H.P. Forest Department

Himachal Pradesh

Management Plan

GAMGUL SIYEBEHI WILDLIFE SANCTUARY

(2020-21 to 2029-30)

Divisional Forest Officer
Wildlife Division Chamba (H.P.)

Approved.

Pr. Chief Conservator of Forests
Wildlife, Himachal Pradesh

D.F.O. WILD LIFE DIVISION
Dy No. 623
Date 29-07-20
CHAMBA (H.P.)

64

Office of the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Himachal Pradesh.

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H.P. FOREST DEPARTMENT, ARANAYA BHAWAN, TALLAND, SHIMLA-171001

No. WLM/Management Plan/ Dated Shimla-171001, the

To:

DFO (WL) Chamba.

Subject: **Draft Management Plan of Gamgul Siyabehi Wildlife Sanctuary.**

Memo:

This is with reference to your office memo. No. 360 dated 01.06.2020 on the subject cited above.

The approved copy of the Management Plan of **Gamgul Siyabehi** Wildlife Sanctuary for the period 2020-21 to 2029-30 is sent herewith for information and further necessary action. This may be got printed and *hard bound two copies* thereof may be sent to this office for record.

You are also requested to send the remaining management plans of Kugti & Tundah Wildlife Sanctuaries at the earliest.

Encl: As above.

Pr. Chief Conservator of Forests (Wildlife) and
Chief Wildlife Warden, Himachal Pradesh, Shimla.

Dy No. 631
Date 30-6-2020

Endst. No. as above/ 1474 dated 23/06/2020

Copy is forwarded to CCF (WL) Dharamshala w.r.t. DFO (WL) office endst. No. 361 dated 01.06.2020 for information.

Pr. Chief Conservator of Forests (Wildlife) and
Chief Wildlife Warden, Himachal Pradesh, Shimla.

MISC
29/06/2020

INDEX

List of Annexure

Serial No.	Description	Annexure No.
1	Notification of the Sanctuary	I, IA, IB, IC
2	List of Forest, Compartment and area in hectare	II
3	List of Natural Water Source	III
4	List of Plantation and Nursery	IV
5	List of Existing Building	V
6	List of Inspection Paths, Roads and Trekking Routes	VI
7	List of Existing (Proposed Artificial Salt Licks)	VII
8	List of Birds	VIII
9	List of Trees, Shrubs and Herbs	IX
10	List of Mammals	X
11	List of Fire Prone areas	XI
12	List of Sensitive sites/ Key areas	XII
13	Detail of Expenditure (2004-05 to 2018-19)	XIII
14	List of Gun Licence holders	XIV
15	Proforma for Group Patrolling Exercise	XV
16	APO (2020-21to 2029-30)	XVI
17	Proposed Eco Sensitive Zone	XVII
18	Wildlife Compensation rates	XVIII
19	List of permit holders gujjars	XIX
20	List of permit holders Gaddies	XX

INTRODUCTION

The Gamgul Siyabhei Wildlife Sanctuary is located in the North west of Chamba District sharing its boundary with Jammu and Kahsmir State. The name derived to the sanctuary from dhar Gamgul where H/H Raja Chamba has used hunting of Hangul (Kasmiri Stag) during his provincial time. The prominent Wildlife species are Black Bear, Brown Bear, Himalayan tahr, Ghoral, Leopard etc among the mammals and Monal, Koklas, Cheer Pheasant, Snow Cock, Chakor etc. among the birds. The Sanctuary is under the control of Wildlife Division Chamba from the year 1987. Before 1987 the sanctuary was under the jurisdiction of Chruah Division of the territorial circle Chamba. The first time management plan is prepared by SH. Praveen Thapliyal IFS, Divisional Forest Officer Wildlife Division Chamba for a period 1993 to 1998 to manage the sanctuary keeping in view the Wildlife. The present management plan has been compiled following the manual for planning wildlife management in protected areas and managed forests by Wildlife Institute of India.

The present plan has been prepared keeping in view the present scenario of Wildlife management. by involving the participation of local people, self help groups, GO and other institutions those are interested in Wildlife. The basic funda is adopted to aware the people regarding Wildlife and minimize the disturbance in sanctuary by the local in habitats. The sanctuary area is sensitive keeping in view the terrorist activities already occurred during November 1993, As National security point of view the ITBP force is deployed in the areas during 1998 which is camped at Kundi Maral Dhar, Suppacholu Dhar, Guludimandi Dhar, Ban-da- Goth dhar, Swantith Dhar and Langera Village. However the sanctuary area is seeing worth from the tourist point of view starting from Kainthly Nalla to Kundi Maral Dhar.

The plan is prepared to provide better habitat for conservation and breeding of Wildlife and prescribing different operations for improvement of existing habitats which can be modified/ improved in the coming years depending upon the results obtained from monitoring and evaluation processes in the field on year to year basis. The plan shall be enforced form 2020-21 to 2029-30 for the year and shall remain till he retificiison of next management plan.

I would like to express my sincere thanks to Dr. Savita IFS, PCCF Wildlife-cum-Chief Wildlife Warden H.P, Sh. Anil Thakur IFS, Chief Conservator of Forests, Sh. Pradeep Thakur IFS, Chief Conservator of Forests, Wildlife Circle (North) Dharamshala, Sh. D.S. Dadhwal HPFS DFO (HQs), Sh. Nishant Mandhotra IFS DFO Chamba, frontline staff of Gamgul Siyabehi wildlife sanctuary and other field functionaries for their practical and valuable guidance in completion of this plan. The process of writing the Management Plan started by Sh. Sanjeev Singh ACF wild life division Chamba. The draft documents were of great help and I duly acknowledge his contribution.

(Rajeev Kumar), HPFS
Divisional Forest Officer,
Wildlife Division Chamba

CHAPTER – I

1. INTRODUCTION:

Himachal Pradesh lies on the North of India in the Himalayan belt with an area of 55,673 sq.km. The state is endowed with natural scenic beauty and shows a great bio-geographic diversity. The area extends from the Shivaliks to Western Himalayan zone to the Trans Himalayan zone, which supports a rich fauna of large mammals and pheasants, many of which appear in the endangered list of Red Data Book of IUCN (1979).

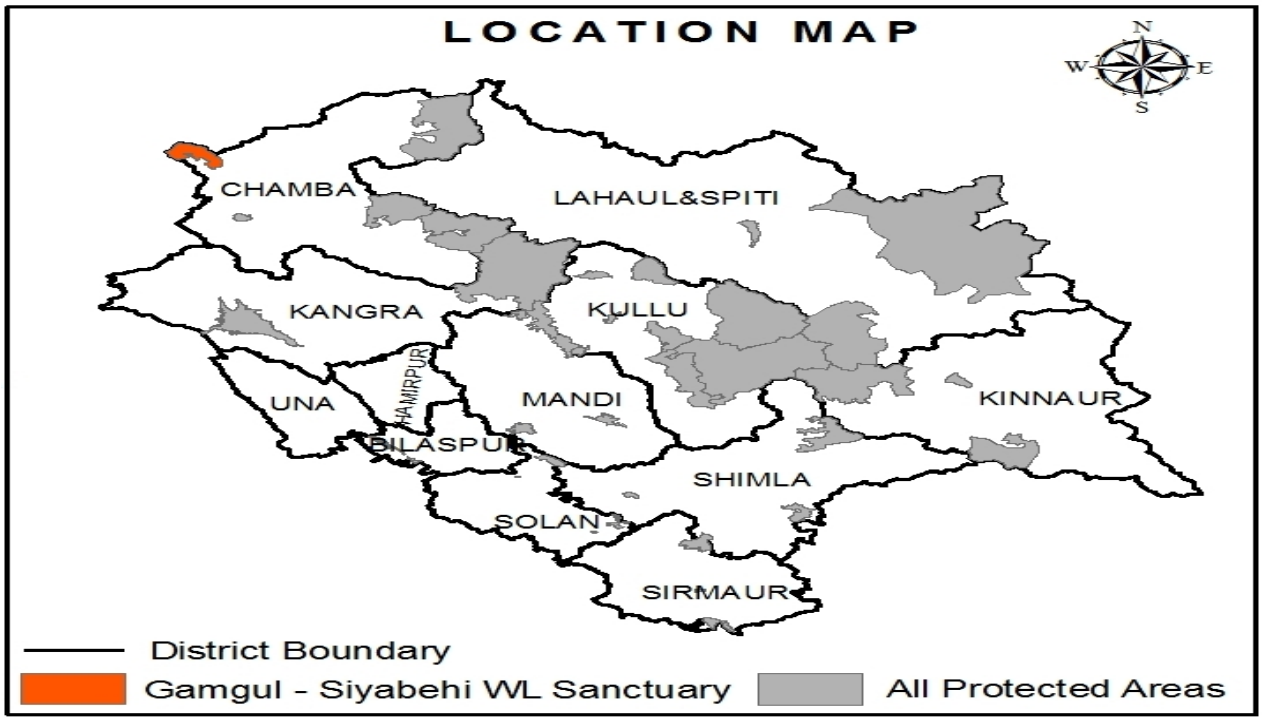
District Chamba can be termed as a prototype of Himachal Pradesh because this district is the total representative of the bio-geographic diversity of the state. The district extends from the shivalik zone (Sihunta Sub-Division) to Western Himalayan Temperate zone (Chamba and Churah Sub-Divisions) to the Trans Himalayan zone (few pockets of Pangi Sub-Division). This vast bio-geographical vista shows a great diversity of both the flora and fauna.

The human axe and gun fell on this genetic resource; as many as 30,000 trees were harvested in the small period of 4 years in 1860-1864 in a very small area. The ruinous policy of 'cut out & get out' (S.C. Gaur Working Plan) and shooting of 120 gorals in 1945 by the then His Highness Raja Ram Singh in Gudda Nala near Rajera tell the tale of the over exploitation of these genetic resource. The post independence era after 1947 also saw the over exploitation of these resources by way of increasing human population and various developmental works.

Gamgul Siyabehi Wildlife Sanctuary is one of the oldest & important 'Shikargah' of the State times. The "Shikargah" was known for the hunting of Brown Bear and the Musk Deer. There have been reports of the presence of Hangul which is now extinct from this area.

1.1 NAME, LOCATION, CONSTITUTION AND EXTENT:

Gamgul Siyabahi wildlife sanctuary is named after the hunting of Hangul (kasmiri stag) by Raja of Chamba during the period of his princely state.Now the Hangul is extinct from the sanctuary. This sanctuary was originally notified as Game Sanctuary vide Notification No.ft.-1/48 Dated July 1st 1949.The rules and regulations had been framed under the Indian Forest Act, 1927 and Punjab Wildlife Preservation Act, 1959. The area was further declared as Wildlife Sanctuary under Wildlife (Protection) Act, 1972 vide No. 5-11/70-SF dated 27-03-1974. In the year 1999 a notification under Section 26A of the Wildlife (Protection) Act, 1972 was issued by the government vide Notification No. FFE-B-F (6)-4/99 dated 23.10.1999, to declare Gamgul Siyabehi as Wildlife sanctuary comprising an area of 109 sq.km. The limits of sanctuary was further revised to 108.40 sq.km after rationalization vide Notification No.FFE-B-F(6)-11/2005-II dated 7th June,2013.(Attached as Annexure- I(c))



The Gamgul Siyabehi Wildlife Sanctuary is situated within **North (**latitude 32°55'44"N and longitude 75°50'46"E), **East** (latitude 32°48'40"N and longitude 75 ° 58'32"E), **South** (latitude 32°47'29"N and longitude 75°56'37"E), **West** (longitude 32°52'48"N and longitude 75°47'49"E) which falls on survey of India topo-sheet No. 43P/13 scale

1:50000.The Gamgul Siyabehi Wildlife Sanctuary is located in Churah Sub-division of Chamba district and falls under the administrative control of Wildlife Division Chamba.

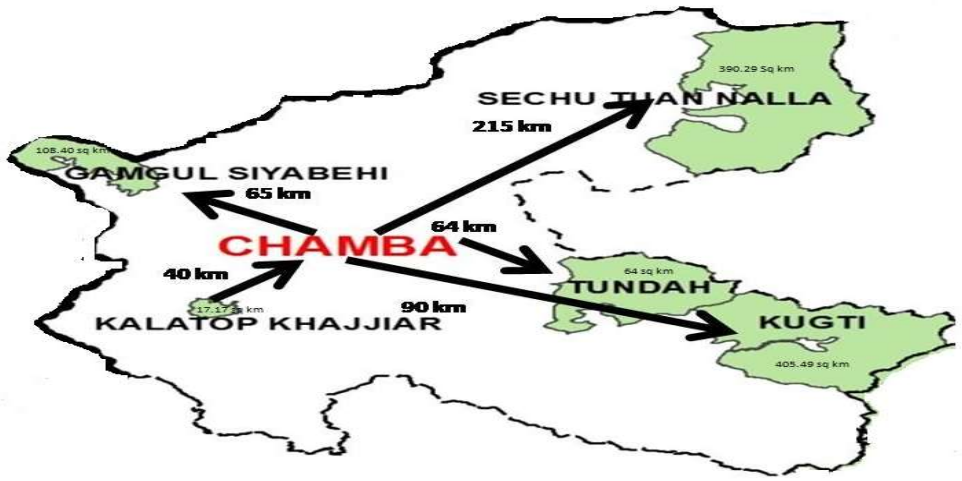
The sanctuary comprises of high lying areas with the following land use break up:

S. No	Classification of Land.	Area in (Ha.)	Land Use.
A.	**Govt. land.**		
1.	Reserve Forests.	2183.32	Forest Area.
2.	Demarcated Protected Forests	782.98	Forest area
3.	Dhars(NDPFs)	7874.44	Alpine pastures including permanent snow bound area.
	Total	**10840.74**	**-**

The forest wise detail of the area existing in the sanctuary is given in Annexure-I I

1.2 APPROACH AND ACCESS:

The sanctuary is situated in the extreme North-West of Chamba District. The sanctuary can be approached through 205 km motorable road from Pathankot- Chamba -Salooni-Bhandal- Langera. However, the nearest route is through Choura Dam which bifurcates the Pathankot- Chamba motorable road at the point Goli having distance 180 km from Pathankot. The nearest railhead and airport is at Pathankot in Punjab. During summer the sanctuary can also be approached through Jammu & Kashmir via Jammu-Udhampur-Doda-Padhri jot. The best season to visit the sanctuary is March – June and September – Mid December.



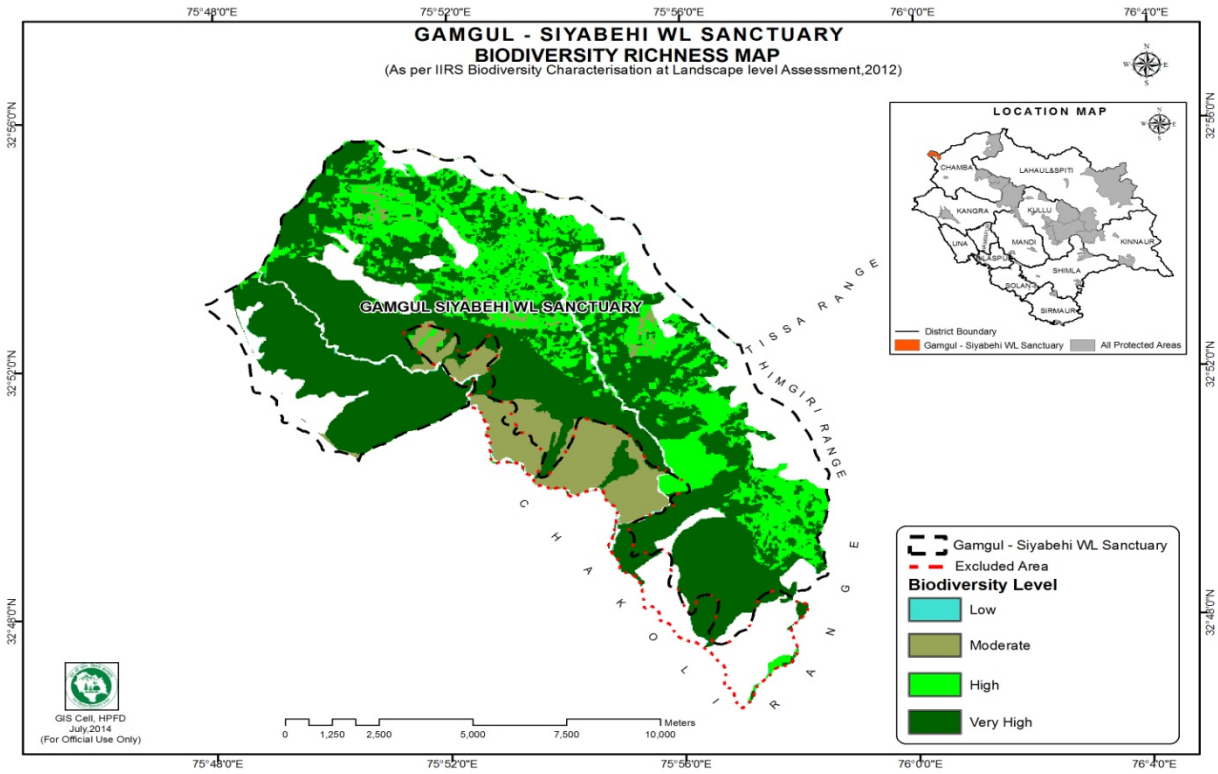
1.3 STATEMENT OF SIGNIFICANCE:

The sanctuary is located in the catchment of Siul nala (a tributary of Ravi River) away from habitation and in the remote area. Thus the significance can be attributed to the ideal habitat of the sanctuary, which harbors Goral *(Nemorhaedus goral)*, Himalayan Brown Bear (*Ursus arctos)*, Asiatic Black Bear *(Ursus thibetanus)*, Ibex *(Capra ibex)*, Himalayan Tahr *(Hemitragus jemlahicus)*, Common Leopard *(Panthera pardus)*, Red Fox (*Vulpes vulpes)*, Himalayan Weasel (*Mustela sibirica)*, Jungle Cat (*Felis chaus)*, Yellow-throated Marten (*Martes flavigula)*, Himalayan Palm Civet (*Paguma larvata)*, Indian Porcupine (*Hystrix indica)* and Common Giant Flying Squirrel (*Petaurista petaurista)*. This is the only Sanctuary in Himachal Pradesh where Hangul or Kashmiri Stag (*Cervus elaphus hanglu)*, a very rare species was reported but there have been no recent records.

This sanctuary is a heaven for more than 112 bird species which includes four species of pheasants, including the one globally threatened species Cheer Pheasant (*Catreus wallichii*) and two comparatively common ones Himalayan Monal (*Lophophorus impejanus,* Kalij *(Lophura leucomelanos)* and Koklass (*Pucrasia macrolopha*). It is an important Wildlife sanctuary for the conservation of globally threatened pheasant and many high altitude bird species. There is a good interface of wooded areas and vast extensive of pastures that forms an ideal habitat for animals as well as birds.

The diverse climate and the varied environmental conditions prevailing in Gamgul Siyabehi Wildlife sanctuary support diverse habitat and ecosystem with equally diverse life forms. This area is known for its rich and diverse plant wealth.The vegetation is typical to the higher altitude area, and the landscape is interspersed with deodar forests, coniferous forest and alpine pastures.

This sanctuary is real treasure of the rare as well as endangered species of medicinal plants. A considerable number of such medicinal plants are still available in the sanctuary area which makes it rich in biodiversity. Main medicinal plants found here are Kour (*Gentiana karru*), Ban kakri (*Podophyllum hexandrum*), Mithi patish (*Aconitum heterophyllum*), Muskwala (*Valeriana wallichii*), Banaksha (*Violoa serpens, Viola odorata),* Guchhies (*Morchella esculenta*), shingli mingli (*Dioscorea deltoidea*), Dhoop (*Jurinea macrocephala).*



Various ecosystem services viz. provisioning, regulating, cultural and supporting services which include all types of physical goods and non extractive benefits are being provided by this area.

Sr no.	Eco system service	
1	Provisioning services	All type of physical products including food, fibre, fuel, Fresh water, Genetic resources etc.
2.	Regulating services	Air quality regulation, climate regulation, water regulation, Erosion regulation, water purification, disease regulation, pest regulation, soil quality regulation, pollination and natural hazard regulation.Etc.
3.	Cultural Services	Recreation and Eco tourism, ethical and spiritual values, Educational and aspirational values
4	Supporting Services	Plant growth and nutrient cycling for soil formation and water quality regulation.

There are plenty of water sources here and all of them originate from the glaciers of this area only. The sanctuary has tremendous significance for its watershed value being the only source of perennial water. Adjoining villages are dependent on the sanctuary for its water source. The sanctuary has several waterfalls which support good riverine diversity.

Besides this, one temple & one Masjid named as “Nag temple at Bhandal” and “Masjid at Jalari” just adjacent to the boundary of sanctuary are important representation of the rich religious and cultural heritage which remind the secularism in India .Mainly two CHHING fairs are celebrated in the area in the month of July / August, one at Sanghani village and another at Bhandal village.The sense of communal harmony is worth to be appreciated between the Hindu and Muslim.

CHAPTER –II

BACKGROUND INFORMATION AND ATTRIBUTES

2.1 BOUNDARIES:

The Gamgul Siyabehi Wildlife Sanctuary is situated within **North (** latitude 32°55'44"N and longitude 75°50'46"E), **East** (latitude 32°48'40"N and longitude 75°58'32"E), **South (** latitude 32°47'29"N and longitude 75°56'37"E),**West** (latitude 32°52'48"N and longitude 75°47'49"E) which falls on survey of India topo sheet No. 43P/13 scale 1:50000.The Gamgul Siyabehi Wildlife Sanctuary is located in Salooni Sub-division of Chamba district and falls under the administrative control of Wildlife Division Chamba. The boundaries as per latest notification are as under:

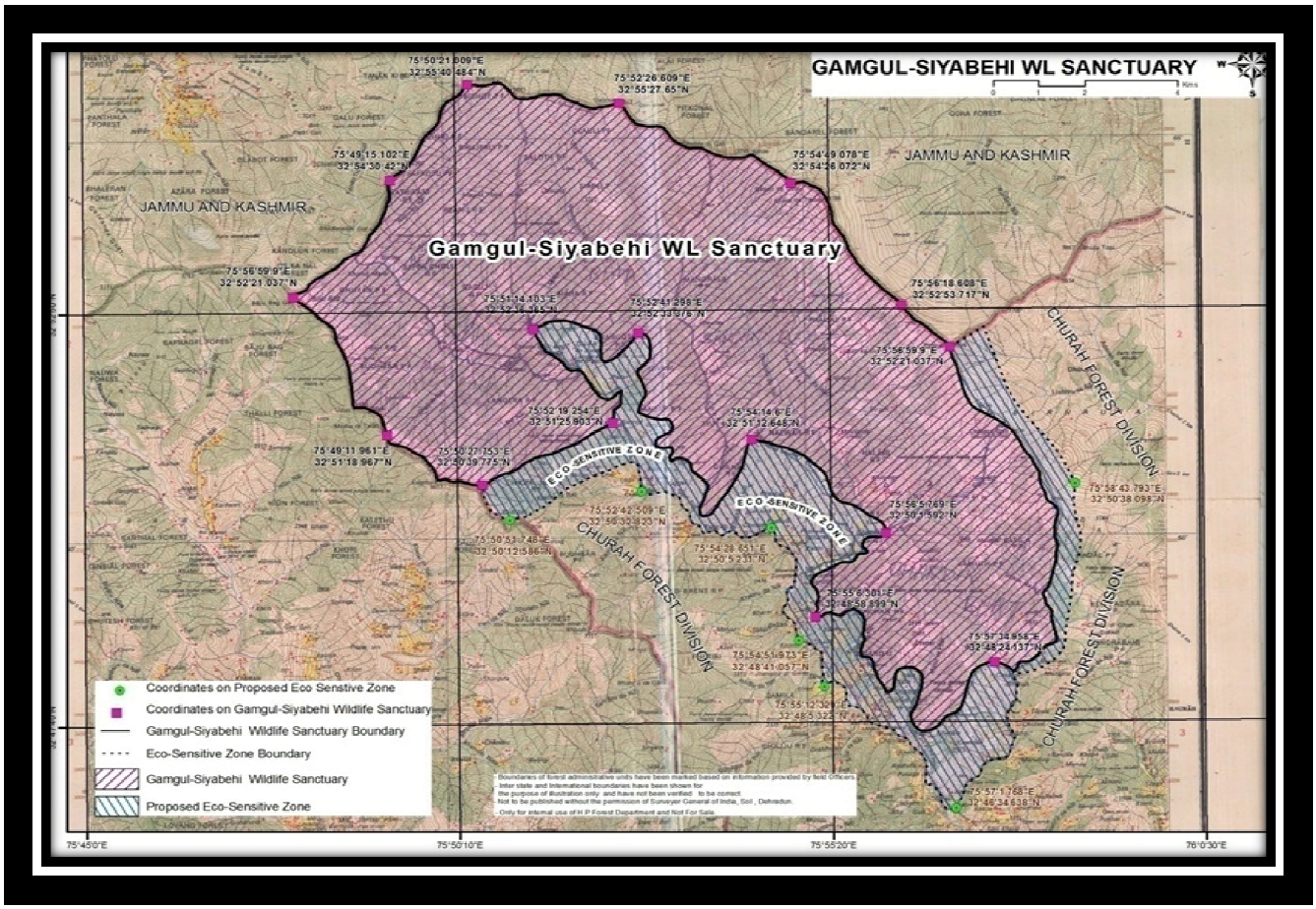
NORTH:- From Baju Bag Gali to Bishot PF at 3289 m height and then up to Pateran at 3916 m height all along the boundary of J & K.

EAST:- From Pateran at 3916 m height to Chalipur Gali at 3524 m height and then up to Chabbi along Shikru Da Nalla.

SOUTH:- From Chabbi along the outer boundary of Kalhetra RF, Thamaru RF, Khoran RF, Jalari RF, Boda RF, Sathi RF, Nalwad RF, Dhar Chanwani, Guin Nal RF, Laded RF, Dandi RF, Ranjal RF, Gowari RF, Bhangotli RF, Bir RF, Gagli RF upto Talai. From Talai along the Siul Nalla upto Ranod to Kalethu at 3633 m height

WEST:- From Kalethu 3633 m height to Udak 3530 m height up to Baju Bag Gali.

Total area of the Sanctuary: - 108.40 sq.kms.



2.2 GEOLOGY, ROCK AND SOIL:

The hill ranges usually lie in the east west direction with some local variations. Schists are very common and occur in different forms such as shales, slates, gneisses, argillaceous clay etc. Underlying rocks are granite and gneiss almost uniform in character. Rock system in general, is unstable and of fragile nature. Sub soil in the Ravi Valley is fairly hard, generally argillaceous shale. Soil beds are inversely proportionate to the slope. On southern aspects soil tends to be shallow and dry with rock out crops.

2.3 TERRAIN:

Sanctuary lying in the mid Himalayas has basically a difficult terrain with steeply rising rock precipitous interspersed with some moderately steep and occasional plateau like

alpine pasture. The lofty peaks with number of ridges and spurs are the characteristic grandeur of the area.

2.4 CLIMATE:

2.4.1 RAINFALL/PRECIPITATION PATTERN AND DISTRIBUTION:

The area acquires greater proportion of precipitation in the form of rain during the monsoon as well as in winter season.

RAINFALL DATA:

The sanctuary experiences greater proportion of precipitation in the form of rain during the monsoon season. The winter rains do occur but the quantum of rain is comparatively less. The data of rainfall collected from the metrological station is tabulated as under: -

Name of Station: -Bhandal **Elevation:-1850 Mtr.**

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	6.3	8.9	13.1	17.9	22.1	24.3	22.3	21.5	20.7	17.4	13.2	9.7
Min. Temperature (°C)	2.1	4.3	8.3	12.5	16.8	19.1	18.5	18	16.4	12.2	7.7	4.8
Max. Temperature (°C)	10.6	13.5	18	23.4	27.4	29.6	26.2	25.1	25	22.7	18.7	14.6
Avg. Temperature (°F)	43.3	48.0	55.6	64.2	71.8	75.7	72.1	70.7	69.3	63.3	55.8	49.5
Min. Temperature (°F)	35.8	39.7	46.9	54.5	62.2	66.4	65.3	64.4	61.5	54.0	45.9	40.6
Max. Temperature (°F)	51.1	56.3	64.4	74.1	81.3	85.3	79.2	77.2	77.0	72.9	65.7	58.3
Precipitation / Rainfall (mm)	166	147	149	89	67	82	310	300	148	56	24	81

Source:- https://en.climate-data.org/asia/india/himachal-pradesh/bhandal-643692/#climate-table

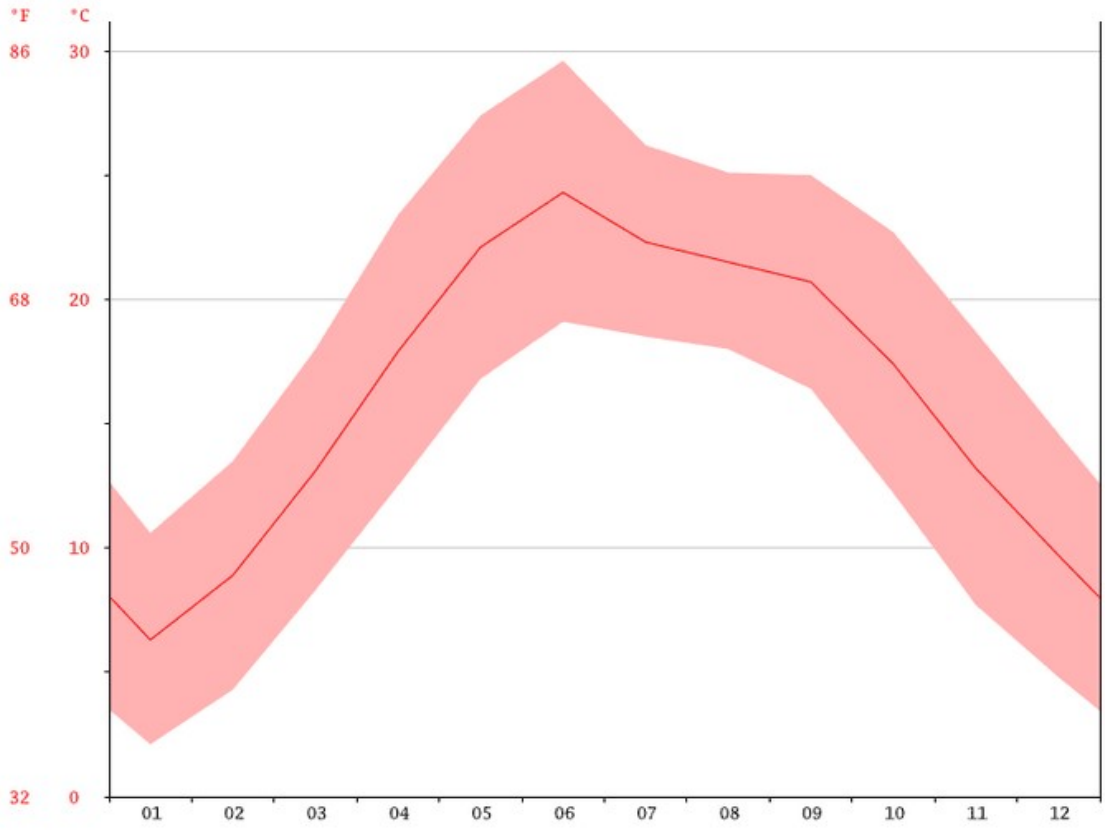
2.4.2 SNOW FALL DATA:

The snow fall data is not available as there is no snow fall measuring guage installed in the area. However on an average, minimum 60 cm to the maximum 150 cm has been reported

for Gamgul Siyabehi wildlife sanctuary. The snow fall occurs during the month of December to February.

2.4.3 TEMPERATURE:

It is primarily the temperate conditions which prevail in this region. Temperature goes down considerably during winter. Sub zero conditions touching – 10^0 are not rare during the winter season. During summer months, the weather normally remains clear with quite equable temperatures which may go up to 25^0.



Source:- https://en.climate-data.org/asia/india/himachal-pradesh/bhandal-643692/#climate-table

2.4.4 DROUGHT:

Droughts occur during April–May and early June and again during October – November. Normally such droughts come as routine weather conditions and do not have any noticeable influence on the vegetation or water supply. It is only during occasional prolonged droughts when the young regeneration gets adversely affected. The perennial streams and water bodies are not much affected. However, the cultivated crops suffer damage on this account.

2.4.5 WIND:

Light wind of 6-11 Km / hr velocity can be generally felt in the area. At some occasions particularly during winters there may be some gentle to moderate winds with speed ranging from 12-29 Km / hr. These chilly winds are generally experienced along Nallahs and depressions.

2.5 WATER SOURCES:

The area is endowed with perennial streams / nallahs and small water bodies. These are mainly snow fed and receive large quantity of water from the melting of high level snow during summers.

The main Nallahs / streams in the sanctuary flowing down to Siul river are as under:-

Nallah	Beat
• Kainthli Nalla	Bhandal
• Digori Nalla.	Bhandal
• Sanghani Nalla.	Sanghani
• Gowari Nalla.	Bir
• Dodu Nalla.	Bir and Langera
• Bhacharadu	Langera
• Laded Nallah	Bir
• Guin Nallah	Sanghani and Bir

Some species of fishes are definitely available in these Khadds (small streams) but the same have not been identified. The source of runoff water is mainly snow.

2.6 HABITAT ATTRIBUTES, RANGE OF WILDLIFE DISTRIBUTION AND STATUS:

The composition of the forest crop varies with altitude and aspect. The high altitude conifers like deodar, kail, fir and spruce in pure and mixed forms along with broad leaved species are growing in the temperate zone in the lower elevation. The kail is predominant in the southern aspect whereas deodar, fir and spruce are occupying the cooler locations. The pastures and rocky cliffs exist in the alpine zone. Vegetation present in various altitudinal ranges is as under:

Sr. No.	**Altitudinal Range (in meters)**	**Flora**	**Fauna**
1.	1900–2800	*Abies pindrow,* *Cedrus deodara,* *Picea smithiana,* *Pinus wallichiana,* *Aesculus indica,* *Corylus colurna,* *Acer pictum, ,* *Juglans regia,* *Quercus incana,* *Quercus dilatata,* *Prunus persica,* *Prunus cornuta,* *Rhamnus virgatus*	ASIATIC BLACK BEAR *Selenarctos thibetanus* COMMON LEOPARD *panthera pardus* GHORAL *Nemorthaedus goral* RED FOX *Vulpes vulpes* YELLOW THROATED MARTEN *Martes flavigula* COMMON LANGUOR *Presbytus entellus* HIMALAYAN GREY LANGUR *Semnopithecus ajax* JUNGLE CAT *Felis chaus*

		Berberis lyceum, *Desmodium gangeticum,* *Indigofera,* *Morchella esculent,* *Vivurnum erubescens,* *Fagopyrum esculentum,* *Fragaria vesca,* *Polygonum capitata,* *Rumex nepalensis*	PORCUPINE *Hystrix indica* HIMALAYAN PALM CIVET *Paguma larvata* COMMON GIANT FLYING SQUIRREL *Petaurista petaurista* MONAL *Lophophorous impejanus* KOKLAS *Pucrasia macrolopha* KALIJ *Lophura leucomelanos* CHEER *Catreus wallichii*
2.	2800–3300	*Abies pindrow,* *Cedrus deodara,* *Picea smithiana,* *Taxus wallichiana,* *Prunus persica,* *Prunus cornuta,* *Rhamnus virgatus,* *Quercus dilatata,* *Quercus semecarpifolia,* *Betula utilis,* *Rhododendron companulatum* *Rubus,*	ASIATIC BLACK BEAR *Selenarctos thibetanus* COMMON LEOPARD *panthera pardus* GHORAL *Nemorthaedus goral* RED FOX *Vulpes vulpes* JUNGLE CAT *Felis chaus* HIMALAYAN GREY LANGUR *Semnopithecus ajax* SIBERIAN WEASEL *Mustela sibirica* ROYLE'S PIKA *Ochotona roylei*

		Morchella esculent, *Cotoneaster bacillaris,* *Indigofera heterantha,* *Viburnum, erubescens,* *Sarbococca,* *Rosa species* *Juniperus recurva,* *Berberis, Lycium,* *Artemisium spp.* *Viola odorata,* *Valeriana walichii,* *Fragaria,* *Rumax nepalensis, etc.*	KOKLAS *Pucrasia macrolopha* KALIJ *Lophura leucomelanos* CHEER *Catreus wallichii* MONAL *Lophophorous impejanus*
3.	>3300	*Rhododendron companulatum,* *Juniperus communis,* *Iris kemaonensis,* *Trifolium repens,* *Jurinea macrocephala,* *Aconitum heteropllyllum,* *Picrorhiza Kurrooa,* *Sassurea lappa,* *Viola odorata,* *Valeriana wallichi etc.*	HIMALAYAN BROWN BEAR *Ursus arctos* MUSKDEER *Moschus moschieferus* HIMALAYAN THAR *Hemitragus jemlahicus* MONAL *Lophophorous impejanus* CHUKAR *Alectoris chukar* SNOW COCK *Tetraogallus himalayensis* SNOW PARTRIDGE *Lerwa lerwa*

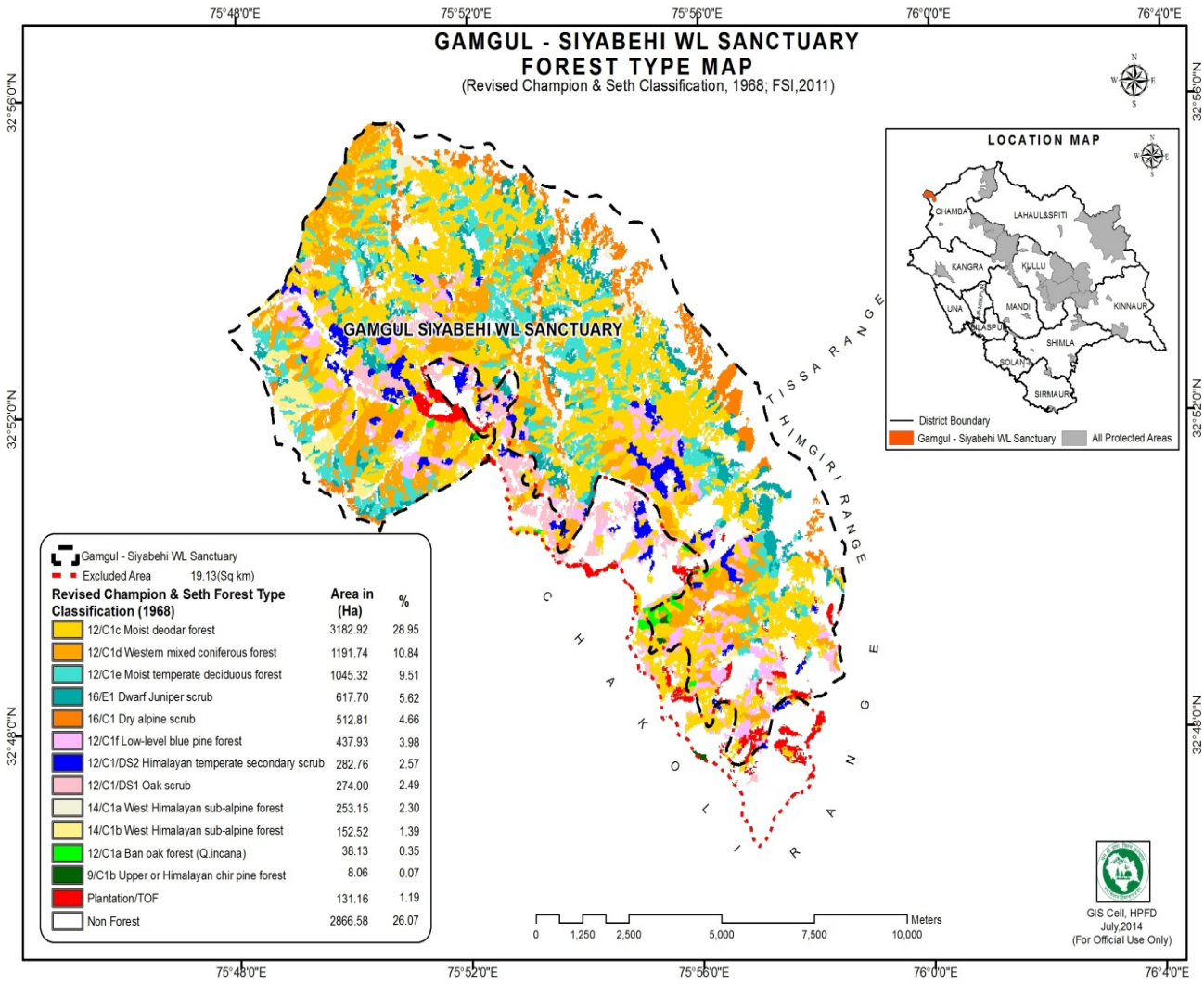
2.7. BIO GEORAPHIC CLASSIFICATION:

Bio geographically the area falls into North-West Himalaya Zone.

2.8. FOREST TYPES:

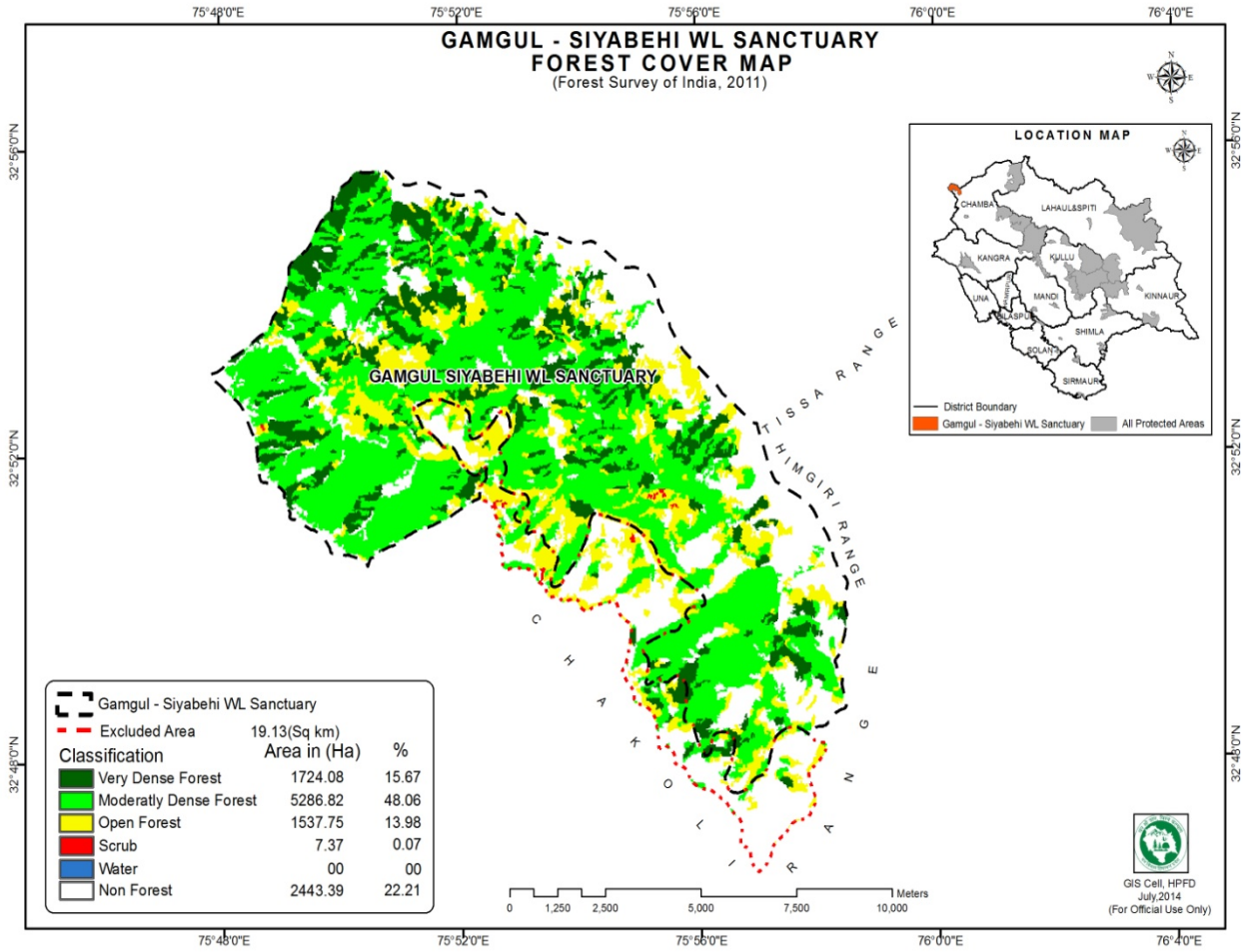
According to the classification of Revised Champion & Seth, the forests of the Sanctuary are categorized into the following forest types: -

Sr. No.	Forest type	Area (in Ha)	%
1	12/C1c Moist deodar forest	3182.92	28.95
2	12/C1d Western mixed coniferous forest	1191.74	10.84
3	12/C1e Moist temperate deciduous forest	1045.32	9.51
4	16/E1 Dwarf juniper scrub	617.70	5.62
5	16/C1 Dry alpine scrub	512.81	4.66
6	12/C1f Low level blue pine forest	437.93	3.98
7	12/C1/DS2 Himalayan temperate secondary scrub	282.76	2.57
8	12/C1/DS1 Oak scrub	274.00	2.49
9	14/C1a West Himalayan sub-alpine forest	253.15	2.30
10	14/C1b West Himalayan sub-alpine forest	152.52	1.39
11	12/C1a Ban oak forest (*Q.incana*)	38.13	0.35
12	9/C1b Upper or Himalayan chi pine forest	8.06	0.07
13	Plantation/ TOF	131.16	1.19
14	Non Forest	2866.58	26.07



2.9. COVER:

The sanctuary has fairly close forest canopy of mixed coniferous species in the lower elevation where as the higher altitudes as described under forests type are mainly alpine pastures. There is a good interface of the blanks and the forested area. This provides ideal shelter to different animals and bird species.



Sr. No.	Classification	Area (In Ha)	%
1	Very Dense Forest	1724.08	15.67
2	Moderately Dense forest	5266.82	48.06
3	Open Forest	1537.75	13.96
4	Scrub	7.37	0.07
5	Non Forest	2443.39	22.21

2.10. FOOD FOR WILD ANIMALS:

The wild animals get plenty of food from the variety of trees, shrubs and herbs such as Kasmal, Kobra-plant, Kareri, Walnut, Horse chestnut, etc. which forms the staple diet of animals. Some animals like Black Bear, Langur dig out the roots of the herbs as well and relish it. The cultivated crops are also damaged particularly by Black Bear and Langur.

2.11. HABITAT QUALITY, QUANTITY AND KEY AREAS:

So far as the extent of habitat is concerned it is adequate enough. However, due to biotic interference, the habitat has been subjected to a qualitative change. Human and cattle interference in this area of wildlife domain has led to the conflict with the wildlife. Thereby, the necessary elements of an ideal habitat have been disturbed. The habitat is well expanded and has good quantity of pastures and other habitat requirements in the sanctuary.

CHAPTER-III

HISTORY OF MANAGEMENT AND PRESENT PRACTICES

3.1 GENERAL:

The earliest record of commercial felling dates back as late as 1851 when an agreement was entered upon by British government with Raja of Chamba for the supply of 10,000 Deodar logs annually to their Agent at Shahpur. Prior to this, the felling must have been done for the bonafide needs by local people for house building and fuelwood. This arrangement collapsed in 1854 due to floating problems in the river Ravi. In 1861, another agreementt was entered upon by the British Government and Raja of Chamba wherein the direct sale of standing trees was done. This agreement also lasted for a period of three years i.e. upto 1864. In the same year, the forests were leased to the British Government for a period of 99 years, subject to the renewal of rules of management after every 20 years. This lease was re-drafted in 1872 when a code of forest rules was added to it as a schedule. Under these rules, some of the forests were to be demarcated and declared as reserved forests. Whereas the management of others was left to the discretion of His Highness the Raja of Chamba. The demarcation of the reserved forests was done in 1879 and 1882. These forests were to be exclusively managed by the State for the benefit of the rulers and for the supply of privileges to local people, as they were entitled to subject to the condition that no trees were exported for sale from these forests. On 1 April, 1908 the management of these reserved forests was restored to Raja of Chamba on certain conditions for a period of five years in the first instance. This arrangement was cancelled on 18 May 1913 because of the poor management of these forests by the Raja.

From 1913 onwards, the forests of Chamba State continued to be managed under two separate units. The reserved forests of “Bri Jangalat” by the British Government for which a Conservator of Forests was appointed. The remaining un-demarcated protected forests or “Chhoti Jangalat” by His Highness the Raja of Chamba for which Superintendent of Forests was appointed under the State Revenue Department.

The integration of Punjab Hill States and consequent formation of Himachal Pradesh on April 15, 1948, the erstwhile Chamba State was constituted into one civil district. The

two separately functioning forests units were amalgamated and were placed under the control of Himachal Pradesh Forest Department from August 1, 1948. Chamba and Churah division for the territorilal management of these forests with six & five ranges were created the same day. During 1961, another division known as Pangi Forest Division was constituted out of the Pangi Range of Churah forest Division. The reorganization of territorial divisions was again undertaken in 1984 and a total of five divisions viz Dalhousie, Chamba, Bharmour, Churah and Pangi were created with the objective of smaller territorial units for more effective management. A Wildlife Division was also created with headquarters at Chamba for exclusive management of the sanctuary areas. The territorial units/limits overlap with the other divisions, however the transfer of areas with all assets was done vide Number SC-A (1)/83-Vol.II dated 26.08.1986.

In 1886-87, the first Working Plan for the Reserved Forests was prepared by W.E.D. Aray's Plan (1886-87 TO 1895-96).It covered only the reserved forests.The second working plan was prepared by Mc Intre and came into operation from 1896 for 15 years. It again covered reserved forests; selection system was adopted third time. The plan was also prepared by Travor's plan from 1911 to 1924 for the reserved forests and remained in force for 14 years *i.e* 1911 to 1924 .There after Khosla's plan from 1928 to 1952 for the period of 25 years in which reserved forests were covered to manage. Then Gour's working plan appeared first time, which included some of the protected forests and pastures in addition to the reseved forests. The Kang's working plan 1969-70 to 1983-84 dealt with Churah felling series of Gour's working plan. **It was the First time that a chapter had been written on Wildlife Management.** After 1983-84 the working plan was prepared by Sh. A.K. Gupta IFS for the period of 1990-91 to 2005-06 .But the area under the control of Wildlife Division has not been included in this plan.The First Management plan of Gamgul Siyabehi was prepared by Sh. Praveen Thaplyal IFS form 1993 to 1998 for the period of 5 Years. In this management plan, special emphasis was laid on habitat management, protection; pasture improvement, eco- development, eco- tourism, research, and monitoring.

3.2 TIMBER OPERATION:

The exploitation of forests for export purpose started during 1851 onwards, when British Govt. with Raja of Chamba entered upon an agreement for the Supply of 10000 deodar

logs annually to their agent at Shahpur. Prior to this, the felling must have been done for the bonafide needs by local people for house building and fuelwood. This arrangement collapsed in 1854 due to floating problems in the river Ravi in 1861, another agreement was entered upon by the British Govt. and Raja of Chamba where in the direct sale of standing trees was done.This arrangement also lasted for a period of three years i.e. up to 1864.In the same year the forests were leased to the British Govt. for a period of 99 years, subject to the renewel of rules of management after every 20 years. The forests were further exploited under the provisions of various working plans, which remained under operations from time to time. Further, a complete ban on commercial green felling had been imposed in whole of H.P. since 1983. However, dry, dead, diseased trees were being removed in salvage marking in the various forests of sanctuary. The timber exploitation work in the sanctuary was carried out during 1994-95 to 2005-06. The trees were granted to the right holders for house construction in TD rights upto the year 2003-04. The timber exploitation activity over the years has affected the wildlife due to loss of habitat and occasional poaching by labourers. With the pronouncement of judgment in a court case in IA No. 548 dated 12.02.2000, all activities of timber exploitation has been stopped.

3.2.1 FIREWOOD:

There has been no exploitation for firewood in the past. However, the local right holders, migratory and nomadic graziers had been collecting fuel wood from dry fallen trees and bushes existing in the forests for their domestic use for more than hundred years. Fuel wood was also collected for marriage and funeral purpose. At present there are 165 families living around Gamgul Siyabehi wildlife sanctuary . On an average, there was a consumption of 75 qtls. fuel wood per annum per family for cooking and heating purposes and this works out to be 12375 qtls. per annum removal of firewood for 165 families. Further, it is estimated that the nomadic graziers also collects about 1025 qtls. of fuel wood for cooking purpose. Therefore, the whole removal of firewood works out to be 13400 qtls. annually from the sanctuary. Although the sanctuary was notified in 1999, 165 families consisting 3292 souls (2005-06) have not been rehabilitated outside the sanctuary. The proposal for the rationalization of area of the sanctuary was moved during the year 2005-06 making a provision of exclusion of 15.60 sq km forest and private area for the use of villagers and includes an equivalent non habilitated area into the

sanctuary. During the process of rationalization of areas in the year 2013, 32 villages were excluded from the sanctuary area and 15.60 sq km forest and private area was also excluded and an area i. e 15.00 sq km was included in the sanctuary. Thus the dependence of the villagers on sanctuary area has decreased manifold but still collection of fuelwood by the villagers can not be ruled out.

3.3 NON-TIMBER FOREST PRODUCE:

The collection and removal of minor forest produce was regulated under the Chamba Minor Forest Produce Exploitation and Export Act and under section 41 and 42 of Indian Forest Act, 1927 and rules made there under from time to time. The extraction, purchasing and export permits of the minor forest produce had been issued in the past after realizing prescribed fee/ royalty under the above rules by the competent forest officers. Now extraction and export of minor forest produce has been stopped since 2004-05 with the orders of Hon'ble Supreme Court of India.

3.4 LEASES:

As there is no green felling or Salvage removal from the sanctuary area hence, no leases at present exist in the sanctuary.

3.5 OTHER PROGRAMMES AND ACTIVITIES:

3.5.1 PLANTATIONS:

The afforestation and pasture improvement activities by artificial sowing and planting of species beneficial to wildlife and suitable to the temperate climate have been carrying out since long back. The detail of plantations raised from 2005-06 to 2018-19 with number of plants and species planted in the plantation areas is given as Annexure-IV. However, there are some patches in various forests where the growing stock has reduced due to continued biotic interference and natural calamities, such areas have to be regenerated by selecting site-specific species suitable for wildlife.

3.5.2 TREKKING ROUTES:

There are already some trekking paths in the area, however, for a better study of flora, fauna and for better protection network, some more routes are required to be constructed. Detail of already existing trekking routes is enclosed as Annexure-VI

3.6 FOREST PROTECTION:

3.6.1 LEGAL STATUS:

As the complete area 108.40 Sq. Km. has been declared as Wildlife Sanctuary. The complete area is also legally protected area as per Wildlife (Protection) Act, 1972**.** The legal status of forests is as under:

3.6.1.1 RESERVE FORESTS:

The Reserve Forests were constituted after demarcation during 1878-1881 and forest settlement was carried out simultaneously. Further Chamba State forests were declared as reserve forests. These were again revalidated as Reserve forests under The Indian Forests Act, 1927. The Reserve Forests constitute 2183.32 hac. of area in the sanctuary. The forest wise detail is enclosed as Annexure – II.

3.6.1.2 DEMARCATED PROTECTED FORESTS:

The old DPFs were demarcated and settled in 1912-15. Subsequently, these were declared as DPFs under section 29 of Indian Forest Act 1927. Consequent upon the merger of states and formation of H.P. all the proprietary rights over forest area have been inherited by H.P. Govt. H.P. Govt. declared all forest and wastelands as Protected Forests. Subsequently, the H.P. Govt. ordered that these forests stands demarcated, surveyed and rights determined and now these forests stand declared as Demarcated Protected Forests. The Demarcated Protected Forests and dhars constitute an area of 8657.42 hac. The forest wise detail is given in Annexure – II.

3.6.2 ILLEGAL ACTIVITIES:

3.6.2.1 HUNTING:

A complete ban on hunting of wild animals has been imposed under the Wildlife (Protection) Act, 1972 and further amendments of the above Act and rules framed there under from time to time except as provided under special circumstance provided in the rules. Penalty under section 51 of the Act has been enhanced to have a deterrent effect on the poachers. Prior to this ban, hunting used to be a favorite game of the Rajas of Chamba particularly during the winter season. Generally, the poaching is done in the remote areas during winter season when the mobility of the staff is hampered due to excessive snowfall. However, it is very rarely done in a planned way. The wild animals become easy targets of poachers and villagers when they migrate to the lower elevation during winter season due to heavy snowfall. It has been noticed that the villagers never inform the forest officers nor come forward to witness the poaching or other forest offences and become ignorant even if they know the commission of any offence. They need to be educated regarding the importance of wildlife and environment.

3.6.2.2 POACHING:

Poaching is one of the effective direct threats to the existence of wildlife. However, due to remoteness of the sanctuary in the inner Himalayas, this factor does not have any significant impact upon the wildlife. No incidence of poaching has been detected during the last 15 years. However, petty offences of poaching during heavy snowfall, when the wild animals venture to the lower elevation and near the habitation in search of food cannot be ruled out. These cases are perhaps not reported / detected for want of evidence and due to existence of strong unity and affinity among the local community, as they never disclose anything against anybody easily. To curve this tendency,there is need to increase patrolling with better communication system and accessibility in the sanctuary with engagement of watchers of right temperament and development of secret and effective information system.

3.6.2.3 ILLEGAL CUTTING OF TREES:

No case of illicit felling of trees in the sanctuary area reported since long time. However, petty offences of illicit felling cannot be ruled out.

3.6.2.4 ILLEGAL REMOVAL OF NTFP:

There had been a systematic exploitation of minor forest produce under the Chamba Minor Produce Exploitation and Export Act 2003 and transit rules under section 41 & 42 of IFA, 1927 in the past. As local habitants is forest dependent and had liberal rights for exploitation of minor forest produce that time. Thereafter, the extraction of Minor Forest Produce has been banned by the orders of Hon'ble Supreme Court of India w.e.f. 2004-05.

3.6.2.5 ENCROACHMENT AND OTHER ILLEGAL ACTIVITIES:

No case of encroachment has been reported in the sanctuary. Other illegal activities which have taken place are illegal grazing by the domestic and nomadic goats, sheep and cattle in the plantations and closed areas. A few instances of illegal lopping, removal of fuel wood in the closed forests and plantation have been detected but largely these offences are petty and action has been taken by the staff as per prevailing rules.

3.6.2.6 DOMESTIC LIVE STOCK GRAZING:

The right to grazing in all types of forests, except Reserved Forests is more or less unlimited and has been exercised for more than 125 years. In reserved forests, the number of cattle allowed to be grazed had been fixed but this regulation has seldom been enforced in the field. In the days of Rajas, people who used to herd cattle in excess of prescribed number had to pay fees in the shape of Ghareri to the State. This was an effective check on the tendency of rearing cattle over and above the maximum domestic requirement of a family. Since the abolition of this tax by H.P. Govt, the pressure on forests has increased considerably resulting in soil erosion particularly adjoining to the villages. The hereditary, migratory and nomadic graziers had been grazing their sheep and goats in the forests of sanctuary as per settlement rights and concession granted to them by the rulers of Chamba State. The number of sheep and goats allowed to graze in particular Dhars and forests were freezed to the enumeration carried out during the year, 1971-72. The number was further revised and freezed to the actual enumeration carried out during 1987-88. Afterwards the Grazing Advisory Committee has allowed the number of sheep and goats and other cattle to graze as per actual enumeration with effect from 2005-06. The dhars are more or less free of rights. The gaddies and gujjars were allowed for

grazing on payment of prescribed fee. The grazing has now been prohibited by the orders of Hon'ble Supreme Court of India. The scenario in the field is entirely different. Local as well as nomadic graziers are still graze their cattle in the sanctuary. Therefore, this issue needs to be addressed on higher priority and the matter be taken up with the government of Himachal Pradesh or any other appropriate forum.The list of graziers having rights before the ban imposed by Hon'ble Supreme Court order is attached as (Annexure-XIX, XX).

3.6.2.7 FIRES:

The chances of occurring forest fires are more in the winters before snowfall. During this period people from adjacent villages burn their grazing lands (Ghasnis) to have more grass in the coming season. Fire incidences also take place when nomadic graziers cross sanctuary area, although such incidences are rare. Regular patrolling along with deployment of fire watchers are carried out during both the summer and winter seasons. Construction of water bodies, cleaning of bridle paths, inspection paths are also done during the season. Besides this regular fire awareness campaigns/ workshops are also conducted to make people aware about the loss during forest fires. These activities help in combating with fire incidence. The list of fire prone areas is given as Annexure XI

3.7 TOURISM:

There is a high potential of tourism in the sanctuary. It is a paradise for the trekkers and the wildlife lovers. This sanctuary is having a lot of potential for adventurous as well as religious tourism. However, no record of visitors has been kept in the sanctuary in the past. The tourist comes from different states like Punjab, Haryana, Delhi, and J&K to see the enchanted valley view for refreshing themselves. During Manimahesh Fair of Distt.Chamba, a significant number of pilgrims from J&K cross this area through Khundimaral to reach Chamba and use the area for camping places at Khundimaral, Langera, Sanghani and Bhandal .It is the common route used by the pilgrims from the ancient past. There is one more famous tourist place at Padhary jot (J&K) which is just adjacent to the boundary of sanctuary. This place is on the top of catchment area of Siul River having large flat pastures, one can enjoy the lush green beauty of Gamgul Siyabehi wildlife sanctuary as well as panoramic view of Bhadrwah and Doda valleys of J&K. Lush green pastures and permanent glaciers provide thrilling experience to the tourists. At

present there is only one transit hut at Bhandal to facilitate the tourists. More facilities in the form of environment friendly trekker huts, camping sites etc. are required for the stay of the tourists.

3.8 RESEARCH MONITORING AND TRAINING:

3.8.1 RESEARCH AND MONITORING:

This field also remained untouched. Neither productive research/ monitoring nor regular training have been done so far in this sanctuary area. However, in house trainings for field staff have been undertaken. The works executed in the sanctuary are regularily being monitored by different level of forest officers as per protocol. Until and unless there is sufficient research data and information regarding the schemes to be implemented is available, the success cannot be achieved. The very basics of the subject matter viz a viz topography, climatic condition, flagship wildlife species, associates, migratory origin wildlife, predators, prays, all types of invertebrates and vertebrates including reptiles, birds, amphibians, insects, various types of flora of the area and the choice of species for different wild animals species, carrying capacity of the area, eco system services provided by the area, adaptability of the habitat to the wild animals, infrastructure available for the managerial staff in the sanctuary area and their effectiveness as well as professional skills / excellence etc. are some of the basics for research monitoring and subsequent training.

3.8.2 TRAINING:

ON JOB TRAINING:

To manage ecosystem with the basic purpose of wildlife management is a highly technical subject. Wildlife is a dynamic component of the ecosystem, which requires a well-trained forester to comprehend, appreciate and manage. It is highly imperative that short trainings, in house trainings, refresher courses, exposure visits etc. for the field staff are made a regular feature, so that they keep abreast with the latest developments regarding different management techniques.

FORMAL TRAINING COURSES:

Regular training courses being conducted at Wildlife Institute of India impart a useful technical knowhow. The officers/officials dealing with the wildlife management will be trained. Besides this, to acquaint with the latest management techniques adopted in different states/ countries, short training will be arranged for the officers and field staff.

3.9 WILDLIFE CONSERVATION STRATEGIES AND THEIR EVALUATION:

3.9.1 AWARENESS PROGRAMME:

The approach with respect to conservation of wildlife is mainly by way of ensuring effective protection against poaching. A special campaign for educating the people through nature awareness programmes, guided tours and telling them the significance of wildlife conservation is required to be taken up every year. The field staff of the sanctuary has been carrying out awareness campaign among mass but more emphasis is needed to make people understand about the basic values of eco system services, wildlife cconservation and other benefits, which they are getting from the area.

3.9.2 PASTURE IMPROVEMENT:

The sanctuary has a vast area under alpine pastures, which is visited by the migratory as well as hereditary graziers during the summer every year. Although the Hon'ble Supreme Court of India prohibited many activities including grazing in the sanctuary, yet the problem of grazing is yet to be settled, as the rights of the local as well as migratory graziers have not been settled. It will take some time to sort out the problem. The pasture improvement activities had been taken up in the past in a limited way and it need to be extended further with removal of unpalatable grasses and bushes selectively for the protection and dissemination of indigenous grasses scientifically and execution of soil conservation measures in the slips and nallahs.

3.9.3 CENSUS OPERATION:

The census of the rare and endangered species especially and other important wild animals and birds in general is necessary to monitor their population in the wild. Census

techniques are not available for all the species. However, the Wildlife Institute of India, Dehradun can be requested to provide the census methodology and training to the field staff so that the process can be completed at least once in a year. The regular survey and census will help maintaining or amending the management practices.

3.9.4 IDENTIFICATION OF WATER HOLES AND SALT LICK SITES:

There are many natural water holes in the sanctuary. The wild and domestic livestock probably use majority of these jointly. In such a situation, there is every chance that the infection of contagious diseases may spread from domestic animals to wild animals and *vice versa*. It is therefore necessary that the possibility of constructing and maintaining the waterholes for the wild animals nearer the habitat is explored where domestic live stock does not reach very often. Apart from this, the natural salt licks are also found. However, these are very rare in the rocks. It is imperative that such sites are identified and supplemented with artificial salt licks. However, the construction of artificial water holes has been initiated under various schemes.

3.9.5 CATTLE TREATMENT:

Inoculation against possible cattle diseases is required for the domestic cattle, sheep and goats passing through the sanctuary during the migratory period. The inoculation is carried out by the Animal Husbandry department as per norms. However, it needs to the ensured that the inoculation be carried out from time to time at the main entrance points in the sanctuary and provision is required to be made and kept at the disposal of the Animal Husbandry Department so that the infection spread to the wild animals could be avoided.

3.9.6 PROHIBITION OF WEAPONS:

There is a complete ban on carrying of weapons inside the sanctuary area. The necessary sign boards of prohibited activities are already in place. However further awareness shall be taken up regularly.

3.9.7 IDENTIFICATION OF CORE AREAS:

There are some specific areas in the Sanctuary where the wildlife is in abundance. Such areas are to be treated as core areas. The sanctuary can be developed with special emphasis

on the protection, natural breeding and proliferation of brown bears, which exist in the sanctuary in good numbers. The core area of brown bears need to identified and developed as per management practices of the species.

3.9.8 ENGAGEMENT OF WILDLIFE WATCHERS/ INFORMERS:

The field staff has been carrying out the protection and management duty of the sanctuary. However, during the summer season, the graziers pass through the sanctuary to their grazing runs. More vigil is required for the protection of wildlife. Moreover, the Forest Guard of the beat cannot go to the forest in the high alpine pastures alone during emergency. He has to have atleast two /three persons with him to go on raid or otherwise for patrolling and other duty in the remote and inaccessible areas. The persons from the adjoining villages with a vent of wildlife conservation attitude can be engaged as watchers in the sanctuary for at least six months in a year. Their services can also be utilized for launching awareness campaign regarding wildlife conservation and its importance. This will also generate employment potential to the villagers.

3.9.9 CONSTRUCTION OF BRIDLE PATHS AND BUNKERS:

The larger portion of the sanctuary is inaccessible and located in high mountainous altitudes. Moreover, it is very far from field staff headquarters and they cannot come back to their residences in the evening. For proper monitoring and vigilance of wildlife, it is necessary to have paths and shelters at appropriate places during patrolling in the sanctuary. The natural sites like caves and overhangs can be improvised in the shape of bunkers where the staff can halt for the night. The paths and bunkers need to be maintained every year as these are damaged and blocked with debris due to the heavy snowfall during the winter season.

3.10 ADMINISTRATIVE SET UP:

The sanctuary is being managed by the Divisional Forest Officer, Wildlife Division Chamba. There is one Range Forest Officer Wildlife stationed at Bhandal, who supervises the Wildlife Sanctuary. Gamgul Siyabehi Wildlife Sanctuary has been divided into one block and four beats. The Deputy Ranger at Bhandal is the incharge of forest block (whole of the sanctuary

area) and the incharge of four beats are Forest guards posted at Bhandal, Sanghni, Bir and Langera beats. However, the administrative set up of the sanctuary is given as under:-

Sr. No.	Name of the Wildlife Sanctuary	Designation of the Forest Officer	No.	Headquarter
1	Gamgul siyabahi	D.F.O.	1	Chamba.
		A.C.F.	1	Chamba
		Range Forest Officer.	1	Bhandal
		Block Officer.	1	Bhandal
		Forest Guards.	4	1.Bhandal 2.Sanghani 3.Bir 4.Langera

Based on natural division of the boundaries and its administrative suitability and for the purpose of management, the above administrative set up has been evolved over the years. Now, there is a dire need to amend this administrative set up in view of the multifarious job of the field staff.

3.11 COMMUNICATION:

The sanctuary has been connected by road up to Khundimaral but the mobility is restricted upto Sanghani during winter because of snowfall. The telephonic facility is not available inside the sanctuary. It is imperative to have an efficient communication system viz a viz connectivity by satellite telephones, powerful telephone wireless system and other latest means of communication available for better management and protection of the wildlife sanctuary. It is better to provide telephone to the Range Forest Officer and other staff stationed at Bhandal. Further provision of mobile phones to each field staff will be of tremendous help in better management and protection of wildlife in the coming time.

3.12 SUMMARY OF THREATS TO WILDLIFE:

3.12.1 GRAZING:

Grazing by migratory and hereditary graziers not only poses serious threat to the habitat but also there are chances that the infection of contagious diseases may spread among the wild animals from the domestic livestock. No disease or mortality was noticed in the past but the fact needs to be studied / established and prevention on this score must be taken by way of inoculation of domestic livestock and better animal husbandry practices. As mentioned earlier, the grazing has been prohibitted by the orders of Hon'ble Supreme Court of India but the rights of the migratory graziers have not been settled yet. As discussed above, this is a serious threat to the wildlife and needs to be addressed on high priority.

3.12.2 PASTURE STATUS:

The biotic pressure on alpine pastures is more than their carrying capacity. It is the matter of concern that unpalatable grasses have invaded the grazing runs due to excessive grazing. There is a need to re-examine the century old free grazing rights in the present day perspective. The geological and normal soil erosion over the years has also played a role in decreasing the extent of pasture lands. In such situations, the need of the day is to revise the grazing policy. However, keeping in view the orders of Hon'ble Supreme Court of India, the matter can be taken up with the government. Simultaneously the efforts must be carried out by wildlife managers to tackle such pastures for immediate treatment by mobilizing resources for this purpose. Efforts should also be made to provide alternate grazing areas outside sanctuary.

3.12.3 HUMAN WILDLIFE CONFLICT:

Gamgul Siyabehi wildlife sanctuary is surrounded by a number of villages on its southern and south western sides. Grazing of cattle and collection of NTFP by Nomadic graziers and fringe villages increase the chances of human wildlife conflict, as a result of which local people are not supportive to conservation of wildlife. Forest department (especially frontline staff) are not getting proper support from local communities, therefore management of human wildlife conflict should be the priority for management of any PA. Details are given in Human Wildlife conflict management plan (para 6.5.5)

3.12.4 DISEASES TRANSMITTED THROUGH DOMESTIC CATTLE/ COMMUNICABLE DISEASES:

Wildlife disease is a major protection issue. In Gamgul Siyabehi wildlife sanctuary the chances of infection from the cattle of adjoining villages and migratory graziers cannot be ruled out. The following areas have been listed sensitive as well as key sites on account of common sites where the wild animals as well as domestic animals feed /graze frequently. Therefore, this area needs to be sanitized, so that the disease from domestic animals does not get transmitted to the wild animals in the vicinity. Further, the sites nearer to habitats or Goths (where the migratory graziers camp during nights), it is necessary to vaccinate the herds of sheep and goat regularly to avoid the transmission of possible diseases.

3.12.5 POACHING:

Poaching is one of the effective direct threats to the existence of wildlife. But due to remoteness of the sanctuary in the inner Himalayas, this factor does not have any significant impact upon the wildlife. No incidence of poaching has been detected during the last 15 years. However, the offences of poaching during heavy snowfall, when the wild animals venture to the lower elevation and near the habitation in search of food, cannot be ruled out. These cases are perhaps not reported / detected for want of evidence and due to existence of strong unity and affinity among the local community as they never disclose anything against anybody easily. To curve this tendency, patrolling with better communication system and accessibility in the sanctuary has to be increased with engagement of watchers of right temperament and development of secret and effective information system.

3.12.6 FOREST FIRE

Although no incidence of fire has been reported in last few years but the threat is always there. The forests adjoining Langera- Padhry road are prone to forest fires. Main fire season is during October-November when people burn their ghasnees (grazing areas).

3.12.7 SHRINKING HABITAT:

To some extent, the habitat is getting depleted due to shrinking of area. Some of the factors behind the shrinking of habitat is adverse climatic factors, unchecked soil erosion,

uncontrolled biotic interference overtly or covertly, invasion of unpalatable grasses, creepers and bushes.

CHAPTER-IV

PROTECTED AREA & THE EXISTING LAND USE SITUATION

4.1 THE EXISTING SITUATION IN THE ZONE OF INFLUENCE:

4.1.1 LOCATION ETC:

The sanctuary has high mountainous peaks towards the northern, eastern and southern direction. With the pace of development and good connectivity by roads in the area, there is considerable amount of decrease in the age old migration to lesser harder area down below in the planes under compelled circumstances of hardships and non availability of medical and other life saving facilities in the area. The professional poachers from outside the areas hardly ventures during the winter season in the sanctuary area. Thus the villagers don't pose much of the problems in the wildlife sanctuary.

4.1.2 VILLAGE INSIDE THE SANCTUARY:

During the process of Rationalization of the boundaries of sanctuary, 32 villages were excluded from the sanctuary area. Now there is no village inside the sanctuary.

4.1.3 LOCAL ECONOMY AND OCCUPATION:

Economically, the people are not well off but there has been an increase in their income with improved marginal agriculture and horticulture practices. They meet their annual requirement of food by practicing agriculture and horticulture on the small land holdings. The average production of food grains and fruit as per estimate of Revenue Department is given as under:-

Sr. No.	Crop.	Production in Kg/Bigha.
1.	Maize.	2 Qtl./Bigha.

2.	Wheat.	25 Kg/Bigha.
3.	Phullan.	9 Kg/Bigha.
4.	Bharesh.	19 Kg/Bigha.
5.	Barley.	29 Kg/Bigha.
6.	Chenain.	16 Kg/Bigha.
7.	Potato.	2 Qtl./Bigha.
8	Pulses.	25 Kg/Bigha.
9.	Apple.	5 Qtl./Bigha.

The crops (whatsoever are grown) are harvested in the months of April-May and October-November. A few people practice bee-keeping for their domestic consumption and not on commercial scale. Collection of NTFP activity has been stopped due the order of Hon'ble Supreme Court of India dated 14.02.2000. Selling of pulses, apples, wool and woolen blankets, sheep and goats, green vegetables is the main source of income. The sale amount is just sufficient to provide them basic needs of livelihood and meet the requirement of education of their children.

4.1.4 IMPLICATION OF LAND USE:

The cattle's rearing is the chief profession of the majority of the population and it is impossible to delink the dependency of the people on the forest resources. The quantity and quality of the livestock is determined on the carrying capacity of the forests and available fodder on the private holdings. Private land can be tilled in a better way so that the nutrient loss is less and sheet erosion of top soil is arrested. The grazing land around the village has lot of biotic pressure. So the plantations of species fit for fuel and fodder can the raised which helps to reduce the pressure on the main protected area. The pasture land along the corridor of migratory graziers can be improved by rotational closure and planting of improved palatable grasses. But with the pronouncement of order dated 14.02.2000 of Hon'ble Supreme Court of India, the whole scenario has changed. This aspect may be taken up with the government so that alternate arrangement could be made for the well being of local people.

4.1.5 PORTECTED AREA MANAGEMENT AND ITS IMPLICATIONS:

The forest department will rehabilitate the degraded forest land through assisted natural regeneration, artificial sowing and planting. The inspection/ census paths will be constructed and the old one will be repaired annually to have better monitoring of wildlife and different habitat management works in the sanctuary. By developing trekking facility in the form of paths, inspection huts, bunkers, the tourist will also be attracted towards the sanctuary. All the above activities will generate employment to the local people and research on wild animals can also be carried out for better management. At present no non-government agency is working in the area. The Forest Department is undertaking different livelihood activities aimed at increasing the income alternative livelihood of the people living around the sanctuary.

4.2. THE DEVELOPMENT PROGRAMMES AND CONSERVATION ISSUE:

4.2.1 GOVT. AND NON GOVT. PROGRAMMES AND THEIR IMPLICATIONS FOR THE PROTECTED AREA AND ZONE OF INFLUENCE:

At present, there is no Non-Govt. agency working in the area. The Forest Department is undertaking different activities aimed at improving the forests habitat conditions, making efforts to educate the masses regarding Wildlife Conservation and to promote Eco Tourism. For the involvement of non government agencies, local bodies like Panchayats and other institutions like schools, Yuvak Mandals, Mahila Mandals etc. are being persuaded to take part in wildlife conservation activities. To ensure more participation some eco developmental works are also taken up in the surrounding villages.

4.2.2 ECONOMY:

As already mentioned economically the people are self sufficient. The production of cash crops in the area and other development schemes of the Govt. are helping the local people to improve their monetary status.

4.2.3 PROBLEMS FACED BY PEOPLE AND EFFECT ON THE MANAGEMENT OF PA AND ZONE OF INFLUENCE:

So far as the management of Wildlife is concerned, it does not have any implication for the local public. People however, show resentment when there is man- animal conflict or some damage to the live stock or crops by the wild animals. Particularly leopard, Black Bear and monkey constitute man-animal conflicts for which people are quite apprehensive. Local people as well as migratory greziers also show resentment when they are restricted to graze their cattle in the sanctuary area especially during summer season. However, scientific management as well as awareness programmes can help in managing conflicts between the public and wildlife.

CHAPTER-V

VISION, OBJECTIVES AND PROBLEMS

5.1 THE VISION:

"To be a well protected sanctuary in the Western Himalayas free from any adverse human pressures, with an undisturbed; well protected ecosystem that is a home to a variety of flora and fauna and to develop as a centre for wildlife tourism providing a rich and hassle-free experience to eco tourists".

5.2 OBJECTIVES OF MANAGEMENT:

The objectives of management of Gamgul Siyabehi Wildlife Sanctuary are enumerated as under: -

i. To reduce dependency of local people on forests and Improvement of Habitat for different wild life species.
ii. Protection against threat to wildlife.
iii. Conservation of biodiversity.
iv. Pasture Improvement.
v. Ecological Development for livelihood.
vi. Eco-tourism.
vii. To develop capacity-building for front line staff.

5.3 PROBLEMS/ CONSTRAINTS IN ACHIEVING THE OBJECTIVES:

Since the sanctuary is located in the remotest areas of Churah valley of sub division Salooni, it is very difficult to implement the management practices in the very harsh temperate climate. The working season is very limited and ranges from April to November. The skilled workers have to be imported from Chamba, which is quite far and makes the implementation of different operation expensive. . The remoteness, lack of sufficient bridal/ inspection/ census

paths and non- existence of shelters in the far off places during the night in the inaccessible areas make regular monitoring of work difficult.

Sr. No.	Objective	Problems/Constraints
1	To reduce dependency of local people on forests and Improvement of Habitat for different wild life species	(i) No alternate traditional forest rights of local people outside PA (ii) Lack of knowledge about wildlife conservation values among local people (iii) Insufficient scientific data (iv) Limited working season
2	Protection against threat to wildlife	(i) Poor/No Mobile connectivity in some areas of sanctuary (ii) Sanctuary remains inaccessible during December to March due to heavy snow fall (iii) Insufficient nos. of patrolling huts/watch towers. (iv) Patrolling and monitoring system is not appropriate and needs improvement (v) Inter state boundary
3	Conservation of biodiversity	(i) Insufficient scientific data
4	Pasture Improvement.	(i) Regular movement of Gaddies and Gujjars with their flocks (ii) Dependence of local people on forests
5	Ecological Development for livelihood	(i) Lack of awareness and sense of belongingness among local community.

6	Eco-tourism.	(i) Lack of interpretation centre for nature education (ii) Lack of knowledge about wildlife conservation values among local people as well as field staff (iii) Insufficient infrastructure
7	To develop a comprehensive capacity-building program for front line staff and local community through training and nature education programmes.	(i) Shortage of specialized resource persons for knowledge exchange and guidance (ii) Lack of awareness and sense of belongingness among local community.

5.4 MAJOR CHALLENGES FOR THE MANAGEMENT:

The sanctuary is facing many challenges and a summary of the same is as under:

- **To provide alternate forests for local people outside sanctuary:** Prior to Hon,ble Supreme court order dated 14.02.2000 in IA No. 548 in civil Writ Petition No. 202/95 "which prohibited cutting/ removal of grass, collection of minor forest produce, grazing etc". local people as well as gaddies and gujjars were totally dependent on forests for collection of grasses, minor forest produce, grazing etc. There are 32 villages around the sanctuary, gaddies 56 Nos. having cattle population app. 21497 nos. and gujjars 116 nos. having cattle population app. 2786. Prior to this order, these communities were having traditional rights in the forests of sanctuary. In present scenario there is always a situation of conflict between front line staff and the communities mentioned above.
- **Tough terrain and harsh weather conditions**: Tough terrain and harsh weather conditions prevailing in the sanctuary make it difficult for wildlife managers to manage the sanctuary. Almost whole of the sanctuary area remains under snow from Nov-Dec to Feb-March. The working period in the area is very limited.

- **Inadequate capacities**: Frontline staff posted to the area does not have required trainings for wildlife management. Department does make some efforts for in house training programmes on specific issues. However, scientific management of the area requires staff to be equipped with different skills for protection, management as well as long-term monitoring.
- **Anthropogenic pressures**: Due to its openness, sanctuary is highly vulnerable to biotic pressure of the surrounding villages as well as from the nomadic graziers, however the pressure is less during winters when the area is under snow.
- **Scientific database and monitoring**: No scientific study has been done in the sanctuary area except the information gathered by local staff. However, this information generated is not consolidated into a database. Similarly, there is no system of long-term monitoring for the area.
- **Community participation**: Due to lack of awareness about wildlife conservation, public participation is almost nil in the management of PA. There is a lack of long-term vision in PA management and people participation is purely opportunistic depending upon availability of funds. There is need to formulate a mechanism so as to link the communities for better protection and management effectiveness of the sanctuary.
- **Inter-state boundary**: Gamgul Siyabehi wildlife sanctuary boarders with U.T. of Jammu & Kashmir. Inter state co ordination regarding wildlife conservation is almost nil.
- **Awareness**: There is no regular system of nature education programs for the communities.

5.5 SWOT ANALYSIS:

Strength-

1. Wildlife heaven
2. Religious places nearby
3. Natural & Cultural richness
4. Traditional hospitality
5. Pollution free environment

Weaknesses-

1. Dependency of local people on natural resources of the sanctuary
2. Harsh weather conditions
3. Tough terrain
4. Lack of proper awareness among the community

Opportunities-

1. To Provide better opportunities to the visitors to enjoy its natural beauty
2. To develop an ideal destination for nature lovers
3. To promote as an adventurous destination
4. To conduct awareness camps.

Threats-

1. Lack of co-ordination between community and department.
2. Disturbance to the wildlife
3. Pasture status
4. Over exploitation of natural resources

CHAPTER- VI

THE STRATEGIES

6.1 STRATEGY FOR ACHIEVING THE BROAD OBJECTIVES:

Gamgul Siyebehi wildlife sanctuary is a unique assemblage of high altitude flora and fauna. Keeping this in mind, the proposed strategies are focused on securing the ecological integrity of this area with its connectivity in the large landscape. This will require building better understanding about the ecosystem and putting in place a mechanism which could provide intensive management, long-term monitoring of the area and generate support of the local communities for the management of wildlife sanctuary. Major strategies for future management of the area are provided as below:

6.2 ZONATION:

It is proposed to divide the whole area into following zones:

Core Zone-

The core area supports dense forest of different conifers and some broad leaved species. The wild animals generally remain confined to this zone and leave this area only during heavy snowfall. This area is proposed to be managed to continue its pristine status by intensive protection and long-term monitoring.

Eco-Tourism zone-

This zone is the window of the Protected Area, which will be used for eco-tourism programs. The objective of this zone will be to maximize visitor experience and generate support for long-term conservation of the area.

Pasture improvement Zone-

This zone is facing tremendous pressure from local people for graze their cattle as well as non timber forest produce collection. Migratory graziers are also putting extra pressure on these pastures. The objective of this zone will be to restore these areas to their original shape.

6.3 THEME PLANS:

The theme plan which would be implemented in consonance with the plan objectives are as under:-

Protection Plan: In this segment of theme plan, various challenges, possible threats and strategies to mitigate these constraints have been discussed.

Habitat improvement Plan: In this plan various interventions like plantation, soil & moisture conservation works, improvement of water availability etc. have been discussed.

Infrastructure development plan: In this plan, the existing scenario of infrastructure has been identified and required infrastructure have been proposed.

Eco development plan: It talks about different villages that are present around the sanctuary and various measures to involve these villages in the management of the wildlife sanctuary.

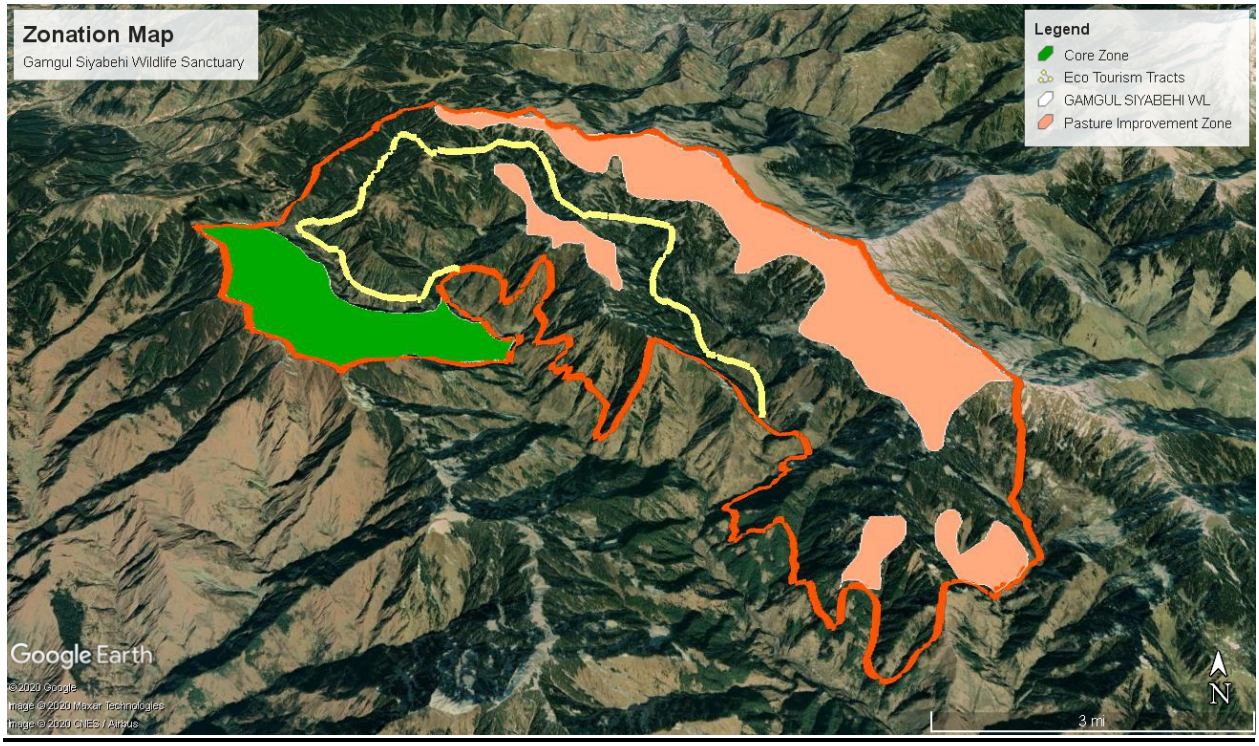
Research and monitoring: In this plan various monitoring techniques have been elaborated.

Human Wildlife conflict management plan: This plan provides different management aspects to minimize/deal with the human wildlife conflict situation.

Wildlife health management plan: In this plan, various preventive measures against wildlife diseases have been discussed.

6.4 ZONE PLANS:

Zones identify where various strategies for management and use will best accomplish management objectives to achieve the desired future of the Protected Area. Within each zone, the management prescriptions should be reasonably uniform but may differ in type or intensity from those in the other zones in order to accommodate multiple objectives.



6.4.1. CORE ZONE PLAN:

This zone needs complete protection and just a minimum of restorative management intervention to secure its objectives. The forests/areas in this zone should be managed as to retain these in their pristine status and there will be no interference for development in this zone. The managerial interference here would only be protection oriented and the habitat should be regularly monitored.

6.4.1.1 OBJECTIVES:

1. To maintain the naturalness and ecological integrity of area without any human interference.

2. To maintain and protect the biodiversity of the area.

6.4.1.2 PRESENT STATUS:

The core area supports dense forest of different conifers and some broad leaved species. The wild animals generally remain confined to this zone and leave this area only during heavy snowfall. This zone possess intact undisturbed vegetation

6.4.1.3 RECOMMENDED STRATEGIES:

Protection – A more intensive patrolling is suggested for this zone with more deployment of the frontline staff. Further details are given in Protection Plan (para 6.5.1) and Chapter X (Organization & administration).

Habitat restoration - This zone will primarily act as biodiversity conservation zone and needs complete protection with a minimum restorative management intervention to secure its objectives.

- A complete survey in this zone should be conducted in order to identify the gaps and possible augmentation activities.
- Similar survey should also be taken to identify potential soil conservation and water regime development areas.
- Further details related to these activities are given in habitat management plan

Research & Monitoring – For Gamgul Siyabehi Wildlife sanctuary available literature and ecological research data is not sufficient. Regular research and monitoring should be done on periodic basis. Details related to research and monitoring have been given in relevant chapter (Chapter IX -Research, monitoring and evaluation).

Infrastructure development- For effective patrolling and other management activities construction of watch towers/ anti poaching huts/ bunkers at Periath Dhar, khundimaral, Talai DPF and Baju Bag are proposed. Further details are given in Infrastructure development plan (para 6.5.3)

6.4.2. ECO TOURISM ZONE PLAN:

6.4.2.1 OBJECTIVES:

i. To increase the inflow of eco-tourists to the WLS without affecting the main objective of conservation.
ii. To involve local people in tourism activities, thereby generating direct and indirect economic activities for them.
iii. To provide hassle-free, low volume and truly enriching experience of wilderness to the visitors
iv. To create awareness about wildlife conservation among masses.

6.4.2.2 PRESENT STATUS:

There is a heavy potential of eco tourism in this area having very unique and aesthetic view of whole area. People from Jammu and Kashmir cross this area during famous Manimahesh Yatra. People from Himachal and other surrounding states approach this area to visit Padhri Jot (a famous tourist place in Jammu and Kashmir and very close to the boundary of the sanctuary). This place is 8-10 KMs from the boundary of the sanctuary. The sanctuary is having a very high potential for religious and adventure tourism. The Main attraction is the trekking, hiking and pilgrimage uphill from Sanghani to Khundi Maral. The area is worth to see being a rich forests having a very high biodiversity, high mountnious alpine pastures and natural water falls. At present, only hard core wildlifers visit deep inside the sanctuary. Lack of infrastructure and other basic facilities make it difficult to promote eco tourism in the sanctuary.

6.4.2.3 RECOMMENDED STRATEGIES:

- Before starting eco tourism in the sanctuary, carring capacity of the area must be evaluated.
- By eco tourism, impact of human activities on PA will be high. Therefore, regular patrolling should be done.
- Sanctuary literature (brochures/pamphlets) should be printed.
- Interpretation centre/ Tourist information centre/souvenir shops should be constructed either at Bhandal or Langera.
- Basic infrastructure at different locations along the tracts will be established.
- The popular treks should be maintained and monitored on a regular basis.
- Proper waste management system will be established.
- Proper signage and detailed instruction at some prominent places.
- Further details regarding ecotourism management, capacity building of staff and community, infrastructure development etc. are given in chapter VII- Eco Tourism, Interpretation and Conservation Education.

  It must be ensured that all eco-tourism activities to be executed in the PA are as per the provisions of Wildlife (Protection) Act, 1972 as amended from time to time and rules made there under and different guidelines regarding eco-tourism in PA issued from time to time.

6.4.3 PASTURE IMPROVEMENT ZONE PLAN:

6.4.3.1 OBJECTIVES:

1. To identify degraded pastures inside the Sanctuary.
2. To restore these degraded pastures through scientific/ managerial interventions.
3. To improve the habitat quality for different species.

6.4.3.2 PRESENT STATUS:

Due to anthropogenic pressure, habitat in the area is degrading. The areas (Gamgul, Gullu di Mandi, Sountith, Ban ka goth, Maklunda Dhar, Chanwani, Siyabehi, Doda mandial Dhar, Suppa Cholu, Maund Da Tibba, Khundimaral,Salari, Tathi Dhar, Sira Galu Dhar) are vulnerable from illegal grazing. The management problem in pastures is overgrazing of grasses by domestic as well as migratory livestock. Overgrazing is the removal of plant leaves from an earlier grazing event at a rate faster than the plant recovers from. The forests in the sanctuary are potential habitat of many species, therefore proper management is vital for protecting the biodiversity of sanctuary and achieving the objectives of the management plan.

6.4.3.3 RECOMMENDED STRATEGIES:

- Identify the drivers of degradation such as heavy grazing, exploitation of NTFP
- Stop the abuse by eliminating or strictly reducing these drivers.
- Protect the area from further degradation.
- If necessary re-introduce native species to help restoration of area.
- Every year 5-10 hectare area will be taken up for plantation of native species of grasses in pastures areas.
- Use native species like Angleton grass (*Dichanthium aristatum*), Spear grass (Heteropogon *contortus*), Fescue grass, (*Festuca spp*.), Creeping bent (*Andropogon pulmis*), Bari jhaan grass (*Pennisetum orientale*), Marvel grass (*Dichanthium annulatum*), *Lotus corniculatus*, *Trifolium spp*, *Medicago denticulate* etc.
- Efforts should be made for site/ faunal species specific plantations
- The areas where degradation level is high, stagerred contour trenches will be constructed and plant native spp. of grasses on the lower berm of the trenches to stop soil erosion.
- For soil eroded areas, vegetative structures (wherever possible) will be preferred.
- Efforts should be made to provide alternate grazing sites outside sanctuary.

- Public awareness programmes.

6.5 THEME PLANS:

6.5.1 PROTECTION PLAN:

6.5.1.1 OBJECTIVES OF PROTECTION PLAN:

1. To maintain environmental/ecosystem stability of Gamgul Siyabehi Wildlife Sanctuary
2. To protect the vast variety of flora and fauna of Gamgul Siyabehi Wildlife Sanctuary which represent the remarkable biological diversity and genetic resources
3. To strengthen the infrastructure
4. To involve the local people in protection of Gamgul Siyabehi Wildlife Sanctuary on the principals of participatory approach.

6.5.1.2 POSSIBLE THREATS:

Following are possible threats –

- Grazing/ NTFP collection
- Human Wildlife conflict
- Diseases transmitted through domestic cattle / Communicable diseases
- Forest Fire
- Poaching

6.5.1. 3 CONSTRAINTS:

1. Inadequate infrastructure and logistics support
2. Lack of proper communication system and technologies
3. Harsh weather conditions
4. Dependency of local people on natural resources.

INADEQUATE INFRASTRUCTURE AND LOGISTICS:

The office & residential buildings available at range headquarters are sufficient but some of the buildings being old require immediate maintenance. Infrastructures inside the sanctuary is insufficient.

Insufficient watch towers, patrolling huts/anti-poaching camps, patrolling vehicles makes it more difficult to manage the sanctuary.

LACK OF PROPER COMMUNICATION SYSTEM AND TECHNOLOGIES:

Presently the staffs are mainly located at Bhandal, Sanghani and Lanegra. There is no mobile signal in sanghani and Langera. The mobile signal in the sanctuary area is also very poor. The wireless communication may also prove very useful in such areas for better management. Hence, the option of the wireless communication has a very high relevance. Possibility of installing wireless network may be explored.

HARSH WEATHER CONDITIONS:

The cold temperature conditions are more prevalent in the area. During the winter season sub zero conditions are also witnessed.

DEPENDENCY OF LOCAL PEOPLE ON NATURAL RESOURCES:

The people of surrounding villages, nomadic Gaddies and Gujjars are dependent on the sanctuary for various NTFPs including medicinal plants, fuel wood, fodder and cattle grazing. Therefore, reducing the dependency of the people from the sanctuary by providing them with alternate options should be one of the prime objectives of the management.

6.5.1.4 THREAT ASSESSMENT:

Threats	**Over all Status**	**Remarks**
A. Grazing / NTFP collection	High	Fringe villages's people, nomadic Gaddies and Gujjars are dependent on the resources of Wildlife sanctuary.
B. Human Wildlife conflict	Low	Fringe villages & nomadic Gaddies, Gujjars.
C. Communicable diseases	Low	A number of cattle population in villages situated along the boundary of Wildlife sanctuary & nomadic Gaddies , Gujjars.
D. Forest Fire	Low	Langera–Khundimaral-Doda (J&K) inter state road passes through the sanctuary. Dependance of Fringe villages's people, nomadic Gaddies and Gujjars on the resources of Wildlife sanctuary.

E. Poaching/Hunting	Very Low	As a result of human wildlife conflict.
F. Climate Change		

6.5.1.5 PLAN OF OPERATION:

"Before discussing strategies to be adopted for better protection of PA, it is pertinent to mention here that all maps of the sanctuary must be geo referenced upto compartment level with ground truthing of the same in the field. Boundary pillars must be erected along the boundaries and full detail of each boundary pillar i.e. no. of boundary pillar, location, geo coordinates, reference point (if any) must be depicted in boundary pillar register as well as in compartment history files and beat manual".

6.5.1.5 (A) -GRAZING/ NTFP COLLECTION

Fringe villages's people, nomadic Gaddies and Gujjars are dependent on the resources of Wildlife sanctuary. Nomadic gaddies and gujjars use this area for grazing. The areas (Gamgul, Gullu di Mandi, Sountith, Ban ka goth, Maklunda Dhar, Chanwani, Siyabehi, Doda mandial Dhar, Suppa Cholu, Maund Da Tibba, Khundimaral,Salari, Tathi Dhar, Sira Galu Dhar) are vulnerable from illegal grazing. The possibility of give alternate areas to nomadic Gaddies and Gujjars for grazing outside the sanctuary may be explored. The dependence of local people on medicinal plants from the sanctuary area can not be ruled out.

Strategies to be adopted -

1. Group patrolling
2. Strengthening of Infrastructure/communication system
3. Awareness programmes
4. Regular checking at strategic point
5. Eco development activities (details are given in **Chapter VIII**) .

Wildlife Protection Maps:

There is a great need of preparing the Wildlife Protection Maps, which should indicate the hot spots of the Gamgul Siyabehi wildlife sanctuary, topography, water/salt points, the vegetation type of these Wildlife hotspots, concerned trekking routes, availability of patrolling huts and other related information.

6.5.1.5 (B)- HUMAN WILDLIFE CONFLICT :

Gamgul Siyabehi wildlife sanctuary is surrounded by a number of villages on its southern and south western sides. Grazing of cattle and collection of NTFP by Nomadic graziers and fringe villages increase the chances of human wildlife conflict, as a result of which local people are not supportive to conservation of wildlife. Forest department (especially frontline staff) are not getting proper support from local communities, therefore management of human wildlife conflict should be the priority for management of any PA. Details are given in **Human Wildlife conflict management plan (para 6.5.5)**

6.5.1.5(C)-DISEASES TRANSMITTED THROUGH DOMESTIC CATTLE/ COMMUNICABLE DISEASES:

Wildlife disease is a major protection issue. In Gamgul Siyabehi wildlife sanctuary the chances of infection from the cattle of adjoining villages and migratory graziers cannot be ruled out. The following areas have been listed sensitive as well as key sites on account of common sites where the wild animals as well as domestic animals feed /graze frequently. Therefore, this area needs to be sanitized, so that the disease from domestic animals does not get transmitted to the wild animals in the vicinity. Further, the sites nearer to habitats or Goths (where the migratory graziers camp during nights), it is necessary to vaccinate the herds of sheep and goat regularly to avoid the transmission of possible diseases.

Sr. No.	**Location.**
1.	Salari Dhar
2	Dhodamandial Dhar
3	Thathi Dhar
4	Siragalu Dhar
5	Gamgul Dhar
6	Kiara Dhar

Further details are given in **Wildlife Health management plan (Para 6.5.6)**

6.5.1.5(D)-FOREST FIRE PROTECTION:

Fire sensitive areas –

The following areas in Gamgul Siyabehi Wildlife sanctuary are sensitive from fire hazard which needs to be taken care of, so that there is minimum loss to the habitat as well as to the wild animals itself.

Sr. No.	**Name of area.**	**Area in ha.**
1.	**2.**	**3.**
1.	Suppa Chollu RF	167.20 Hac.
2.	Mahroon DPF	96.93 Hac.
3.	Khundimaral DPF	32.00 Hac.
4.	Kainthli DPF	112.82 Hac.
6.	Pandhar DPF	120.24 Hac.
7.	Bhangotli RF	48.80 Hac.
8.	Laded RF	25.60 Hac.
9.	Gagli RF	96.40 Hac.
10.	Thamru RF	15.20. Hac.

Strategies to be adopted –

1. During fire season fire sensitive areas must be patrolled by the front line staff intensively.
2. Introduction of modern firefighting tools and training of staff and labor in their use.
3. Construction of new fire lines.
4. Regular cleaning of roads , bridle paths and inspection paths

5. Development of extension programme to educate villagers and visitors about fire. Sign boards with suitable messages will be displayed at all prominent places in the Wildlife Sanctaury and along the Bhandal- Khundimaral raod.
6. People's Participation – As almost all the fires result from human activity, the involvement of people is essential for improved prevention and control. Regular meetings/ awareness programmes among local community are essential.

Fire awareness campaign

7. Fire fighting operations - During the fire season the following shall be done:
   - Once fire is detected all hands must proceed to fight the fire, irrespective of range/jurisdictional boundaries
   - Range headquarter will have enough spare sets of equipment like fire rakers, small axes, sickles, water bottles etc.
   - Proper reporting of fire incidents will be ensured. The general tendency to under report has to be strongly discouraged.
   - Fires watch huts/Gang huts at Thathi Dhar, Gamgul Dhar and Kiara Dhar will be established at vantage points. Each watch point will be managed by three-four fire watchers. Fire watchers will be provided with mobiles/Walkie Talkie and fire resistant kits during fire season.

- There is a need to develop a rapid response system in case of outbreak of fire. Since people do not get much in terms of fuel, fodder and rights from the sanctuary, in such scenario, people are reluctant to put off fire. It therefore, appears that in the short term an effective network of inspection paths, which are regularly cleaned during and before the dry season is maintained and sufficient provision be made in the annual budget for this. Record of fires needs to be maintained regularly.

6.5.1.5(E)-POACHING/ HUNTING:

Ban on hunting has been of great help to the wildlife. Poaching in the sanctuary area is almost nil and no case of poaching has been reported during last so many years. However following actions are recommended –

- Group Patrolling and Reporting: This aspect of the wildlife protection needs very effective strengthening through patrolling by the wildlife sanctuary staff. Group Patrolling reporting proforma is attached as **Annexure XV**
- Unlike traditional patrolling by one Forest Guard, it is recommended that at least two Forest Guards along with one or two casual workers / local people need to form one patrolling party and conduct three or four long patrols in a month. It is also recommended that patrolling be carried out alongwith police party as this area is having inter state border with Jammu and Kashmir.
- Each patrol to cover interior areas of the sanctuary. The patrolling party has to have maps with their route shown on it.
- Full reporting on every patrol including collection of biological information is to be ensured.
- The biological and other information collected during patrolling must be organized and compiled.
- In addition to preventing wildlife crime, these patrolling reports may be very useful for the evaluation of management effectiveness and for monitoring habitats and population of target species.
- A well-accomplished Nature Awareness programme involving school children and locals can arouse public opinion in favour of conservation.

Anti-Poaching Operations-

- Winter season (November-March) is more sensitive period, therefore more intensive operations are required in these months.
- Wherever possible local people/youths should be involved in anti-poaching operations.

Reward to persons-

A reward is recommended to be given to a person or villager who renders assistance in the detection of an offence or the apprehension of the offenders. A reward is also recommended to front line staff for doing outstanding job in protection of wildlife.

Capacity building of Front line staff-

Some of the suggested courses for Forest Guards, Dy. Rangers, and Forest Rangers are:

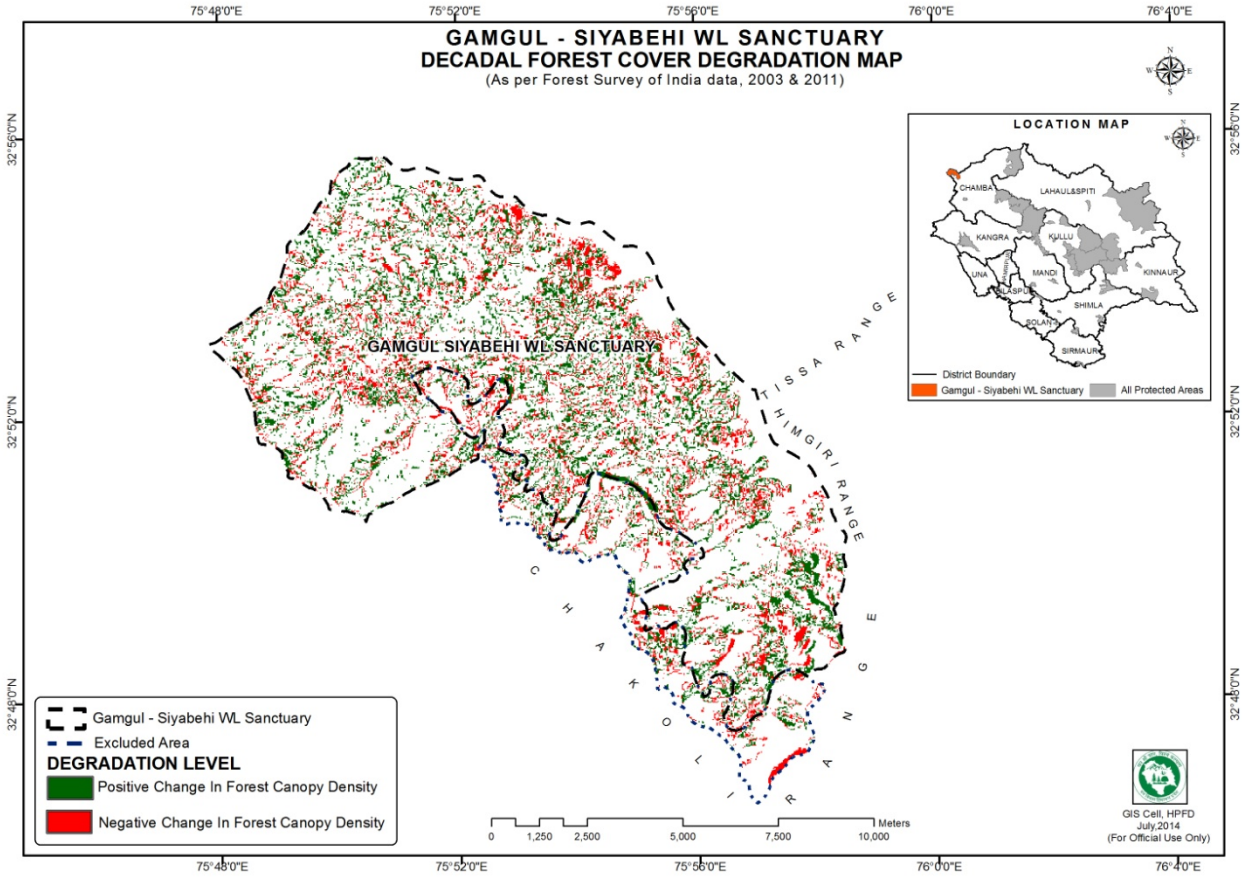
- One week module on Identification and prevention of illegal trade in wildlife, its derivatives and parts.
- One week module on intelligence gathering, investigation and prosecution of wildlife offence cases.
- One-week module on Wildlife (Protection) Act, 1972 and its application: This course will help develop standard Performa for booking forest and wildlife offences under IFA and WPA, such as Search Warrant, Seizure Memo, Bail Bond, Case Dairy/DR etc. for the entire state. This will help in making prosecution of cases simple and will reduce the chances of technical errors in filing offence cases in the court of law.
- One week module on human wildlife conflict, Nature Conservation Education, and provisions of wildlife compensation.

6.5.1.5(F)- IMPACTS OF CLIMATE CHANGE:

At present, no specific data is available to assess the impact of climate change on Gamgul Siyabehi Wildlife sanctuary. However, it is expected that in future many different types of impacts on biodiversity (individual organisms, species and ecosystems) will be felt.

6.5.2 HABITAT IMPROVEMENT PLAN:

Habitat management within the PA is a key to effective conservation of wildlife. Active managerial intervention, including habitat restoration will be carried out in the sanctuary for development of the forest area as ideal wildlife habitat. This would include carrying out plantations, management of high altitude pastures, soil, moisture conservation works & improvement of water availability etc.



6.5.2.1 OBJECTIVES:

1. To identify degraded areas inside the sanctuary.
2. To restore these degraded areas through scientific/ managerial interventions.
3. To improve the habitat quality for different flagship species.

6.5.2.2 PRESENT STATUS:

Due to anthropogenic pressure, habitat in the area is degrading. Degradation level of various areas within PA is shown in the above map. The forests in the sanctuary are potential habitat of many species; therefore proper management is vital for protecting the biodiversity of sanctuary and achieving the objectives of the management plan.

6.5.2.3 RECOMMENDED STRATEGIES:

6.5.2.3.1 HABITAT MANAGEMENT ACTIVITIES:

6.5.2.3.1 (A) PLANTATIONS:

Area being moderately dense to dense forest, there is no need for tree plantation in the sanctuary. However, the assisted natural regeneration can be taken up at certain places. The rocky habitats will be maintained as such. However, some fruit trees will be planted in the sanctuary area, as it will provide food for the rich Avian-fauna of the area.

Following areas need to be restocked through plantation (including plantation of native species of grasses) or assisted natural regeneration technique-

Guinal RF, Maklunda Dhar, Thamru RF, Jamuth PF, Sauntith, Khundimaral DPF, Talai DPF, Langera RF and Ranjal RF, Khoran RF, Kalhetra RF, Nalwar RF, Bir RF, Chondi di ghori, Sira Galu DPF & Bara Nala DPF.

Actions to be taken –

- Every year 10-20 hectare area will be taken up for plantation/assisted natural regeneration of native species.
- Only native species will be planted and more emphasis will be given to assisted natural regeneration.
- Efforts should be made for site/ faunal species specific plantations
- Plantation of trees/ Shrubs/Herbs/ Grasses should be site specific.
- An integrated approach with plantation and soil and moisture conservation will be followed.
- Involvement of local people, school children, Mahila mandal, Yuvak mandal etc. will give better results of plantation.
- Following species are proposed for plantation:

1. *Aesculus indica (* Horse Chestnut*)*
2. *Juglans regia (*Walnut)
3. *Quercus spp. (Ban)*
4. *Cedrus deodara (*Deodar)
5. *Pinus wallichiana (*Kail)
6. *Picea smithiana (*Spruce)
7. *Abies pindrow (* Fir)
8. *Rhododendron spp.(*Burans)
9. *Berberis lyclum (*Kasmal)

10. *Fragaria vesca (* Strawberry)
11. *Geranium wallichianum (*Ratanjot)
12. *Dioscorea deltoidea (*Shingli mingli*)*
13. *Native species of grasses.*

Areas for assisted natural regeneration

Areas for herbs and grasses

6.5.2.3.1 (B) SOIL AND MOISTURE CONSERVATION WORKS - (BIOLOGICAL AND ENGINEERING):

Since, the sanctuary is being managed for conservation of wildlife, soil and moisture conservation works are of utmost importance. Engineering measures will be supplemented with vegetative measures as per site specific conditions.

Following actions are recommended to protect and restore the catchment value.

Actions to be taken/ Recommendations-

The overall objectives of Soil and moisture Conservation works are:

1. Increase filtration into soil
2. Controlling excessive run off

3. Manage and utilize run off for useful purpose.
4. Improving existing water resources by plantation of water holding species

Soil Erosion in Gamgul Siyabehi

Following actions are proposed to achieve above objectives

- Biological measures will be preferred over engineering measures (wherever possible)
- A plan for soil and moisture conservation works will be prepared and work will be done systematically.
- Small kacchha water ponds
- Contour staggered trenches alongwith plantation of local grass species on their lower berm are proposed
- Soil & Moisture conservation works are proposed in Kalehtra RF, Khoran RF, Choundi di Ghori DPF, Sountith Dhar, Salari Dhar, Gamgul, Gullu di Mandi, Bir RF, Siyabehi Dhar, Khundimaral, Bajubag Dhar

6.5.2.3.1 (C) IMPROVEMENT OF WATER AVAILABILITY:

Although, the sanctuary area has many perennial streams and many seasonal springs but some more water resources are needed to be created especially for the lean period. The type of water retention structure will depend on the site condition. As there is

water deficiency the trenches and percolation ponds on higher reaches shall be made so that the water resources and nallahs remain rejuvenated throughout year. The first and foremost step to improve water availability inside the sanctuary is to have the information of all the existing water sources and be aware of their status. This could be done by identifying the perennial and seasonal water sources through intensive survey and water mapping that area using 2x2 km grid. Any Grid square without perennial sources represents a gap. The best way to fight water scarcity is by regenerating natural sources of water and then construction of artificial water holes. Another important criterion to manage water resources inside a PA is by proper site selection. Following points should be considered for any water development works –

- A gap in water supply is not in itself sufficient reason to establish an additional water source. Clear objectives must be established.
- A large number of small and widely scattered sources are better than a few large sources.
- Water development should be avoided in areas where Endemic and rare plant species are present.
- Water development may trigger erosion on steep lands and fragile soils.
- Site which has shade trees and tall shrub or grass would be favourable – (escape cover nearby)
- Sites that are likely to be disturbed frequently by livestock, local people or traffic should be avoided.

6.5.2.3.1 (D) PROVIDING SALT LICKS:

Provision of artificial salt lick affect the behavior and movement of wild animal and sometimes it also help poachers

to locate the presence of the animals. Therefore, it is necessary to provide due care and protection where artificial salt licks have been provided. It is suggested that all the existing artificial salt lick locations should be mapped and based on the information decision to provide new salt licks should be taken carefully.

6.5.3. INFRASTRUCTURE DEVELOPMENT PLAN:

For the effective protection and regular monitoring, proper communication system, patrolling huts in remote areas, continuous maintenance of path and small bridges are necessary requirements. In addition, other logistic support like tents and other trekking equipment's are also required.

6.5.3.1 LIST OF TOTAL INFRASTRUCTURES AVAILABLE AND REQUIRED:

1. **Forest road/path-**

Existing Situation	Proposed/Recommended action
Bridle paths/ Inspection paths/ Census paths Bhadroh to Sountith Dhar (7 km) Sanghani to Chimloh Digalli (18km) Karwar to Sountith (5.5 km) Dodu Nallah to Suppacholu (18 km) Bhandal to Nalwar (27 km) Chanwani to Dasot (4 km) Naktuiti Dhar to Gamgul (4 km)	Maintenance suggested of these path on periodic basis.

Langera to Bir RF (3.75 km) Gagli to Jamoth (3.2 km) Langera to Kiara Dhar (4 km) Guin Nallah to Rangal RF (5 km) Riali to Chimloh Dhar (3 km) Kandoh to Khundimaral (11 km)	

2. Check posts and Forest guard quarters-

Existing Situation	Proposed/Recommended action
• No Check post exist in the area • 6 Forest guard quarters	It is proposed to establish Two check posts alongwith sufficient accommodation for staff at Khundimaral and Kainthali. These check posts should be equipped with telephone/ wireless system facility, CCTV cameras and fire arms. Each check post should be provided with regular staff of 3-4 persons.

3. Patrolling Huts/ Watch towers-

Existing Situation	Proposed/Recommended action

• Patrolling Hut Gulu di Mandi • Patrolling Hut at Maklunda • Patrolling Hut at Chanwani • Patrolling Hut at Siyabehi Dhar • Patrolling Hut at Langera • Patrolling Hut at Suppacholu • Watch Tower at Chanwani	Maintenance suggested on periodic basis. In addition to this construction of watch towers and anti poaching hut/ patrolling hut with basic facility at following places is also proposed: • Thathi Dhar • Choundi di Ghori • Gamgul Dhar • Naktiuti Dhar • Sounthith Dhar • Kiara Dhar • Khundimaral • Kandoh Dhar

4. Office and residential complex for forest officers-

Existing Situation	Proposed/Recommended action
• 1 No.Range office • 1 No. Block officer residence	Special Maintenance of these buildings suggested on regular basis

5. Construction of other infrastructures-

Existing Situation	Proposed/Recommended action

• No proper demarcation of beats • Nature Interpretation Center absent in this sanctuary • Insufficient signages at each entry point and along the trails	1. Proper boundary with boundary pillars should be demarcated and redefined. 2. Construction of one Nature Interpretation Center at Bhandal/ Langera. 3. Effective signage like Do's and Dont's, species rich areas, trekking routes etc. should be demonstrated properly on the display at each entry point and inside the sanctuary. 4. Periodic maintenance of the buildings and infrastructures present in the sanctuary

6. List of total instruments and logistics available and required-

Existing Scenario	**Proposed/Recommended action**
1. Vehicles for forest staff	
• One Bolero –DFO • One motor cycle	1. One Patrolling vehicle needs to be purchased 2. Bike for each forest guard
2. Instruments and gadgets	
• Only one desktop + 1 printer +1 scanner in Range office • 6 GPS • 9 binoculars • 4 digital cameras	1. Wireless handsets/ walkie talkie sets for all forest guards 2. Snow Gear instruments 3. Sufficient Tents, sleeping bags 4. Trap cameras 5. Fire resistant kits 6. Fire arms for self protection

6.5.4 ECO DEVELOPMENT PLAN:

There is a lot of scope to promote the Eco Development activities in and around the sanctuary so that the following objectives could be achieved:

a. To provide healthy, hygienic environment to the general public residing around the sanctuary and to improve their living conditions.
b. To help the local people in ameliorating their economic status.
c. To manage the human wildlife conflict in buffer area.
d. To encourage ancillary occupation in the area.
e. To improve the agricultural productions by adopting better techniques like terracing, soil conservation measures etc.
f. To provide basic medical facilities both to human being as well as cattle.

Detail regarding specific issues, broad strategies Etc. is in **Chapter VIII**

6.5.5 HUMAN WILDLIFE CONFLICT MANAGEMENT PLAN:

6.5.5.1 OBJECTIVES:

1. To assess the human wildlife conflict situation in surrounding areas of PA
2. To suggest various actions to mitigate human wildlife conflict

3. To strengthen the infrastructure required for managing human wildlife conflict
4. To involve the local people in management of human wildlife conflict on the principals of participatory approach.

6.5.5.2 HUMAN WILDLIFE CONFLICT - SENSITIVE AREAS:

As per official record, the following areas in and around wildlife sanctuary are vulnerable for human wildlife conflict:

Sr. No.	Location.
1.	Salari Dhar
2	Dhodamandial Dhar
3	Thathi Dhar
4	Siragalu Dhar
5	Gamgul Dhar
6	Kiara Dhar

However, during winter period, the chances of human-wildlife conflict increase near villages, when wild animals migrate from higher reaches to lower elevations.

6.5.5.3 RECOMMENDED STRATEGIES:

The Human wildlife conflict is a resultant of various aspects of the natural resource degradation as well as societal stratification. Very often damage caused by the wild animals directly affects the poor, marginalized rural communities living next to the wildlife sanctuary.

Crop Depredation - The state govt. has imposed ban on the hunting of wild animals. Because of this ban, the number of wild animals has been increasing in the area. The resource-deficient villagers need to resort to labour intensive measures of crop protection and such actions mostly result in disproportionate cost of raising crops by the poor and marginal villagers. The villagers often use retaliatory measures of harming/killing the wild animals of which there is hardly any record or report. The depredation enhances dramatically when there is an increase in the number of livestock as well as the area under cultivation close to the PA; when

there is a decline in the availability of the natural food; when there is an increase in the number of large wild herbivores due to “conservation measures”. In all these circumstances, the crop depredation or killings of livestock

are escalated exponentially. The top crop damaged is mainly maize and top crop raider was Rhesus macaque followed by Asiatic black bear.

Livestock Depredation - Due to small area of sanctuary, and harsh weather conditions especially during winters wild animals migrate towards lower elevation resulting in human wildlife conflict. The Rhesus macaque and Chamba sacred langurs are able to adapt themselves to the human presence. The wild animals intrude into agriculture fields as the crops raised are more palatable, and they are located in easy locations. The domestic livestock is very easy prey for the wild animals.The areas mentioned in foregoing paras are more prone to human-wildlife conflict and Asiatic Black Bear is responsible for most the of the conflicts. Crop raiding incidents problem is more severe than livestock killing.

Compensation - There is a provision of providing compensation to the person whose sheep, goats or cattle have been killed by the wild animals. Similarly, State Government through other departments is also providing compensation for the damage to agriculture and horticulture crops. In future, the situation can be quite alarming as the damage done to their crops by the wild animals is enormous. This may also adversely affect the acceptance of the conservation ideas among the locals.

6.5.5.4 RECOMMENDED ACTIONS:

Proactive Actions – To prevent the damage by the wild animals.

- The villagers are already using deterrents such as making sounds, beating drums or putting up a scarecrow in their fields. The WLS staff and the local

villagers need to put up a combined defence against the human-wildlife conflict.

- There is a need to undertake action research on human-animal conflict so that preventive guidelines are made in consultation with the villagers.
- Regular census of ungulates and carnivores in the wild will give an insight into the prey-predator relationship. This will also help understand the carrying capacity of their habitats.
- To increase the availability of food, plantation of wild fruit trees should be done in the forests areas.
- A Joint Rapid Action Team (a mix of Territorial and wildlife staff) is suggested to be constituted to manage the incidents.
- Reproduction rate of monkeys may be controlled through various means like sterilization through surgical method which is already in place.

- Proper waste management is very important to avoid attracting wild animals to human settlements and to prevent wild populations being augmented and artificially sustained by human induced food availability. Each stage of waste handling should be addressed, from collection to transportation to disposal. It is suggested that through various awareness programmes, local people and civil authorities should be encouraged taking this issue seriously. Proper waste disposal is the key strategy to reduce the conflict between human and monkeys.

- Awareness activities at different levels, for instance in schools or in village level meetings should be held regularly. These programmes are essential for building local capacity in conflict resolution and increasing public understanding of human wildlife conflict. Educating rural villagers in practical skills would help them to deal with wild animal species and to acquire and develop new tools for defending their crops and livestock

Reactive Actions - When the damage by the wild animals has already been done.

- Compensation for damage to livestock must be given timely as per rule.
- The future of human wildlife conflict resolution lies as much in the involvement of the local communities in the wildlife habitat management.
- Vide Notification No. FFE-B-A (10)-1/2009 dated 18/09/2018; guidelines for dispensing compensation for life/property losses during human wildlife conflict have already been issued **(Annexure XVIII)** and it should be strictly followed.

People's participation –

Resolving human wildlife issues becomes difficult without active support from the local communities. It is recommended that to increase the involvement of local stakeholders a Village level response team involving local youth from the vulnerable areas should be formed. Initially these youth should be trained to handle various issues of human wildlife conflict. Following responsibilities may be given to local youth after initial training:

- Managing the agitated locals to maintain safe distance from the conflict animal
- Communicating with the forest tranquilization team on time in respective ranges
- Wherever possible, first aid to small injured animals and birds
- Medical help to injured villagers in the conflict situation.

Infrastructure requirement-

For effective dealing of human wildlife conflict incidences and preventive measures various equipments and other infrastructure like transportation vehicle, communication etc. are necessary requirement.

6.5.6 WILDLIFE HEALTH MANAGEMENT PLAN:

The increase in human-wildlife-domestic interface increases the threat of transmission of diseases from wildlife to human-livestock and vice versa. Therefore, disease transmission has important implications not only for wildlife management, but also for public health, livestock development, and rural livelihoods.

Proper surveillance programs all year round are crucial in maintaining management health plans. This will help develop databases which will help in forecasting disease outbreaks and establish early warning systems.

6.5.6.1 IMMUNIZATION:

All domestic animals and livestock around the Gamgul Siyabehiwildlife sanctuary should be vaccinated against the transmissible diseases endemic in the area. This will prevent the transmission and introduction of diseases from wild animals to domestic and vice versa.

6.5.6.2 PUBLIC AWARENESS:

To prevent wild animals from frequenting into human habituated areas, the communities living around the Wildlife Sanctuary should be made aware of the repercussion of irresponsible disposal of garbage and livestock carcasses.

6.5.6.3 EDUCATION AND TRAINING:

All the stakeholders require education and training for at least basic public health concerns and bio-security to achieve the desired outcome. Protocols for handling carcasses, attending disease outbreaks, etc should be made. The field personnel should be made aware of this and given at least basic training for this purpose.

CHEPTER- VII

ECO-TOURISM, INTEERPRETATION AND CONSERVATION EDUCATION

The eco tourism in a very broad sense means venturing into and enjoying nature in such a way as to assure that negative impacts on the cultural and natural environment are minimized and mitigated. It is therefore responsive tourism which besides being ecologically and culturally sensitive helps the local community in realizing social and economic benefits.

7.1 GENERAL:

As such there is great potential of eco cum religious tourism in this far flung area having a very unique and aesthetic view of whole of the wildlife sanctuary. The acquaintance with some of the most endangered flora and fauna, entourage to wildlife sanctuary becomes an eye opener and rarest moments of their pilgrimage. Such visitors will be the real ambassadors of wildlife conservation and eco diversity in the Himalayan region. It will also be a great boon for the development of religious cum eco tourism to the state.

7.2 OBJECTIVES:

- To increase the inflow of eco-tourists to the WLS without affecting the main objective of conservation.
- To involve local people in tourism activities, thereby generating direct and indirect economic activities for them.
- To provide hassle-free, low volume and truly enriching experience of wilderness to the visitors
- To create awareness about wildlife conservation among masses.

7.3 ISSUES AND PROBLEMS:

The non existence of basic amenities, tough terrain, harsh weather and non availability of trekking guides entourage the trekkers as well as wildlife lovers are some of the main bottlenecks and limitations for the promotion of tourism throughout the year which needs to be addressed at the very first stage.

7.4 THE STRATEGIES:

7.4.1 IDENTIFICATION OF THE ZONE:

There is no specific tourism zone identified at present in the sanctuary area. The main attraction is the trekking / pilgrimage uphill from Sanghani to Khundi Maral. The area is worth to see being rich forests having high mountainous alpine pastures, small streams, glaciers and natural water falls.

Keeping in view the eco tourism potential of the sanctuary, it is proposed to develop following tracts from eco tourism point of view:

(i) Sanghani-Maclunda-Gullu ki mandi-Gamgul-Siyabehi-Suppacholu-Khundimaral

(ii) Talai DPF to Khundi Maral

7.4.2 INFRASTRUCTURE DEVELOPMENT:

Main tourism activities in the area could be trekking, hiking and sighting of various faunal species. Glaciers, waterfalls, dense forests and high altitude pastures are also main attraction of the area. For this purpose the basic requirement would be as under:-

7.4.2.1 TREKKING ROUTES:

There is already an existing road of 13 Kms. length connecting Langera to Khundi Maral. In addition, there are several bridle paths as well as patrolling paths in the above mentioned zone which may also be used by trekkers. To promote adventure trekking there is further scope of developing trekking routes as under:-

1.	Thamru to Badroh	03 Kms
2.	Nalwad to Pandhar	12 Kms.
3.	Sountith to Gullu di Mandi	07 Kms
4.	Suppa Cholu to Gamgul	08 Kms
5.	Bhandal to Doda Mandial	08 Kms

7.4.2.2 TREKKING HUTS:

Besides maintenance of already existing buildings , the following trekking/ patrolling huts are proposed to be constructed for effective patrolling and trekking at following places:-

Sr. No.	**Place where to be constructed**	**Nos.**	**Beat**
1.	**2.**	**3.**	**4.**
1.	Kundi Maral	1 No.	Langera
2.	Dagli Dhar	1 No.	Sanghani
3.	Kiara	1 No.	Bir
4.	Sawanthith	1 No.	Sanghani
5.	Gamgul	1 No.	Bir

7.4.2.3 OTHER ACCESSORIES:

The trekking huts have to equip with basic necessities like utensils, Sleeping bags, Mattresses, Tents (Two men to six men where trekking huts are not available), Ruck sacks, Snow shoes, Ice axe, Snow glasses, solar light arrangements, water bottles (1 Ltr. Capacity) & walking sticks etc etc are to be provided.

7.4.2.4 TREK GUIDES/ HELPERS:

During the trekking seasons which would be May-June to September-October, some guides/helpers will have to be engaged amongst the local residents inside the sanctuary area to enable them seasonal alternative livelihood who will not only look after the maintenance of the trekking hut but also would act as guides to the tourists and assists them as and when required.

7.4.2.5. SANCTUARY LITERATURE:

Brochures/pamphlets about the sanctuary will be printed for distribution to tourists. The brochure will give the trekking map of the sanctuary including trails, list of wild animals, birds and plants. It will inform the tourists about the rules to be followed in the sanctuary.

7.4.2.6. SIGNAGES:

Signage needs to be developed in the sanctuary and be placed at vantage points. Some points for inclusion in the signboards are as follows:

- Name and area of the sanctuary.
- Wildlife (Flora & Fauna) found in the sanctuary.
- Significance of the sanctuary.
- Historical background of the area.
- Rules and regulations.

- Fire safety.
- Distance from famous places.
- Do's and don'ts.

It would be ideal to develop a proper signage plan by a professional agency including the location of each signboard and content and design of each signboard. The actual signage put up will be as per the signage plan.

7.4.2.7. DEVELOPMENT OF INTERPRETATION CENTRE:

Nature interpretation and conservation education are integral part of eco-tourism. Interpretation centres are instrumental in changing the perception of visitors as well as those of the local community in support of conservation. Therefore, to fulfill these twin objectives, tourist information centre/ interpretation centres-cum-Souvenir Shops shall be constructed at Bhandal or Langera. The interpretation centre will perform the following functions:

- Create awareness about the sanctuary values.
- Inform people about the biodiversity of the sanctuary.
- Educate people to follow sanctuary rules.
- Design and development of the interpretation centre will be entrusted to a professional organization.

7.4.2.8. CAPACITY BUILDING:

Local Eco-guides will be trained to acquaint the tourists about the sanctuary. The main skills for which they need to be trained are as follows:

- Knowledge of animals, birds and plants in the sanctuary.
- Wildlife interpretation skills.
- Basic principles of safety while escorting the tourists.
- Cleanliness and prevention of littering.

The field staff shall also be trained in these skills so that they can act as resource persons for future trainings. The staff posted in forest rest houses, inspection huts etc. shall be trained in basic hospitality skills by professionals, either private hoteliers or trainers from the Tourism Department.

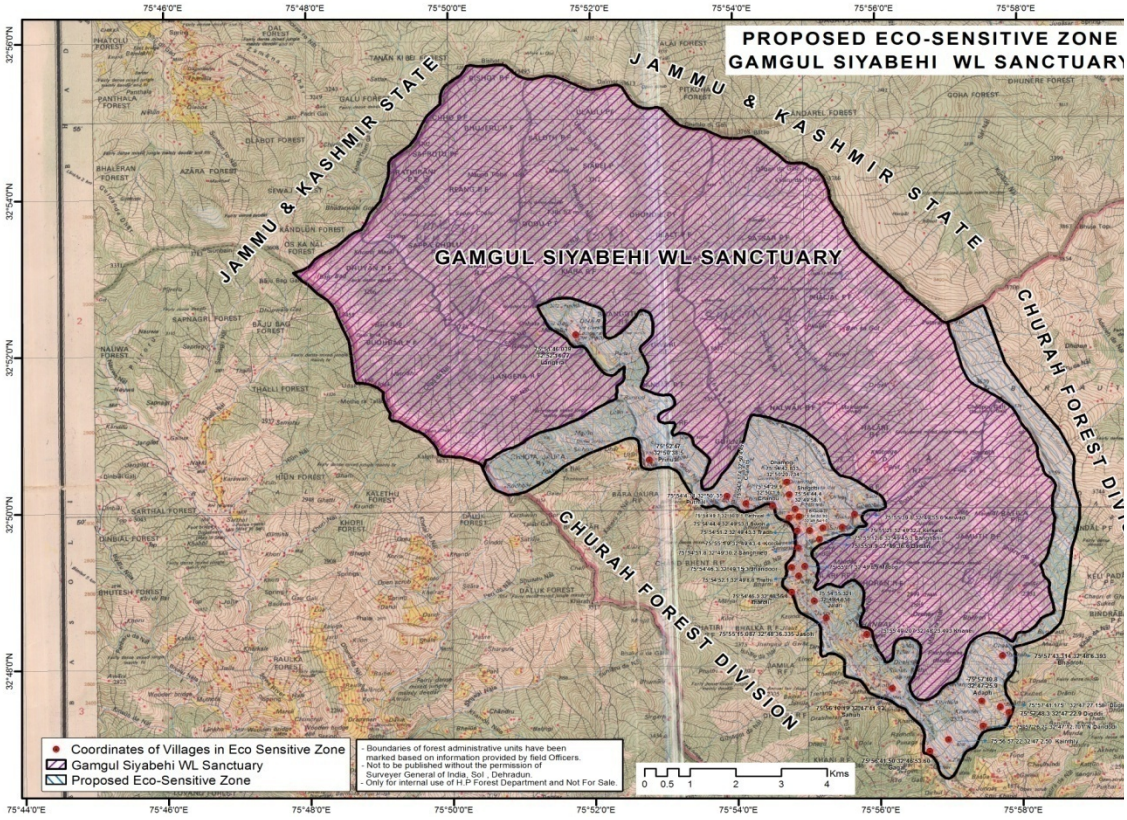
7.4.3. REGULATIONS, MONITORING AND EVALUATION:

The basic information about the sanctuary be displayed from the information centers/ interpretation centre. The troop size of the visitors and timing to visit the sanctuary will be decided as per the availability of infrastructure facilities, weather conditions and subject to the conditions that there is least disturbance to wildlife. To get a feedback proper record would be kept in the prominent places wherein the tourists can make remarks regarding the sanctuary and other observations for its development. This would also help in making more concrete efforts towards eco tourism promotion. Proper record of the number of visitors will also be maintained. Tourists however, would be desired to create least disturbance in the sanctuary area. No weapon shall be allowed in the sanctuary area. Tourists will also be advised *not to use any kind of polyethene* and *keep the sanctuary area clean and green*.

CHAPTER VIII

ECO-DEVELOPMENT

Eco-Development is the process by which the economic well being and quality of life of local community are improved by promoting efficient use of natural resources and alternative livelihood. There are 32 no. of villages exist in the proposed eco-sensitive zone of Gamgul Siyabehi wildlife sanctuary. Prior to rationalization (2013), these villages were inside the sanctuary area. The villagers were dependent on the natural resources of the sanctuary. Dependency of fringe population on the natural resources exert biotic pressure in sanctuary and at the same time they also face the problem of human wildlife conflict. So management interventions involving local people will be in the interest of long time conservation of the sanctuary and also well being of local people.



Location of villages in the proposed Eco-Sensitive zone

8.1 OBJECTIVES:

Main objectives of various Eco-development activities would be as under:

1. To provide healthy, hygienic environment to the general public residing in and around the sanctuary and to improve their living conditions.

2. To help the local people in ameliorating their economic status.

3. To encourage ancillary occupation in the area.

4. To improve the agricultural productions by adopting better techniques like terracing, soil conservation measures etc.

5. To provide basic medical facilities both to human being as well as cattle.

8.2. SPECIFIC ISSUES:

Eco-development works will be carried out in the fringe villages by sanctuary authority. This will help in development of the villages and it will also help to gain their cooperation for sanctuary objectives. Some activities that may be carried out are as follows:

- To reduce the people dependency on the forests, it will be necessary to meet the basic requirements like fuel wood, fodder etc. by raising plantations in the vicinity of villages. Distribution of LPG gas connection and fuel saving devices at subsidized rates will be of great help.

- People are engaged primarily in agriculture and sheep rearing. To improve their economic status it becomes imperatives to initiate better agricultural techniques, better land use, introduction of better cattle breed etc.
- Water conservation structures such as check dams, van sarovars, water percolation ponds and trenches.
- Irrigation tanks.
- People do not pay much attention to the hygienic aspect. This requires to be improved so that the living conditions of the people are healthy one even by helping them to construct toilets.

- To aim at harmony between the ecologically dictates and the various developments, it is necessary to generate awareness among the people towards nature in general and wildlife conservation in particular.
- Other activities depending on needs of each village

8.3. BROAD STRATEGIES:

There is a need to involve local people in all management practices of the sanctuary. Presence of human population near the sanctuary is an unavoidable reality. The presence of local people affects the sanctuary's biotic components in a number of ways. It is important to manage the interaction of the community with the sanctuary so that the most beneficial results are obtained for the people as well for the sanctuary.

Interactions with local community are often ad hoc

and without a fixed policy and direction. Therefore, true progress is not achieved without co-operative efforts. Conflicts arise because proper communication does not take place. Taking this into consideration some objectives of interaction with the local community are described in this section. Dealing with local people with well defined objectives and directions will help to achieve progress in the relationship with local people.

The objectives of the interactions with local community shall be as follows:

- Create awareness about sanctuary values among local people.
- Obtain cooperation from local community for sanctuary management.
- Give benefits to local people from the sanctuary, especially to the poor.
- Resolution of various issues and conflicts that the sanctuary authority may have with local people and vice versa.

8.4. VILLAGE LEVEL SITE SPECIFIC STRATEGIES:

The strategies evolved to tackle the village level problems will be as under:

- Construction of village paths.
- Soil conservation works including terracing, check dams etc.
- Construction of public toilets.
- Construction of water ponds.
- Improvement of water channels.
- Distribution of solar cookers, Solar lights, Hammam, Gober Gas, etc.
- Afforestation in the vicinity of villages.

- Distribution of implements / kits for agriculture / horticulture purposes as an incentive to the local residents to make them self sufficient in their livelihood by switching over to cash crops like vegetables, fruits etc.
- Construction of fish ponds for rearing snow trout by local residents as a supplement to their resources.
- Distribution of high yielding honey bees.
- Provision of animal husbandry facilities by distributing chicks of High yielding meat quantity, providing yaks/ bulls in semi nation facilities etc.

8.5. MONITORING AND EVALUATION:

Regular meetings with all local people will be conducted, in which the progress of all eco-development activities carried out will be monitored. The representatives of local community will also be involved for the decision making, execution and monitoring of eco development activities. Local people, especially school and college children, will be involved in treks, outings and various field programmes for spreading awareness and conservation message among local people. On the basis of the response of villagers and their feedback, further strategies can be worked out and accordingly the modification can be made in the eco development plans for the well being of the habitants around the sanctuary area as well as the wild life of the area.

CHAPTER IX

RESEARCH, MONITORING AND TRAINING

9.1. RESEARCH AND MONITORING:

9.1.1. MONITORING OBJECTIVES:

Monitoring of wildlife population is very important aspect of wildlife management as it reveals the results of the management. Without a clear objective, monitoring may absorb considerable time without achieving anything useful.

Important conservation question that monitoring could answer include: how are the populations of species of conservation interests changing on a site? How are the populations of predator species changing? Where are the most important areas for a species? What are the habitat requirements of a species? How do populations respond to changes in the management?

Changes whatsoever, in the habitat are manifested in the changing trends of wildlife. Since it is a slow process, the studies in this regard have to be on a long term basis. This comprehension is imperative to arrive at effective management techniques.

The main oobjectivs of monitoring would be as under:

1. To carry out survey and census exercise of main species and monitor their relationship with habitat dynamics.
2. To collect baseline data which is the basic tool around which the management of the sanctuary will revolve
3. To evolve simple method for recording evaluation and observation by the field staff.

9.1.2. BASELINE SURVEY:

The sanctuary was notified during the year 1974. The administrative control was left with the D.F.O. (Territorial) Churah before 1986. Things kept on going as usual in the notified sanctuary area and no restrictions were made for the removal of timber and other minor forest produce as well as grazing of sheep and goat on the old practice based on the recorded rights in revenue / forest settlements. A management plan for a period of 5 years i.e. 1993-98 was prepared by the then D.F.O. WildlLife Chamba but no comprehensive baseline survey was carried out right from the notification of the sanctuary till date.

Untill and unless the basic data or the species and its number in the sanctuary area is not known management of the sanctuary can not take off in right direction. For this

purpose, the collection of baseline data is the basic tool around which the management of the sanctuary will revolve. Without knowing the specific number of each wildlife species, the prescription of the management will be aiming an arrow in the wilderness. As such the baseline survey will act as booster rocket for the management plan for better results from the sanctuary in near future. To start with the baseline survey first of all tap the available ingradients i.e. the local resources viz a viz recording of spotting of each mammal and bird from each member of the family residing in the sanctuary area. The approximate time, date, year and place of the spotting is to be recorded from all such sources available in side and around the sanctuary area. Secondly similar information to be gathered from the local as well as migratory graziers of the area. The record on working plans or damages caused by wildlife stands reported to forest officials / other agencies with the specific location and detail of incidence. The sectarian as well

as actarian generation aged people to be consulted or recorded separately for the presence of what kind of wild life was seen 70-90 years back and when and where they saw or encountered with what kind of wild life in the area. Further what their fore fathers use to tell about the availability of what kind of wild life species in the said sanctuary area.

The compilation of above information will prove an eye opener and will give a clear idea of what kind of wildlife species is presently available and what has not been spotted for how many years in the said area. If on an average hundred such resource person have been interrogated the dominance of flagship as well as other associated wildlife of a area will a merge as a proof for the future management of the wildlife of the area. This will further make the management to go a head with the specific techniques for the baseline survey of the area which can be adopted on the basis of the resources available. The topography and the terrain of the sanctuary area, the accessibility and in accessibility to be prioritized on the basis on the information collected, making smaller units or grids for survey, line survey etc. will be ensured before taking off the ground level survey. Once the survey report is analyzed, it will be easy to proceed further in the right direction in preparing management plan in future.

9.2. MONITORING:

The main target of the monitoring program is large terrestrial mammals and pheasants. These include Black bear, leopard, goral, brown bear, musk deer, ibex, tahr, languor, rhesus macaque and cheer, monal, koklas and Kalij pheasants.

Some of the methods that can be used for monitoring are described in the following sections. The techniques described can be divided into index-based monitoring techniques and absolute population estimation techniques. Monitoring by index-based techniques yields trends in populations. Monitoring must be carried out for a few years before clear population trends emerge. Absolute population estimation techniques can give estimates of population within error margins.

The techniques described assume an even distribution of animals. Species with clumped populations or high habitat specificity, such as goral and cheer may require different monitoring techniques.

9.2.1. MONITORING TECHNIQUES FOR MAMMALS:

Some mammal species are obvious and can be readily counted. However, most species are difficult to see. Some of the species of greatest conservation interest are both secretive and occur at low densities. Some of the methods of mammal census are as follows.

9.2.1.1. ANIMAL ENCOUNTER RATE:

In this method a network of routes are marked inside the sanctuary that are well dispersed inside the sanctuary. The routes should not follow the main trails only but should pass through the undisturbed parts of the forest where probability of encounters is higher. Each route should be about 4 to 5 km long. The total length of routes inside the sanctuary should be sufficient to give reliable results. These routes should be regularly walked at fixed hours in the morning and evening, when animal visibility is higher, and animals encountered along the route should be recorded. This exercise should be carried out regularly throughout the year, say once in a month. The encounter rate of a species is defined as follows:

Encounter rate (i) = Number of animal sighted of i^{th} species

(Total length of routes walked X no. of times walked)

The encounter rate is an index of population density. If this exercise is carried out every year we can get population trends reliably. However, this exercise cannot give estimates of absolute population.

9.2.1.2. SIGN ENCOUNTER RATE:

The sign encounter rate relies on sighting/ collection of animal signs. It is useful for monitoring populations, since their scats are highly visible. Sign encounter routes are laid as above. Since there is no compulsion on walking during morning hours or evening, the length of route can be increased to 10 km. The routes should be broad and clear with no vegetation growth so that scats can be spotted easily. Heavy human traffic should not be there on the routes so that scats are not trampled. These routes are also walked a number of times in a year and scats of leopard and other carnivores with highly visible scats, are collected.

Scat encounter rate (i) = Number of scats sighted of i^{th} species

(Total length of routes walked X no. of times walked)

The scat encounter rate is an index of population density. It is possible to obtain population trends if this exercise is carried out every year. This exercise also cannot give estimates of absolute population. It is less reliable than animal encounter rates which relies on direct sightings. However, it is useful for

monitoring population trends in species wherein sightings are very low, such as leopards.

Leopard scats collected during the exercise can be analysed by microscopic examination of hair of prey in the scat samples to determine the dietary pattern of leopards.

9.2.1.3. PELLET DENSITIES:

This method is used for monitoring population of ungulates by estimating density of their dung pellets. Pellet densities are estimated by laying plots in the forest all over the sanctuary and counting the pellet groups in each plot. The pellet groups refer to the small pellets deposited during a single defecation at one place. In this method, the basic assumption is that rate of defecation is constant for the species. The plots should be laid in the same season and month every year. The number of pellet groups divided by the defecation rate gives the number of the total deer population as indicated below:

Total Deer Population= Number of pellet groups divided by Number of days for the count

This method is fairly simple but it cannot give absolute population estimates.

9.2.1.4. LINE TRANSECTS SAMPLING:

Line transects sampling is used for estimating absolute densities of wild animal populations. A large number of straight lines, known as transects, are laid in the forest in a scientifically designed pattern. Each transect has a fixed length, generally 3 to 4 km, and a fixed orientation. Transects are clearly marked by marking the trees along transect in

red or yellow paint. Bush cutting is necessary only if undergrowth is very thick.

These transects are walked by observers according to a specific sampling design and observations of each animal sighting are recorded. The distance of the group is estimated by a rangefinder and a compass bearing is taken for each encounter. This data is used to estimate the perpendicular distance of the animal from transect. In this manner all transects are walked and animal sightings recorded. All transects must be walked a number of times so that sufficient observations are obtained to make reliable population estimates. If number of observations is low, reliable estimates cannot be made. Typically 5 to 10 repetitions may be necessary. It may be possible to carry out the sampling by making monthly rounds of observations without much loss of accuracy.

Line transect sampling requires a high level of training of the observers for proper recording of observations such as compass bearings and distance estimation by rangefinders. It is also a fairly laborious technique. The advantage is that it can give reliable estimates of animal populations.

Design and layout of line transects need considerable effort. These transects need to be remarked annually if they are to be used on a repetitive basis. Considerable effort is also needed in carrying out observations. Nature enthusiast volunteers from nearby towns and even youth from local villages may be invited to participate in the monitoring exercise. If necessary, labourers may be engaged for making the observations.

9.2.1.5. POPULATION ESTIMATION BY WATERHOLE COUNT:

Waterhole count is a traditional method used in India for estimating wildlife populations. The waterhole count is not useful if there are extended water bodies such as perennial streams or lakes since it is

difficult to count animal all along such extended water bodies. It is carried out at the peak of summer, either in May or June, depending on the date of arrival of monsoon.

Well-camouflaged machans are built on trees near all perennial water sources

including natural and artificial waterholes. Hides are made if it is not possible to have machans. A team of three persons keeps watch at each waterhole for 24 hours and records the mammals and large birds such pheasants coming to drink water at the waterhole. The total count of animals of each species for all waterholes is the population of that species. The method suffers from some uncertainties but is nevertheless a useful method for population estimation.

9.2.1.6. TERRITORY MAPPING:

Mapping is best for those species that are clearly territorial such as many primates and carnivores. In mapping, the location of sightings and territorial calls are mapped. In many mammals the territory may be held by a group and thus mean group size has also to be determined.

Territory mapping can be better done with the help of radio telemetry. The territory mapping for each animal can be fixed with regular field verification and use of telemetry.

9.2.1.7. PUGMARK METHOD FOR MONITORING LEOPARD POPULATION: The pugmark method has been traditionally used for estimating tiger populations in protected areas in India. It has not been regularly used for estimating leopard population but the technique

can easily be used for estimating leopard populations also. Since leopard pugmarks are smaller there is greater possibility of making mistakes in identification since small mistakes in tracing can alter the shape of the pugmark. Hence greater care needs to be exercised in tracing pugmarks.

To achieve proper impressions of the pugmarks should be on a hard surface with a thin layer of fine dust. These conditions are achieved on forest roads and trails in summer. Hence pugmark census is generally carried out in the month of May. The original pugmark method relied on tracings on glass plates, which created possibility of error while tracing. Digital cameras can be used for taking photographs that can later be converted to pugmark outlines after transferring to the computer. This can increase the reliability of the method. Alternatively there are special optical instruments that can increase the accuracy of the tracing and minimize errors.

The pugmark census is carried out over a period of a few days, generally a week. All forest roads and trails are searched intensively for pugmarks during this period.

9.2.1.8. POPULATION ESTIMATION OF LEOPARDS BY DNA ANALYSIS OF SCATS: DNA analysis of leopard scats can be used for population estimation. DNA analysis can be done by taking mucous layer covering the scat and then analysing it in the laboratory. The technique is still at an experimental stage in the country. The technique may soon become generally available, but it is definitely expensive. The technique requires

collection of fresh scat (within 24 hours) and its preservation by an appropriate method. DNA analysis is carried out in specially-equipped laboratories.

9.2.2. MONITORING TECHNIQUES FOR BIRDS:

Birds have the advantages that they are often reasonably conspicuous; have diagnostic calls or songs and many people have the expertise necessary to identify them in the field. As a result of the ease of counting them, birds are good for monitoring environmental change. Monitoring techniques for birds are as follows:

9.2.2.1. FOOT TRANSECTS:

Counts along transect lines, are useful for estimating relative abundances, as well as for estimating densities. Line transect is a simple, easy to execute method that can help in obtaining density estimate for pheasants in India. In this method, one walks along a straight line and counts animals on both sides of the line. Line transect could be permanently marked and vegetation trimmed for the observer to walk easily and carefully look for animals. In case of temporary transects, the observer walks in a straight line using a compass on a predetermined bearing. At least 2 or 3 transects of length ranging between 1 and 3 km to be laid in each habitat/area and walked at least 2 or 3 times in a month during the early morning hours. For every sighting, species, number, age and sex (if possible), sighting angle and sighting distance are measured. This information will be useful in calculating the encounter rates and density of pheasants in an area. This technique is best suited for pheasants. Software such as distance could be used to analyse line transect data for obtaining encounter rate and density estimates.

The actual number of birds encountered on transect can act as a

simple index of abundance for comparative purposes. Care must; however, be taken to ensure that the visibility in the habitat is similar during all the counts being compared. A decrease in visibility may lead to fewer birds being encountered, even though the actual number may be the same. Since visibility

often changes seasonally as a function of the amount of foliage, counting in the same season is an effective way of controlling for visibility. The conspicuousness of a bird also depends on its behaviour; birds, especially males, are highly visible during the breeding season when they are singing and advertising their territories. The best season for counts is thus the breeding season, when birds are most conspicuous.

9.2.2.2. POINT COUNT:

A variation of the transect count is the point count. Here the observer stands at a fixed point for a specific period and count all birds, either within a specified circle (of say 25m or 50 m radius), or as far as birds can be seen (open radius). This is actually like a transect count of length zero. Each individual should be counted just once. It is often sensible to wait 5 minutes before counting so that the birds are less disturbed. The count is for a fixed period of 3-10 minutes depending upon how conspicuous the birds are. The counts should be completed as quickly as possible to reduce the risk of double counting and allow more points to be visited. Points should be at least 200 m apart to prevent double counting.

Point counts are particularly useful in areas of difficult terrain such as hills or swamps, where one cannot easily lay a straight, continuous transect.

9.2.2.3. CALL COUNTS SURVEY:

This method can be used for most of the pheasants which call during morning hours in their breeding season. The counts can be made from strategic point in the habitat of the particular pheasant. The number obtained can be doubled for obtaining the estimate of breeding population.

The counts of calling males assume that all the existing males in the area will call every morning. In case of Koklass the best time to carry out this count is January to June and September to December (Gaston 1980; Young et al. 1987; Ridley 1986). Most of the observations are made during the short time period of about half an hour. For observation strategic points which allow the observer to hear the birds over as wide an area as possible, should be selected. A point on the ridge allows the observer to listen to the pheasant calls on both the sides. Observation points should be marked at an interval of about 500m to 600m. All the observers must visit their observation points on the previous evening of the survey day. They should be in position well before dawn so that all the calling pheasants are counted.

9.2.2.4. TERRITORY MAPPING:

This is a standard method of counting birds in most ornithological studies, and regarded as the most reliable. The technique is based on locating singing males in an area on a map. This is done repeatedly (3-4 times) within a limited period (maybe a week, or the breeding season). A composite map is then prepared by overlaying the locations of each separate count. One can then find clusters of locations indicating territories of individual males. The number of each cluster is thus number of territorial males in the area,

and assuming all of these are monogamous, one can then estimate the breeding population. An obvious limitation of this technique is its being restricted only to the breeding season and non-breeding members are left out. The technique also requires skill in identifying territories correctly from clusters (correct mapping) otherwise it can lead to interpretational errors. This would require a degree of familiarity with the general ecology of the species, which would require extra efforts. Hence this is of more limited use for a manager, than the generalised transect or point counts.

9.2.2.5. ENCOUNTER RATES:

Encounter rate is the simple index for abundance estimation and is expressed as number seen per unit effort. The unit effort could be time spent in intensively searching for animals in an area or it could be the distance travelled in an area intensively searching for animals. Number seen could be based on direct evidences (sightings) or indirect evidences such as calls, droppings and other signs such as digging signs for feeding. Survey could be done along existing roads, paths, trails, ridges, and nullas or along a predetermined bearing using a compass or GPS. If the distance travelled is measured, then one could use that as effort(ER=number seen/km walked). In cases when distance travelled is not known, one could use the time spent in searching that area as effort (ER=number seen/ time spent). Indirect evidences such as calls and droppings could also be used, but one should be very careful in identification of calls of different species and calls of different individuals of the same species. Similarly, care should be taken to identify droppings or other signs of a species.

Encounter rates are good for monitoring the abundance of pheasants in an area, if done regularly (monthly/ seasonally/ annually). Comparison of ER of a

species in two similar habitats located in different areas could be made. Adequate number of walks per month or season

is necessary for calculating mean ER and standard errors. The technique is applicable for most of the pheasants.

9.2.3. MONITORING TECHNIQUES FOR PLANTS:

Vegetation is a major component of wildlife habitat. It is made up of a number of plant communities, which can be distinct entities or more diffuse merging slowly into each other. The value of the habitat for wildlife species is directly linked to the type and variety of plant communities and their conditions. Changes will have a positive or negative effect on the overall quality of a habitat for a particular habitat species.

Assessing and monitoring vegetation as a basis for manipulating it in tune with management objective is one of the important aspect of protected area management. It involves qualitative processes such as floristic inventory and community description as well as quantification of factors such as vegetation cover. Some of the monitoring techniques for plants are as follows:

9.2.3.1. TOTAL COUNTS OF PLANTS:

Total counts seem easier than they usually are. Unless carried out methodically it is easy to miss individuals or count them twice. One approach is to grid out the entire area and systematically search each grid square, marking each individual with a flag once found. This can be very accurate and provide excellent information on distribution but is time consuming.

9.2.3.2. QUADRATS:

Quadrats are the most widely techniques used for the plant census. Quadrats could be rectangular strips, square (10mX10m) or circular (10m radius).

The number of individuals of the species of interest can be counted. It is usual to only count those rooting in the quadrate. Percentage cover may be used for mat-forming species or when it takes too long to count all individuals, but it is less accurate. Percentage cover is often used when the observer can stand above the vegetation or for estimating canopy cover above the observer, but it is difficult to estimate scrub or tall herbaceous vegetation at the observer's height.

9.2.4. MONITORING ENVIRONMENTAL VARIABLES:

It is often impossible to interpret the changes over a period of time unless there is a

programme of monitoring environmental variables. Some of the environmental variables which can be measured are as follows:

9.2.4.1. TEMPERATURE:

Maximum-minimum thermometers can be used to give the daily temperature range. They are best located 1.25 m above ground as this is the standard height for meteorology (and thus best for comparison with other sites).

For conservation studies, thermometers are often located in relation to the ecology of the species being studied. Recording of temperature at set intervals is very good for ecological measures of microclimate. For ectotherms in temperate areas, temperature is often critical; sward height, aspect,

slope and colour may all have marked effects on the local temperature and detailed measurements can help interpret the ecology and behaviour.

9.2.4.2. RAINFALL:

Rain can be collected in open containers, but they are likely to be inaccurate due to evaporation. For accuracy rain-gauge can be used.

$$\text{Rainfall} = \frac{\text{ml or } cm^3 \text{ of rain}}{(\text{Diameter of rim of gauge in cm})^2}.$$

A rain gauge should be positioned such that water does not get splashed in and all the standing objects like trees etc. are four times their height away. Rain gauges are usually emptied daily at a fixed time. If visited irregularly then a little oil may be added to reduce evaporation.

9.2.5. MONITORING HUMAN IMPACT:

It is often useful to be able to document human impacts such as the number of offences, number of visitors and mining in the area etc. The approach is same as in monitoring populations or environmental variables. It is necessary to find a sensible sampling regime and a repeatable way of monitoring. Without precise definition it is difficult to distinguish variation in classification from actual changes.

9.2.6. PHOTOGRAPHIC MONITORING:

Photographs are a good way of documenting changes to sites. Photographs are not usually useful for documenting small scale changes for which data from Quadrats is usually

preferred. Aerial photographs are invaluable for monitoring and documenting gross changes to sites, such as changes in the extent of woodland. A series of photographs may show changes imperceptible to site managers, especially when managers change. Photographs may also be valuable for legal uses although the documentation must then be rigorous. Photographs can be a very dramatic way of illustrating change and problems and are likely to be of more widespread public interest than, presenting data on changes in species composition within a quadrate.

9.2.7. RECOMMENDED POPULATION ESTIMATION AND MONITORING METHODS:

The **animal encounter rate** and **sign encounter rate** technique will be used. Trails 4 to5 km long should be laid. The trail should be walked on a fixed date once every month. The data collection on the trail should include animal encounter, animal signs and habitat parameters. Animal sign survey and animal encounter rate survey should be carried out separately. Data analysis should be done carefully.

The **pugmark method** will be used for estimating leopard population. Training in the proper technique is very important to prevent the staff from making mistakes.

The **line transect** method will be started for population estimation in the sanctuary. Design of the line transect is very important. A well designed line transect network should be laid in the sanctuary area. The length of each transect should be 3 to 4 km. Due care should be taken in data analysis.

The transect lines will be walked once a month. Training in recording the observations is very important. The staff should be well trained in making observations at the beginning of the exercise. Hired manpower may be necessary for line transect surveys since every transect needs to be walked by two people. Educated and intelligent young men should be identified and hired from the surrounding villages. Volunteers from Chamba and nearby town may also be called for the line transects exercise. Care should be taken that they are well trained. The **point count** method of population estimation

of bird will be used. For point count 500 m distance should be divided into 5 segments 100m each. Birds should be counted at 6 points i.e. starting point, 100 m, 200m, 300m, 400m and 500m. Observations like species, number, perpendicular distance and activity should be recorded. Data analysis should be done carefully.

The **territory mapping** method of counting pheasants will be followed. Due care should be taken in identifying the call, recording observation and overlaying the locations on the map.

Line transect method will be used for density estimation of pheasants. **Encounter rate** method should be used for relative abundance of the pheasants.

In addition to above methods, modern day tools and techniques like **Trap cameras** should also be used for effective monitoring of faunal species especially nocturnal

ones. The modern camera trap is simply a digital camera connected to an infrared sensor which can see warm objects that are moving, like animals. When an animal moves past the sensor it causes the camera to fire, recording an image or video to the memory card for later retrieval. Camera traps can be left in the field to continuously watch an area of habitat for weeks or even months, recording the rarest events which occur in nature. Camera traps are also wildlife friendly as they cause little or no disturbance to wildlife.

For monitoring of plants **circular Quadrats** will be laid. Centre point of the quadrat should be fixed and observation should be taken annually on a fixed date of a particular month. Circular plots of 10m radius for trees and sapling, 5m radius for shrubs and seedlings and 1m radius for ground cover should be laid.

Monitoring of indicative species of flora and fauna (orchids, lichens, insects amphibians etc.) will be done regularily.

9.2.8. MONITORING DURING REGULAR PATROLLING WALKS:

Animal encounters and animal signs observed during regular patrolling walks should be recorded in specified formats. The animal signs recorded shall be mainly of Black Bear and leopard pug marks and well preserved scats.

9.2.9. RESEARCH NEEDS IN THE SANCTUARY:

Sanctuary managers often function in an information vacuum. Research in a sanctuary can contribute considerably to effective management of the sanctuary by providing useful information on the biological features of the sanctuary.

Research studies may be carried out according to the preferences of the researcher. Some important areas for research in the sanctuary are:

Surveys of flora, pheasants, mammals, reptiles and amphibians, carrying capacity of the area, evaluation of eco system services, behavior and habits of mammals etc.

- Water conservation studies
- Studies on prey-predator ecology
- Evaluation of pastures

- Man-animal conflict

- Corridor studies and other landscape level planning studies

9.3. TRAINING:

Training is a very important tool for capacity building and improving the professionalism of sanctuary staff. The sanctuary staffs, while carrying on their normal protection duties, also need to develop an understanding of various issues related to sanctuary management at a professional level. Capacity building in this regard can best be achieved through trainings designed for this purpose.

Improving the knowledge and capacity of the staff has several benefits. It helps them to carry out their duty with an increased understanding and awareness and hence with increased dedication. It gives them more confidence in their work. This helps them to deal with various stakeholder groups, such as local people and tourists, with more confidence. Improved skills and knowledge will improve their productivity and quality of output.

9.3.1. ON JOB TRAINING:

To manage ecosystem with the basic purpose of wildlife management is a highly technical subject. Wildlife is dynamic component of the ecosystem which requires a well trained forester to comprehend, appreciate and manage. It is highly imperative that short trainings, in house trainings, refresher courses, exposure visits etc. for the field staff are made a regular feature, so that they keep abreast with the latest developments regarding different management techniques.

9.3.2. FORMAL TRAINING COURSES:

Regular training courses being conducted at wildlife Institute Dehradun impart a useful technical know how. The officers/officials dealing with the wildlife management will be trained. Besides

this to acquaint with the latest management techniques adopted in different states on India, short training will be arranged for the officers and field staff.

Some areas where training will benefit the staff are as follows:

- Knowledge and identification of mammal species found in the sanctuary, habits of species, biology and ecology of important species

- Identification of bird species found in the sanctuary
- Knowledge of reptile and amphibian species found in the sanctuary
- Knowledge and identification of plants, including medicinal plants found in the sanctuary
- Soil and water conservation techniques
- Sanctuary ecology, inter dependence of plant and animal species
- Monitoring methods, population estimation methods
- Anti-poaching skills and documentation of offence cases
- Wildlife interpretation skills
- Wildlife tracking and field signs
- Conflict resolution skills for dealing with local people
- Weapon training

- Controlled burning techniques
- Nursery techniques
- Darting and trapping wild animals
- Use of instruments such as compass, binoculars, digital camera etc.
- GPS skills
- Computer literacy

Field staff will be given small projects on which they should collect information from the field such as information on mammal, bird or plant species. They should make write-ups and give presentations on their project.

Training will also be imparted to local people, particularly guide and tour operators with the intention of upgrading their skills for tourism. Some training subjects are:

- Sanctuary rules
- Skills of dealing with tourists
- Interpretation skills
- Basic information on identification of species, tracks and signs, habits of species.

Professional organizations will be involved in developing and conducting training programmes. Officers of the department should also be involved in training programmes

9.3.3. EXISTING CENSUS / TREKKING ROUTES AND TRANSECTS:

The existing census / trekking routes and transects meant for the census purpose are as under:-

Sr. No.	Particular		Length (in KM)
1	Thamru Nalwal	Inspection Path	18
2	Dodu Nalla Suppacholu	Bridle Path	7
3	Roula Chimlo di gali	Bridle Path	15
4	Bhadroh Sounthith	Bridle Path	7
5	Chambi Sounthith	Bridle Path	4
6	Khundimaral Suppacholu	Bridle Path	2.8
7	Chanwani Dasot	Census Path	4
8	Naktiuti Gamgul dhar	Census Path	4
9	Langera Bir RF	Census Path	3.75
10	Riyali Chimloh	Census Path	3
11	Gagli Siya behi	Census Path	4.5

12	Lagera Kiyara	Trekking Path	4
13	Guin nala Ranjal	Trekking Path	5

These paths alongwith their Geo Coordinates are required to be depicted on the map.

9.4. EVALUATION OF ECOSYSTEM SERVICES:

The advantage of including the concept of ecosystem services in management is that it encourages a wider consideration of the benefits and stakeholders involved in an area. Ecosystem services are usually categorized into Provisioning, Regulating, Cultural and Supporting services which include all type of physical goods and non extractive benefits from the environment. Consideration of this range of services and of who benefits from them locally and in other areas helps to build sustainability and wider societal support for management decisions. So, evaluation of various ecosysyem services is must and will be got done by some professional agency.

9.5 MANAGEMENT EFFECTIVENESS EVALUATION (MEE):

Management Effectiveness Evaluation (MEE) is an useful tool to assess the effectiveness of management initiatives and to understand better what is working and what is not, and to plan any necessary changes as efficiently as possible. Normally management effective evaluation is done by regional expert committee. In addition to this it should also be done (in house) on regular basis to assess the effective implementation of the management plan.

9.6 REVIEW OF MANAGEMENT PLAN:

"Mid term review of the management plan will be carried out by some expert agency.The purpose of mid term review is to assess the extent to which management of PA to which the plan applies has been undertaken in

accordance with the plan, including the extent to which key performance indicator targets are being achieved".

This review will be strategic review and all the component of Management plan including Vision, Goals and Objectives will be reviewd to make it updated as per current policies, rules and requirements.

It is suggested that every year all the monitoring and evaluation data will be compiled and analyzed. Based on this analysis APO for the next year will be modified.

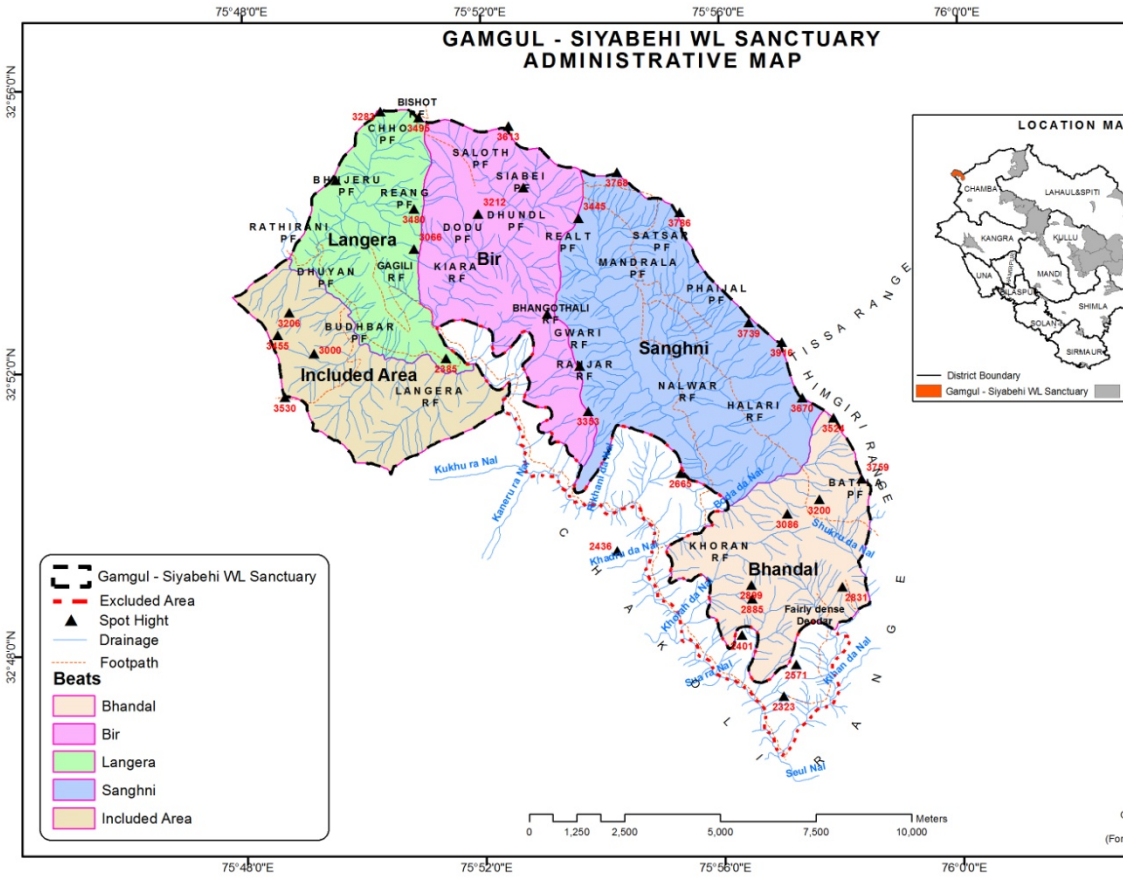
CHAPTER -X

ORGANISATION AND ADMINISTRATION

10.1 STRUCTURE AND RESPONSIBILITIES:

In the present set up Gamgul Siyabehi Wild Life sanctuary is controlled by a Range officer stationed at Bhandal. There is one block officer stationed at Bhandal. The administrative/management unit is the Beat. The Beats are managed by forest guards. The detail of beats are as under:-

Block	Block HQs	Beat	Beat HQs	Area of beat Hac.)
Bhandal	Bhandal	Bhandal	Bhandal	1003.38
		Sanghni	Sanghni	3602.40
		Bir	Langera	2316.80
		Langera	Langera	3918.16



Over all supervision of works is done by Range Officer, Wildlife Range Bhandal. He draws out the plan of operation and accordingly the works are executed after its due approval. The Block officer gets the various development works executed through the Forest Guards. The Forest Guards, besides undertaking plantation and other infrastructure works are also the main guardians of wildlife within their respective jurisdictions. They have to ensure the protection of wildlife by way of effective patrolling within the sanctuary and making continuous awareness campaign among the local public regarding the

significance of wildlife and nature conservation. Anti poaching measures are also carried out by the Forest Guards.

Censes/Survey operation and other related activities become a joint venture of the staff and experts with association of local residents which makes them more and more aware and sensitized about the importance of and co existence of wildlife with that of man.

Keeping in view the envisaged multifarious developmental activities throughout the year, larger area of the sanctuary, tough terrain and harsh weather conditions it is proposed to create one more block and two more beats. The staff strength is also required to be increased accordingly. Following staff is proposed for strengthening the human resource in the wild life sanctuary:-

10.1.1. SITUATION OF THE PRESENT STAFF AND FUTURE REQUIREMENTS:

Sl. No.	Post	Existing staff	Posts to be created	Remarks
1	Divisional Forest Officer, Wildlife division Chamba	1	0	-
2	Assistant Conservator of Forests, Wildlife division Chamba	1	0	-
3	Range Officer, Wildlife range Bhandal	1	0	-
4	Block Officer	1	1	For additional Block
6	Forest Guards	4	6	2 for additional beats and 4 for two check

				posts
7	Class IV workers	0	7	For office, Rest house, Patrolling huts

10.1.2. RECOMMENDATION:

At present, there is only one block officer and four forest guards. For effective management of the sanctuary it is suggested that one more block officer and four more forest guard posts may be created to strengthen the management of Gamgul Siyabehi Wildlife sanctuary. At present, there is no check post. So two check posts are recommended to be constructed at Kainthaly and Khundimaral.. For these check posts additional four forest guards would be required as mentioned above. The check posts should be equipped with telephone/ wireless system facility, CCTV cameras and fire arms.

10.2 STAFF AMENITIES:

10.2.1. RESIDENTIAL ACCOMMODATION:

The Staff posted in the sanctuary is provided with Govt.accommodation. The existing Buildings/ housing for the staff and additional requirement are as under:-

Sl. no.	Post	Currently available	Total needed
1	Range Office at Bhandal	1	1
4	Range officer Residence, Bhandal	1	1
5	Block Officer Residence	1	2
6	Forest Guard quarters	4	6

7	Check post at Kainthaly with additional staying accommodation	0	1
8	Check post at Khundimaral with additional staying accommodation	0	1

10.2.2. UNIFORM AND FIELD EQUIPMENTS:

Proper uniforms and field equipments (including field gear and equipment for high-altitude climbing and trekking) should be provided to the frontline staff regularly.

10.2.3. INCENTIVES AND AWARD:

For management of PA, a motivated frontline staff is necessary requirement therefore it is recommended that suitable appreciation, recognition, award or some incentives should be given to staff who perform outstanding duties.

10.3. EDUCATION FACILITY:

For education purposes the schools exist at following places:-

Name of School	**Standard**	**Location**
Govt.SSS Sanghani	High School	Sanghani
Govt. SSS Bhandal	High School.	Bhandal

Govt. Middle School Pringual	Primary School.	Pringual
Govt. primary School Langera	-do-	Langera
Govt. primary School Digodi	-do-	Digodi

10.4. MEDICAL FACILITY:

1. Govt. Aurvedic .Dispansary at Sanghani
2. PHC at Bhandal
3. PHC Priungal

However, since the staff has to negotiate tough terrain & inclement weather condition & mobility is also mainly on foot, thus to meet exigency on account of ill health in such areas it is necessary to impart basic training to the staff regarding First Aid and should be provided with the necessary Kits, so that not only staff but local residents can also be rendered help in hard situations. Vaccination and life insurance of the staff is also an integral part of medical facility.

10.5 CAPACITY BUILDING OF THE FIELD STAFF:

The following are basic topics, which should be known by everyone in the field staff (Forest Guard, block officer and Forest Ranger) in varying degree of details and understanding:

- The importance of nature conservation and Protected Area

- Use of GPS, Camera traps, Drone Cameras and other modern equipments .
- A few terms relevant to biodiversity conservation
- Introduction and identification of local flora, vegetation/forest types
- Introduction and identification of local fauna (mammals, birds, reptiles, etc)
- Elementary field methods for vegetation and animal population sampling
- Laws regarding forest and WL protection
- Effective dealing with human wildlife conflicts
- Protection measure , intelligence gathering and crime control
- Patrolling and Reporting
- Conducting Anti-poaching operations
- Law enforcement procedures
- Collection of evidence effectively for forensic examination
- Maintenance of equipment and other facilities
- Fires and control of Forest fires
- Map-reading
- First Aid and medical care
- Monitoring of the impact of villages and community on the PA
- Importance of local people in nature conservation
- Importance of linking conservation efforts to the livelihoods of the villagers
- Importance of local knowledge in biodiversity conservation

10.6 TRAINING FOR THE LOCAL PEOPLE/OTHER STAKEHOLDERS:

- Capacity building workshops for local villagers (alternative livelihoods)
- Orientation and vocational training of tourist guides.
- Awareness /sensitization workshop for hotel/home stay owners , shop owners
- Special educative programs for school teacher and students
- Waste management training

CHAPTER XI

BUDGET

11.1 BUDGET SUMMARY:

The Forest department will be the main executing agency for the implementation of the present Management Plan for the Gamgul Siyabehi wildlife sanctuary. The management of habitat, protection activities, eco-tourism, eco-development, human-wildlife conflict, monitoring, capacity building of the staff, community are the main focal points for this Management Plan.

11.2 FUNDING AGENCIES:

The main funding agencies for the Management Plan of Gamgul Siyabehi wildlife sanctuary will be as under:

- H.P. Forest Department
- Government of India - Centrally Sponsored Schemes (CSS)

- CAMPA funds

The APO for next ten years is attached as **Annexure XVI**

CHAPTER-XII

THE SCHEDULE OF OPERATIONS AND MISCELLENEOUS REGULATONS

12.1 THE SCHEDULE:

The area being high attitude one, works are necessarily to be executed before the winter season. With this time constraint the works have to be meticulously planned. In this context the instructions issued from time to time have to be followed in letter and spirit.

12.2 RECORD OF DEVIATION AND IMPLEMENTED TARGETS:

The final execution of works would depend upon the finance availability. But still the deviation from the plan prescriptions should be brought on record so that the plan objectives are not defeated.

12.3 THE RECORD OF EMPLOYMENT POTENTIAL:

All works in the sanctuary though will improve and manage the habitat for Wildlife, yet at the same time there has to be a healthy and cordial relation with the common people of the area around the wild life sanctuary. For their benefit we have to give them gainful employment through various developmental works. In this way not only their income will be supplemented but also they will feel involved in this activity.

12.4 MAINTENANCE OF COMPARTMENT HISTORIES AND BEAT MANNUALS:

The Compartment histories and beat manuals would be maintained in such a way that all forestry operations carried out in the area as well as general condition of the forests with relation to the wildlife trends, digital maps of the forests upto compartment level, Geo- coordinates of boundary pillars, census results will also be recorded.

ANNEXURE-I

NOTIFICATION OF SANCTUARY (FACSIMILE)

GOVERNMENT OF HIMACHAL PRADESH

FOREST DEPARTMENT

No.5-511/70-SF Dated Shimla-2 the 27th March 1974

NOTIFICATION

Whereas the Government of Himachal Pradesh state after due consideration is of the view that the areas mentioned in the Schedule below are of adequate ecological, faunal, floral, Geomorphologic, natural or Zoological significance.

Now therefore, in exercise of the powers conferred on under Section 18 of the Wild Life (Protection) Act. 1972, the Governor of Himachal Pradesh is pleased to declare the aforesaid areas as sanctuaries for, the purpose of protecting propagating or developing Wildlife or its environments.

SCHEDULE

Sr . No.	Name of Sanctuary	Name of (a) Distt.	Situation of the sanctuary.

(b) Division.
(c) Range .

1.	2.	3.	4.
1.	Gamgul Siyabehi	Chamba. WL Division Chamba WL Range Bhandal	North-West

By Order

P.N. Mattoo,
Secty. (Forests to the Govt.of H.P.).

(Authoritative English Text of this Department Notification No. FFE-B-F(6)11/200
Dated 7th June, 2013 as required under Article 348(3) of the Constitution of India)

GOVERNMENT OF HIMACHAL PRADESH
DEPARTMENT OF FORESTS

No. FFE-B-F(6)-11/2005-II/ Gamgul Siyabehi Dated Shimla-2, the 7th June, 2013

NOTIFICATION

Whereas a notification under Section 26A of the Wildlife (Protection) Act 197 53 of 1972) was issued by the Government vide Notification No. FFE-B-F(6)-4 /99 dat 23.10.1999, to declare **Gamgul Siyabehi as Wildlife Sanctuary** comprising an area of 1 sq . km;

And whereas, the matter with regard to rationalization of the Wildl Sanctuaries and National Parks in Himachal Pradesh was under consideration of the Hon'b Supreme Court in IA No. 130/2010 in Writ Petition Civil No. 337 of 1995 titled Centre f Environmental Law, WWF-I Versus Union of India & Others;

And whereas, in pursuance to the Hon'ble Supreme Court order dated 7th Ma 2010, the State Government issued intention Notifications under Section 18 of the Wildli (Protection) Act, 1972, in respect of the Wildlife Sanctuaries and National Parks for whic rationalization had been proposed;

And whereas, Intention Notification under section 18(1) of the Wildli (Protection) Act, 1972 was issued vide Notification No.FFE-B-F(6)-11/2005 dated 28th Ju 2010, to include an area of 15.00 sq. km to the existing 109.00 sq. km area of Gamg Siyabehi Wildlife Sanctuary;

And whereas, the Hon'ble Supreme Court vide order dated 05/08/2011, furthe directed the State Government to follow the procedure laid down under Section 18 to 26A an 35 of the Wildlife (Protection) Act, 1972 before issuance of final Notifications under Sectio 26A of the Wildlife (Protection) Act, 1972, which procedure was duly followed;

And whereas, the Hon'ble Supreme Court vide order dated 01/02/2013 passe in IA No. 155 (earlier IA No. 139/2010), has permitted the State Government to issue fina Notifications under Sections 26A, 35(4) & 36A of the Wildlife (Protection) Act, 1972, wit

regard to the proposed ationalization of boundaries of Wildlife Sanctuaries and Na Parks in Himachal Pradesh;

And whereas, as a consequence of rationalization of boundaries of Gai Siyabehi Wildlife Sanotuary, an additional area of 15.00 sq. km is included and 15.30 sq area is excluded (comprising 32 villages list attached as Annexure-I) from the existing of 109 sq. km of GamgulSiyabehi Wildlife Sanctuary. The total area of 108.40 sq. km .00 sq. km + 15.00 sq. km – 15.60 sq. km) shall now constitute the Gamgul Siya Wildlife Sanctuary after rationalization;

Now, therefore, the Governor Himachal Pradesh in exercise of the powers ve in her under Section 26A of the Act ibid is pleased to declare the aforesaid area of 10 sq. km as **'Gamgul Siyabehi Wildlife Sanctuary'** with immediate effect for the purpos protecting, propagating and developing wildlife and its environment.

The limit of Gamgul Siyabehi Wildlife Sanctuary shall be as under:

Sr. No	Name of WL Sanctuary	Constituents i) District ii)Forest Division	Boundaries of **Gamgul Siyabehi** Wildlife Sanctuary
1.	**Gamgul Siyabeli Wildlife Sanctuary**	i) Chamba ii) Chamba (WL) Division	**NORTH :** From Baju Bag Gali to Bichot PF at 3299 Mtrs. Height and then up to Pateran at 3916 Mtrs. Height all along the boundary of Jammu & Kashmir. **EAST:** From Pateran at 3916 Mtrs. Height to Chalipur Gali at 3524 Mtrs. height and then up to Chabbi along Shikru Da Nalla. **SOUTH:** From Chabbi along the outer boundary of Kalhetra RF, Thamaru RF, Khoran RF, Jalari RF, Boda RF, Sathi RF, Nalwad RF, Dhar Chanwani, Guin Nal RF, Laded RF, Dandi RF, Ranjal RF, Gowari RF, Bhangotli RF, Bir RF, Gagli RF upto Talai. From Talai along the Siul Nalla upto Ranod to Kalethu at 3633 Mtrs. Height.

			WEST: From Kalethu 3633 Mtrs Height to Udak 3530 Mtrs. Height up to Baju Bag Gali.

This area is situated within the Geo co-ordinates **North** (32^0 55'44"N & 75^0 50'46"E), 32^0 49'40"N &75^0 58' 32" E), **South** (32^0 47'29" N &75^0 58' 37" E) and **West** [32^0 52 &$75^0$47'49"E) which falls on Survey of India topo sheet No.43P/13 Scale 1:50,000.

Area of Gamgul Siyabehi Wildlife Sanctuary= 108.40 sq. km

By Order

Principal Secretary (Forests) to the
Government of Himachal Pradesh.

Endst. No As above Dated Shimla-2 the 7th June, 2013

Copy forwarded to:-

1. All the Administrative Secretaries to the Govt. of H.P. Shimla-2.
2. All the Divisional Commissioners, Shimla, Mandi & Dharamshala, H.P.
3. All the Heads of Departments of H.P.
4. The Principal Chief Conservator of Forests, H.P. Shimla-1
6. The Principal Chief Conservator of Forests, (Wildlife) H.P. Shimla-1.
6. All CCFs / DFOs (Wildlife) in H.P.
7. All the Deputy Commissioners in H.P.
8. All the CCFs/CFs /DFOs in H.P.
9. ALR-cum- Under Secretary Law to the Government of Himachal Pradesh.
10. The Commissioner, Municipal Corporation, Shimla.
11. The Controller H.P. Printing & Stationary Department Shimla-5 for publica in the Raj-Patra (Extra-ordinary) Five Copies of the Raj-Patra be sent to th Department.
12. Guard File.

Under Secretary (Forests) to the
Government of Himachal Pradesh.

ANNEXURE-I A

GOVERNMENT OF HIMACHALA PRADESH

DEPARTMENT OF FORESTS.

***

No. FFE-B-F (6)-2/99- Dated Shimla-2, the 23-10-1999

NOTIFICATION.

Whereas Notification under section 18 of the Wildlife (Protection) Act, 1972 was issued vide Government Notification No. 5-11/70-SF dated 27/03/1974 declaring its intention to constitute Gamgul Siyabehi Sanctuary in District Chamba.

AND whereas proclamation as required under section 21 of the said Act was published in the regional language and circulated in every Town and Village covered by the above Notification on 11/12/1997. No objections what so ever were received from the public within the prescribed period. It is, therefore, felt that there is no need either to exclude or include any land from the limits of the Sanctuary and consequently no action is required to be taken under Sections 24 & 25 of the Act;

AND whereas the Governor, Himachal Pradesh considers that Kugti Sanctuary is of adequate ecological, faunal geomorphological natural or zoological significance;

Now, therefore, the Governor, Himachal Pradesh in exercise of the powers vested in her under section (26A) of the said Act is pleased to declare Kugti area as Sanctuary with immediate effect for the purpose of protecting, propagating or developing Wildlife or its environment.

The limits of the area of the sanctuary shall be as under:-

North: From bishot Dhar, anlong H.P. & J&K boundary line point 11, 220,

Batile 12,388 the Kaura-Datiba 12429, Dagan-Da-Gala 12,231 along the

ridge upto Sawan Tita Galie.

East: Sawan Tith Gali along the Mashaha dhar upto 12,352 ft. from there along

the Siknu-ka- nala upto its confluence with Siul Nal.

South: From the confluence of Siknu- ka-nal and Siul nal upstream to the point on the ridge height 8& thenalong the Khundi maral nal upstream upto the J & K and H.P. Boundary.

West: From Khundi Maral nal point of J & Kboundary ridge upto Bishot point.

Area; 109 Sq. Kms.

By order

Commissioner-Cum-Secretary (Fts.) to the Government of Himachal Pradesh.

Endst. No. FFE-B-F (6)-6/99- Dated Shimla-2, the 23-10-1999

Copy forwarded for favour of information and necessary action to:-

1. All the Administrative Secretaries to the Govt. of Himachal Pradesh, Shimla-2.
2. All the Divisional Commissioners in H.P.
3. All the Head of the Departments in H.P.
4. The Principal Chief Conservator of Forests, Himachal Pradesh, Shimla - 171001.
5. The Chief Wildlife Warden, H.P. Shimla-2.
6. All the Deputy Commissioner in H.P.
7. The Controller, Printing & Stationary Deptt. H.P. Shimla-5 for publication in Rajpatra. Five copies of the Rajpatra be sent to this deptt.

8. Chief Conservator of Forests in H.P.

9. All the Divisional Forest Officers (Wildlife) in Himachal Pradesh.
10. Guard file. (100 spare copies).

Secretary (Forests) to the
Govt. of Himachal Pradesh.

Annexure IB

(Authoritative English Text of this Department Notification No. FFE-B-F (6)11/2005, Dated 28th July, 2010 as required under Article 348 (3) of the Constitution of India).

GOVERNMENT OF HIMACHAL PRADESH

DEPARTMENT OF FORESTS.

No. FFE-B-F (6) 11/2005 Dated Shimla-2, the 28th July, 2010.

NOTIFICATION.

Whereas, the Governor, Himachal Pradesh, after careful consideration is of the view that the area mentioned in the Schedule below are of adequate ecological, faunal, floral, geomorphologic, natural or Zoological significance.

Now therefore, the Governor, Himachal Pradesh in exercise of the powers vested in it under Section 18 (1) of the Wildlife (Protection) Act, 1972 is pleased to declare her intention to add the aforesaid areas as specified in the said schedule as extension to the Gamgul Siyabehi Wildlife Sanctuary, notified vide Notification No. FFE-B-F-(8)-6/99 dated 23-10-1999 by including an area of 15 Sq. Km to the existing Gamgul Siyabehi Wildlife Sanctuary having area on ground 109 sq. km. for the purpose of protecting, propagating, or developing wildlife, or its environment.

SCHEDULE

Sr. No.	Name of WL Sanctuary to be extended.	Constituents i) District ii) Division	Proposed boundaries of the area to constitute as inclusion to the existing Gamgul Siyabehi Wildlife Sanctuary
1.	Gamgul Siyabehi WL Sanctuary	i) Chamba ii) Churah	N**ORTH: -** Starting from J&K state common border line alo the District Chamba boundary at conjunction point Bajubag 3294 mt. height follows Dhar Kundi Maral towards the Eas direction at 3020 M. height. **EAST:-** Starting from common boundary line of Gamgul Siyabehi wild life Sanctury at 3020 mt. height boundary alo Siul Nalla follows Talai at 2317 mt. height Ranor at 2184 m height towards Southern direction **SOUTH: -** Starting from common boundary line of Gamgul Siyabehi wild life Sanctuary along Siknu di Dhar at 2184 m height follows Budhwar at 3284 mt.height on the border line

			of JK Kathua District. **WEST: -** Starting from common line of Udhampur District at conjuction point at 3294 mt. height follows Udhak at3532 mt.height Kalethu at 3633 Mt. height up to conjuction point Kathua District of J&K state at 3280 mt height towards southern direction

Area: - This area of 15 sq. km shall constitute extension of the existing 109 sq. km area of Gamgul Siyabehi Wildlife Sanctuary.

By Order

Addi. Chief Secretary

(Fis)to the

Govt. of Himachal Pradesh.

Endst.No.FFE-B-F (6)11/2005 Dated Shimla-2 the 28th July, 2010

Copy forwarded to:-

1. All the Administrative Secretaries to the Govt. of H.P. Shimla-2.

2. All the Divisional Commissioners, Shimla, Mandi and Dharamshala, H.P.

3. All the Heads of Department of H.P.

4. The Principal Chief Conservator of Forests, H.P. Shimla-1

5. The Principal Chief Conservator of Forests (Wildlife) ,H.P. Shimla-1

6. The Conservator of Forests (Wildlife) (North) Dharamshala.

7. The Conservator of Forests (South) Shimla H.P.

8. The Conservator of Forest GHNP Shamshi. Kullu.

9. All the Deputy Commissioners in H.P.

10. ALL the CCFs / CFs/DFOs in H.P.

11. All Commissioner, Municipal Corporation, Shimla.

12. The Controller, H.P. Printing and Stationary Department Shimla-5 for publication in the Raj-Patra (Extra-ordinary) Five Copies of the Raj-Patra be sent to this Department.

1. Guard File.

Deputy Secretary (Forests) to the

Government of Himachal Pradesh

(Authoritative English Text of this Department Notification No. FFE-B-F(6)11/2005-II, Dated 7th June, 2013 as required under Article 348(3) of the Constitution of India)

GOVERNMENT OF HIMACHAL PRADESH
DEPARTMENT OF FORESTS

No. FFE-B-F(6)-11/2005-II/ Gamgul Siyabehi Dated Shimla-2, the 7th June, 2013

NOTIFICATION

Whereas a notification under Section 26A of the Wildlife (Protection) Act 1972(53 of 1972) was issued by the Government vide Notification No. FFE-B-F(6)-4 /99 dated 23.10.1999, to declare **Gamgul Siyabehi as Wildlife Sanctuary** comprising an area of 109 sq . km;

And whereas, the matter with regard to rationalization of the Wildlife Sanctuaries and Nationail Parks in Himachal Pradesh was under consideration of the Hon'ble Supreme Court in IA No. 139/2010 in Writ Petition Civil No. 337 of 1995 titled Centre for Environmental Law, WWF-I Versus Union of India & Others;

And whereas, in pursuance to the Hon'ble Supreme Court order dated 7th May 2010, the State Government issued intention Notifications under Section 18 of the Wildlife (Protection) Act, 1972, in respect of the Wildlife Sanctuaries and National Parks for which rationalization had been proposed;

And whereas, Intention Notification under section 18(1) of the Wildlife (Protection) Act, 1972 was issued vide Notification No.FFE-B-F(6)-11/2005 dated 28th July 2010, to include an area of 15.00 sq. km to the existing 109.00 sq. km area of Gamgul Siyabehi Wildlife Sanctuary;

And whereas, the Hon'ble Supreme Court vide order dated 05/08/2011, further directed the State Government to follow the procedure laid down under Section 18 to 26A and 35 of the Wildlife (Protection) Act, 1972 before issuance of final Notifications under Section 26A of the Wildlife (Protection) Act, 1972, which procedure was duly followed;

And whereas, the Hon'ble Supreme Court vide order dated 01/02/2013 passed in IA No. 155 (earlier IA No. 139/2010), has permitted the State Government to issue final Notifications under Sections 26A, 35(4) & 36A of the Wildlife (Protection) Act, 1972, with

regard to the proposed

Parks in Himachal Prades		**WEST:** From Kalethu 3633 Mtrs. Height to Udak 3530 Mtrs. Height up to Baju Bag Gali.

And whereas,

Siyabehi Wildlife Sanctua

This area is situated within the Geo co-ordinates **North** (32^0 55'44"N & 75^0 5046"E), **East** (
area is excluded (compri
32^0 48'40"N &75^0 58' 32" E), **South** (32^0 47'29" N &75^0 56' 37" E) and **West** (32^0 52'48"N
of 109 sq. km of Gamgul
&75^{0}47'49"E) which falls on Survey of India topo sheet No.43P/13 Scale 1:50,000.
.00 sq. km + 15.00 sq. l

Wildlife Sanctuary after incl

Area of Gamgul Siyabehi Wildlife Sanctuary= 108.40 sq. km

Now, therefore

By Order

in her under Section 26A

sq. km as '**Gamgul Siyat**

protecting, propagating an

Principal Secretary (Forests) to the
Government of Himachal Pradesh.

Endst. No The above

Dated Shimla-2 the 7th June, 2013

Copy forwarded to:-

Sr. No	Name of Wi Sanctuary
1.	**Gamgul Siyabet Wildlife Sanctua**

1. All the Administrative Secretaries to the Govt. of H.P. Shimla-2.
2. All the Divisional Commissioners, Shimla, Mandi & Dharamshala, H.P.
3. All the Heads of Departments of H.P.
4. The Principal Chief Conservator of Forests, H.P. Shimla-1
5. The Principal Chief Conservator of Forests, (Wildlife) H.P. Shimla-1.
6. All CCFs / DFOs (Wildlife) in H.P.
7. All the Deputy Commissioners in H.P.
8. All the CCFs/CFs /DFOs in H.P.
9. ALR-cum- Under Secretary Law to the Government of Himachal Pradesh.
10. The Commissioner, Municipal Corporation, Shimla.
11. The Controller H.P. Printing & Stationary Department Shimla-5 for publication in the Raj-Patra (Extra-ordinary) Five Copies of the Raj-Patra be sent to this Department.
12. Guard File.

Under Secretary (Forests) to the
Government of Himachal Pradesh.

Annexure-I

List of villages to be excluded from Gamgul Siyabehi Wildlife Sanctuary

1.	Samooh.
2.	Gagal.
3.	Kainthly.
4.	Adap.
5.	Damdodi.
6.	Dugli.
7.	Bhadroh.
8.	Jasoh..
9.	Tharoli.
10.	Jhandoor.
11.	Mandog.
12.	Thath.
13.	Jaladi.
14.	Sanghani.
15.	Karwad.
16.	Sanghned.
17.	Puthial.
18.	Koloie.
19.	Bhadai.
20.	Pathwal.
21.	Sagodi.
22.	Soon.
23.	Pradh.
24.	Chandu.
25.	Dhamogi.
26.	Chaneti.
27.	Kinsaloo.
28.	Dadri.
29.	Priungal.
30.	Langera.
31.	Digodi.
32.	Khanei.

ANNEXURE-II

LIST OF FOREST/COMPARTMENT AND AREA IN HAC.

Sr. No.	Name of Forest Compartment	Area in Hac.
1.	Jalari RF- C1a	16.80
2.	Jalari RF-C1b	21.60
3.	Jalari RF-C11 a	23.60
4.	Jalari RF –C11b	52.00
5.	Khoran RF-C1	72.80
6.	Khoran RF C11	62.40
7.	Khoran RF C111	29.20
8	Kalthera RF.CI .	38.80
9.	Kalthera RF.CII	76.80
10	Thamru RF	15.20
11	Nalwar RF	200.00
12.	Halari RF	24.00
13	Sathi RF	16.80
14.	Bouda RF	17.60
15	Gui Nal RF	64.00
16	Bhangotli RF	48.80
17 .	Bir – RF –C-I-	140.00

18.	Bir RF- C-II.	210.40
19	Ranjal RF	26.40
20 .	Dandi RF	6.80
21	Laded RF	25.60
22	Gowari RF	22.80
23	Gagli RF	96.40
24	Suppa cholu RF	158.20
25	Langera RF-CIa	14.41
26	Langera RF-CIb	47.67
26	Langera RF-CIc	122.06
28	Langera RF-CId	143.26
29	Langera RF-CII	148.12
30	Langera RF-CIII	240.80
	Total	**2183.32**
1	Choundi di ghori DPF C-II	260.58
2	Siragalu DPF	222.00
3	Mandog DPF	37.60
4	Pronh DPF	19.20
5	Talai DPF	142.00
6	Khundimaral DPF -I	86.00
7	Khundimaral DPF-II	15.60
	Total	**782.98**

1	Sanuh Dhar	74.00
2	Maklunda Dhar	112.40
3	Chanwani Dhar	230.00
4	Sawanthith Dhar	631.60
5	Dagli Dhar	430.00
6	Gamgul Dhar	1856.80
7	Siyabehi Dhar	1836.00
8	Bajubag Dhar	1337.60
9	Periheth Dhar	29.20
10	Nakru Dhar	8.00
11	Suppacholu Dhar	801.20
12	Khundimaral Dhar	32.00
13	Badhwar Dhar	495.64
14	**TOTAL**	**7874.44**
	G. TOTAL	**10840.74**

Annexure III

LIST OF NATURAL WATER SOURCES

Sr. No.	Name of Water Source/Nallah.	Beat	Perennial.	Seasonal.
1.	**2.**	**3.**	**4.**	**5.**
1.	Kainthli Nalla.	Bhandal	-do-	-
2.	Digori Nalla.	Bhandal	-do-	-
3.	Sanghani Nalla.	Sanghani	-do-	-
4.	Gowari Nalla.	Bir	-do-	-
5.	Dodu Nalla.	Bir & Langera	-do-	-
6.	Bhacharadu Nalla	Langera	-do-	-
7.	Laded Nalla	Bir		
8.	Guin Nalla	Sanghani & Bir		

Annexure IV

LIST OF PLANTATIONS

Sr. No.	Name of Area	Spp. Planted with Nos.		Area (Hac.)	Year of Plantation
1.	Sathi CA	Deodar = 2200	-	2 Hac.	**2005-06**
2.	Khundimaral C.A.	Deodar = 3200	-	4 Hac.	-do-
3.	Kalhetra C.A .-1	-	B/Leave = 4400	4 Hac.	-do-
4.	Kalhetra C.A .-11	-	B/Leave = 5500	5 Hac.	-do-
5.	Sangni C.A.-1	-	B/Leave =5500	5 Hac.	-do-
6.	Bangotlie C.A.	-	B/Leave =5500	5 Hac.	-do-
7.	Mahroon C.A.	-	B/Leave =900	3 Hac.	-do-

Sr. No.	Name of plantation.	Spp. planted.		Area (hac.).	Year of Establishment.
1.	Adap C.A.-1	Deo. =2400	B/Leave =	3 Hac.	**2006-07**
2.	Bara Nala C.A.-1	Deo. = 4400		4 Hac.	-do-
3.	Laded		B/Leave =3000	2.5Hac.	-do-
4.	Khorani-1		B/Leave =5900	5 Hac.	-do-
5.	Bara Nala C.A.-11		B/Leave = 5500	5 Hac.	-do-

6.	Adap C.A.-11		B/Leave =6000	5 Hac.	-do-
7.	Chanwani		B/Leave =5900	5 Hac.	-do-

Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Gawari-1	-	B/Leave =2750	5 Hac.	**2007-08**
2.	Kalhetra C.A .-IV	-	B/Leave =2200	2 Hac.	-do-
3.	Kalhetra C.A .111	Deo. = 3300	**-**	3 Hac.	-do-
4.	Ranjal C.A.-1		B/Leave =5500	5 Hac.	-do-
5.	Halari C.A.		B/Leave =5500	5 Hac.	-do-

Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Khoran-11	Deo = 800 Kail = 100	B/Leave =2400	3Hac.	**2008-09**
2.	Pronh	Deo =400	B/Leave =4000	4 Hac.	-do-
3.	Sangni C.A. 111	-	B/Leave =5500	5 Hac.	-do-
4.	Khoran-111	-	B/Leave =5500	5 Hac.	-do-
5.	Thamru	-	B/Leave =4400	4 Hac.	-do-
6.	Ranjal-11	-	B/Leave =6600	6 Hac.	-do-
7.	Jamoth	-	B/Leave =5500	5 Hac.	-do-
8.	Gagli C.A.	-	B/Leave =5500	5 Hac.	-do-
9.	Prigual	-	B/Leave =2200	2 Hac.	-do-

Sr. No.	Name of plantation.	Spp. planted.		Area (Hac.).	Year of Establishment.
1.	Mahroon C.A.	-	B/Leave =5500	5 Hac.	**2009-10**
2.	Guin Nal C.A.	-	B/Leave =1925	1.75Hac.	-do-
3.	Fatti C.A.	-	B/Leave =5500	5 Hac.	-do-
4.	Khol C.A.	-	B/Leave =5500	5 Hac.	-do-
5.	Kharkali	-	B/Leave =5500	5 Hac.	-do-
6.	Dagli Dhar	-	B/Leave =2600 Fescue grass= 400	5 Hac.	-do-
7.	Guwari Dhar	-	B/Leave =3600	6 Hac.	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Khundimaral	Deo=5000 Kail=3500	B/Leave =2500	10 Hac.	**2010-11**
2.	Chanetli C.A.	Deo=1050 Kail=950	B/Leave =200	2 Hac.	-do-

Sr. No.	Name of plantation.	Spp. planted.		Area (Hac.).	Year of Establishment.
1.	Gagli C.A	Deo = 1500	B/Leave =1250	2.5Hac.	**2011-12**
2.	Bara Nala	Deo =500	B/Leave =2800	3 Hac.	-do-

3.	Sangni	-	B/Leave =3200 Hurbs/Shrubs=39700	3 Hac.	-do-
4.	Ranjal-11	-	B/Leave =3000 Hurbs/Shrubs=26700	3 Hac.	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Kalhetra C.A.	Deo = 4400	-	4 Hac.	**2012-13**
2.	Sanghani C.A.	Deo = 4400	B/Leave =1100	5 Hac.	-do-
3.	Gagali C.A.	-	B/Leave =5500	5 Hac.	-do-
4.	Jawali C.A.	-	B/Leave =3300 Hurbs/Shrubs=39600	6 Hac.	-do-
5.	Guwari C.A.	-	B/Leave =3050 Hurbs/Shrubs=39850	6 Hac.	-do-
6.	Sathi R.F.C.A.	Deo =200	B/Leave =1800	5 Hac.	-do-
7.	Dagli Dhar	-	B/Leave =500 Facus/Grass=2100	5 Hac.	-do-
8.	Bhith Dhar	-	B/Leave =3100 O/spp.=300	3 Hac.	-do-
9.	Chanwani C.A.	-	Hurbs/Shrubs=8800	2 Hac.	-do-
10.	Adap C.A.	-	B/Leave =1790	5 Hac.	-do-

11.	Salari C.A.	-	B/Leave =900 Facus/Grass=2300	5 Hac.	-do-
12.	Chambi C.A.	-	B/Leave =2200	2 Hac.	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Khadkali C.A.	Deo = 2950	B/Leave =2550	5 Hac.	**2013-14**
2.	Khodu Talai C.A.	-	B/Leave =8800	8 Hac.	-do-
3.	Thamru C.A.	-	B/Leave =2400 Facus/Grass=700 O/spp.=300	5 Hac.	-do-
4.	Kiara Dhar	-	B/Leave =1500	2 Hac.	-do-
5.	Nakru	-	B/Leave =11000	10 Hac.	-do-
6.	Drati C.A.	-	B/Leave =4000	5 Hac.	-do-
7.	Chanwani C.A.	Deo =500	B/Leave =2800	3 Hac.	-do-

8.	Badhroh C.A.	-	B/Leave =1900 Hurbs/Shrubs=100	5 Hac.	-do-
9.	Choundi Di Ghori C.A.	Deo =400	B/Leave =2400 Hurbs/Shrubs=500	3 Hac.	-do-
10.	Kalthera C.A.	-	B/Leave =300 Hurbs/Shrubs=10000	5 Hac.	-do-
11.	Jawali C.A.	-	B/Leave =2000 Facus/Grass=1000	5 Hac.	-do-
12.	Jhandoor C.A.	Deo = 800	B/Leave =900	5 Hac.	-do-
13.	Halari C.A.	-	B/Leave =1800	2 Hac.	-do-
14.	Naktuti C.A.	-	B/Leave =2400 Facus/Grass=1000	5 Hac.	-do-
15.	Sowntith Dhar	-	Hurbs/Shrubs=10000	5 Hac.	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1.	Langera C.A.	-	B/Leave =5500	5 Hac.	**2014-15**
2.	Kandel C.A.	-	B/Leave =5500	5 Hac.	-do-

3.	Kainthly DPF	Deo = 400	B/Leave =600 Hurbs/Shrubs=100	1 Hac.	-do-
4.	Siragallu DPF	Deo = 2000	B/Leave =3500	5 Hac.	-do-
5.	Sanghani	Deo = 500	B/Leave =1100	1 Hac.	-do-
6.	Chanwani C.A.	Deo = 2500	B/Leave =3000	5 Hac.	-do-
7.	Talai	Deo = 800	B/Leave=1400	2 Hac.	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1	Thathi Dhar	Deo=1500	B/Leave = 4000	5 Hac	2015-16
2	Bhit Dhar	Deo=1000	B/Leave = 4500	5 Hac	-do-
3	Bir RFC1-CA	Deo =2500	B/Leave = 1500	5Hac	-do-
4	Ranjal RF-CA	Deo = 1000	B/Leave = 4500	5 Hac	-do-
5	Talai DPF	Deo = 1000	B/Leave = 4500	5 Hac	-do-
6	Siyabehi Dhar	-	B/Leave = 2300 F/Grass = 1000	3 Hac	-do-
7	Bir RF=CA II	-	B/Leave = 5500	5 Hac	-do
8	Ban-Da-Goth	-	Hurbs/Shrubs = 40000	5 Hac	-do-
9	Kalhetra –CA II		Hurbs/Shrubs = 40000	5 Hac	-do-

10	Dagli Dhar	Deo= 1200	B/Leave = 2100 Hurbs/Shrubs = 20400	6 Hac	-do-
11	Moundh Dhar	Deo = 400	B/Leave = 2900 Hurbs/Shrubs = 20400	6 Hac	-do-
12	Talai Dhar	-	B/Leave = 2200 Hurbs/Shrubs = 13600	4 Hac	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1	Kalhetra RF-CA	Deo = 2000	B/Leave = 1300	3 Hac	2016-17
2	Chafla CA	Deo = 2900 Kail = 1000	B/Leave = 500	4 Hac	-do-
3	Langera RF-C1-CA	Deo = 2500 Kail = 1500	B/Leave = 0	5 Hac	-do-
4	Riali Dhar	-	B/Leave = 4000 F/Grass = 2600	6 Hac	-do-
5	Kalhetra RF-CA	Deo = 1500 Kail = 500	B/Leave = 3500	5 Hac	-do-
6	Chafla CA	Deo = 100 Kail = 500	B/Leave = 3500	5 Hac	-do-
7	Bashund Dhar	Deo = 2000 Kail = 2000	-	5 Hac	-do-
8	Salari CA	-	B/Leave = 2000 F/Grass = 1300	3 Hac	-do-
9	Gumgul Dhar	-	B/Leave = 4000 F/Grass = 1500	5 Hac	-do-
10	Kiara Dhar	-	B/Leave = 3500 F/Grass = 2000	5 Hac	-do-
11	Kalethu Dhar		B/Leave = 4000 F/Grass = 1500	5 Hac	-do-
12	Bir RF-CII	-	Hurbs/Shrubs = 68000	5 Hac	-do-

Sr. No.	Name of plantation.	Spp. planted.		Area (Hac.).	Year of Establishment.
1	Khoran RF	Deo =2000 kail 1000	B/Leave=2500	5Hact	2017-18
2	Naktuti Dhar	Deo=2000 kail=1000	B/Leave=2500	5Hact	-do-
3	Langera RFC1	Deo=1300 kail =1200	B/Leave=1500	5Hact	-do-
4	Kiara Dhar	-	Hurbus/Shrubs=66000	5Hact	Do
5	Siragalu Dhar	-	B/Leave=4000 F/Grass=1500	5Hact	-do-
6	Bith Dhar	-	B/Leave=4000 F/Grass=1500	5Hact	-do-
7	Kiara Dhar	-	B/Leave=4000 F/Grass=1500	5Hact	-do-
8	Dhadhuni RFCII	-	B/Leave=5500	5Hact	-do-
9	Tiliwar CA	Deo=1500 kail=1000	B/Leave =3000	5Hac	-do-
10	Bhith Dhar	-	B/Leave=8800	8Hc	-do-
Sr. No.	**Name of plantation.**	**Spp. planted.**		**Area (Hac.).**	**Year of Establishment.**
1	Kalthera RF	Deo =800	B/Leave=3600	4Hac	2018-19
2	Chanwani Dhar	Deo=500	B/Leave=3900	4Hac	-do-
3	Langera RFCIII	Deo=1000	B/Leave =3400	4Hac	-do-
4	Priyungal CA	-	B/Leave=1600	2Hac	-do-

LIST OF EXISTING NURSERIES.

Sr. No.	Name of nursery.	Location.	Area.	Year of establishment.
1.	Darbour Nursary	Kainthly DPF.	0.60 Hac	1952-53

Annexure V

LIST OF BUILDINGS

S.no	Name of building	Name of beat	Year of const.
1	R.O Residence	Bhandal	1923
2	Fgd hut &Peon Qtr		----------
3	Range office at bhandal		1909
4	B.O Qtr		1921
5	Fgd Hut at bhandal		-------
6	Guest Room		-----
7	Store		----------
8	Transit Hut At Bhandal		2009—10
9	Mali Hut at Darbour Nry		1998

1	Fgd Hut Old	Sanghani	1958-59
2	Fgd Hut New		1974-75
3	Petrolling Hut Gulu di Mandi		1989-90
4	Petrolling Hut at Maklunda		1990-91
5	Petrolling Hut at Chanwani		1997-98
6	Watch Tower at Chanwani		2016-17

S.no	Name of building	Name of beat	Year of const.
1	Fgd Hut Langera &Bir Dobule Story	Bir	1981-82
2	Petrolling Hut at Siyabehi Dhar		1989-90
3	Petrolling Hut at Langera Village		1993-94
1	Petrolling Hut at Suppacholu	Langera	1992-93

Annexure VI

LIST OF INSPECTION PATHS/ BRIDLE PATH

S.NO	Particulars	From	To	Length in km	Year of Const.	Beat
1	Inspection Path	Thamru	Nalwal	18km	1992-93	Bhandal /Sanghani
2	Bridle path	Dodu Nalla	Suppacholu	7km	1992-93	Langera
3	-do-	Roula	Chimlo di gali	15km	-	Sanghani
4	-do-	Bhadroh	Sounthith	7km	1998-99	Bhandal
5	-do-	Chambi	Sounthith	4km	1998-99	Sanghani
6	-do-	Khundimaral	Suppacholu	2.800mtr	1999-2000	Langera
7	Census path	Chanwani	Dasot	4km	1999-2000	Sanghani
8	-do-	Naktiuti	Gamgul dhar	4km	2016-17	Sanghani
9	-do-	Langera	Bir RF	3.75km	1997-98	Bir
10	Do-	Riyali	Chimloh	3km	2016-17	Bir
11	-do-	Gagli	Siya behi	4.500mtr	2009-10	Bir
12	Trekking path	Lagera	Kiyara	4km	2016-17	-do-
13	-do-	Guin nalla	Ranjal	5km	2016-17	--do---

Annexure VII

LIST OF NATURAL SALT LICKS AND PROPOSED LOCATION FOR ARTIFICIAL SALT LICKS

A. NATURAL SALT LICKS

Sr. No.	Place.	Location.
1.	**2.**	**3.**
1.	Siyabehi Dhar	Siyabehi Dhar
2.	Kiyara Dhar	Kiyara Dhar
3.	Chhoie Tarnal	Suppa Cholu
4.	Boda	Boda Dhar
5.	Khoran	Khoran R.F.
6.	Sira Galu	Sira Galu Dhar
7.	Chondi-di- Ghori	Chondi-di- Ghori Dhar

B. PROPOSED ARTIFICIAL SALT LICKS

Sr. No.	Place.	Location.
1.	**2.**	**3.**
1.	Bhidroh Nalla	Adap DPF
2.	Kalhetra Nalla	Kalhetra RF
3.	Chanwani Ridge	Chanwani Dhar
4.	Bara Nalla	Bara Nalla DPF
5.	Kiara Ridge	Kiara Dhar
6.	Kandel Goth	Kandel Dhar
7.	Talaie Nalla	Talaie DPF
8.	Gallu Goth	Suppa Chollu Dhar

Annexure VIII

LIST OF BIRDS

	Scientific Name	Common Name	Schedule WL Act, 1972	IUCN Status
1.	*Accipiter badius*	Shikra	Sch.I Part-III	Least Concern
2.	*Aquila Chrysaetos*	Golden Eagle	I Part-III	Least Concern
3.	*Sarcogyps calvus*	King vulture	IV	Least Concern
4.	*Gyps fulvus*	Griffon vulture	IV	Least Concern
5.	*Gyps himalayensis*	Himalayan griffon vulture	IV	Near Threatened
6.	*Neophron pescnopterus*	Egyptian vulture	IV	Endangered
7.	*Falico peregrinius*	Shaheen falcon	I Part-III	Least Concern
8.	Folco tinnuculus	Kestrel	IV	Least Concern
9.	*Lerwa lerwa*	Snow partridge	IV	Least Concern
10.	*Tetraogallus himalayensis*	Himalayan Snow cock	IV	Least Concern
11.	*Alectoris chukar*	Chukor	IV	Least Concern
12.	*Lophophorus impejanus*	Monal	I Part-III	Least Concern
13.	*Pucrasia macrolopha*	Koklass	IV	Least Concern
14.	*Catreus wallichi*	Cheer	I Part-III	Vulnerable
15.	*Streptopelia chinensis*	Spotted Dove	IV	Least Concern
16.	*Streptopelia decaoto*	Indian Ring Dove	IV	Least Concern
17.	*Columba palumbus*	Common Wood Pigeon	IV	Least Concern
18.	*Cuculus saturates*	Himalayan Cuckoo	IV	Least Concern
19.	*Eudynamys scolopaceus*	Koel	IV	Least Concern
20.	*Glaucidium cuculoides*	Barred Owlet	IV	Least Concern
21.	*Strix aluco*	Himalayan wood owl	IV	Least Concern
22.	*Collocalia brevirostris*	Himalayan swiftlet	-	Least Concern
23.	*Apus melba*	Alpine swift	-	Least Concern
24.	*Apus affinis*	House swift	-	Least Concern
25.	*Merops orientalis*	Small green bee eater	-	Least Concern

26.	*Upupa epops*	Hoopoe	IV	Least Concern
27.	*Mergalaima virens*	Himalayan green barbet	IV	Least Concern
28.	*Picus squamatus*	Scaly woodpecker	IV	Least Concern
29.	*Dendrocopos himalayensis*	Himalyan Pied woodpecker	IV	Least Concern
30.	*Lanius schach*	Rufous backed shrike	-	Least Concern
31.	*Dicrurus macrocerus*	Black drongo	IV	Least Concern
32.	*Acridotheres tristis*	Common myna	IV	Least Concern
33.	*Urocissa flavirostris*	Yellow billed blue magpie	IV	Least Concern
34.	*U. erythrorhyncha*	Red billed blue magpie	IV	Least Concern
35.	*Dendrocita formosae*	Himalayan tree pie	IV	Least Concern
36.	*Nucifraga caryocatactes*	Himalayan nutcracker	IV	Least Concern
37.	*Corvus macrorhynchos*	Jungle crow	IV	Least Concern
38.	*Pyconotus cafer*	Red vented bulbul	IV	Least Concern
39.	*Garrulax albogularis*	White throat laughing thrush	IV	Least Concern
40.	*Eumyias thalassina*	Verditer Flycatcher	IV	Least Concern
41.	*Rhipidura hypoxantha*	Fantail flycatcher	IV	Least Concern
42.	*Luscinia svecica*	Blue throat	IV	Least Concern
43.	*Tarsiger cynarus*	Orange flanked bush Robin	IV	Least Concern
44.	*Phoenicurus ochruros*	Black redstart	IV	Least Concern
45.	*Phoenicurus frontalis*	Blue fronted redstart	IV	Least Concern
46.	*Enicarus scoulrea*	Forktail	IV	Least Concern
47.	*Saxicola caprata*	Pied Bushchat	IV	Least Concern
48.	*Chaimarrornis leucocephalus*	White-capped red start	IV	Least Concern
49.	*Monticola solitarius*	Blue Rock- Thrush	IV	Least Concern
50.	*Monticola cinclohyinchus*	Blue- headed Rock-Thrush	IV	Least Concern
51.	*Turdus merula*	Blackbird	IV	Least Concern
52.	*Zoothera wardii*	Pied Ground-Thrush	IV	Least Concern
53.	*Cinclus cinclus*	White-Throated Dipper	-	Least Concern
54.	*Pyrus major*	Great Tit	IV	Least Concern
55.	*Sitta leucopsis*	White-cheeked Nuthatch	-	Least Concern
56.	*Certhia himalayana*	Himalayan tree creeper	-	Least Concern
57.	*Anthus hodgsoni*	Indian tree pipit	IV	Least Concern

58.	*Motacilla citreola*	Yellow-headed Wagtail	IV	Least Concern
59.	*Motacilla cinerea*	Grey Wagtail	IV	Least Concern
60.	*Motacilla alba*	White Wagtail	IV	Least Concern
61.	*Passer domesticus*	House Sparrow	IV	Least Concern
62.	*Carduelis carduelis*	Gold Finch	IV	Least Concern
63.	*Carduelis spinoides*	Himalayan Greenfinch	IV	Least Concern
64.	*Carpodacus erythrinus*	Common Rosefinch.	IV	Least Concern

Annexure IX

GLOSSARY OF TREES, SHRUBS AND CLIMBERS

A. TREES

S. No.	Scientific Name	Local Name	English Name	IUCN status
1	*Abies pindrow*	Rai	Silver Fir	Least Concern
2	*Acer caesium*	Mandhar	Indian Maple	Least Concern
3	*Acer caudatum*	Mandhar	Maple	Least Concern
4	*Acer pictum*	Mandhar	The Painted Maple	Least Concern
5	*Acer villosum*	Mandhar	Maple	Least Concern
6	*Aesculus indica*	Goon	Indian Horse chestnut	Vulnerable
7	*Alnus nepalensis*	Piak	Alder	Least Concern
8	*Alnus nitida*	Piak	Alder	Least Concern
9	*Betula alnoides*	Bhuj	Himalayan Birch	Least Concern
10	*Betula utilis*	Bhuj	Himalayan White Birch	Least Concern
11	*Buxus sampervirens*	Samshad	Wild wood	Least Concern
12	*Carpinus caoinea*	Bhakri	NA.	–NA-
13	*Cedrela serrata*	Dhori	NA	Least Concern
14	*Celtis australis*	Khirak	Nettle Tree	Least Concern
15	*Cedrus deodara*	Diyar	Himalayan cedar	Least Concern
16	*Ficus glomerata*	Phagoora	Indian fig tree	Least Concern
17	*Ficus aurea*	Phagoora	Stranger fig	Vulnerable
18	*Fraxinus floribunda*	Sunnu	Himalayan Ash	Least Concern
19	*Juglans regia*	Khor	Walnut	Near Threatened
20	*Litsea umbrosa*	Chirindi	NA.	-NA-
21	*Morus serrata*	Karun	Himalayan Mulberry	-NA-
22	*Morus alba*	Karun	White Mulberry	Least Concern
23	*Picea morinda*	Tosh	Spruce	Least Concern
24	*Pleris ovalifolia*	Ailan	NA.	–NA-
25	*Populus alba*	Chaloon	Poplar	-NA-
26	*Prunus armenika*	Chir	Apricot	Least Concern
27	*Prunus communis*	Aloocha	Plum	Least Concern
28	*Prunus padus*	Jammu	Bird cherry	Least Concern
29	*Prunus persica*	Aru	Peach	-NA-
30	*Pyrus baccata*	Lewar	Siberian Crab Apple	Least Concern
31	*Pyrus communis*	Nakh	Pear	Least Concern
32	*Pyrus lanata*	Amlor	NA.	-NA-
33	*Pyrus malus*	Seo	Wild apple	-NA-
34	*Pyrus pashia*	Kainth	Indian Wild pear	Least Concern
35	*Quercus dilatata*	Moru	Moru Oak(Mid Zone)	Least Concern

36	*Quercus incana*	Ban	Baan Oak(Low Zone)	Least Concern
37	*Quercus semecarpifolia*	Khareu	Kharsu Oak(High Zone)	Least Concern
38	*Rhododendron campanulatum*	Cheo	Rhododendron	Least Concern
39	*Ulmus wallichiana*	Maral	Himalayan elm.	Vulnerable

B. SHRUBS

S. No.	Scientific Name	Local Name	English Name	IUCN status
1	*Agave Americana*	Ramban	Century plant	Vulnerable
2	*Artemisia vulgaris*	Charmar	Common Mugwort	Least Concern
3	*Berberis aristate*	Kemal	Kashmal	Least Concern
4	*Berberis aurea*	Kemal	NA.	NA.
5	*Berberis nepalensis*	Kemal	NA.	NA.
6	*Berberis vulgaris*	Kemal	Barberry	Least Concern
7	*Cannabis sativa*	Bhang	NA.	NA.
8	*Colebrookea oppositifolia*	Dharoos	Indian Squirrel Tail	NA.
9	*Cornus capitata*	Halen	Dog wood	Least Concern
10	*Cotoneaster bacillaris*	Reuns	NA.	NA.
11	*Cotoneaster macrophylla(macrocarpus)*	Reuns	NA.	NA.
12	*Cotoneaster vulgaris*	Reuns	NA.	NA.
13	*Daphne cannabina*	Niggi	NA.	NA.
14	*Daphne oleoides*	Niggi	NA.	NA.
15	*Desmodium tiliaefolium*	Pre	NA.	NA.
16	*Deutzia corymbosa*	Bhatti	Wild syringe	NA.
17	*Deutzia staminea*		Brown's Deutzia	NA.
18	*Fragaria indica*		Wild Strawberry	NA.
19	*Grandiana hetrophylla*	Ain	NA.	NA.
20	*Ilex dipyrena*	Khendru	The Holly	Least Concern
21	*Indigofera gerardiana*	Kathi	Indigofera	Vulnerable
22	*Indigofera pulchella*	Kathi	Indigofera	NA.
23	*Juniperus cummunis*	Bither	Common Juniper	Least Concern
24	*Juniperus recurva*	Bither	Himalayan Juniper	Least Concern
25	*Lonicera angustifolia*	Katias	Honey Suckle	NA
26	*Lonicera hispida*	-	pink honey suckle	NA
27	*Lonicera quinquelocularis*	Bakru	Honey Suckle	NA
28	*Myrsine aurel*	-	NA	NA
29	*Parrotia jacquemontiana*	Killar	Wych hazel	NA
30	*Plectranthus rugosus*	Kuthal	NA	NA
31	*Prinsepia utilis*	Kangora	NA	NA

32	*Rhododendron campanulatum*	Sarnger	White rhododendron	Endangered
33	*Rhus cotinus*	Tung	Smoke Tree	Least Concern
34	*Rosa macrophylla*	Karer	Himalayan Rose	NA
35	*Rosa moschata*	Karer	Musk Rose	NA
36	*Rubus biflorus*	Akre	Raspberry,red	NA
37	*Rubus Pasiocarpus*	Akre	Raspberry,red	NA
38	*Rubus niveus*	Akre	Raspberry,Yellow	NA
39	*Rubus paniculatus*	Akre	Raspberry,Yellow	NA
40	*Sarcococca pruniformis*	Diun	NA	NA
41	*Skimmia laureolal*	-	NA	NA
42	*Spiraea lindleyana*	Kande	NA	NA
43	*Staphylea emodi*	Chitra	Snake wood	NA
44	*Syringa emodi*	Chara		NA
45	*Viburnum cotinifolium*	Talanj		NA
46	*Viburnum foetens*	Talanj	Grand viburnum	NA
47	*Woodfordia floribunda*	-	Fire flame bush	Least Concern
48	*Zanthoxylum falcatum*	Timmer	NA	NA

C. CLIMBERS

S. No.	**Scientific Name**	**Local Name**	**English Name**	**IUCN status**
1	*Clematis montana*	Garol	Indian Virgin's Bower	NA
2	*Clematis buchananiana*	Garol	Traveller'sjoy	NA
3	*Hedera helix*	Kural	Ivy	Least Concern
4	*Rosa moschata*	Ban gulab	Musk Rose	NA
5	*Smilax Parviflora*	-	Smilax	NA
6	*Vitis latofolia*	Pani bel	Jungle grave vine	NA

D. MEDICINAL PLANTS

S. No.	**Scientific Name**	**Local Name**	**English Name**	**IUCN status**
1	*Aconitum heterophyllum*	Patish	Indian Atees	Endangered
2	*Angleca glauca*	Chora/Gandrayan	Angleca	Endangered
3	*Arisaema helleberifolium*	Ki-Kukri	Cobra plan	-NA-
4	*Atropa belladonna*	Shafoo	Belladona	-NA-
5	*Picrorhiza kurroa*	Kaur	Kutki	Endangered
6	*Podophyllum hexandrum*	Ban Kakri	Indian Podophyllum	Endangered
7	*Rumax hastatus*	Amlora	Arrowleaf Dock	-NA-
8	*Saxifraga ligulata*	Pathar Tor	Stone breaker	-NA-
9	*Solanum indicum*	Ban Tobacco	black nightshade	-NA-
10	*Solanum verbascifolium*	Ban Tobacco	Mullein nightshade	-NA-

11	*Thalictrum foliolosum*	Machhar Mar/ Mamiri	Himalayan Meadow Rue	Vulnerable
12	*Thymus serpyllum*	Pahari Ajwain	Breckland thyme	Least Concern
13	*Valeriana wallichi*	Smak/Jatamansi	Indian Valerian	Critical Endangered
14	*Verbascum thapsus*	Ekalveer	great mullein	Least Concern
15	*Viola odorata*	Banaksha	sweet violet	Least Concern

Annexure X

MAMMALS

Sr. No.	Scientific Name	Local Name	English Name	Schedule WL Act, 1972	IUCN Status
1	*Macaca mulatta*	Bander	Rhesus macaque	Sch II Part-I	Least Concern
2	*Presbytis entellus*	Langoor	Common Langoor	Sch II Part-I	Least Concern
3	*Semnopithecus ajax*	Gaula	Chamba Sacred Langoor	Sch II Part-I	Critically Endangered
4	*Vulpes vulpes*	Lomri	Fox	Sch II Part-II	Least Concern
5	*Selenarctos thibetanus*	Kala Bhaloo	Black Bear	Sch II Part-II	Vulnerable
6	*Ursus arctos*	Bhrigu,Lal Bhaloo	Brown Bear	Sch II Part-II	Least Concern
7	*Martes flavigula*	Dhiklu	Yellow-Throated Marten	Sch II Part-II	Least Concern
8	*Paguma larvata*	Sakralu	Palm civet	Sch II Part-II	Least Concern
9	*Felis chaus*	Bilao	Jungle cat	Sch II Part-II	Least Concern
10	*Panthera pardus*	Mirg,Bagh	Leopard	Sch I Part-I	Vulnerable
11	*Mustela sibirica*		Himalayan weasel	Sch II Part II	Least Concern
12	*Hystrix indica*	Sail	Indian creasted porcupine	Sch IV	Least Concern

13	*Petaurista petaurista*		Common giant flying squirrel	Sch II Part II	Least Concern
14	*Moschus moschiferus*	Rons,Rastura	Musk Deer	Sch.I Part-I	Vulnerable
15	*Nemorhadeus goral*	Pij	Goral	Sch III	Near threatened
16	*Hemitragus jemlahicus*	Karath	Himalayan Tahr	Sch I Part-I	Near threatened

Annexure-XI

LIST OF FIRE PRONE AREAS

The following areas in the wild life sanctuary area sensitive from fir e hazards which needs to be taken care of so that there is minimum loss to the habitat as well as to the wild life itself.

Sr. No.	**Name of area.**	**Area in ha.**
1.	**2.**	**3.**
1.	Suppa Chollu RF	167.20 Hac.
2.	Mahroon DPF	96.93 Hac.
3.	Khundimaral DPF	32.00 Hac.
4.	Kainthli DPF	112.82 Hac.
5.	Sanghni	136.00 Hac.
6.	Pandhar DPF	120.24 Hac.
7.	Baranalla	187.04 Hac.
	Total:	**852.23 Hac.**

Annexure XII

LIST OF SENSTIVE SITES/KEY AREAS.

The following areas have been listed sensitive as well as key sites on account of common sites where the wild life as well as domestic animals feed / graze frequently. Therefore, these areas need to be sanitized so that the disease from domestic animals does not get transmitted to the wild life in the vicinity. Further, the proposed sites are nearer to habitats or Goths (where the migratory graziers camp during nights), thereby necessitating the vaccination of local herds of sheep and goat regularly to avoid the transmission of possible diseases. Further the encounter between man and wild life can not be ruled out between the pray and predator mainly snow leopard, brown bear ,leopard and at times black bear with local graziers.

Sr. No.	**Location.**
2.	Salari Dhar
2	Dhodamandial Dhar
3	Thathi Dhar
4	Siragalu Dhar
5	Gamgul Dhar
6	Kiara Dhar

Annexure-XIII

Year Wise Expenditure done Under Different heads (2005-06 to 2018-19)

SR. NO	*Item Of Work*	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	**Infrastructure Development**														
	Construction ofNew building & other structures	3.04	2.50	1.15	4.98	13.97	13.30	1.72	0.00	1.00	11.25	5.40	18.77	9.00	4.00
	Construction of New Roads/path	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	4.00	14.32	0.00	0.00
	Maintenance of building	0.50	1.30	0.85	2.50	0.00	1.00	2.00	3.80	0.00	0.00	6.89	10.00	7.20	0.00
	maintenance of Roads/ paths	0.00	0.00	1.35	1.30	0.00	12.50	0.00	7.37	3.00	9.50	7.08	6.70	16.80	0.00
2	**Habitat improvement**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	New plantation	2.57	3.707	0.284	1.54	1.485	13.46	3.61	5.74	6.80	8.21	8.55	22.11	22.62	5.89
	Nursery	0.00	0.50	4.728	2.07	2.25	2.50	0.79	1.86	1.40	3.69	2.47	5.70	6.00	4.79
	maintance of plantation	1.286	0.349	1.089	1.066	0.71	0.80	0.679	1.73	1.62	2.91	1.485	2.33	4.72	2.21
	Soil & moisture conservation	1.118	0.00	0.00	0.00	5.07	33.00	12.40	0.00	0.00	0.00	7.30	13.068	21.50	8.60
	Others	0.00	1.20	0.185	0.00	0.145	0.00	0.00	0.00	2.27	1.88	2.00	6.30	1.60	0.003
3	**Capacity Building /Training/ Research &monitoring**														
	Survey/census /Estimation of Flora & fauna	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.50	0.75	0.50	2.00
	Research& Monitoring	0.00	0.00	0.00	0.00	0.00	0	0.25	0.00	0.00	0.00	0.25	0.25	0.25	1.00

		Training	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**0.80**	**0.375**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.50**	**0.003**
		Staff Welfare activities	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**
		Hiring of Staff	**0.00**	**0.00**	**0.00**	**0.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**	**0.50**	**0.50**
	4	**Wild life Protection & Conservation Activities**														
		Protection	**0.90**	**0.629**	**1.487**	**0.25**	**1.28**	**2.05**	**1.25**	**0.519**	**2.30**	**2.98**	**3.13**	**14.12**	**20.63**	**4.345**
	5	**Education & Awareness Generation**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**0.00**	**0.20**	**0.00**	**0.13**	**0.25**	**0.85**	**0.60**	**1.35**
	6	**Wild life Tourism Management**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.30**	**0.00**	**0.00**
	7	**Field equipment**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Monitoring	**0.00**	**0.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**
		Camping	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Protection	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.95**
		Communication	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**	**0.00**	**0.00**
	8	**Office expenses**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**0.25**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.71**	**0.49**	**0.45**
	9	**Community Development through participation**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	10	**Human -Wild animal Conflict**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
		Veterinary facilities	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.55**	**0.00**	**1.44**	**0.00**	**2.61**	**0.00**	**0.00**
	11	**Operational support**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.37**	**0.00**	**0.00**	**1.34**

Annexure XIV

GUN LICENCE HOLDERS AROUND GAMGUL SIYABEHI WILDLIFE SANCTURY

Sr. No.	Name & Address of Licence Holders	Licence No.	Kinds of Licence	Particulars Ammuniation	Area in which licence is valid
1	S/Sh. Prem Lal S/o Baziru Ram V.Sanuh P Bhandal Chamba	126	Crop Protection	SMBL Gun No 126	Churah Tehsil
2	Piar Chand S/o Hardev V. Sanuh P. Bhandal Chamba	2326	Crop Protection	SMBL Gun No 2326	Churah Tehsil
3	Balwant S/o Sagin V/ Sanuh P. Bhandal Chamba	745	Crop Protection	ML gun No. 1868	Chamba District
4	Churru Ram S/o Moti Ram V/ Sanuh P. Bhandal Chamba	130	Crop Protection	ML gun No. 130	Churah Tehsil
5	Chanda S/o Sarwan V. Khanie P. Bhandal Chamba	2788	Crop Protection	ML gun No. 2788	Churah Tehsil
6	Chand S/o Negi V.Sanuh P. Bhandal Chamba	191	Crop Protection	ML gun No. 191	Churah Tehsil
7	Jaba S/o Negi V. Sanuh P. Bhandal Chamba	404	Crop Protection	ML gun No. 404	Churah Tehsil
8	Rama S/o Bhagnu V. Kainthly P. Bhandal Chamba	834	Crop Protection	SMBL Gun No 608	Churah Tehsil
9	Prem Lal S/o Rama V. Kainthly P. Bhandal Chamba	46/SDM/ Churah/83	Crop Protection	SMBL Gun No 20368	Churah-sub-Divn.

10	Hari Chand S/o Lahrnu V. Sanuh P Bhandal Chamba	1696 Chamba	Crop Protection	SMBL Gun No 2333	Churah Tehsil
11	Baldev S/o Baziru V. Khanie, P. Bhandal Chamba	1057 Chamba	Crop Protection	SMBL Gun No 1057	Churah Tehsil
12	Sawandin S/o Neek Mohd. V. & P Bhandal	752	Crop Protection	SMBL Gun No 752	Churah Tehsil
13	Bhagi S/o Dhanu V. Khanie P. Bhandal Chamba	925/Churah	Crop Protection	SMBL Gun No 925	Chamba Distt.
14	Nika Chand S/o Prabhia V. Khanie P Bhandal Chamba	79/Churah	Crop Protection	SMBL Gun No 79	Churah Tehsil
15	Bainsa S/o Baziru V. Khanie P. Bhandal Chamba	1099/Chamba	Crop Protection	SMBL Gun No 2787	Chamba Distt.
16	Ganni S/o Sarwan V. Dharbaran P. Bhandal Chamba	1688	Crop Protection	SMBL Gun No 1668	Churah Tehsil
17	Thipa Ram S/o Santu V. Digoli P Bhandal Distt. Chamba	278 Churah	Crop Protection	ML. gun No. 278	Churah Tehsil
18	Chuhru Ram S/o Mutalbi V. Khanie P Bhandal Chamba	754	Crop Protection	SMBL Gun No 754	Churah Tehsil
19	Hardial S/o Santu V. Digoli P. Bhandal Chamba	232/Chamba	Crop Protection	SMBL Gun No 232	Churah Tehsil
20	Doom S/o Laddu V. Sanuh P. Bhandal Chamba	275	Crop Protection	SMBL Gun No 135	Churah Tehsil
21	Sheika S/o Aqbur V. Jalari P Bhandal Chamba	486/Chamba	Crop Protection	SMBL Gun No 486	Churah Tehsil

22	Gulam Rasul S/o Gulam Mohd. V. Jalari P Bhandal Chamba	955 Churah	Crop Protection	SMBL Gun No 955	Churah Tehsil
23	Gulam Hussain S/o Khawat Mohd. V. Jalari P Bhandal Chamba	1327 Churah	Crop Protection	SMBL/12-Bore/Gun No 2113/70	Himachal K&K & Punjab
24	Gulam Hussain S/o Khawat Mohd. V. Jalari P Bhandal Chamba	913 Churah	Crop Protection	SMBL Gun No 913	Churah Tehsil
25	Nazir S/o Sharif V. Jalari P Bhandal Chamba	583 Churah	Crop Protection	SMBL Gun No 583	Churah Tehsil
26	Salim S/o Abdulstan V. Jalari P Bhandal Chamba	11/CBA/89	Crop Protection	SMBL Gun No 719	Chamba Distt.
27	Jan Mohd. s/o Gafar V. Pathwal P Bhandal Chamba	92/CBA	Crop Protection	SMBL Gun No 92	Churah Tehsil
28	Jai Ram S/o Churru Ram V. Sanuh P Bhandal Chamba	50/CBA/81	Crop Protection	SMBL Gun No 1004/1980 12-Bore B.E.	Himachal K&K & Punjab
29	Ramdial S/o Dhianu V. Jasoh P Bhandal Chamba	1425/Chamba	Crop Protection	SMBL Gun No 156/Churah	Churah Tehsil
30	Hardev S/o Punnu V. Jasoh P Bhandal Chamba	1383/Chamba	Crop Protection	SMBL Gun No 1383	Churah Tehsil
31	Din Mohd. S/o Gulla V. Pathwal P Bhandal Chamba	1652/Chamba	Crop Protection	SMBL Gun No 1652	Churah Tehsil
32	Sadhu Ram S/o Praga V. Jasoh P Bhandal Chamba	1350 Chamba	Crop Protection	SMBL Gun No 1350	Churah Tehsil
33	Pan Chand S/o Chetu V. Kainthly P Bhandal Chamba	310/1968/Churah	Crop Protection	SMBL Gun No 310	Churah Tehsil

34	Chetu S/o Ganpat V. Sanuh P. Bhandal Chamba	887/Churah	Crop Protection	SMBL Gun No 887	Churah Tehsil
35	Mohd. Yusaf S/o Khanat Mohd. V. Sagani P Bhandal Chamba	1234/Chmaba	Crop Protection	SBML Gun No. 5216/70/ 12 Bore	Himachal Punjab & J&K
36	Mohd. Yusaf S/o Khanat Mohd. V. Sagani P Bhandal Chamba	793/Churah	Crop Protection	SBML Gun No. 793	Churah Tehsil
37	Satar S/o Habib V. Praidh P Bhandal Chamba	255/Chamba	Crop Protection	SBML Gun No. 255	Churah Tehsil
38	Mohd. Shafi S/o Juma Mohd. V. jalari P Bhandal Chamba	442/Chamba	Crop Protection	SBML Gun No. 268	Churah Tehsil
39	Gul Mohd. S/o Nauna V. Thathi P Bhandal Chamba	1653./Chamba	Crop Protection	SBML Gun No. 1653	Churah Tehsil
40	Roop Sain S/o Diala V. Jasoh P Bhandal Chamba	2590/Chamba	Crop Protection	SBML Gun No. 1590	Churah Tehsil
41	Kirpa Ram S/o Kishan Singh V. Digoni P Bhandal Chamba	2329	Crop Protection	SBML Gun No. 2329	Chamba Distt.
43	Arbi Ram S/o Bhagnu Ram V. Kainthly P Bhandal Chamba	1390/Chamba	Crop Protection	SBML Gun No. 284	Churah Tehsil
44	Bantu S/o Tek Chand C. Chaneti P Bhandal Chamba	1435/Chmaba	Crop Protection	SBML Gun No. 1435	Chamba Distt.
45	Basant S/o Tabi V. Chaneti P Bhandal Chamba	1105/Chmaba	Crop Protection	SBML Gun No. 571	Churah Tehsil
46	Devi Chand S/o Musaddi Ram V. Langera P Bhandal Chamba	727/Chamba / Churah	Crop Protection	SBML Gun No. 845/ 12 Bore	Churah Tehsil
47	Devi Chand S/o Musaddi Ram	1478/Chamb	Crop	SBML Gun No.	Churah

	V. Langera P Bhandal Chamba	a	Protection	2516	Tehsil
48	Hari Lal S/o Musadi V. Langera P. Bhandal Chamba	1476/Chamb a	Crop Protection	SBML Gun No. 12 Bore	Chamba Distt.
49	Ami Chand S/o Jantu V. Langera P Bhandal Chamba	15/Chamba	Crop Protection	SBML Gun No. 122	Chamba Distt.
50	Barfi S/o Udara V. Gagal P Bhandal Chamba	2332 of 2003	Crop Protection	SBML Gun No. 2332	Churah Tehsil
51	Janta S/o Modi V. Priungal P Bhandal Chamba	556	Crop Protection	SBML Gun No. 556	Churah Tehsil
52	Singh S/o Baziru V. Priungal P Bhandal Chamba	51/Churah	Crop Protection	SBML Gun No. 63	Chamba Distt.
53	Panchhi S/o Baziru V. Sagani P Bhandal Chamba	63/Churah	Crop Protection	SBML Gun No. 503	Chamba Distt.
54	Lachho Ram S/o Ditu V. Sagani P. Bhandal Chamba	154/Chamba	Crop Protection	SBML Gun No. 154	Churah Tehsil
55	Chatro S/o Kissu V. Sagani P. Bhandal Chamba	1692/Chamb a	Crop Protection	SBML Gun No. 181	Churah Tehsil
56	Punnu Ram S/o Gangi Ram V. Sagani P. Bhandal Chamba	677/Churah/ Chamba	Crop Protection	SBML Gun No. 677	Churah Tehsil
57	Musaddi S/o Hardiyal V. Priungal P. Bhandal Chamba	770	Crop Protection	ML Gun No. 770	Chamba Distt.
58	Chamaru S/o Musadi V. Priungal P. Bhandal Chamba	709	Crop Protection	SBML Gun No. 709	Churah Tehsil
59	Lachho S/o Lachho V. Priungal P. Bhandal Chamba	189	Crop Protection	ML Gun No. 189	Chamba Distt.
60	Sharif S/o Habib V. Sagani P.	193/Chamba	Crop	ML Gun No. 193	Churah

	Bhandal Chamba		Protection		Tehsil
61	Chanatu S/o Mahanu V. Priungal P. Bhandal Chamba	86/Chamba	Crop Protection	SBML Gun No. 1535	Churah Tehsil
62	Hardev S/o Dalala V.Priungal P. Bhandal Chamba	166	Crop Protection	SBML Gun No. 166	Churah Tehsil
63	Bizzu S/o Dilla V. Priungal P. Bhandal Chamba	2330/Churah	Crop Protection	SBML Gun No. 2330	Churah Tehsil
64	Burfi S/o Janta V. Sown P. Bhandal Chamba	1233/Chamba	Crop Protection	SBML Gun No. 244	Churah Tehsil
65	Amar Singh S/o Churru V. Sanuh P. Bhandal Chamba	35/Chamba 83	Crop Protection	SBML Gun No. 5034/82/ 12-Bore	All India
66	Hans Raj S/o Karam Chand	1/CBA/90	Crop Protection	SBML Gun No. 2382/74/ 12-Bore	Chamba Distt.
67	Hans Raj S/o Karam Chand	1/CBA/90	Crop Protection	SBML Gun No. 82	Chamba Distt.
68	Prem Nath S/o Sher Singh V. Langera P. Bhandal Chamba	855/Churah	Crop Protection	SBML Gun No. 741	Churah Tehsil
69	Amro S/o Burfi V. Priungal P. Bhandal Chamba	177	Crop Protection	SBML Gun No. 177	Churah Tehsil
70	Baziru S/o Man Singh V. Langera P. Bhandal Chamba	56/CBA	Crop Protection	SBML Gun No. 779	Churah Tehsil

Annexure-XV

PERFORMA FOR GROUP PATROLLING EXERCISE

1. Track information

Name of the Block			
Name of the forest covered			
Name of the track/trail			
Team Members			
Track Details			
Date	Starting point (Name & GPS coordinates)	Mid stations (Name & GPS coordinates)	End point (Name & GPS coordinates)
Total distance covered (km)			

2. WILD ANIMAL ENCOUNTER DATA (Direct Sighting)

S. N.	Name of Species	Place of Encounter	Location		Time	Distance from the Observer	Direction from observer (Left or Right side of the transect)	No. of individual seen				Activity (Feeding, resting, Running, flying etc.)
			Latitude	Longitude				Male	Female	Offspring	Total	
1												
2												
3												
4												

3. WILD ANIMAL ENCOUNTER DATA (Indirect Sighting)

S. No.	Name of Species	Place of Evidence	Location		Time	Type of Evidence				No. of pellet groups/scats/ carcass
			Latitude	Longitude		Pellet/ Scat	Carcass	Signs	Others (specify)	
1										
2										
3										
4										
5										

4. WATER RESOURCES DATA

SN	Name of waterhole/source	Location		Condition	Remarks
		Latitude	Longitude		
1					
2					
3					
4					
5					
6					
7					
8					

5. AREA SELECTION FOR SOIL CONSERVATION WORKS DATA

SN.	Name of the forest	Location		Area	Name of place with GPS coordinates	Type of problem (Gully widening, Landslips, silt in nala etc.)	Intervention required (Create wire, check dam, Bioengineering works)
		Latitude	Longitude				
1							
2							
3							
4							
5							

6. COMBING OPERATION DATA

SN.	Name of forest	Location		Type of illegal material recovered (Traps/Snares/wire etc)	No. of materials
1		Latitude	Longitude		
2					
3					
4					
5					

7. WEED PRONE AREAS (INVASIVE ALIEN SPECIES)

SN	Name of the forest	Location		Name of the species	Area covered by weeds (approx.)
		Latitude	Longitude		
1					
2					
3					
4					

Annexure XVI

TENTATIVE APO OF GAMGUL SIYABEHI WILDLIFE SANCTUARY (2020-21 TO 2029-30)

Sr. No.	Item of Work	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	TOTAL
		Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	Rs. In Lac.	
A.I	**Infrastructure Development**	30.00	32.00	35.00	35.00	38.00	38.00	40.00	40.00	35.00	30.00	**353.00**
A.II	**Habitat improvement**	12.75	14.25	15.64	15.00	16.86	16.00	16.00	15.00	15.00	15.00	**151.50**
A.III	**Capacity Building/Training/ Research & Monitoring**	7.00	7.00	7.50	8.00	9.00	10.00	10.00	10.00	10.00	10.00	**88.50**
A.IV	**Wildlife Protection and Conservation Activities**	7.00	7.00	7.50	7.50	8.00	8.00	8.50	8.50	9.00	9.00	**80.00**
A. V	**Education and Awareness Generation**	4.00	4.25	4.75	5.00	5.50	6.00	7.00	8.00	9.00	8.00	**61.50**
A.VI	**Wildlife Tourism Management**	15.00	15.00	17.00	17.00	18.00	20.00	20.00	20.00	20.00	20.00	**182.00**
A.VII	**Field equipment**	6.00	7.25	8.00	8.50	9.25	8.00	8.00	8.00	8.00	8.00	**79.00**

A. VIII	**Office expenses**	1.00	1.50	1.75	2.00	2.00	2.00	2.00	2.50	2.50	2.50	**19.75**
A.IX	**Community Development through Participation**	3.00	3.00	3.00	3.25	3.50	3.50	3.50	4.00	4.00	4.00	**34.75**
A. X	**Human-wild animal Conflict**	4.00	4.00	4.50	4.50	5.00	5.00	5.00	5.00	6.00	6.00	**49.00**
A.XII	**Operational Support**	1.75	2.50	3.25	3.50	3.50	3.50	3.50	4.00	4.00	4.00	**33.50**
	G.Total:-	**91.50**	**97.75**	**107.89**	**109.25**	**118.61**	**120.00**	**123.50**	**125.00**	**122.50**	**116.50**	**1132.50**

Annexure XVII

FACTSHEET RELATED TO ESZ IN RESPECT OF NATIONAL PARK/ SANCTUARY

Name of the State: Himachal Pradesh

***

	Name of the protected Area- Gamgul Siyabehi Wildlife Sanctuary	
I.	Hard copy of the proposal	Annexure-I
II.	Soft copy of the proposal (CD/E-mail)	Enclosed
III.	A legible black and white/ colour map (A-4 size) showing notified boundary of the protected area and clearly demarcating eco-sensitive zone (with hatching) with GPS coordinates of prominent points (East, West, North & South) along with dist from boundary of PA.	Annexure-II&III
IV.	Preamble providing specific details on the protected area.	Annexure-IV
V.	Description of ESZ boundary	**North** : Inter-state boundary with J&K at $75^0$50'27.753''E $32^0$50'39.775''N on north-west **East:** Starts from inter-state boundary J&K passes through Hindal PF **South:** Starts from confluence of Shikru and kihan da Nal 75^0 55'12.329"E $32^0$48'5.322"N, **West:** Inter-state boundary with J&K Starts from $75^0$50'28''E $32^0$50'40''N
VI.	Details of Biodiversity value (if available) along with list of rare/endangered/ endemic flora and fauna (along with their scientific names) found in PA.	Deodara (*Cedrus deodara*), Kail (*Pinus wallichiana*), Spruce (*Picea smithiana*), Silver fir (*Abies pindrow*), Ban (*Quercus semicarpofolia*) Pink Burans (*Rhododendron campanulatum*) Musk deer (*Moschus moschieferus*), Leopard cat (*Prionailurus bengalensis*), Common leopard(*Panthera pardus*), Black Bear (*Ursus thibetanus)* Himalayan Goral (*Naemorhedus goral*), Yellow Throated Marten (*Martes flavigula*), Red Fox (*Vulpes vulpus),* (Koklash (*Pucrasia macrolopha*), Kaleej (*Lophura leucomelanos*),

		Chakor (*Alectoris chukar*)
VII.	List of villages falling within ESZ	Annexure-V&VI
VIII.	Activities to be prohibited/ regulated/promoted in the eco sensitive zone.	Annexure-VII
IX.	Proposed composition of monitoring committee.	Para XI of Draft Proposal
X.	ESZ area (sq km) and extent (dist) from PA in km.	28.90 sq km 1 km
XI.	PA area (sq km)	108.40 sq km
XII.	If the PA has 0km ESZ on any side, justification to be provided by the State Govt While forwarding the proposal	Annexure-VIII
XIII.	Boundary description in physical terms (roads, hills, river bodies, railway line etc) by starting from a point on the boundary and then moving clockwise along the boundary and reaching back the starting point	Annexure-IX
XIV.	If a proposal has more than one PA (sometimes upto 4-5), a justification may be provided as to why it contains more than one PA.	NA
XV.	Justification for not having a corridor connecting one PA to the other	Annexure-X

Proposed Draft Notification

Name of the Wild life Sanctuary- Gamgul Siyabehi

WHEREAS, the Gamgul Siyabehi Wildlife Sanctuary is situated between 32^0 47'52" N to 32^0 55' 67" N Latitudes and $75^0$47'88" E to $75^0$58'44" E Longitudes which falls on Survey of India toposheet No.43P/13 Scale1:50,000 . The Gamgul Siyabehi Wildlife Sanctuary is located in Saloni Sub division of Chamba district and falls under the administrative control of Wildlife Division Chamba.

The limits of the Gamgul Siyabehi Wildlife Sanctuary as per Govt.of Himachal Pradesh Notification No.FFE-B-F(6)-11/2005-II dated 7th June,2013 under Section 26(A) of the Wildlife(Protection) Act,1972 is as under-

NORTH: - From Baju Bag Gali to Bishot PF at 3289 Mtrs. Height and then up to Pateran at 3916 Mtrs. Height all along the boundary of J & K.

EAST: From Pateran at 3916 Mtrs. Height to Chalipur Gali at 3524 Mtrs. Height and then up to Chabbi along Shikru Da Nalla.

SOUTH:- From Chabbi along the outer boundary of Kalhetra RF, Thamaru RF, Khoran RF, Jalari RF, Boda RF, Sathi RF, NalwadRF, Dhar Chanwani, Guin Nal RF, Laded RF, Dandi RF, Ranjal RF, Gowari RF, Bhangotli RF, Bir RF, Gagli RF upto Talai. From Talai along the Siul Nalla upto Ranod to Kalethu at 3633 Mtrs. Height.

WEST: From Kalethu 3633 Mtrs. Height to Udak 3530 Mtrs. Height up to Baju Bag Gali.

Total area: - 108.40 sq.kms.

AND WHEREAS, it is necessary to conserve and protect the area of suitable width from the boundary of the protected area of Gamgul Siyabehi Wildlife Sanctuary as Eco-sensitive Zone from ecological and environmental point of view.

AND WHEREAS, the Central Government proposes to notify the area of suitable width from the boundary of the proposed rationalized area of Gamgul Siyabehi Wildlife Sanctuary enclosed within the boundary described below in the State of Himachal Pradesh as 'Eco Sensitive Zone' (here in after called as the Eco Sensitive Zone) in exercise of the powers conferred by subsection (1) read with clause (v) and clause (xiv) of sub – section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and for that purpose hereby publish this notification as required under sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, for the information of the public likely to be affected thereby; and notice is hereby given that the said draft notification shall be taken into consideration on or after the expiry of a period of sixty days from the date on which copies of the Gazette of India containing this notification are made available to the Public. Any person interested in making any objections or suggestions on the proposals contained in the draft notification may do so in writing for consideration of the Central Government within the period so specified through post to the Secretary, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, Lodi Road, New Delhi-110003, or electronically at e-mail address: envisect@nic.in.

Annexure-I of Annexure- XVII

DRAFT PROPOSAL

1. Boundaries of Eco-sensitive Zone –

(i) The said Eco-sensitive Zone shall comprise of the area of 1000 mtr. width from the boundary of the proposed rationalized area of Gamgul Siyabehi Wild Life Sanctuary situated in the Chamba District of Himachal Pradesh. The Eco-sensitive Zone is proposed on the Southern and North-Western side of the periphery of the Sanctuary.On the Southern side,it has been proposed for a length of 3 km.with an area of 3 sq.km. whereas,On the Eastern side,it has been proposed for a length of 10.3 km.with an area of 10.30 sq.km.Also,the area of 15.6 sq.km. proposed to be excluded after rationalization is proposed as part of the Eco-sensitive Zone.The total area of the Proposed Eco-sensitive Zone is 28.90 sq.km.with varying widths all around the sanctuary.

(ii) The map of the Eco-sensitive Zone is at Annexure-III and the list of the forests within area of suitable width of the boundary of Gamgul Siyabehi Wild Life Sanctuary in the Eco sensitive Zone are as follows:

(a) List of Forests proposed for Eco- sensitive Zone:-

S. No.	Name of Division	Name of Range	Name of Beat	Name of Forest	Comptt.	Area
1	Churah	Chakoli	Bhadroh	DPF Adap	-	
				DPF Kainthly	-	
				DPF Thamru	-	
			Jamla	DPF Bidhwar	-	
				DPF Talai	-	
				DPF Bhanjetra	-	
				DPF Jhandoor	-	
			Bhaint	DPF Sanghani	-	
				DPF Bara nallah	-	
				DPF Chambi	-	
				DPF Pringul	-	
				DPF Ranjaal	-	
				DPF Gwari	-	
				DPF Pandhar	-	
				DPF Mahroon	-	
				DPF Gagli	-	
				TOTAL Area including village area	-	2890 Hac. (28.90 sq.km.)

All the Forests listed above will be part of eco sensitive Zone of Gamgul Siyabehi Wildlife Sanctuary.

(b) List of Gram Panchayats covered in the Eco – sensitive zone:

S. No.	Division	Gram Panchayat	Villages
1	Chamba (Sub-division-Salooni)	Sanooh and Bhandal	Sanooh,Gaggal,Kainthli,Adaap,Dandodi, Dugli,Bhadroh,Jasoh,Tharoli,Jhandoor, Mandog,Thathi,Jalari,Sanghani,Karwar, Sanghnaid,Putial,Koloi,bhadai,Pathwal, Sagodi,Shoon,Praid,Chandu,Dhamogi, Chaneti,Kinsalu,Dadri,Priungal,Langera, Digodi and Khanei.

These villages are falling within the proposed eco sensitive zone.

(iii) All activities in the Gamgul Siyabehi Wild Life Sanctuary are being governed by the provisions of the Wildlife (Protection) Act, 1972 (53 of 1972).

2. Zonal Master Plan for the Eco-sensitive Zone:-

a) A Zonal Master Plan for the Eco-sensitive Zone shall be prepared by the State Government within a period of one year from the date of publication of this notification in the Official Gazette and shall be submitted for approval to the Central Government in the Ministry of Environment and Forests, Government of India.

b) The Zonal Master Plan shall be prepared with due involvement of all concerned State Departments, such as Environment, Forest, Urban Development, Tourism, Municipal and Revenue Department and the Himachal Pradesh State Pollution Control Board for integrating environmental and ecological considerations into it and shall provide for restoration of denuded areas, conservation of existing water bodies, management of catchments areas, watershed management, groundwater management, soil and moisture conservation, needs of local community and such other aspects of the ecology and environment that need attention.

c) The Zonal Master Plan shall demarcate all the existing village settlements, types and kinds of forests, agricultural areas, fertile lands, green areas, horticultural areas, orchards, lakes and other water bodies and change of land use from green uses such as orchards, horticulture areas, agriculture parks and others like places to non green uses shall be permitted in the Zonal Master Plan, except that strictly limited conversion of agricultural lands may be permitted to meet the residential needs of the existing local residents together with natural growth of the existing local populations, without the prior approval of the State Government.

d) The Zonal Master Plan shall be a reference document for the State Level Monitoring Committee for any decision to be taken by them including consideration for relaxation.

e) The Zonal Master Plan shall indicate measures and lay down stipulations for regulation of traffic.

f) Pending the preparation of the Zonal Master Plan for Eco-sensitive Zone and approval thereof by the Central Government in the Ministry of Environment and Forests, all new constructions shall be allowed only after the proposals are scrutinized and approved by the Monitoring Committee as referred to in paragraph 4 and there shall be no consequential reduction in Forest, Green and Agricultural area.

g) The State Government shall prescribe additional measures, if necessary, in furtherance of the objectives and for giving effect to the provisions of this notification.

3. Regulated and prohibited activities in the Eco-sensitive Zone

Industrial Units:-

a) New wood based industry in private area shall be allowed only after obtaining permission from the State Government and shall be operated as per rules and regulation framed by the state Government from time to time .

b) No new polluting industry shall be regulated as per relevant Act and rules within the eco sensitive zone of Gamgul Siyabehi Wild Life Sanctuary.

c) No new highly polluting industry shall be set up within **eco sensitive zone area** of the Gamgul Siyabehi Wild Life Sanctuary

I. Construction Activities –

a) In Forest area no Commercial construction including Hotels / Resorts construction shall be allowed. Only listed Eco friendly activities will be allowed.

b) Domestic construction included housing, small shop, Dhabas and small outlets shall be permitted only in private land.

c) Commercial construction including Hotels / Resorts in private land shall be regulated under applicable laws.

II. Quarrying and Mining –

a) No commercial Mining activities in the Forest area will be allowed except for domestic use as per record of rights as given in the Forest Settlement Report by H.M Glover, 1921

b) Mining activities in private area for domestic use shall be allowed subject to rules and regulations framed by the government from time to time.

c) Stone / mineral crushers for domestic use shall be allowed to be established within the eco-sensitive zone after taking permission from competent authority.

III. Trees: - Felling of trees in the Forest area shall be allowed as per working plan. And felling of trees in private area shall be allowed under the provision of Land Preservation Act, 1978.

a) **Water: -** Extraction of ground water in forest area for domestic use shall be permitted only with the permission of State Government.

b) Extraction of ground water in forest area for commercial use shall be prohibited.

c) Extraction of ground water in private area for bonafide domestic and agriculture use shall be permitted.

d) Extraction of ground water in private area for commercial use shall be permitted with permission of competent authority.

IV. Noise pollution: - The Environment Department or the State Forest Department, Himachal Pradesh shall be the authority to draw up guidelines and regulations for the control of noise in the Eco-sensitive Zone.

V. Discharge of effluents: - No untreated or industrial effluent shall be permitted to be discharged into any water body within the Eco-sensitive Zone and treated effluent shall meet the provisions of the Water (Prevention and Control of Pollution) Act, 1974.

VI. Solid Wastes:-

a) The solid waste management shall be regulated under applicable laws.

b) The biodegradable material may be recycled preferably through composting or vermin-culture and the inorganic material may be disposed of in an environmentally acceptable manner at a site identified outside the Eco-sensitive Zone managed on scientific principles.

c) Solid wastes and other waste material shall not be allowed to be dump within the Eco-sensitive Zone.

VII. Other: -

a) **Rights: -** All rights of right holders shall remain continue as per settlement record.

b) **Migratory Graziers:** - All migratory Gaddis & Gujjars shall be allowed as per the provision of settlement Report of H.M. Glover, 1921.

c) **Sign Board and Hording**: - All Sign Boards and Hoardings shall be allowed after obtaining permission from competent authority**.**

d) **Hydro and Thermal Electric Projects: -**Existing Hydro- electric Project shall be permitted in a regulated way subject and regulation laid down by the state Government from time to time. No Thermal / Nuclear power projects and future major Hydro- electric project shall be allowed within the Eco-sensitive Zone .

e) **Road: -** Construction and widening of road shall be allowed after obtaining permission under FCA Act, 1980 and muck management plan shall be strictly adhered to and un scientific muck dumping shall not be permitted within the Eco-sensitive zone .

f) **Other Eco- friendly activities:-** Other friendly activities like organic and improved agricultural techniques rain water harvesting, soil and water conservation measures, plantation of native spps. Solar/ wind energy development and adoption of green technology shall be encouraged within Eco-sensitive Zone .

g) **Eco-tourism**: - Eco-tourism will be allowed in the Eco-sensitive Zones within the prior permission of Sate Government.

h) **Extraction of Medicinal Plant**: - Extraction of minor forest produce including medicinal plants will be allowed as per the provision of settlement Report of 1921.

VIII. **Governance of the ESZ:-** The ESZ shall be controlled by the Concerned DFO(T) i.e.,DFO,Churah

IX. Monitoring Committee: -

a) Under the provisions of sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby constitutes a committee to be called the Monitoring Committee to monitor the compliance with the provisions of this notification.

b) The Monitoring Committee shall consist of not more than ten members and the Chairman of the Monitoring Committee shall be an eminent person with proven having knowledge of ecology, managerial or administrative experience and understanding of local issues and the other members shall be: -

1. Divisional Forest Officer (Wild Life), will be as a Member Secretary and Divisional Forest Officer (Territorial) will be a Member.
2. A representative of the Ministry of Environment and Forests, Government of India.
3. One representative of Non-Governmental Organizations working in the field of environment (including heritage conservation) to be nominated by the Government of India.

4. XEN, HP Pollution Control Board, having jurisdiction of the area .

5. SDM, Salooni or his representative.

c) The powers and functions of the Monitoring Committee shall be restricted to the compliance of the provisions of this notification only.

d) In case of activities requiring prior permission or environmental clearance, such activities shall be referred to the State Level Environment Impact Assessment Authority (SEIAA), which shall be the Competent Authority for grant of such clearances as per the provisions.

e) The Monitoring Committee may also invite representatives or experts from concerned Departments or Associations to assist in its deliberations depending on the requirements on issue to issue basis.

f) The Chairman or Member Secretary of Monitoring Committee shall be competent to file complaints under section 19 of the Environment (Protection) Act, 1986 for non-compliance of the provisions of this notification.

g) The Monitoring Committee shall submit its annual action taken reports by the 31st March of every year to the Ministry of Environment and Forests and the Central Government in the Ministry of Environment and

Forests shall give its directions to the Monitoring Committee from time to time for effective discharge of the functions of the Committee.

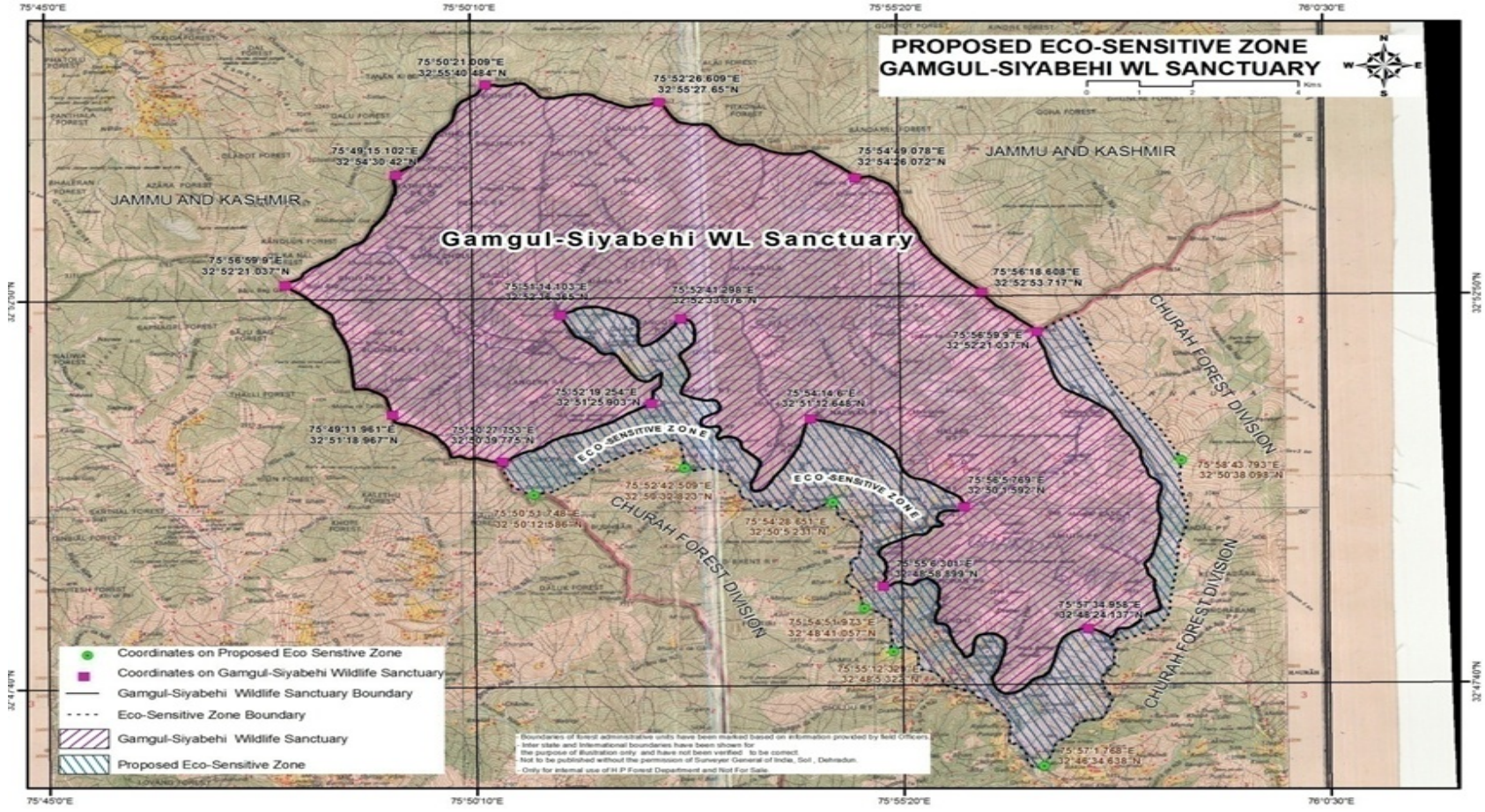
Sd/-	Sd/-	Sd/-
Divisional Forest Officer	Divisional Forest Officer	CCF (T)-cum- Chairman
Wildlife Division Chamba	Forest Division Churah	Chamba Forest Circle
(Member Secretary)	(Member)	Chamba, HP

Annexure -II of Annexure- XVII

Geo Co-ordinates of boundary of Gamgul Siyabehi Wildlife Sanctuary and its Eco-sensitive zone

Gamgul Siyabehi Wildlife Sanctuary	Eco-sensitive Zone
$32^0$50’39.775’’N $75^0$50’27.753’’E	$32^0$50’12.586’’N $75^0$50’51.748’’E
$32^0$51’18.967’’N $75^0$49’11.961’’E	$32^0$50’32.823’’N $75^0$52’42.509’’E
$32^0$52’21.037’’N $75^0$56’59.9’’E	$32^0$50’5.231’’N $75^0$54’28.651’’E
$32^0$54’30.42’’N $75^0$49’15.102’’E	$32^0$48’41.057’’N $75^0$54’51.973’’E
$32^0$55’40.484’’N $75^0$50’21.009’’E	$32^0$48’5.322’’N $75^0$55’12.329’’E
$32^0$55’27.65’’N $75^0$52’26.609’’E	$32^0$46’34.638’’N $75^0$57’1.768’’E
$32^0$54’26.072’’N $75^0$54’49.078’’E	$32^0$50’38.098’’N $75^0$58’43.793’’E

Annexure -III of Annexure- XVII



Annexure-IV of Annexure- XVII

Preamble:

The Gamgul Siyabehi Wildlife Sanctuary is located in Salooni Sub-division of Chamba district (H.P.) and falls under the administrative control of Wildlife Division Chamba. This sanctuary was originally notified as Game Sanctuary vide Notification No.ft.-1/48 Dated July 1st 1949.The rules and regulations had been framed under the Indian Forest Act, 1927 and Punjab Wildlife preservation Act, 1959. The area was further declared as Wildlife Sanctuary under Wildlife (Protection) Act,1972 vide No. 5-11/70-SF dated 27- 03-1974. The latest Notification after rationalization was issued vide No.FFE-B-F(6)-11/2005-II dated 7th June,2013.

The sanctuary is located in the catchment of Siul nala, (a tributary of Ravi River) away from habitation and in the remote area. Thus the significance can be attributed to the ideal habitat of the sanctuary, which harbors majestic Ibex, Tahr, Musk Deer, Goral, Brown Bear, Black Bear, Leopard, Monal, Koklas,Kalij and Snowcock. There is a good interface of wooded areas and vast expenses of pastures that forms an ideal habitat for animals as well as birds.

The composition of the forest crop varies with altitude and aspect. The high altitude conifers like deodar, kail, fir and spruce in pure and mixed forms along with broad leaved species are growing in the temperate zone in the lower elevation. The kail is predominant in the southern aspect whereas deodar, fir and spruce are occupying the cooler locations. The pastures and rocky cliffs exist in the alpine zone. Bio geographically the area of the sanctuary falls in the Trans - Himalayan zone.

This sanctuary is surrounded by Churah forest Division of Himachal Pradesh from one side and state of Jammu and Kashmir on the another side. The area of Churah forest Division adjoining to the sanctuary is having thirty two villages while the area of Jammu and Kashmir adjoining to the sanctuary is having high mountain peaks ,snow bound and free from habitation. Hence, Eco sensitive Zone comprising of 28.90 sq km (area of Churah Forest Division) having width of one km from the boundary of the sanctuary is proposed.

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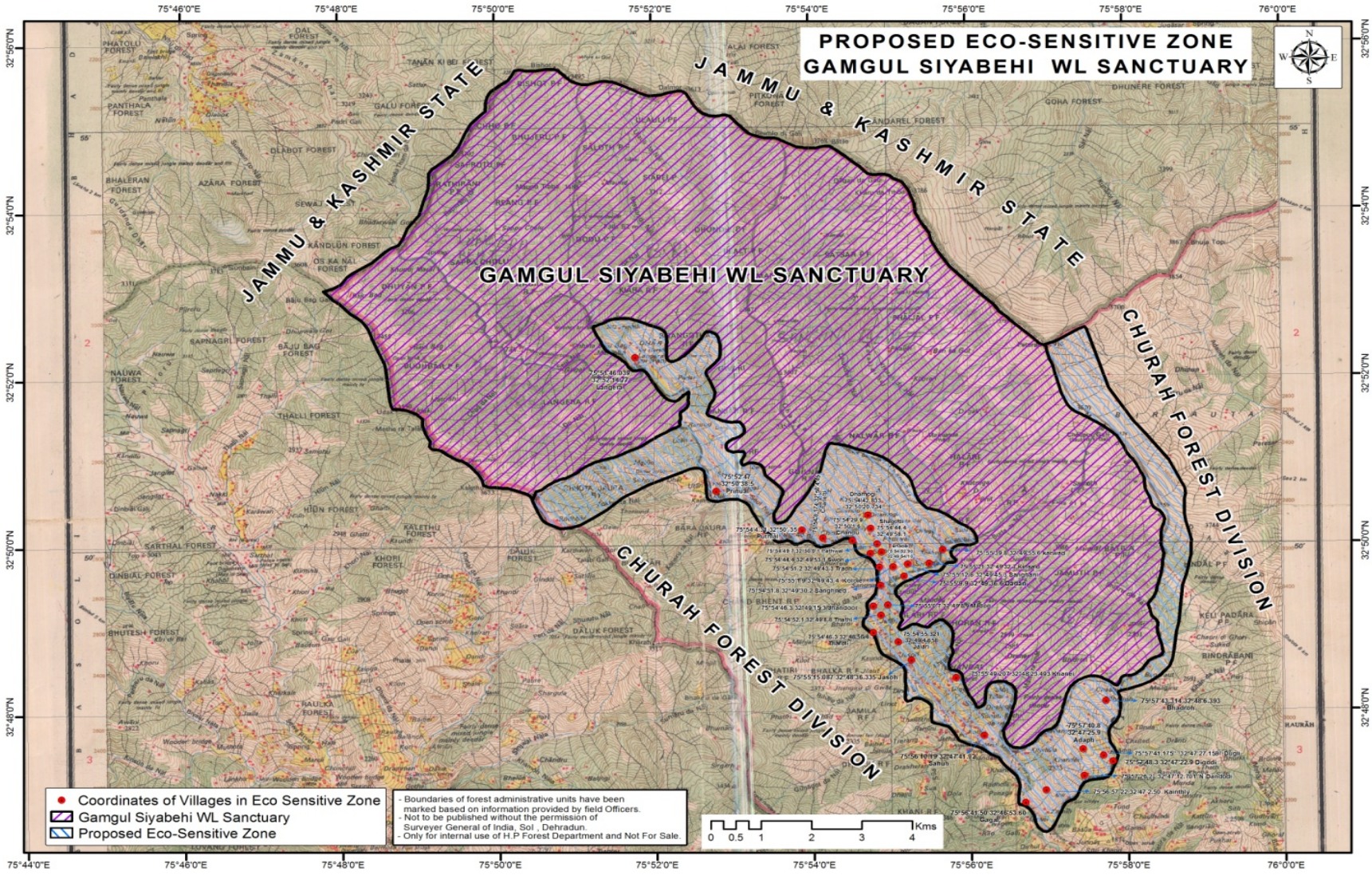
Annexure -V of Annexure- XVII

List of villages falling within Eco Sensitive Zone of Gamgul Siyabehi Wildlife Sanctuary

Name of Panchyat	Name of Village		Longitude/Latitude
Sanuh	1	Sanuh	32°47'41.92"N 75°56'10.19"E
-do-	2	Gagal	32°46'53.60"N 75°56'41.50"E
-do-	3	Kainthly	32°47'2.50"N 75°56'57.22"E
-do-	4	Dandodi	32°47'12.70"N 75°57'26.20"E
-do-	5	Adaph	32°47'25.90"N 75°57'40.80"E
-do-	6	Bhadroh	32°48'6.393"N 75°57'43.314"E
-do-	7	Dugli	32°47'22.90"N 75°57'48.30"E
Bhandal	8	Digodi	32°47'22.90"N 75°57'48.30"E
-do-	9	Khanei	32°48'23.493"N 75°55'49.207"E
-do-	10	Jasoh	32°48'36.335"N 75°55'15.087"E
-do-	11	Tharoli	32°48'56.40"N 75°54'46.30"E
-do-	12	Jhandoor	32°49'15.30"N 75°54'46.30"E
-do-	13	Madog	32°49'8.90"N 75°55'0.70"E
-do-	14	Thathi	32°49'8.80"N 75°54'52.10"E
-do-	15	Jalari	32°49'4.658"N 75°54'55.321"E
-do-	16	Sanghani	32°49'45.30"N 75°55'12.80"E
-do-	17	Karwad	32°49'55.60"N 75°55'39.80"E
-do-	18	Puthial	32°50'3.35"N 75°54'4.31"E
-do-	19	Sanghned	32°49'30.20"N 75°54'51.80"E
-do-	20	Koloie	32°49'43.40"N 75°55'1.90"E
-do-	21	Bhadei	32°49'54.10"N 75°54'52.90"E
-do-	22	Pathwal	32°50'0.10"N 75°54'49.70"E
-do-	23	Shagodi	32°49'58.10"N 75°54'44.40"E
-do-	24	Swon	32°49'53.10"N 75°54'44.40"E
-do-	25	Chandu	32°50'1.60"N 75°54'29.90"E
-do-	26	Tradh	32°49'43.30"N 75°54'51.20"E
-do-	27	Dhamogi	32°50'20.30"N 75°54'37.00"E
-do-	28	Chanetti	32°50'4.457"N 75°54'8.147''E
-do-	29	Dadari	32°49'36.60"N 75°55'9.90"E
-do-	30	Kinsalu	32°49'32.70"N 75°55'21.00"E
-do-	31	Prinual	32°50'38.50"N 75°52'47.00"E
-do-	32	Langera	32°52'14.77"N 75°51'46.0.39"E

Annexure -VI of Annexure- XVII



Annexure -VII of Annexure- XVII

Activities which are allowed, regulated or prohibited in Eco-Sensitive area around Gamgul Siyabehi Wildlife Sanctuary are as follows:

Sr.	Activity	Prohibited	Regulated	Permitted	Remarks
1.	Commercial Mining	Y			Regulation will not prohibit the digging of earth for construction or repair of houses and for manufacture of country tiles or bricks for housing for personal consumption
2.	Felling of tree		Y		With permission from appropriate authority for religious ceremonies viz. marriage, for funeral, for making agricultural tools and other bonafide uses in private land and for sale under 10 year felling cycle.
3.	Sating of saw mills	Y			
4.	Setting of industries causing pollution (water,Air,Soil,Noise,etc.)	Y			Small scale and cottage industries will be allowed after obtaining permission from the competent authority
5.	Establishment of hotels and resorts		Y		The home stay or paying guest will be allowed after obtaining approval as per HP Govt. regulations
6.	Commercial use of firewood	y		.	For hotels and other business related establishment
7.	Drastic change of agriculture system		Y		Only introduction of advanced mechanized agriculture tools causing pollution are included to be regulated and change of crop is not to be regulated
8.	Commercial use of natural water resource including ground water harvesting		Y		After obtaining permission from the regulatory authority
9.	Establishment of major hydroelectric projects	Y			
10	Erection of electrical cables		Y		There will be no restriction on individual house hold connection through distribution cables
11.	Ongoing agriculture and horticulture practices by local communities			Y	
12.	Rain water harvesting			Y	Should be actively promoted
13.	Fencing of premises of hotels and lodges			Y	
14	Organic farming			y	Should be actively promoted
15	Use of polythene bags by shopkeepers	Y			
16	Use of renewable energy sources			Y	Should be actively promoted
17	Winding of road		Y		After obtaining permission from

					the regulatory authority
18	Movement of vehicular traffic at night		Y		For commercial purpose
19	Introduction of exotic species	Y			
20	Use or production of any hazardous substances	Y			
21	Discharge of effluents and solid waste in natural water bodies or terrestrial area	Y			
22.	Air and vehicular pollution		Y		
23.	Sign boards and hoardings		Y		Only forest and wildlife awareness sign boards and hoarding permitted
24	Adoption of green technology for all activities			Y	Should be actively promoted
25	Exercise of right			Y	As per the forest settlement report and approved working plan of the Division

Annexure-VIII of Annexure- XVII

Justification for not proposing Eco-Sensitive Zone towards North-Eastern and North-Western side of Gamgul Siyabehi Wild life Sanctuary:-

The boundary of the Wild life Sanctuary is co-terminus with the State boundary of Jammu and Kashmir on the North-Eastern and North-Western side. Hence, No Eco-Sensitive Zone has been proposed in these directions and it has been proposed only along the Southern side.

Annexure-IX of Annexure- XVII

ESZ BOUNDARY DESCRIPTION IN PHYSICAL TERMS OF GUMGUL SIYABEHI WILDLIFE SANTUARY IN H.P.

Boundary description in physical terms of Gumgul -Siyabehi Wild life Sanctuary is as under:-

NORTH: North boundary of the proposed Eco- sensitive Zone is the boundary of sanctuary starts from inter-state boundary with J&K at $75^0$50'28''E $32^0$50'40''N on north-west and and extends along the boundary of sanctuary upto inter-state boundary on north-east with J&K.

EAST: Starts from inter-state boundary J&K passes through Hindal PF ,village Bhadroh, confluence of Shikru da Nal and kihan da Nal village Adap.

SOUTH: Starts from confluence of Shikru and kihan da Nal upto Kainthly, Siul river on the left bank of river Siul through Khani ,75^0 55'12"E $32^0$48'5"N,$75^0$54'29''E $32^0$50'5''N village Chaneti Rikhani da Nal upto Priungal $75^0$52'43''E $32^0$50'33''N ,Sikhnu di Dhar upto$75^0$50'52''E $32^0$50'13''N on the boundary of J&K

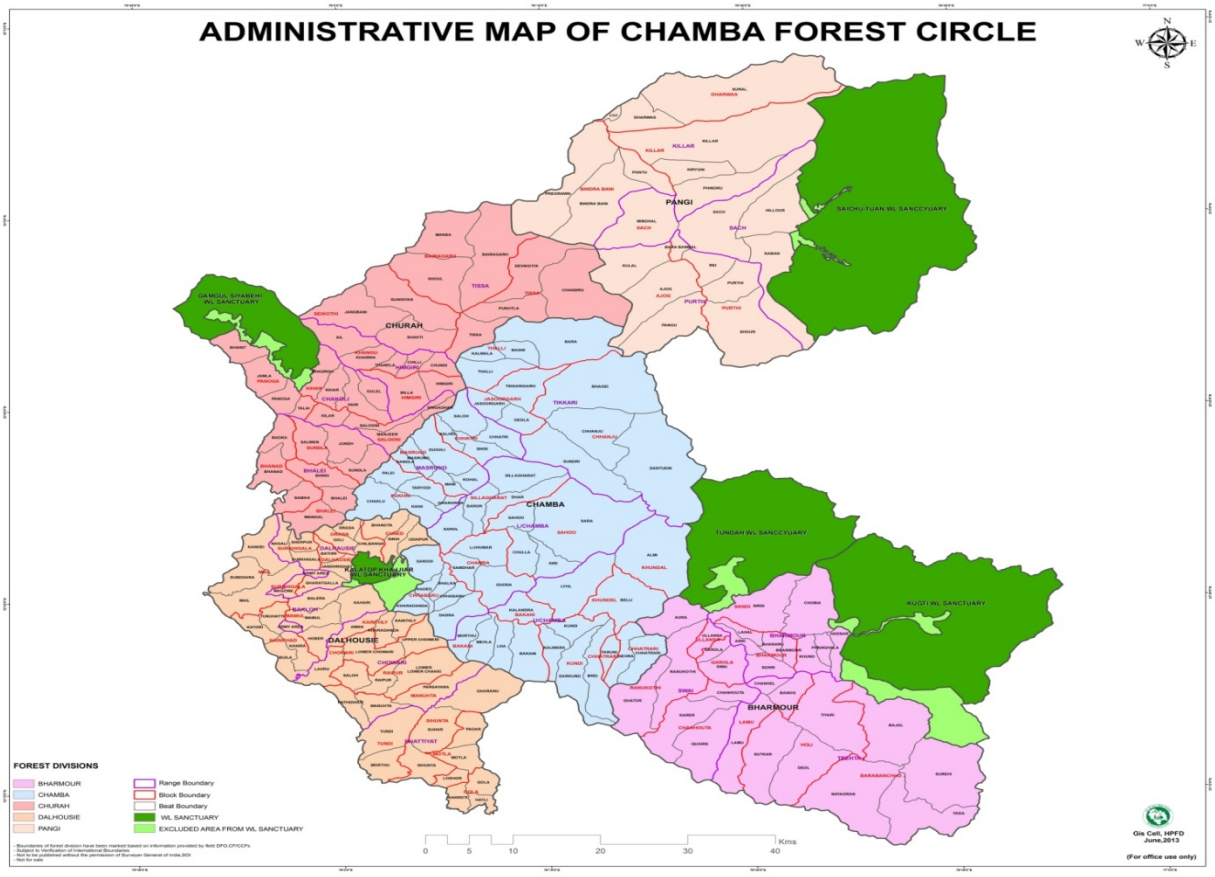
WEST: inter-state boundary with J&K Starts from $75^0$50'52''E $32^0$50'13''N upto$75^0$50'28''E $32^0$50'40''N

Annexure-X of Annexure- XVII

Justification for not having a corridor connecting one PA to the other

All the 5 Wildlife Sanctuaries under Wildlife Division Chamba except Tundah Wild life Sanctuary and Kugti Wild life Sanctuary are located in different corners of Distt.Chamba and spread over 5 Territorial forest divisions (Administrative Map of Chamba forest Circle showing territorial divisions and Wild life Sanctuaries is being attached).Moreover, the natural barriers and the aerial distance between the WLSs are high to act as corridor connecting one PA to the other. The Approximate Aerial distances between the WLSs are as under:-

1. Gamgul Siyabehi WLS to Kalatop Khajjiar WLS = 27 Km
   Tundah WLS = 45 Km
   Kugti WLS = 63 Km
   Saichu Twan WLS = 51 Km



Government of Himachal Pradesh
Forest Department

No. FFE-B-A (10)-1/2009 18 Dated Shimla-2, the

Notification

In supersession of all previous Notification Nos. Fts (F)6-7/82-Loose, Fts-B(B)-6-7/82-II, FFE-B-A(10)-2005 and FFE.B-A(10)-1/2009 dated 09.04.1996, 27.08.2001, 20.07.2006 and 04.03.2014 regarding relief due to losses caused to human beings and domestic livestock by the Wild animals as defined in Wildlife (Protection) Act, 1972, the Governor, Himachal Pradesh is pleased to notify the following enhanced relief rates as under:-

S.No	Particulars	Enhanced Rates (in Rupees)
1.	In case of death of human being.	4,00,000/-
2.	In case of permanent disability to human being.	2,00,000/-
3.	In case of grievous injuries/partial disability to human being.	75,000/-
4.	In case of simple injury to human being as per actual cost of medical treatment subject to maximum.	15,000/-
5.	In case of loss of Horse, Mule, Buffalo, Ox, Yak and Camel	30,000/-
6.	In case of loss of Cow Jersey and cross breed.	15,000/-
7.	In case of loss of Cow (local breed), Donkey, Churu, Churi & Pashmina Goat.	6,000/-
8.	In case of loss of Sheep, Goat and Pig.	3,000/-
9.	In case of loss of young ones of Buffalo, Cow Jersey and all other breeds, Mule, Yak, Horse, Camel, Churu, Churi, Donkey, Pashimna Goat, Sheep and Goat.	15,00/-

The following guidelines will be followed for grant of relief:-

i) Production of postmortem report in case of loss of human life, certificate in case of grievous injury, partial & permanent disability and prescription slip as well as verification of actual cost of Medical treatment in case of simple injury (including Monkey bites) from the Medical officer of a Government Institution/Govt. recognized Medical Institution, as the case may be.

ii) The verification of loss of cattle that was actually caused by wild animal can be done by the Pradhan/Up Pradhan of Panchayat/Patwari/President Notified Area Committee/ Chairman, Municipal Committee, Commissioner/ Mayor/Deputy Mayor, Municipal Corporation of the area/Elected Member of the Cantonment Board area/Councilor of the area, Range Officer/Deputy Ranger/Forest Guard or any other forest officer higher in rank than a Range Officer, Veterinary Officer or Veterinary Pharmacist or officer authorized by Veterinary officer of the area.

iii) All DFOs in HP shall be the final authority to sanction all cases of relief claims on account of losses caused by the wild animals to humans and domestic livestock.

iv) The DFOs shall release 25% of the amount of relief prescribed for human loss/permanent & partial disability/grievous injury on receipt of report as interim relief immediately to the family of the deceased/affected person after due

verification in anticipation of formal sanction without delay. The balance amount will be released after receipt of the complete relief claim.

v) For immediate disbursement of relief claim, a corpus fund will be created at the level of Principal Chief Conservator of Forests (Wildlife)-cum Chief Wildlife Warden. All the budget allocations from the state as well as from State CAMPA in respect of relief shall be deposited in the aforesaid corpus fund. The PCCF (WL) will ensure the disbursement of relief amount in respect of aforesaid categories of losses on the same day on receipt of a request from the concerned DFO. The DFO concerned will ensure to send such requests by E-mail/ Fax asking for funds of relief amount on the same day of incident or on the day of receipt of information of the incident from the claimant. DFO will make payment of aforesaid 25% of the relief amount immediately from the budget available with him under any scheme and same will be recouped on receipt of funds from the Chief Wildlife Warden.

vi) All claims in respect of simple injury to humans shall be restricted to actual cost of medical treatment verified by the Medical Officer of a Government Institution/Govt. recognized Medical Institution subject to maximum of Rupees 15,000/- as prescribed above in the categories of losses.

vii) All cases of losses caused by the wild animals should be reported by the applicant to the nearest Forest Office within seven days of the incident and claims for relief is filed within one month to the nearest Range Forest Office under control of Divisional Forest Officer (territorial or wildlife). The claim can be filed either at the place where the loss by wild animal has occurred/reported or where the applicant resides. All time barred cases shall be sent to Govt. of Himachal Pradesh for approval.

viii) The relief will be granted in case of loss of livestock to the owner of the livestock. These rates would be applicable for killing of domestic animals by wild animals as defined in Wildlife (Protection) Act, 1972 in cattlesheds/cowsheds, private land, private premises and forests.

ix) The relief in case of loss of the human being will be granted in the order of preference given below:-

(a) Wife or husband, as the case may be.
(b) Sons, unmarried or divorced daughters and children of predeceased son (equal share).
(c) Daughters. (equal share).
(d) Grand Children being children of his/her sons or daughters who died before him/her (equal share).
(e) Father or Mother.
(f) Brothers or sisters or children of the deceased brothers (equal share).
(g) Failing all above any other next of kin entitled to a share in the estate.

All the prescribed rates shall be made applicable with immediate effect.

By Order,

Tarun Kapoor
Additional Chief Secretary (Forests) to the Government of Himachal Pradesh

Annexure-XIX.

LIST OF GUJJARS

Sr No	Name & Address of Gujjars	Name of Area	Detail of Cattle				
			Buff.	Ox	Cow	Other	Total
1	S/Sh. Fazaldin S/o Makhan V. Jalari, P. Bhandal Chamba	Nalo	6	3	-	13	22
2.	Masandin S/o Mahiya R/o Pathankot	Singala	15	8	-	28	51
3.	Kahamdin S/o Hussain R/o Pathankot	Singala	17	3	-	14	34
4.	Dulla S/o Sahabdin R/o Pathankot	Singala	14	4	-	5	23
5.	Aladita S/o Sadia V. Sathi P.Bhandal Chamba	Jaie	9	2	-	14	25
6.	Gulabdin S/o Karim Bix V. Sagani PO Bhandal Chmaba	Jaie	32	8	-	33	73
7.	Issa S/o Ilamdin R/o Pathankot	Doda Madial	25	5	-	14	44
8.	Shamdin S/o Roshandin & Issa S/o Jamaldin R/o Pathankot	Doda Madial	18	4	-	6	28
9.	Faqil S/o Bhagu R/o Pathankot	Doda Madial	25	5	-	13	43
10.	Dullo S/o Nurdin R/o Pathankot	Doda Madial	20	4	-	12	36
11.	Swanu Rsm S/o Nek Mohd. R/o Bidhwad P. Bhandal	Sanuhtath	10	5	-	11	26
12.	Sukerdin S/o Bhadudin R/o Pathankot	Chhoyiternal	24	4	2	20	50
13.	Kasam S/o Gulab R/o Pathankot	Dhuderyani	9	-	-	5	14
14.	Bhagu S/o Gulab R/o Pathankot	Khurujalai	9	2	-	4	15
15.	Faqir S/o Juman R/o Pathankot	Talaie	12	4	-	6	26
16.	Makhan S/o Aladita R/o Pathankot	Supacholi	27	5	1	11	44
17.	Husano S/o Mirbux R/o Pathankot	Supacholi	25	5	-	12	42
18.	Surma S/o Aladita R/o Pathankot	Supacholi	16	4	-	7	27
19.	Husainu S/o Mirbux R/o Pathankot	Supacholi	12	-	-	60	72
20.	Musadi S/o Hiru & Yusf S/o Nazimdin R/o Pathankot	Supacholi	5	-	-	3	8
21.	Beg Hussain S/o Hussainu R/o Pathankot	Talaie & Langera	18	2	-	68	88
22.	Billu s/o Mirbux R/o Pathankot	Peri Heth	10	2	-	9	21
23.	Kattu S/o Saliya R/o Pathankot	Guludimandi	11	2	-	3	16
24.	Chhotu S/o Alla R/o Pathankot	Guludimandi	6	-	-	1	7
25.	Mussa S/o Shukardin R/o Pathankot	Guladimandi	6	2	-	1	9
(*) B. calf, sheep, Goats, Horse, Poney, mail & lamb etc.							
26	Alimohd S/o Mithu R/o Pathankot	Gullu di Mandi	8	3	-	10	21
27.	Bhagu S/o Amandin R/o Pathankot	Gullu di Mandi	28	5	-	31	64

28	Kasam S/oNazamdin R/o Pathankot	Gullu di Mandi	17	4	-	30	51
29	Fazi S/o Nuna R/o Pathankot	Gullu di Mandi	3	2	-	2	7
30	Nankusain S/o Khoju R/o Pathankot	Bandagoth	10	-	-	6	16
31	Noordin S/o Fattu R/o Pathankot	Bandagoth	8	-	5	8	21
32	Khoju S/o Habib R/o Pathankit	Bandagoth	7	1	-	3	11
33	Shamdin S/o Fattu R/o Pathankot	Bandagoth	11	3	-	11	25
34	Hussainu S/o Mian R/o Pathankot	Bandagoth	16	5	-	9	30
35	Hussaindin, Tajdin, Roshandin,Mehardin, S/o Rahima R/o Pathankot	Bandagoth	6	2	-	2	10
36	Juman S/o Bhagu R/o Pathankot	Bandagoth	7	1	-	6	14
37	Naho S/o Alamdin R/o Pathankot	Bandagoth	7	2	-	5	14
38	Dula S/o Nazir R/o Sagani PO Bhandal Chamba	Bandagoth	16	2	-	28	46
39	Husainu S/o Jamitu R/oPathankot	Bandagoth	10	-	1	3	14
40	Musandin S/o Karamdin R/o Sagani PO Bhandal Chamba	Bandagoth	4	2	-	1	7
41	Mussa S/o Bhagu R/o thared P.Panjala Bhandal Chamba	Gamgul, Dandi Ahan	18	2	-	4	24
42	Faqirshah S/o Roshanshah R/o Kathiana P. Manjir Bhandal Chamba	Gamgul, Dandi Ahan	9	-	-	-	9
43	Musa s/o Bhagu R/o Thared P.Panjala Bhandal Chamba	Gamgul, Dandi Ahan	5	2	-	5	12
44	Fazaldin S/o Minhaz R/o Rajera P. Panjala Chamba	Gamgul, Dandi Ahan	20	2	-	12	34
45	Fazi S/o Minhaz R/o Rajera P.Panjala Chamba	Gamgul, Dandi Ahan	9	-	-	1	10
46	Khemdin s/o Mian R/o Pathankot	Gamgul, Dandi Ahan	10	1	-	6	17
47	Molabux s/o Alafdin R/o Kahanu P. Bhalei Chamba	Gamgul, Dandi Ahan	24	2	-	9	35
48	Noorjamal S/o Bhagu R/o Thared P.Kalandra Chamba	Gamgul	7	-	-	3	10
49	Aladin S/o Sadiq R/o Pathankot	Natwan	6	1	-	7	14
50	Yusaf S/o Jahnu R/o Pathankot	Natwan	10	3	-	4	17
51	Munna S/o Sunu R/o Pathankot	Bhagan Mandnala	20	2	-	8	30
52	Mussa S/o Ismail R/o Pathankot	Bhagan Mandnala	16	2	-	10	28
53	Alihusain S/o Kalu R/o Pathankot	Riyali Kiara Shikargah	25	-	-	12	37
54	Molabux S/o Alafdin R/o Khonana P. Bhandal Chamba	Kuthi Shikargah	16	4	-	8	28
55	Laldin & Ilamdin S/o Moujdin R/o Kalandra Chamba	Rahi shikargah	20	2	-	4	26
56	Suhana S/o Alladita R/o Pathankot	Rahi Shikargah	30	4	-	23	57

57	Nurmahi s/o Nabhia R/o Kuthed P. Kalandra Chamba	Sanoth	8	2	-	4	14
58	Bhagu S/o gulabdin R/o Pathankot	Sanoth	10	2	-	11	23
59	Laldin S/o Moujdin R/o Kuthed P Kalandra Chamba	Siyabehi	11	2	-	10	23
60	Ismail s/o Gulabdin R/o Pathankot	Mondh Shikargah	10	4	-	3	17
61	Dula s/o Gulabdin R/o Pathankot	Mondh Shikargah	6	1	-	3	10
62	Bhagu S/o Gulabdin R/o Pathankot	Mondh Shikargah	10	3	-	16	29
63	Dulla S/o Alladita R/o Pathankot	Ahan Khundel Kiyarapattar	16	-	-	7	23
64	Husainu S/o Mirbux R/o Pathankot	Chamlow Dagoth	4	-	-	3	7
65	Bhagnu S/o Sanket R/o Dandi P. Bhandal Chamba	Sutnidibehi	4	4	4	8	20
66	Gulam Ali S/o Alfa R/o Sagani P. Bhandal Chmaba	Sutnibehi	-	4	4	2	10
67	Alfa S/o Jumma R/o Sagani P.Bhandal Chmaba	Bhitt	8	3	2	7	20
68	Alfa S/o Neku R/o Suthal P. Bhandal Chamba	Bhitt	6	2	-	1	9
69	Jaidial S/o Burfi & Amno S/o Devnu R/o Pudan Bhandal	Bhitt	4	3	3	-	10
70	Kanth S/o Salla R/o Juttal P. Bhandal Chamba	Bhitt	2	2	2	3	9
71	Karam Chand S/o Jyoti R/o Juttal P. Bhandal Chamba	Bhitt	3	3	3	6	15
72	Bhagwan Dass S/o Gusai R/o Juttal P. Bhandal Chamba	Bhitt	3	1	7	6	17
73	Karim S/o Karamdin R/o Kansolu, Bhandal, Chamba	Bhitt	6	-	1	-	7
74	Chanchlo W/o Hira r/o Gandena P. Manjir Chamba	Boda	2	2	1	-	5
75	Barfi S/o Palja R/o Manjir	Boda	8	6	3	19	36
76	Kassam S/o Kahamdin R/o Pathankot	Swantith	16	2	2	8	28
77	Makhan S/o Karamdin R/o Pathankot	Swantith	12	3	-	9	24
78	Yusaf S/o Satandin R/o Pathankot	Swantith	11	2	-	5	18
79	Mian S/o Swanu R/o Pathankot	Swantith	10	2	-	7	19
80	Issa S/o Bhagu R/o Pathankot	Sawnthith	10	2	-	7	19
81	Gulabdin S/o Mia Hussain R/o Pathankot	Sawnthith	18	2	1	11	32
82	Munu S/o Bagu R/o Pathankot	Sawnthith	4	1	-	1	6
83	Mula s/o Janak R/o Pathankot	Sawnthith	15	3	-	7	25
84	Dula S/o Bagu R/o Pathankot	Sawnthith	9	1	-	2	12
85	Manu R/o Zana R/o Pathankot	Sawnthith	5	1	-	5	11

86	Bagu S/o Gumi R/o Pathankot	Khanaru	19	3	-	22	44
87	Zana S/o Saran R/o Pathankot	Fahijal	30	5	-	15	50
88	Hussainu S/o Khimo R/o Pathankot	Fahijal	7	2	-	14	23
89	Alafdin S/o Sahibdin R/o Pathankot	Mutalnak	12	1	-	5	18
90	Yusaf S/o Birru R/o Pathankot	Mutalnak	15	2	-	13	30
91	Issa S/o Yusaf R/o Pathankot	Mutalnak	8	2	-	4	14
92	Rahimbu S/o Karimdin R/o Pathankot	Mutalnak	4	1	-	1	6
93	Mahantu S/o Dula R/o Pathankot	Maktuti	5	2	-	3	10
94	Rehmi S/o Karamdin R/o Pathankot	Dasyyuba	8	1	-	4	13
95	Mussa S/o Ismaila R/o Pathankot	Bhujan Mandola	16	2	-	10	28
96	Munu S/o Sunu R/o Pathankot	Bhujan Mandola	20	2	-	8	30
97	Lal chand S/o Biz Ram R/o Digoni P. Bhandal Chmaba	Maklonda	8	-	-	18	26
98	Maian S/o Alafdin R/o Pathankot	Maklonda	18	3	-	31	52
99	Lal Chand S/o Biz Ram R/o Digoni P. Bhandal Chamba	Maklonda	2	4	-	-	6
100	Saurdin S/o Laldin R/o Pathankot	Ghanped	15	3	-	21	39
101	Husainu S/o chhotu R/o Pathankot	Dagoli	8	3	-	9	20
102	Ilamdin, Issa and Kachha S/o Ismail R/o Pathankot	Dagoli	21	3	-	10	34
103	Mirbux S/o Bhagu R/o Pathankot	Dagoli	10	1	-	4	15
104	Bhagu S/o Kalu R/o Pathankot	Dagoli	15	3	-	7	25
105	Faquirdin S/o Kammu R/o Pathankot	Dagoli	15	3	-	15	33
106	Kakinmohd. S/o Mian R/o Pathankot	Dagoli	18	-	-	6	24
107	Ismail S/o Kehamdin R/o Pathankot	Dagoli	12	1	2	14	29
108	Ilamdin S/o Sukardin R/o Pathankot	Dagoli	13	3	-	12	28
109	Chhotu S/o Sukerdin R/o Pathankot	Dagoli	1	1	-	3	5
110	Mulla S/o Sukerdin R/o Pathankot	Dagoli	5	1	-	2	8
111	Mussa S/o Meherdin R/o Pathankot	Dagoli	14	2	-	5	21
112	Mirbux S/o Alia R/o Pathankot	Dagoli	7	1	-	7	15
113	Khemdin S/o Mian R/o Pathankot	Dagoli	9	2	-	3	14
114	Hussainu S/o Abbu R/o Nurpur (Kangra)	Badi Chamloh	15	-	-	-	15
115	Abboo s/o Minali R/o Nurpur (Kangra)	Badi Chamloh	15	-	-	6	21
116	Nurmahi S/o Nabia R/o Kuthed P. Kalandra, Bhandal	Badi Chamloh	8	2	-	1	11
	Total:-		**1388**	**271**	**39**	**1088**	**2786**

Annexure XX

LIST OF GADDIES

Sr N.	Name & Address of Gaddies	Name of Area	Detail of Cattle			
			Sheep	Goat	Other	Total
1	S/Sh. Devia S/o Hira Hari Singh S/o Pali R/o Siur P. Jund Chmaba	Aari Talai Suppacholu	400	256	155	811
2	Larza S/o Gopala R/o Deribari P. Kihar chmaba	Gagli RF	159	113	175	447
3	Bhag singh S/o Diala R/o Saroga P. Kihar Chamba.	Gagli RF	80	74	-	154
4	Hussainu S/o Mirbux R/o Pathankot	Gagli RF	84	32	37	153
5	Khemti S/o Hoshiara Rijhu S/o Sunku R/o Mohra P. Jund Chamba	Gagli RF	224	195	134	553
6	Baldev Singh S/o Hari Singh R/o Jund Chamba Parso Ram S/o Gokal R/o Jund P. Jund Chamba	Gagli RF	120	160	134	414
7	Jobanand S/o Bajiru R/o Sangni P. Bhandal Chamba	Jalari RF C.IIb	54	32	42	128
8	Jantu S/o Fithu R/o Sagani P. Bhandal Chamba	Jalari RF C.IIb	80	96	-	176
9	Jobanand S/o Bajiru R/o Sangni P. Bhandal Chamba	Nabo	104	32	72	208
10	Chandoo S/o Bijnu Bhagi S/o Dharu R/o Chamba	Khona RF C.III	100	-	-	100
11	Dass S/o negi R/o Sanuh P. Bhandal Chamba	Kaletra RF C-II	106	48	36	190
12	Lodhu S/o Moti R/o Sanuh P. Bhandal Chamba	Kaletra RF C-II	106	48	36	190
13	Sher Singh S/o gop R/o Langera P. Bhandal Chamba	That Phatti	203	24	92	319
14	Chatro S/o Banta R/o Guma P. Kihar Chamba	Singaltha	160	74	68	302
15	Devi Diyal S/o gopi R/o Dioga P. Manjir Chamba	Singaltha	60	50	35	145
16	Mian Ram S/o Narotam R/o Phazana Pag. Manjir Chamba	Singaltha	160	73	61	294
17	Dass S/o Negi R/o Sanuh Pag. Bhandal Chamba	Sanuh	103	20	29	152
18	Ladu S/o Moti R/o Sanuh Pag Bhandal Chamba	Sanuh	103	20	20	152

19	Mussadi S/o Gufan R/o Dandi Pag. Diur Chamba	Ani Bhitt Dugli Maklandra	475	300	212	987
20	Bhagat Ram S/o Mussdi R/o Langera P Langera Chamba	Ani Bhitt Dugli Maklandra	125	25	50	200
21	Sera S/o Mutalbi R/o Sangani P. Bhandal Chamba	Aniboda	73	24	-	97
22	Musadi S/o Devi Singh R/o Kundi P. Bhandal Chamba	Boda RF	103	24	-	127
23	Lochi S/o Negi R/o Thinog P. Bhandal Chamba	Gamgul Shikargah	402	160	-	562
24	Gian Chand S/o Gobind R/o Pudan P Bhandal Chamba	Gemgul Shikargah	302	64	83	449
25	Burfi S/o Jantu R/o Sihun P. Bhandal Chamba	Giunala Thakkar	250	200	180	630
26	Bhagi S/o Dhanu R/o Khania P. Bhandal Chamba	Gullu-di Tollie	430	240	240	910
27	Khanya S/o Matlohi R/o Dhantwal P. Jund Chamba	Makunda	412	96	179	687
28	Lal Chand S/o Bijram R/o Digoni P. Bhandal Chamba	Natwar	75	-	30	105
29	Mian S/o Panza R/o Chandiyoli P. Bhandal Chamba	Naktiati	275	20	95	390
30	Baldev, Bainsu S/o Behmi R/o Kizon P. Kihar Chamba	Sathi RF	365	120	-	485
31	Devi Diyal S/o Chatar R/o Dhanbain P. Bhandal Chamba	Khandodi	69	40	43	152
32	Mussadi S/o Devi Singh R/o Kundi P. Bhandal Chamba	Thath Khandodi & Handata	210	80	95	385
33	Banku S/o Maheshu R/o Bhalogi P. Bhalei Chamba And Bhimma S/o Gilla & Dittu S/o Panchhi R/o Ranagi Chamba		427	216	151	794
34	Baldev S/o Jaidial R/o Paurani and Essa S/o Nihala R/o Bhing P. Diur Chamba	Ban-da-goth Aniroth	150	205	100	455
35	Chino s/o dunga R/o Kilogal P. Kihar Chamba	Ban-da-goth Aniroth	30	2	9	41
36	Devia S/o Thichu R/o Chandyol P. Bhandal Chamba	Aloli Shiargah & Bathoth	220	125	130	475
37	Rijhu S/o Bardeu R/o Dharbharan P. Bhandal Chamba	Aloli Shiargah & Bathoth	60	20	18	98
38	Shama S/o Doom R/o Randoh P. Bhalei Chamba	Abemrikhi Atte-di behi	295	160	135	590
39	Negi S/o Inder R/o Karbogh P. Bhalei Chamba	Abemrikhi Atte-di behi	270	160	130	560
40	Basanta S/o Kiru R/o Doll P. Jund Chamba	Arichhoti Riali Talwar	100	14	40	154
41	Prithi Pal S/o Rama Nand R/o Kilori P. Jund Chamba	Arichhoti Riali Talwar	100	17	31	148

42	Girkhu S/o Gopala R/o Diyoga P. Manjir Chamba	Arichhoti Riali Talwar	100	53	50	203
43	Angtu R/o Ligga P. Jund Chamba	Arichhoti Riali Talwar	30	12	12	54
44	Bajiru S/o Behmi R/o Jalot P. Bhandal Chamba	Ariphati Reserve & Aham shikargah	260	106	110	476
45	Janta S/o Siammer R/o Jakhral P. Kihar Chamba	Ahrihunda Parli Chamlo Shikargah	540	320	158	1018
46	Devia S/o Negi R/o Dererki P. Jund Chamba	Bir RF C-II Kiyara Bhujan Mandola	600	13	154	767
47	Rijhu S/o Hardeu R/o Dharberm P. Bhandal Chamba	Badoth Aloli Shikargah	60	20	18	98
48	Gagu S/o Kanshi R/o Matoon P. Bhandal Chamba	Gowari Trakkar Rahi ki Kuti	370	160	155	685
49	Larza, Baziru S/o Gopala R/o Dareveri P. Kihar Chamba	Khakhruandi Barullaphati Salooh Shikargah	420	160	205	785
50	Baziru S/o Tani R/o Langera P. Bhandal chamba	Kharuri Shiargah	310	80	81	471
51	Sachetu S/o Bika R/o Priungal P. Bhandal Chamba	Laded RF Sikari Jalari, Ari, Batned Siyabehi Shikargah Bir RF.	540	320	185	1045
52	Bhagnu S/o Sunka, Shiv Ram S/o Chimno R/o Panoga P Bhandal Chamba	Jindey di Arri, Kansal Paharli Chamlo	274	112	130	514
53	Chinto S/o Hira R/o Toga P. Bhalei Chamba	Jhikli Uparali Janoth Ladede Priyoth Galu & Rajal RF	250	125	50	425
54	Dhanu S/o Jyoti R/o Kilor P. Bhalei Chamba	Jhikli Uparali Janoth Ladede Priyoth Galu & Rajal RF	100	75	50	225
55	Gushan S/o Nihala R/o Gowari P. Jund Chamba	Bir RF C-II	100	80	-	180
56	Hosiara S/o Ladhaki R/o Doll P. Jund Chamba	Bir RF C-II	100	80	-	180
	Total:		11678	5375	4444	21497