage containing relevant information of the National Parks of the Punjab in general and Chinji National Park in particular be linked with the main website of the Punjab Forest Department and Punjab Wildlife and Parks Department for promotion of the landscape and biodiversity. It   | Punjab Wildlife and Parks Department                  | Punjab Forest Department                                | Medium   | Medium Term | 0.50                 |

| #            | Major Interventions  | Prescriptions   | Responsibilities                     |  | Priority | Time Period | Budget (Million PKR) |
|--------------|--|---|--------------------------------------|--|----------|-------------|----------------------|
|              |  |   | Primary                              | Secondary                                    |          |             |                      |
|              |  | should also contain information about proposed eco-tourism plans, souvenirs, visit times, publications related to National Park and many others   |                                      |  |          |             |                      |
| 5            | Publications related to Protected Areas and Chinji National Park | <p>A range of publications should be developed for Protected Areas of Punjab and with specific reference to Chinji National Park. These include:</p> <ul style="list-style-type: none"> <li>○ Booklet on the flora and fauna of the Chinji National Park</li> <li>○ An information flyer of the Chinji National Park</li> <li>○ A biodiversity profile of the Chinji National Park</li> <li>○ A range of posters regarding flora, fauna, fossils/Chinji formation (geological information)</li> </ul> | Punjab Forest Department             | Punjab Wildlife and Parks Department         | High     | Medium Term | 02                   |
| 6            | Library at Thatti Forest Rest House, Chinji National Park        | Chinji National Park, located within the Salt Range should act as an information hub. Various research papers, studies, theses, publications and other documents related to protected areas be made available at a central library at Chinji National Park in order to highlight the roles of scrub forest, protected areas, wetlands, fossils, biodiversity etc.   | Punjab Wildlife and Parks Department | Punjab Forest Department, International NGOs | Medium   | Long Term   | 02                   |
| 7            | Stakeholders Outreach  | A range of outreach programmes related to Academia, General Public through using audio-video tools and one Conference Hall of Thatti Forest Lodge/Rest House be equipped with all the necessary facilities to educate the visitors learning about protected areas of the Salt Range. The requirements are shown in the Table 18   | Punjab Forest Department             | Punjab Wildlife and Parks Department         | High     | Short Term  | 03                   |
| 8            | Thatti Forest Lodge / Rest House                                 | Old building has been renovated to a great extent and there is a need to equip the two rooms with necessary facilities in addition to providing required set of utensils and others for the kitchen. The preliminary list is shown in Table 16  | Punjab Forest Department             | -  | High     | Short Term  | 03                   |
| <b>Total</b> |  |   |                                      |  |          |             | <b>20.50</b>         |

### 8.8. Tourism and Recreation Prescriptions

Chinji National Park holds the potential to become a tourist spot in the Salt Range as long as tourist numbers to the area are carefully controlled. It is fairly close to the M-II Motorway and quite easily accessible by a metaled road to a steady stream of tourists from Islamabad, Lahore, Sargodha and adjoining areas of Chakwal. However, the facilities for tourism need to be developed for which the Punjab Tourism Department should formally be taken on board. Table 24 describes the tourism and recreation related interventions for Chinji National Park.

**Table 24: Tourism and recreation related prescriptions for Chinji National Park**

| # | Major Interventions                           | Prescriptions  | Responsibilities   |   | Priority | Time Period | Budget (Million PKR) |
|---|---|--|--|---|----------|-------------|----------------------|
|   |   |  | Primary  | Secondary   |          |             |                      |
| 1 | Sign Boards                                   | The jeepable track crossing through the Reserved Forest should be equipped with number of signboards, with different information about the ecosystem of the National Park. A range of sign boards across the Salt Range be developed and placed at prominent locations                           | Punjab Forest Department                                       | Punjab Wildlife and Parks Department  | High     | Short Term  | 02                   |
| 2 | Trained Tourist Guides                        | Local staff and a few volunteers / activists from local communities be trained to guide visitors and information provided to them. The list of activists be developed and should be trained from Tourism Development Corporation of Punjab as well as other hands on training in the field       | Punjab Wildlife and Parks Department                           | Tourism Development Corporation of Punjab   | Low      | Medium Term | 02                   |
| 3 | Tourist Information Centre                    | A small hut in the form of a Tourist Information Centre should be constructed at one side of the Entrance Gate to guide the visitors about the National Park and its resources and landscapes  | Punjab Wildlife and Parks Department                           | Tourism Development Corporation of Punjab; WWF-Pakistan   | High     | Short Term  | 03                   |
| 4 | Bird Watching / Wildlife Safari               | In order to develop interest for Bird watching and Wildlife Safari, sites need to be developed at selected places with appropriate publicity through tourist information centre and signage  | Punjab Wildlife and Parks Department                           | Tourism Development Corporation of Punjab; WWF-Pakistan   | High     | Short Term  | 03                   |
| 5 | Strengthening Partnerships to promote Tourism | The Department shall sign a MOU with Punjab Tourism Development Corporation for joint exploration of tourist attractions and promote ecotourism through development of publicity campaign including preparation of printed material for awareness of public in general and tourist in particular | Punjab Forest Department; Punjab Wildlife and Parks Department | Tourism Development Corporation of Punjab   | Medium   | Long Term   | 01                   |
| 6 | Safety Procedures for Tourists                | Safety procedures for tourists will be defined in collaboration with Tourism Development Corporation of Punjab and keeping in view the international best practices and implemented along with training of staff for their effective dissemination   | Punjab Wildlife and Parks Department                           | Tourism Development Corporation of Punjab; WWF-Pakistan; College of Earth and Environmental Sciences, Punjab University | High     | Medium Term | 01                   |

| #            | Major Interventions                     | Prescriptions  | Responsibilities                     |   | Priority | Time Period | Budget (Million PKR) |
|--------------|---|--|--------------------------------------|---|----------|-------------|----------------------|
|              |   |  | Primary                              | Secondary                                 |          |             |                      |
| 7            | Picnic Sites within the Protected Area  | Picnic sites shall be developed at places where scenic beauty of the Chinji landscape can be witnessed. The sites will be equipped with picnic table, dustbins, gazebos and small children gadgets. Small publicity board of Chinji National Park will also be installed at each site. | Punjab Wildlife and Parks Department | Tourism Development Corporation of Punjab | Medium   | Medium Term | 05                   |
| 8            | Do's and Don'ts of Tourism for Tourists | Do's and Don'ts for Tourist shall be developed to ensure that it does not contribute to environmental degradation or cultural disintegration.  | Punjab Wildlife and Parks Department | Tourism Development Corporation of Punjab | High     | Short Term  | 0.50                 |
| <b>Total</b> |   |  |                                      |   |          |             | <b>17.50</b>         |

### 8.9. Surveys and Research Needs Prescriptions

Research studies in a protected area with the objectives of sustainable management and addressing social issues has never been on any research priority of the government Institutions. The main focus is usually on the census and count of mammals and birds of concerned species in different ecological areas. The instant Management Plan itself provides an opportunity for various studies in line with the proposed interventions whose extent of implementation and impacts can be studied.

**Table 25:** Surveys and research needs related prescriptions for Chinji National Park

| # | Major Interventions             | Prescriptions   | Responsibilities         |   | Priority | Time Period | Budget (Million PKR) |
|---|---------------------------------|---|--------------------------|---|----------|-------------|----------------------|
|   |                                 |   | Primary                  | Secondary   |          |             |                      |
| 1 | Studying vegetation dynamics    | Establish at least two enclosures within the Reserve Forest to understand the dynamics of vegetation within the National Park as well as outside the boundary of the Park. This is to be carried out in collaboration with Academia: a few PhD and MPhil dissertation can be produced as a result of that. A comparative analysis will be carried out to determine the anthropogenic pressures on the ecosystem | Punjab Forest Department | Academia  | Medium   | Long Term   | 03                   |
| 2 | GIS / RS based Land Use Mapping | GIS/RS based assessment of the Chinji Reserved Forest/National Park to understand its different land uses and conduct a change analysis. This can possibly be carried out by the GIS lab of the Punjab Forest Department  | Punjab Forest Department | -   | Medium   | Short Term  | 02                   |
| 3 | Estimating above ground biomass | Above ground biomass estimation will be carried out to assess the Carbon Sink. This is possible in collaboration with Global Change Impact Study Centre of Ministry of Climate Change   | Punjab Forest Department | Global Change Impact Study Centre (GCISC), MoCC, Academia | Medium   | Medium Term | 03                   |

| #  | Major Interventions   | Prescriptions  | Responsibilities                     |  | Priority | Time Period | Budget (Million PKR) |
|----|---|--|--------------------------------------|--|----------|-------------|----------------------|
|    |   |  | Primary                              | Secondary  |          |             |                      |
|    |   | and also with the support of Academia  |                                      |  |          |             |                      |
| 4  | Developing Ecological Corridors                             | A detailed assessment needs to be carried out to define ecological corridors in order to provide a safe habitat to the Punjab Urial local migration, and if need be (based on the results of the assessment), boundaries of the National Park/Reserve Forest be extended keeping in view the home range of the Punjab Urial. | Punjab Wildlife and Parks Department | WWF-Pakistan, Academia and individual researchers                                  | Medium   | Long Term   | 02                   |
| 5  | Exploring the Possibility of Reintroduction of Punjab Urial | Potential habitat in the context of Punjab Urial and other local species be assessed and evaluated for reintroduction perspectives. Punjab Urial movement and behaviour studies will be conducted through fixation of GSM-Tags and other technological advances  | Punjab Wildlife and Parks Department | WWF-Pakistan, Academia (Information Technology University, LUMS, NUST)             | Medium   | Long Term   | 04                   |
| 6  | Studying Bird Fauna of the Park                             | Bird fauna (summer breeders, winter visitors, passage migrants and others) of the national park need to be studied throughout the year in different seasons to establish a comprehensive list of birds of the Park.  | Punjab Wildlife and Parks Department | Academia, Zoological Survey of Pakistan, WWF-Pakistan and others                   | High     | Short Term  | 02                   |
| 7  | Studying Reptilian fauna of the Park                        | Reptilian fauna of the park need to be studied. Hardly there has been any study conducted in the past to know the kind of reptile species found in the park.   | Punjab Wildlife and Parks Department | Academia, Pakistan Museum of Natural History (PMNH), Zoological Survey of Pakistan | Medium   | Medium Term | 02                   |
| 8  | Studying plant taxonomy of the Park                         | A list of complete flora needs to be developed and identified accordingly with their conservation status and its trends.   | Punjab Forest Department             | -  | Medium   | Medium Term | 02                   |
| 9  | Studying fossils of the Chinji Formation                    | The Reserve Forests is famous for presence of its plant fossils. Previous studies on fossils should be identified and the area should be promoted as a research hotspot within the province.   | Punjab Forest Department             | Punjab Archaeological Department   | Medium   | Long Term   | 03                   |
| 10 | Dry Afforestation Techniques                                | Document indigenous knowledge of Dry Afforestation Techniques introduced and adapted by the professional field staff of Punjab Forest Department. It should be published as a reference document and be used for future references   | Punjab Forest Department             | Academia (Arid Agriculture University), NARC, PARC                                 | High     | Short Term  | 02                   |

| #            | Major Interventions   | Prescriptions   | Responsibilities                     |   | Priority | Time Period | Budget (Million PKR) |
|--------------|---|---|--------------------------------------|---|----------|-------------|----------------------|
|              |   |   | Primary                              | Secondary   |          |             |                      |
| 11           | Thatti Research Centre  | Thatti Bungalow be notified as a Research Centre within the Salt Range and be improved  | Punjab Forest Department             | -   | High     | Medium Term | 01                   |
| 12           | Partnership with Academia   | MoUs need to be signed with Academia including Arid Agriculture University, Sargodha University, and others for academic research projects / thesis on ecological, biological and social issues   | Punjab Forest Department             | Academia  | Medium   | Long Term   | 01                   |
| 13           | Regular surveys of key wildlife species including small and large mammals | Apart from research studies, joint periodic surveys shall be planned by PWRI, PFRI and other national and international organisations such as WWF-Pakistan covering the biodiversity status at Chinji National Park. The surveys need to be carried out on standardized forms. Likewise, social survey will also be carried out to obtain feed back from communities, visitors and general public indicating the awareness level for conservation and preservation. | Punjab Wildlife and Parks Department | Academia; Punjab Forest Department, Pakistan Museum of Natural History, Zoological Survey of Pakistan, WWF-Pakistan | High     | Short Term  | 05                   |
| 14           | Impacts of Climate Change   | Study on impacts of Climate Change on local flora and fauna; migration patterns, habitat use, impacts on germination and growth patterns etc.   | Pakistan Forest Institute, Academia  | Punjab Forest Department, Punjab Forestry Research Institute  | High     | Short Term  | 04                   |
| <b>Total</b> |   |   |                                      |   |          |             | <b>36.0</b>          |

## 9.0. Financial Plan

The implementation of the management Plan under different components has been discussed in Chapter 8. The proposed interventions could be broadly categorized in five categories: policy issues, institutional development, infrastructural interventions, ecological management and social mobilization. The actions proposed in each category also indicates the name of development / organization as primary and secondary responsible for it. But same prescription to be implemented by the respective department also involves financial inputs, especially in case of infrastructural interventions and ecological management. The item-wise costing of such interventions has not been made a part of the plan, keeping it flexible in monetary terms. However, a broader overview of possible financial assistance for implementation of the Management Plan has been made in the following Table 26 and financial assistance plan is described in Table 27:

**Table 26:** Financial requirements for implementation of the management plan of Chinji National Park

| #                  | Prescriptions   | Budget (Million PKR) |
|--------------------|---|----------------------|
| 1                  | Policy related prescriptions  | 33.70                |
| 2                  | Institutional development related prescriptions                     | 34.40                |
| 3                  | Infrastructural development related prescriptions                   | 42.00                |
| 4                  | Habitat Management related prescriptions                            | 20.00                |
| 5                  | Wildlife Management related prescriptions                           | 13.20                |
| 6                  | Social Mobilisation related prescriptions                           | 29.00                |
| 7                  | Communication, Public Awareness and Education related prescriptions | 20.50                |
| 8                  | Tourism and Recreation related prescriptions                        | 17.50                |
| 9                  | Research needs related prescriptions                                | 36.00                |
| <b>Grand Total</b> |   | <b>246.30</b>        |

**Table 27:** Financial Assistance Plan

| # | Activities  | Source of Funding   |
|---|---|---|
| 1 | Policy related prescriptions                      | Non-development budget of Punjab Forest Department; Punjab Wildlife and Parks Department  |
| 2 | Institutional development related prescriptions   | Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department   |
| 3 | Infrastructural development related prescriptions | Sustainable Forest Management Project; Development budget of Punjab Forest Department and Punjab Wildlife and Parks Department  |
| 4 | Habitat Management related prescriptions          | Green Pakistan Programme; Sustainable Forest Management Project; MoUs with Academia and NGOs such as WWF-Pakistan; Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department            |
| 5 | Wildlife Management related prescriptions         | Green Pakistan Programme; Sustainable Forest Management Project; MoUs with Academia and NGOs such as WWF-Pakistan; Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department            |
| 6 | Social Mobilisation related prescriptions         | Green Pakistan Programme; Sustainable Forest Management Project; MoUs with National Rural Support Programme and WWF-Pakistan; Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department |

| # | Activities  | Source of Funding  |
|---|---|--|
| 7 | Communication, Public Awareness and Education related prescriptions | Green Pakistan Programme; Sustainable Forest Management Project; WWF-Pakistan; Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department                                       |
| 8 | Tourism and Recreation related prescriptions                        | Sustainable Forest Management Project; Tourism Development Corporation of Punjab; Development budget of Punjab Forest Department and Punjab Wildlife and Parks Department  |
| 9 | Research needs related prescriptions                                | Green Pakistan Programme; Sustainable Forest Management Project; MoUs with Academia; Non-development budget of Punjab Forest Department and Punjab Wildlife and Parks Department; Research Fund of PFRI and PWRI |