PART-II

Future Management Discussed

& Prescribed

CHAPTER-IX

Basis of Proposals

CHAPTER-IX

Basis of Proposals

9.1 General:

9.1.1 Forests have ecological as well as economic role. They have a great influence on the vital resources like soil, water and air. In Jammu & Kashmir, the perennial supply of water including the ground water recharge depends upon the extent and quality of forest cover. Besides the people depend on forests for firewood, fodder, timber etc. In addition forests provide raw material for different industries especially the pharmaceutical industry. Forests provide environmental services like carbon sequestration, maintaining ecological balance, climate etc. Thus forests give us tangible and intangible benefits.

9.1.2 The objectives laid down by the State Policy of Jammu & Kashmir 2010 show that the environmental stability and biodiversity values should be maintained for sustenance of all life forms.

9.2 General Objectives of Management:

9.2.1 The forests of Special Forest Division Kulgam shall be managed with a view to achieve the following objectives.

- To protect the ecosystem to maintain ecological balance and environmental stability for the larger benefit for the public.
- To conserve biodiversity through planned and scientific management of forests.
- To preserve forests in the higher reaches to maintain sustained quality water yield.
- To improve the vegetal cover by establishing plantations on the denuded and bare hill slopes with indigenous plants as far as possible.
- To conserve soil and water to improve the productivity of forests by way of reducing soil erosion and bringing healthy soil moisture regime.
- To increase the productivity, qualitatively as well as quantitatively of the forests so as to obtain sustained yield of the forest produce both for local use and export.
- To achieve a balanced, normal structure of forests through management of forests as per silvicultural requirements of the crop.
- To meet the bonafide requirements of local population in respect of fodder, firewood, agricultural implements, constructional timber etc. to the extent possible within the bearing capacity of these forests.
- To conserve the medicinal plants/non timber forest produce by applying scientific principles and development of the same for sustainable utilization for the benefit of public.
- To reduce the pressure of grazing and other forest offences.

9.3 Method of Treatment to be Adopted:

9.3.1 The following treatments are proposed to meet the objectives listed above.

- All the inaccessible, high lying and open type of forests situated on steeper to precipitous topography will be given protection and no commercial felling, whatsoever, will be conducted therein.

- The biotic interferences will be eliminated from the low lying, denuded and over-exploited forests which shall be rehabilitated under massive reforestation drive.
- Areas that have previously been worked, and in which the regeneration has failed to establish, shall be restocked by artificial regeneration and assisted natural regeneration.
- Commercial forests on easier slopes, with adequate advance growth shall be treated suitably as per the silvicultural requirements of the crop to liberate the advance growth and to realize yield.
- Degraded areas covered with uneconomical bushes and shrubs shall be planted up with grasses to meet the demand for fodder.
- Forests around places of tourist shall not only be preserved for aesthetic purposes, but shall also be protected against degradation and encroachments owing to the ever increasing tourist business.
- Enough steps will be taken for encouraging Eco-tourism. The routes for trekking, mountaineering will be developed with the help of local people.
- Scientific survey on the availability of the NTFP will be done to assess their population in different compartments and to develop good agricultural and collection practices by taking the help of institutions specialized in such aspects.

9.4 Hon'ble Supreme Court Judgement (12.12.1996):

9.4.1 Hon'ble Supreme Court in its landmark judgment on 12.12.1996 issued certain directions with respect to tree felling. Among general directions included suspension of felling operations in all forests in all states except in accordance with the Working Plans of the state governments, as approved by the Central Government. Among specific directions, the Hon'ble Supreme Court of India issued certain directions with respect to state of Jammu and Kashmir. The directions read as:-

- There will be no felling of trees permitted in any "forest", public or private. This ban will not affect felling in any private plantations comprising of trees planted by private persons or the Social Forestry Department of the state of Jammu & Kashmir and in such plantations, fellings will be strictly in accordance with law.

- In forests, the state government may either departmentally or through the State Forest Corporation *remove fallen trees or fell and remove diseased or dry standing timber,* and that only from areas other than those notified under the Jammu & Kashmir WildLife Protection Act, 1978 or any other law banning such felling or removal of trees.

- For this purpose, the state government will constitute an Expert Committee comprising of a representative being an IFS officer posted in the state of Jammu & Kashmir, a representative of the state government, and two private experts of eminence and Managing Director of the State Forest Corporation (as Member Secretary) who will fix the qualitative and quantitative norms for the felling of fallen trees, diseased and dry standing trees. The state shall ensure that the trees so felled and removed by it are strictly in accordance with these norms.

- Any felling of trees in forest or otherwise or any clearance of land for execution of projects shall be in strict compliance with the Jammu & Kashmir Forest Conservation Act, 1990 and any other laws applying thereto. However, any trees so felled, and the disposal of such trees shall be done exclusively by the State Forest Corporation and no private agency will be permitted to deal with this aspect. This direction will cover the submerged areas of the Thein Dam.

- All timber obtained, as aforesaid or otherwise, shall be utilized within the State, preferably to meet the timber and fuelwood requirements of the local people, the Government and other local institutions.

9.5 Recommendations of Expert Committee for Qualitative & Quantitative Norms:

9.5.1 The recommendations of Expert Committee for Qualitative & Quantitative Norms for removal of trees from forests are given as below:-

a. Time Limits for Working out the coupes handed over to the State Forest Corporation:

The state Forest Corporation shall complete all the lumbering operations in compartments taken over by it within three years/three working seasons from the date the markings are handed over to it and hand over the compartments back to the Forest department thereafter. In very rare cases, where the work has been delayed due to exceptional circumstances, the Chief Conservator of Forests (Territorial) concerned may allow extension of one more year/one more working season to the SFC on the specific recommendations of the Managing Director. This condition will also apply to the compartments currently under work by SFC. However, in such compartments, the three year limit will be computed with effect from the current year i.e., 2009-10

b. Marking of fallen trees in coupes under work with State Forest Corporation:

During the period referred in item 1 above, when a compartment is under work by the SFC, any material that becomes available in the form of fallen trees shall be marked and handed over to the corporation for extraction.

c. Duration of the Felling Cycle:

A compartment which has been worked out for dry standing/fallen markings, and has been handed back to the Forest department, may be taken up for dry standing/fallen markings again only after a period of five years would have elapsed from the date the compartment was handed back to the forest department. In the case of Fir Working Circle, such period shall be minimum eight years.

d. Norms for minimum availability of volume for enabling marking in a compartment:

No compartment should be marked unless a minimum volume of 10,000 cft of dry, dead, fallen timber is available in it. The SFC will not be allowed to work a compartment unless it has a minimum marking (volume) of 10,000 cft. However, no such limitation of marking availability will apply to departmental extraction of timber by Forest department for meeting the local demands.

e. Protection, Reboisement and Unregulated Working Circle:

A compartment falling under Protection, Reboisement or Unregulated Working Circle may be marked and handed over to SFC for extraction of fallen trees only provided the volume of fallen trees in the compartment is not less than 10,000 cft. However, the restriction regarding minimum availability of 10,000 cft will not apply to departmental working in such compartments by Forest department for meeting the local demands.

f. Removal of trees that endanger life/property, and for aesthetic purpose:

The removal of dry standing/ leaning/fallen trees may be carried out by the Forest department if such trees pose a threat to life and property. Further in Aesthetic Working Circle, such trees may be removed by the Forest Department for aesthetic considerations also. The committee also recommended that the aesthetic working circle should be renamed as Eco-tourism working Circle whenever the respective working plans are taken up for revision.

g. Forest Conservation:

Recognizing the importance of ecosystem services being provided by the forests, the committee felt that concerted efforts should be made for regenerating and restocking of the forests. This, *inter alia* would require reduction of pressure on forests for meeting demands of timber and other forest produce. In this context, the committee also recommended that the import of timber into the state should be encouraged so that the gap between demand and supply is bridged to the maximum possible extent.

9.6 Constitution Of Working Circles:

9.6.1 In order to achieve the objects of management, the following working circles are constituted:

a. Deodar - Kail Selection Working Circle.

b. Fir Selection Working Circle.

c. Ecological Conservation Working Circle.

d. Reboisement working circle.

e. Wildlife Management (Overlapping) Working Circle.

f. NTFP (Overlapping) Working Circle.

g. Ecotourism (overlapping) working circle.

h. Joint Forest Management (Overlapping) Working Circle.

i. Forest Protection (Overlapping) working circle.

j. Plantation (Overlapping) Working Circle.

Details of Working Circle:

Working Circle	Area (hac)	Distribution	Reasons
Deodar Kail Selection working Circle	5969.6	All Kail Forests of the Division	To protect & increase the Kail crop & extraction of dry, diseased & fallen trees
Fir Selection working circle	16889.5	All Fir Forests of the Division	To protect and increase the Fir crop and extraction of dry diseased & fallen trees
Ecological Conservation Working Circle	18390.9	All those Forests of the Division which need high protection and Conservation	To protect the forests from threats like, Soil erosion, biotic interference etc.
Reboisement working circle	2828.25	All degraded Forests the Division	To check further degradation of the forests by taking restoring measures

The compartment wise area allotted to each of the working circles from *a* to *j* above, have been listed in respective chapters.

9.7 Reasons for the Constitution of Working Circles:

9.7.1 The allotment of compartments to various Working Circles in the previous plan by Shri Shamim Mohammad Khan and B.L. Ticku has been mostly retained in this plan.However the Protection Working Circle in the previous plan has been named as Ecological Conservation Working Circle.Insted of Bio-aesthetic; Ecotourism (Overlapping) Working Circle has been introduced as a mandatory working circle. Besides some more mandatory (overlapping) working circles have been constituted such as plantation working circle, protection working circle, JFM Working circle etc.

- **Deodar- Kail Selection Working Circle:**

This Working Circle includes all the highly stocked and compact forests having Kail and Fir crops in pure or mixed formations since their separation is not possible. Lesser amount of Deodar is also found in the areas in the lower belt. The forests are healthy, mostly moderately steep but few compartments are highly steep. The areas are easily accessible and fit for exploitation. This working circle has been proposed to include the areas having high density of Kail. The regeneration is established in most of the places.

Range-wise compartments in Deodar Kail Selection Working Circle:

Range	Blocks	Compartments	Total area (Ha)
Veshew	Niken, K.B.Pora, Manzgam, Kungwattan	V12a,V25b,V26b,V27b,V27c,V28a, V28b, V29a, V29c, V30,V31b	1804.20
D.H.Pora	Nagam-B, Chimmer	N17,N22b, N23, N24c	1164.50
Kulgam	Chambgund, Akhal, Lammer	N27a, N27b, N27c, N28, N29, N30, N31a, N31b, N32a, N32b, N33, N34	3000.90
Total		27	5969.60

- **Fir Selection Working Circle:**

This working circle has moderately stocked Fir Forests with open density and commercially exploitable areas. The areas are mostly moderately steep and accessible. The crop is healthy and free from diseases. The crop is pure fir in higher reaches and mixed with Kail in lower reaches. The regeneration is low due to grazing pressure.

Range wise Compartments of Fir Selection Working Circle.

Range	Blocks	Compartments	Total area (Ha)
Veshew	Niken,Kungwattan,Manzgam,K.B.Pora,	V8, V9, V10, V11, V13a, V16, V17, V18, V19, V20, V21, V22, 26a, 27a, V29b, V31a, V32a, V32b, V33a, V33b, V34a, V34b	13846.80
D.H.Pora	Nagam-B, Chimmer	N9, N10, N15,N18, N19, N20a, N22a, N24b	3042.7
Kulgam	Nil	Nil	Nil
Total		30	16889.5

- **Ecological Conservation Working Circle:**

This working circle includes areas which are poorly stocked, inaccessible and need protection from biotic interference like grazing and natural calamities like rain induced soil erosion. The forests fall in blank alpine

and sub alpine areas. The working circle is proposed to provide maximum protection and conservation of the areas. Most of the areas are steep to precipitous in terrain.

Range wise Compartments of Ecological Conservation Working Circle:

Range	Blocks	Compartments	Total area (Ha)
Veshew	Niken, Kungwattan, Manzgam, K.B.Pora	V12b, V13b, V14,V15a,V15b,V23,V24, V25a	12284.30
D.H.Pora	Nagam ï A Nagam-B Chimmer	N1,N2,N3,N4,N5,N7,N8,N 11,N12,N13,N14,N20 ,N21	6106.60
Kulgam	Nil	Nil	Nil
Total		21	18390.90

- **Reboisement Working Circle:**

This working circle includes all such poorly stocked but potentially productive areas yet not fit for any systematic working on account of the degradation in crop condition and quality. These forests have either been degraded due to excessive biotic-interference, or failed to regenerate after drastic treatment in the past. The compartments of this circle are mostly located in close proximity of the habitations.

Range wise Compartments of Reboisement Working Circle.

Range	Blocks	Compartments	Total area (Ha)
Veshew	Manzgam, K.B.Pora	V34c,V35a,V35b,V36	1024.10
D.H.Pora	Nagam-A Nagam ï B Chimmer ,Khull	N6,N16a,N16b,N24a,N25, N26a,N26b,N26c,N26d,N4 6,N47,N48	1287.2
Kulgam	Lammer, Chambgund	N35a,N35b,N36a,N36b,N4 3,N44,N45	516.95
Total		23	2828.25

- **Wild Life Management (overlapping) Working Circle:** Since Wildlife has no territorial jurisdiction, overlapping working circle is formed to improve the habitat of wildlife and also the compartments where wildlife activity is witnessed and where man-animal conflict is happening at a regular interval.

- **NTFP (overlapping) Working Circle:** This Working Circle is constituted to give special impetus to the conservation and development of medicinal plants and other NTFPs Of the division which is endowed with rich variety of Non Timber Forest Produce. Large number of medicinal plants of this division are listed in various publications. The scientific management for their conservation and development can help in boosting the rural economy.

- **Ecotourism (overlapping) Working Circle:** There is larger scope for Eco-tourism activities which can not only attract more tourists but will also be helpful in improving the livelihood of people living in far flung areas. It also has very low carbon foot print. This Working Circle is proposed by covering various areas of the division to attract tourists and to make them stay long to reap the economic benefits for the local people.

- **Joint Forest Management (overlapping) Working Circle:** This working circle has scope for plantation and other forestry works. Local JFM committees can be involved in the work to provide the employment and reduce their pressure on forests. This working circle has been formed for implementation of the policies and guidelines of the Joint Forest Management formulated by Central and State Governments. A large part of this division has potential for developing into good JFM working areas. However stress may be given to those areas where there are more barren areas in the form of degraded forests, institutional land or wasteland as well as areas prone to illicit damage.

- **Forest Protection (overlapping) Working Circle:** This working circle is of great importance. It aims at protecting forests from various forest offences like illicit felling of trees, fire hazards, encroachment, illegal mining, and poaching, illegal extraction of NTFP etc. Such compartments which are subject to heavy or light pressure of the usual forest offences have been included in this working circle.

- **Plantation (overlapping) Working Circle:** This working circle has been made to re-stock artificially such areas which have become barren due to high biotic interference like, illicit damage, grazing etc. Such areas are lacking regeneration and are subject to further degradation if not given proper care. Reforestation programmes need to be implemented in the compartments according to the conditions of the area.

9.8 Period of the Plan and Necessity of Intermediate Revision:

This plan shall remain in force for a period of 10 years beginning from April 2014 till March 2024. The plans under revision shall be deemed to have been extended from April 1987 to March 2014, the period, between the expiry of the last plans under revision and the beginning of this plan.

CHAPTER-X

Working Plan for the

Deodar-Kail Selection

Working Circle

CHAPTER-X

Working Plan for the Deodar-Kail Selection Working Circle

10.1 General Constitution of the Working Circle:

10.1.1 The Working Circle includes the well stocked, compact and commercially exploitable forests having mostly Kail crop in pure or mixed formations with Fir crop. Deodar is found in small patches in Kulgam Range only. The forests are generally on a gentle topography and are easily accessible and workable. The total area allotted to this working circle is 5969.60 ha. The area of the commercially exploitable stratum is 5834.4 ha which constitutes 97.0% of the total area and the rest is un-commercial. The broadleaved trees are found in patches and are met with in moist depressions and nallas. The altitudinal range in which this working circle is dispersed is between 1750 to 2500 m at msl.

10.1.2 The compartments in Deodar Kail Selection Working Circle as per the plan under revision are as follows:

Table 10.1

Range	Blocks	Compartments	Total area (Ha)
Veshew	Niken, K.B.Pora, Manzgam, Kungwattan	V12a, V25b, V26b, V27b, V27c, V28a, V28b, V29a, V29c, V30,V31b	1804.2
D.H.Pora	Nagam-B, Chimmer	N17,N22b, N23, N24c	1164.5
Kulgam	Chambgund, Akhal, Lammer	N27a, N27b, N27c, N28, N29, N30, N31a, N31b, N32a, N32b, N33, N34	3000.9
Total		Total	5969.6

Table 10.2 Compartments in Deodar Kail Selection Working Circle as per the previous plan:

Working Plan Division	Range	Compartments	Total area (Ha)
Kashmir Forest Division	D.H.Pora Kulgam	Nil	Nil
Pirpanjal Forest Division	Veshew	V12a, V25b, V26b, V27b, V28, V29a, V29c, V15b	1419.6
Total		Total	1419.6

10.2 General Character of the Vegetation:

The forests constituting this working circle consist mainly of Kail and Fir crop. Patches of Deodar are found, in lower reaches in between Kail crop. The percentage of Deodar, Kail and Fir in the commercial area is 0.44, 57.24 and 22.87 respectively.

10.2.1 The general character of the forest is temperate with coniferous trees. They fall in type 12 and 13 of the Champion and Seth classification.

The distribution of stems over various diameter classes is not quite balanced as can be observed from the perusal of the following table.

Normal and Actual Distribution of Stems over Diameter Classes:							
Diameter - class (cm)	10-20	20-30	30-40	40-50	50-60	60-70	>70
Normal Distribution (%)	41	25	15	9	5	3	2
Actual Distribution (%)	15	27.03	35.91	42.09	31.78	20.08	8.76

The crop, over vast stretches, is more or less even looking and young to middle aged. Mature and over-mature is above normal distribution. There is a deficiency of stems in the lowermost diameter classes. The broad-leaved species occupy very insignificant area in this working circle. They are confined mostly to shady and moist localities, depressions, and the banks of perennial streams, found in pure patches or intermixed with conifers. The undergrowth varies from scanty to heavy in intensity.

10.3 Special Objectives of Management:

- To provide better chances for obtaining regeneration in already large openings by adopting slection system instead of uniform system.
- To provide enough time for the recovery of crop and to give flexibility in operation.

10.4 Area and Allotment:

The detailed statement of area of compartments/ sub-compartments allotted to this working circle appears in Appendix. However Range wise summary of the distribution of area is provided as under:

Table 10.3 Range wise area under various species for Deodar Kail Working Circle

Range	Commercial area in ha						Uncommercial Blanks	Total
	Deodar	Kail	Fir	B.L	Blank	Total		
Veshew	0	1060.2	200.1	4	517.6	1782	22.2	1804.2
D.H.Pora	0	665.5	289	0	150	1104.5	60	1164.5
Kulgam	16.25	1614.25	845.5	53.75	418.15	2947.9	53	3000.9
Total	16.25	3339.95	1334.6	57.75	1085.75	5834.4	135.2	5969.6

10.5 Description of Silvicultural System Adopted:

Selection system is adopted for principal species i.e., deodar and kail. Since fir is subsidiary crop, the same system is adopted. It is a modification from previous working plan where these species were managed under Uniform System. It is due to the fact that in Kashmir valley since 1990 there was a period of disturbance which resulted in large scale damage to forests. It resulted in fairly large openings. Moreover, the grazing pressure on the forests of Kashmir is very high from the cattle of migratory graziers as well as from the livestock of people living in the vicinity of forests. Opening up of canopy to attain uniform regeneration can result in failure of regeneration in these openings due to uncontrolled grazing which can only invite invading weed species which has happened in the past. Since the most critical aspect in the management of any forest under any silvicultural system is the regeneration, during the discussion for approval under the Chairmanship of PCCF, J&K, it is decided to switch over to Selection System to give enough time for the recovery of the crop and to give flexibility in operation. Further, the working circle is

predominantly of young and middle aged crop. In Uniform system under a strict theoretical Uniform system, this pole crop has to be sacrificed for the sake of uniformity. This is not, however, advisable under the prevailing conditions. Hence considering all the issues, selection system is adopted.

10.6 Exploitable Size and Rotation:

The exploitable diameter of 70cms has been fixed for Deodar and Kail considering the market demand. The d.b.h/age relationship indicates that this diameter is attainable at the age of 135 and 147 years in case of Kail and Deodar respectively A technical Rotation of 150 years is adopted for Kail and Deodar. For Fir an exploitable diameter of 80cm is kept as per government notifications issued from time to time. Fir attains this exploitable diameter at the age of 235 years and hence a rotation of 235 years is fixed for the calculation of yield.

10.7 Felling Cycle:

Felling cycle is fixed and adopted at 30 years which will give enough time for the compartment to recuperate after felling and to obtain sufficient regeneration. It is also the fact that a compartment taken up for felling cannot be completed in 1 years considering the terrain difficulties and normally it takes 3-4 years. Hence, the adoption of felling cycle of 30 years will be good for the crop.

10.8 Felling Series:

There will be only one felling series identical to the constitution of working circle.

10.9 Analysis and Valuation of the Crop:

In the working circle, growing stock data was collected from sample points using wedge prism factor 2. Results obtained on the basis of statistical analysis have been summarized. The diameter class and species wise distribution of growing stock assessed on the basis of mean values in terms of the total number of trees and volume of conifers 30 cm d.b.h. and above and are given in the tables below.

10.10Calculation of the Yield:

Modified Brandis Diameter-Class Method and Von Mantel's formula have been applied for calculation of the yield. The yield will be calculated in terms of number of trees and volume, which in turn shall be subject to area check. The following presumptions have been made in this regard.

- Only commercial area and its growing stock have been taken into account for the purpose of yield calculation.
- The growing stock over commercial area of this working circle is classified within 10 cm diameter classes indicated by Symbols I, II, III, IV, V, VI and VII. Class I stands for trees above the exploitable diameter and the other successively below it to the youngest.
- The number of trees in all those classes being considered for the purpose of yield calculation has been computed at lower limit of confidence interval.
- It takes 147 & 135 years on an average, for trees of Deodar & Kail respectively to attain exploitable diameter of 70 cm d.b.h. and in case of Fir it takes 235 years to attain the exploitable diameter of 80cm.
- It takes 22 & 20 years respectively for an average Deodar & Kail tree to pass from approach class (60-70 cm d.b.h) to class I diameter class of 70-80 cm d.b.h, where as it takes 40 years for Fir species to reach Class I (80-90cm) diameter class from approach class 70-80cm.

Table 10.4 Results of Statistical analysis of Deodar-Kail Selection Working Circle

Variable (ha)	Sample points (n)	Mean (X)	Variance (S^2)	Standard Deviation (S)	Standard error (S.E)	Coefficient of variation (%)	Confidence limits (95%) (X±t x S.E.)		Confidence Interval (C.I)	Lower limit as mean (%)
							Lower limit	Upper limit		
1	2	3	4	5	6	7	8	9	10	11
t=1.9921021										
No. of stems	76	90.57	12685.93	112.63	12.92	124.36	64.83	116.31	51.47	72%
Volume	76	86.04	7189.08	84.79	9.73	98.55	66.67	105.41	38.75	77%

Column 6: S.E = S/square root (n)

Column 7: C.O.V (%) = (S/X) × 100

Column 8: Lower limit = X- 1.96× S.E

Column 9: Upper limit = X+ 1.96 × S.E

Column10:C.I=Upper limit-Lower

Table 10.5 Statement showing species and diameter(cm) class wise tree count per hectare for Deodar Kail Selection Working Circle (Tree count per ha (mean value)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00		0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Kail	9.34	20.39	25.54	16.16	5.86	2.66	0.71	0.29	0.08	0.03	81.05
Fir	0.00	0.29	1.91	1.53	1.39	1.20	0.13	0.11	0.04	0.08	6.67
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.L.	0.00	0.72	0.83	0.70	0.24	0.00	0.11	0.00	0.00	0.00	2.59
Total	9.34	21.41	28.53	18.38	7.49	3.86	0.95	0.39	0.12	0.11	90.57

Table 10.6 Total tree count over the entire commercial area of Deodar Kail Working Circle, (Area =5834.4hectares)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	1459	0	0	0	0	0	0	0	1459
Kail	54506	118991	149008	94272	34162	15507	4145	1689	461	154	472893
Fir	0	1689	11131	8905	8137	6986	768	614	230	461	38922
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	4222	4836	4069	1382	0	614	0	0	0	15123
Total	54505.58	124902	166434	107245	43681	22493	5527	2303	691	614	528397

Table 10.7 Statement showing species and diameter(cm) class wise volume(m^3) of Conifers in Deodar Kail Working Circle Volume of conifers per hectare(Mean Value)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Kail	19.41	21.97	13.29	8.88	3.14	1.55	0.48	0.18	68.90
Fir	1.60	2.38	4.14	5.87	0.90	0.87	0.37	0.80	16.94
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	21.20	24.36	17.43	14.74	4.04	2.42	0.86	0.98	86.04

Table 10.8 Total volume of conifers over the entire commercial area of Deodar Kail Working Circle (Area=5834.4hectares)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	1109	0	0	0	0	0	0	0	1109
Kail	113246	128209	77548	51794	18323	9036	2828	1035	402019
Fir	9350	13892	24168	34231	5259	5097	2165	4694	98856
Chir	0	0	0	0	0	0	0	0	0
Total	123705	142101	101716	86025	23582	14133	4993	5728	501983

Table 10.9 Distribution of stems and volume (m^3) in Deodar Kail Working Circle computed at lower confidence interval											
Total tree count of commercial area (5834.4 ha)											Lower limit 72%
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	1050	0	0	0	0	0	0	0	1050
Kail	39244	85674	107285	67876	24597	11165	2985	1216	332	111	340483
Fir	0	1216	8015	6412	5859	5030	553	442	166	332	28024
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	3040	3482	2929	995	0	442	0	0	0	10889
Total	39244	89930	119832	77217	31450	16195	3980	1658	497	442	380446

Table 10.10 Total volume of conifers over the entire commercial area (5834.4 Ha) Lower limit confidence interval **Lower limit72%**

Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	798	0	0	0	0	0	0	0	798
Kail	81537	92311	55834	37292	13193	6506	2036	745	289453
Fir	6812	10002	17401	24646	3786	3670	1559	3379	71257
Chir	0	0	0	0	0	0	0	0	0
Total	89147	102313	73235	61938	16979	10176	3595	4124	361508

10.10.1 The following survival coefficient percentages based on the All India Volume Tables in respect of Deodar, Kail and Fir have been used with a modification as per previous working plans (past experience).

Diameter-class	*Survival percentage of species*		
d.b.h (cm)	*Deodar*	*Kail*	*Fir*
30	*62%*	*46%*	*20%*
40	*75%*	*59%*	*40%*
50	*86%*	*74%*	*50%*
60	*95%*	*86%*	*60%*
70			*85%*

10.10.2 The yield finally arrived at shall be reduced by 15 percent on account of vulnerability of mature trees to heart rot and other fungal diseases.

10.10.3 Based on these assumptions, the number of total potentially available trees, over the commercial area of the working circle, calculated at lower confidence limit of mean value after due deduction on account of mortality is tabulated under:

Table 10.11 Species and diameter-class wise potential availability of trees from the commercial area of Deodar-Kail Selection Working Circle

Deodar							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	Below 30	30-40	40-50	50-60	60-70	Above 70	
Total no. of trees assessed at mean value	0	1459	0	0	0	0	1459
Total no. of trees assessed at lower limit of confidence interval.	0	1050	0	0	0	0	1050
Age of entry in class(Years)	0	57	71	90	110	135	
Years in class transition.	0	14	19	20	25		
Survival coefficient of class.	0	0.30	0.60	0.80	0.90	0.95	
No.of potentially available trees	0	315	0	0	0	0	315

Kail							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	Below 30	30-40	40-50	50-60	60-70	Above 70	
Total no. of trees assessed at mean value	173497	149008	94272	34162	15507	6449	472893
Total no. of trees assessed at lower limit of confidence interval.	124918	107285	67876	24597	11165	4643	340483
Age of entry in class(Years)	0	42	55	72	91	115	
Years in class transition.	0	13	17	19	24		
Survival coefficient of class.	0	0.45	0.60	0.80	0.90	0.95	
No.of potentially available trees	0	48278	40725	19677	10049	4411	123141

Fir							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	30-40	40-50	50-60	60-70	70-80	Above 80	
Total no. of trees assessed at mean value	11131	8905	8137	6986	768	1305	37233
Total no. of trees assessed at lower limit of confidence interval.	8015	6412	5859	5030	553	940	26808
Age of entry in class(Years)	84	109	136	166	196	221	
Years in class transition.	25	27	30	30	25		
Survival coefficient of class.	0.20	0.40	0.50	0.60	0.85	0.95	
No.of potentially available trees	1603	2565	2929	3018	470	893	11477

10.11 Yield Regulation:

10.11.1 **Brandis Diameter Class Method**

Table: 10.12 Yield Calculation for Deodar Kail Selection Working Circle

using Modified Brandis Diameter-Class Method

Felling cycle: 30 years

I item	Deodar	Kail	Fir
a. Total no. of trees in class I	0	4411	893
b.Total no. of trees likely to pass on to class I in First felling cycle from	0	10049	470
Class II	0*(5/20)	19677*(6/19)	3018*(5/30)
Class III	0	6214	503
c. Total recruitment in class (I) from(II) and(III) during first felling cycle (II +III)	0	16263	973
d. Annual recruitment from class II and III during first felling cycle (c/30)	0	542	32
e. Stock required to be kept as reserve C/2	0	8131	487
f. Surplus no of stocks of trees of class (I) (a-e)	0	-3720	407
g. Total possibly of yield in first felling cycle if all the Surplus stocks in (f) is removed (C+F)	0	12542	1380
h. Annual yield for one felling cycle (g/30)	0	418	46
i. Total possibility of yield if all surplus stock(f) in removed in two felling cycle (c+f/2)	0	12542	1176
j. Annual yield for two felling cycles (i/30)	0	418	39
k. Weighted average volume of trees above exploitable dia as per Kulu Volume Table in cubic meteres	6.11	5.66	9.30
l. Total annual volume yield (m3)	0	2366	365
m. Deduct 15% from đôto account for mortality	0	2011	310
n. Annual yield rounded off to lower multiple of 100	0	2000	300

Total Annual Yield (Deodar+Kail+Fir) = 0+2000+300 = 2,300 m^3

10.11.2 **Von Mantel's Formula:**

The entire growing stock enumerated from 10-20cm to 100cm and above was considered. Kulu volume table values were used for calculation of volume for each of the diameter classes.

Table 10.13 Yield Calculations based on Von Mantel's Formula:

Species	Deodar	Kail	Fir	Total
Total Commercial volume available based on mean value (m^3)	1109	402019	98968	502095
Total Commercial volume available based on minimum availability (m^3)	798	289453	71257	361508
Annual Yield = 2GS/R	10.64	3859.37	606.44	4476.45
Rounded Off to lowest multiple of 100	0	3800.00	600.00	4400.00

Table 10.14 The comparative statement of Annual Yield obtained using both the methods is as given below:

Methodology	Deodar	Kail	Fir	Total
Modified Brandis Diameter Class method (One Felling Cycle)	0	2000	300	2300
Von Mantelôs Formula	0	3800	600	4400

Growing Stock taken at lower limit of confidence and Rotation taken as 150 years for Kail and 235 years for Fir.

From the perusal of the above comparative statement it is clear that the yield calculated by Brandis Method is less than the yield calculated from Von Mantel's Formula.Therefore the yield calculated from Brandis Method is conservative and is adopted.

10.11.3 **Size of Annual Coupe:**

The size of the annual coupe is calculated as under:

Size of Annual Coupe = Total Commercial area of W.c (ha)

Felling cycle (yrs)

= 5834.4 = 194.48 (ha) say 194 ha

30

10.11.4 Allowable cut per hectare: It is determined by dividing the annual volume yield by the size of annual coupe. It works out to be as follows:

$$\textit{(ha/year)} = \frac{\text{Annual Yield}}{\text{Size of annual coupe}}$$

$$= \frac{2300}{194} = 11.85 m^3$$

10.12 Realization of The Yield:

The yield prescribed shall include the volume of all trees 30 cm d.b.h. and above marked for whatever purpose including concession marking, illicit damage etc. Felling in the next 10 years shall be subject to the limit of yield prescribed ($2300m^3$) and area check (194.48 ha), whichever is arrived at earlier. The annual yield prescribed should be strictly adhered to. Deviations in annual yield to the extent of 20 percent are permissible for certain administrative or technical reasons. Deviations beyond above limits shall require prior sanction of the Chief Conservator of Forests. However, cumulative deviation over the entire working plan period should not exceed the prescribed yield.

10.13 Sequence Of Felling:

In view of the current ban on green felling, the sequence of felling has been left to the discretion of the Divisional Forest Officer who shall exercise his judgement keeping in view the progress of regeneration.

10.14 Method Of Executing Felling:

In the Working Circle, Deodar and Kail are the focus of attention. Deodar is a shade bearer in its early part of life and Kail is light demander and vigorous colonizer. Opening of larger area by way of removing exploitable trees mostly favours Kail. Hence greater skill is required and the felling should be based on the ground condition. Removal of over-wood standing above the advance growth and regeneration, with a view to liberate it from shade and suppression, and very light opening up of the crop where regeneration is inadequate, will constitute the general guide lines in the execution of felling. The over-wood standing above the regeneration must be removed gradually. In order to avoid the invasion of the area by weeds, which come up profusely in the gaps, the canopy needs to be manipulated with utmost care. In general, selection forests require elaborate management and great skill on the part of the executive staff to handle the crop. Accordingly the following marking rules are laid down for guidance of the marking officer.

10.15 Marking and Felling Rules:

- Marking should be done by the DCF in-charge of the Division or well trained and experienced ACF. Marking should never be conducted by anybody below the rank of a well trained and experienced Range Officer, in which case the DFO/ ACF should check at least 25% of these markings.

- The marking officer, prior to conducting the marking, must acquaint himself thoroughly with the condition and composition of the crop in the compartment and its boundaries by traversing over the area of the compartment at least once.

- No marking, except the removal of dead, dying and diseased trees, shall be done in areas near and around cultivation and *behaks* with in a distance of 100 metres from their periphery.

- No marking, except the removal of actually dead, dying & diseased trees, shall be done along nalla banks within a distance of at least 100 metres on either side.

- No healthy trees below the exploitable size shall be marked.

- No attempt shall be made to disturb the process of the succession by giving preference to one species over the others. The selection character of the crop shall be preferred over the area of this working circle and should be maintained by retaining some healthy trees of exploitable size which do not cause any suppression to the crop.

- No marking should be conducted in areas lacking regeneration.

- No marking should be done on steep and precipitous slopes.

- The over-mature trees should get preference over the relatively younger and healthier ones.

- Improvement and hygienic marking in all age-classes shall be done.

- Marking for improvement felling shall form an integral part of the major marking. All dead, dying, dry and diseased trees shall be marked together with malformed and unfit trees.

- All the trees of exploitable size (60 cm d.b.h ob. in case of Deodar and Kail and 70 cm d.b.h.ob in case of Fir), standing over adequate advance growth should be removed. Advance growth includes all the trees and poles up to exploitable size. Selection markings of light to very light intensity shall be done in areas having inadequate but established regeneration.

- The thickness of regeneration should be freed from the congestion by properly spacing the young saplings and poles by cleaning and thinning as per site condition.

- In dense groups of trees, of and above exploitable size, the spacing between the stems to be retained will vary from 7 to 12 metres depending upon the status and amount of regeneration present. Selection felling of moderate intensity shall be carried out in such groups.

- In the mixed crop, ecologically most suitable species to the locally should be favoured.

- The intensity of felling, over a particular compartment, will largely depend upon the degree of biotic interference to which it is subjected, the amount and status of regeneration, topography, slope and aspect.

- Extreme care has to be exercised at the time of felling so as not to damage the crop below.

- Trees marked for felling should be lopped before execution of felling.

- Over and above the afore-said marking rules, all the dead, dying diseased, malformed and 'Armi' infested trees will be marked. The direction of the felling should be on the uphill side. Felling shall be light and conservative on steep and precipitous slopes.

10.16 Supplementary Marking:

As soon as the felling is completed following major marking is over, supplementary marking of poles and trees damaged in felling, or those that have died, dried or fallen off subsequent to the major felling and which are incapable of recover should be done. Due caution is required to be taken to avoid large scale supplementary markings which prove dangerous to the ultimate requirement of the crop and the site. Preferably, these markings should be conducted by the DFO himself. Judicious discretion of the marking officer is, therefore, needed to ensure that provision of supplementary marking is not misused, and only such trees as are considered definitely unfit for retention, or are not likely to survive in the near future, are marked.

10.17 Subsidiary Silvicultural Operations:

10.17.1 **Disposal of debris:**

The Forest floor of the vacated coupes remaining littered with the felling refuse for long periods is no longer a problem so often observed. In fact with the rise in the demand of fuel wood accompanied by the development and improvement in the means of communications the purchaser promptly removes now everything from the coupe before handing it back and whatever little is left is given to the local concessionists. In case of Fir forests, the disposal of debris is, however, an issue warranting good deal of attention. The undisposed refuse should be heaped there, preferably in blanks or nallahs, away from the regeneration and advance growth and burnt with due precautions. This should be done soon after the melting of snow in spring, when the forest floor is damp enough to prevent the fire from spreading.

10.18 Regeneration Programme:

Obtaining sufficient regeneration is one of the principle objectives of sustainable management of forests. In case of conifer species, there is no problem in regeneration if there is no biotic pressure or the biotic pressure is eliminated by way of closing the area. The reality is totally different. Almost all the compartments enlisted in the working circle faces severe grazing pressure from the cattle of nomadic graziers or from the livestock of forest fringe living communities.. However, it is neither practical nor possible to close larger areas to grazing because of socio-economic constraints. It is therefore suggested, that total area requiring regeneration equal to the size of annual coupe, evenly distributed over the total area of the working circle, should be closed to grazing every year. All efforts should be made to induce natural regeneration and assist the establishment of natural regeneration. This involves removal of weeds, raking up of humus and closure of such areas to grazing. In case the area is too refractory to respond to natural seeding, artificial regeneration by way of sowing and planting nursery raised seedlings should be

resorted to. It is also essential to undertake soil and moisture conservation measure to improve the water regime and also to reduce soil erosion to aid regeneration. The area taken up for regeneration should be strictly protected from forest fire.

10.19 Nursery And Planatation Techniques:

1. *Cedrusdeodara*

1.1 Nursery Technique

The deodar cones ripe in the months of October – December, & should be collected by hand and dried. Seeds are threshed out and can be stored until sowing. The seeds are oily. Viability of the seeds remains only for few months. An average sample of one kilogram contains 7,000 to 8,000 seeds. Germination percentage is very high, around 90 percent with the fresh seeds. Germination starts in spring but may take four to five months to complete. The seeds can be sown in the bed directly in the month of November. It can also be directly sown in polybags. Atleast 2-3 seeds should be sown in each of the poly bags. The polybags of size 6"X9" are being used for raising of conifer seedlings. The potting mixture is prepared by mixing sieved soil, river sand, and decomposed farmyard manure and forest soil in the ratio of 7:1:1:1. The farmyard manure is added to improve the fertility of soil. The forest soil is added to improve the microflora of the rooting medium. In the open areas, it is always recommended to create overhead thatching to allow diffused sunlight as the tender plants cannot withstand the scorching sunlight in the first year. Germination begins after 2-3 months.

1.2 Planting Technique

Planting has to be done in the month of November. Winter planting before ChilaiKalan (severe winter from December 21st to 30th January) can give good results. If that is not possible due to some reasons, it can be done in the month February-March. Two to three year old plants alone should be used for planting to ensure good survival.Thorough weeding and cleaning is required for 2-3 years. Early and frequent thinning is also needed. Beating up operation is also to be done to ensure good stocking.

2. *Pinuswallichiana*

2.1 Nursery Technique:

Cones ripe during September to November. They should be collected from the trees, dried in the sun or kiln and seeds be extracted by shaking or beating the cones. Seeds can be stored after air drying for 12 to 18 months. A kilogram contains about 17000 - 18000 seeds. Germination capacity of the fresh seeds is upon 90 percent. Other techniques are similar to *Cedrus deodara*.

2.2 Planting Technique

Two or three year old seedlings are lifted with ball of earth and are transplanted during rains. They should be 20 to 35 cm in height. Usual spacing of 1.5 x 1.5 metre or 2 x 2 metre be kept. Weeding and cleaning is required for 2-3 years. Early, frequent and light thinning are necessary to prevent snow damage

3. Abies pindrow

3.1 Seed: Cones ripe in the month of October- November, they should be collected in October before they break up. Should be sun/ kiln dried to split open. Seed extraction by shaking and winnowing be done. Should be stored in gunny bags or tins till sowing. Good seed year occurs normally in 6-7 years. About 25,000 seeds weigh a kilogram. Germination percentage normally ranges from 40 to 65. It starts after 4-5 months of sowing and completes in about one and a half months. Plant percent is about 1500 per kg of seeds.

3.2 Nursery Technique*:* Similar to Deodar

3.3 Planting Technique*:* Similar to deodar except for the fact that Fir is a shade demander species and hence it has to be planted in shade only. Seedlings of 3+ years alone should be used for planting.

4 *Picea smithiana*

4.1 Seed: Female cones ripe in October- November. They should be collected from trees, spread in the sun (or kiln) for drying and beaten to extract seeds. Seeds can be stored upto one year. They are small (50-55 thousand per kg). Germination is normally good (more than 50 percent), usually completes in 1-2 months. Good seed year is expected once in five years.

4.2Nursery Technique: Similar to Deodar

4.3 Planting Technique*:* Similar to *Abiespindrow*.

10.20 Nursery Pest and Diseases of conifers and their remedial measures:

10.20.1 **Pests:**

- In nursery Greasy cut worm (*Agrotisipsilon*) appears. The young seedlings are cut off soon after germination in March-April by it.
- Chafer beetle (*Holotrichaconcanguina*). It appears in April and feeds voraciously on the foliage till July.

Control measures:

- Greasy cut worm can be controlled by the application of 0.03% of water solution of any soil insecticide eg. Chloropyriphos 20% EC, Endosulfan 35EC (45ml) in 50 litre of water on the surface of nursery bed after the bed has been prepared few days in advance in sowing is beneficial.
- Chafer beetle can be controlled by applying 200gm of Phorate 10G, 500 gmFenitrothion 5% dust per bed respectively.

10.20.2 **Diseases:**

In conifer nurseries damping off, root rot and collar rot diseases are common.This disease is caused by number of fungi which are normally soil saprophytes; but may be pathogenic in unfavourable condition. The most important fungi causing these diseases in conifer seedlings belongs to *Pythium, Rhizoctonia, Phytophthora, Fusarium* etc. All these diseases are favoured in clayey and wet soils because of anaerobic conditions in the rooting zone and high temperature.

Control measures:

1. Site should be selected with having light soil texture, acid soil (4.5 to 5.5 PH) and should be located on well drained site.

2. Soil or seed bed can be sterilized by steam or fumigants. Chemicals like - Formalin, Methyl bromide can be used two weeks before sowing seed.

3. Soil and seed can also be treated with chemicals. Fungicidal treatments may be useful for species which have hypogeal germination. Capton, Thiride, Cuman, Blitox, Zinc oxide can be used as chemicals.

10.21 Control of Grazing:

The areas brought under artificial planting should be strictly closed to grazing till the time regeneration gets established and is safe enough. The young poles of advance growth should be given adequate protection against lopping and other such injuries.

CHAPTER-XI

Working Plan for the

Fir Selection Working Circle

CHAPTER-XI

Working Plan for the Fir Selection Working Circle

11.1 General Constitution of the Working Circle:

This working circle contains all the low lying, accessible, relatively well stocked commercial forests of Fir and Kail which are exploitable. Intermixed with these species is a small amount of Spruce. The total area allotted to this working circle is 16889.5 Hectares in which commercially exploitable area is 7617.8 Hectares which constitutes 45.10% of the total area. The area occupies higher reaches and the elevation ranges from 2400m to 3000m msl

11.1.1 The compartments in Deodar Kail Selection Working Circle as per the plan under revision are as follows:

Range	Blocks	Compartments	Total area (Ha)
Veshew	Niken, Kungwattan, Manzgam, K.B.Pora,	V8, V9, V10, V11, V13a, V16, V17, V18, V19, V20, V21, V22, 26a, 27a, V29b, V31a, V32a, V32b, V33a, V33b, V34a,V34b	13846.8
D.H.Pora	Nagam-B, Chimmer	N9, N10, N15, N18, N19, N20a, N22a, N24b	3042.7
Kulgam	Nil	Nil	Nil
Total			16889.5

Table 11.1 Compartments in Fir Selection Working Circle as per the previous plan:

Working Plan Division	Range	Compartments	Total area (Ha)
Kashmir Forest Division	D.H.Pora Kulgam	Nil	Nil
Pirpanjal Forest Division	Veshew	V8, V9, V10, V11, V13a, v16, V17, V18, V19, V20, V21, V22, V26a, V27a, V29b, V31a, V33a, V34a	13149.4
Total			13149.4

11.2 General Character of the Vegetation:

11.2.1 The distribution of stems over various diameter classes is not quite balanced as can be observed from the perusal of the following table. The crop, by and large, is middle aged to over-mature. The regeneration is inadequate and the younger age classes are generally deficient.

Table: 11.2 Normal and Actual Distribution of Stems over Diameter Classes:							
Diameter - class (cm)	10-20	20-30	30-40	40-50	50-60	60-70	>70
Normal Distribution (%)	41	25	15	9	5	3	2
Actual Distribution (%)	5.28	13.94	35.85	56.17	57.47	48.99	50.4

The table above shows that there is a preponderance of trees in the middle and higher diameter classes whereas the number of stems in lower diameter classes particularly in 10-20 and 20-30 classes is deficient, primarily because of the closed canopy.

A detail description of these forests has already been given in Chapter 2 of Part I of this plan. The forests allotted to this working circle conform to Champion and Seth's forest type's $12/C_{1d}$, $12/C_{1f}$, and $13/C_4$.

11.3 Special objectives of Management:

- To maintain site protection for maintenance of ecological balance and hydrogical cycle.
- To provide better chances of regeneration by maintaining suitable overwood conditions by using slection system for judicious and careful opening of canopy.

11.4 Area and Allotment:

The detailed area statement of the compartments and sub-compartments assigned to the Working Circle is given in Annexure-V. The following table shows the distribution of the area by Ranges and Species in the Working Circle. The percentage of deodar, kail, and fir in the commercial area is 0.00, 6.86% and 75.62%.

Table 11.3 Range wise area under various species for Fir Selection Working Circle

Range	Commercial area in ha						Un commercial Blanks	Total
	Deodar	Kail	Fir	B.L	Blank	Total		
Veshew	0	485	3468.8	167.7	6956	4817.1	9029.7	13846.8
D.H.Pora	0	38.2	2292.0	0	470.0	2800.2	242.5	3042.7
Kulgam	0	0	0	0	0	0	0	0
Total	**0**	**523.2**	**5760.8**	**1667.7**	**7426**	**7617.3**	**9272.2**	**16889.5**

11.5 Description of Silvicultural System Adopted:

11.5.1 The Fir forests are located generally on a rough terrain in the catchments areas of various streams of the Division. Their significance in maintenance of the ecological balance, hydrological cycle and site protection warrants their careful handling under a suitable silvicultural system. The Uniform system is not suited to Fir forests, as creation of opening will not favour Fir regeneration as Fir is a Shade bearer and it requires shade in the early part of life and also due to heavy biotic pressure these forests bear. These openings will be occupied by other unwanted vegetations (weeds). Hence, such a system should be adopted which provide congenial climate to the establishment of which can provide suitable amount of light and warmth to the forest floor. This will be achieved by careful removal of the silviculturally available and physically mature trees in the over-wood, while retaining sufficient cover over a unit area at the same time. It is possible only in case of Selection System. Secondly, because of the continuous presence of over-wood, the regeneration of shade bearers like Fir and Spruce can be secured thereby maintaining the mixed composition of these forests. Normally, it is expected that regeneration will come up in the gaps created by the trees removed. However, since the establishment of regeneration in this area is not assured, the removals will be restricted only to those areas where established regeneration is already present. In areas deficient or lacking regeneration only a conservative cut, avoiding creation of large gaps in the canopy is envisaged. In case large gaps are already present, no felling shall be carried out. No thinning in the crop below the exploitable diameter will be carried out. This, however, does not preclude the conduction of improvement felling there-in.

11.6 Exploitable Size and Rotation:

The mean annual increment of the principal species viz., Fir culminates at an age of 130 years corresponding to a d.b.h of 49.1 cm. The rotation should coincide with that under normal circumstances. Moreover, Fir does not have greater demand in the market. Extraction of huge quantities can glut the market. Adoption of 80cm d.b.h as exploitable size would however be convenient enough under the present circumstances. In case of Deodar and Kail, the exploitable d.b.h is fixed at 70cm.According to Govt. Order; the exploitable diameter for Fir has been fixed at 80cms. Hence the exploitable size of 80 cms d.b.h is therefore adopted in this Working Circle. Even though fixing of Rotation Age is of academic interest only in case of Selection System, a Rotation of 200 years is fixed for Fir considering the exploitable diameter. Deodar and Kail being subsidiary species will be treated on similar lines as Fir.

11.7 Felling Cycle:

Felling cycle is fixed and adopted at 30 years. It is considered adequate to regulate the desired intensity of the cut/ felling and facilitate proper supervision.

11.8 Felling Series:

There is only one felling Series fixed which is corresponding to the Working Circle Area for administrative reasons.

11.9 Analysis and Valuation of the Crop:

'Point Sampling' methodology using Wedge Prism 'Factor 2' was used and data was collected from sampling points. Mean and other Statistics values of two variables viz. number of stems and volume of conifers have been computed. Results obtained on the basis of statistical analysis have been summarized in Table that follow. The diameter class and species wise distribution of growing stock assessed on the basis of mean values in terms of the total number of trees and volume of conifers 30 cm d.b.h. and above are summarized.

11.10 Calculation of the Yield:

The yield will be calculated in terms of number of trees and volume, which in turn shall be subject to area check. Modified Brandis Diameter-Class Method has been applied for calculation of the yield. The following presumptions have been made in this regard.

- Only commercial area and its growing stock have been taken into account for the purpose of yield calculation.

- The growing stock over commercial area of this working circle is classified within 10 cm diameter classes indicated by Symbols I, II, III, IV, V, VI and VII. Class I stands for trees above the exploitable diameter and the other successively below it to the youngest.

- The number of trees in all those classes being considered for the purpose of yield calculation has been computed at lower limit of confidence interval.

- On an average it takes 235 years for Fir to reach exploitable d.b.h of 80cm andit takes 147, 135 years for trees of Deodar, Kail respectively to attain exploitable diameter of 70 cm d.b.h.

Table 11.4 Results of Statistical analysis of Fir Selection Working Circle

Variable (ha)	Sample points (n)	Mean (X)	Variance (S^2)	Standard Deviation (S)	Standard error (S.E)	Coefficient of variation (%)	Confidence limits (95%) (X±t x S.E.)		Confidence Interval (C.I)	Lower limit as mean (%)
							Lower limit	Upper limit		
1	2	3	4	5	6	7	8	9	10	11
t=1.9844674										
No. of stems	99	64.11	9458.32	97.25	9.77	151.70	44.71	83.51	38.79	70%
Volume	99	112.46	10929.49	104.54	10.51	92.96	91.61	133.31	41.70	81%

Column 6: S.E = S/square root (n)

Column 7: C.O.V (%) = (S/X) × 100

Column 8: Lower limit = X- 1.96× S.E

Column 9: Upper limit = X+ 1.96 × S.E

Column10:C.I=Upper limit-Lower Limit

Table 11.5 Statement showing species and diameter (cm) class wise tree count per hectare for Fir Selection Working Circle											
Tree count per hacter (mean value)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	6.02	3.79	1.77	0.99	0.24	0.15	0.02	0.00	0.00	0.00	12.98
Fir	0.84	6.83	10.86	10.98	7.55	4.87	2.54	1.02	0.81	0.26	46.55
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.L.	0.00	0.62	1.14	1.40	0.65	0.53	0.15	0.02	0.03	0.05	4.59
Total	6.86	11.23	13.77	13.37	8.43	5.55	2.71	1.04	0.84	0.31	64.11

Table 11.6 Total tree count over the entire commercial area of Fir Selection Working Circle (Area =7617.8hectares)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	45861	28855	13466	7541	1847	1154	154	0	0	0	98878
Fir	6387	52016	82719	83642	57480	37089	19314	7772	6156	2001	354574
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	4694	8695	10696	4925	4001	1154	154	231	385	34934
Total	52247.34	85566	104879	101878	64251	42244	20622	7926	6387	2385	488386

Table 11. 7 Statement showing species and diameter (cm) class wise volume (m^3) of Conifers in Fir Selection Working Circle									
Volume of conifers per hectare (Mean Value)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	1.34	1.35	0.55	0.51	0.09	0.00	0.00	0.00	3.84
Fir	9.12	17.13	22.41	23.86	17.37	8.47	7.60	2.68	108.62
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	10.46	18.47	22.96	24.36	17.46	8.47	7.60	2.68	112.46

Table 11.8 Total volume of conifers over the entire commercial area of Fir Selection Working Circle								(Area =7617.8hectares)	
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	10234	10256	4192	3855	680	0	0	0	29217
Fir	69484	130481	170715	181735	132300	64505	57865	20386	827470
Chir	0	0	0	0	0	0	0	0	0
Total	79718	140737	174907	185590	132980	64505	57865	20386	856687

Table 11.9 Distribution of stems and volume (m^3) in Fir Selection Working Circle, computed at lower confidence interval

Total tree count of commercial area (5834.4 ha) Lower limit 70%

Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	32103	20199	9426	5279	1293	808	108	0	0	0	69216
Fir	4471	36412	57903	58549	40236	25962	13520	5440	4309	1400	248202
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	3286	6087	7487	3447	2801	808	108	162	269	24455
Total	36574	59896	73416	71315	44976	29571	14435	5548	4471	1670	341873

Table 11.10 Total volume of conifers over the entire commercial area (7617.8 Ha) Lower limit confidence interval.

Lower limit70%

Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	7164	7179	2934	2699	476	0	0	0	20452
Fir	49218	91337	119500	127214	92610	45154	40505	14271	579808
Chir	0	0	0	0	0	0	0	0	0
Total	56381	98516	122435	129913	93086	45154	40505	14271	600260

11.10.1 The following survival coefficient percentages based on the All India Volume Tables in respect of Deodar, Kail and Fir have been used with a modification as per previous working plans (past experience).

Diameter-class	*Survival percentage of species*		
d.b.h (cm)	*Deodar*	*Kail*	*Fir*
30	*30%*	*45%*	*20%*
40	*60%*	*60%*	*40%*
50	*80%*	*80%*	*50%*
60	*90%*	*90%*	*60%*
70	*95%*	*95%*	*85%*
80			*95%*

11.10.2 The yield finally arrived at shall be reduced by 15 percent on account of vulnerability of mature trees to Heart rot and other fungal diseases.

11.10.3 Based on these assumptions, the number of total potentially available trees, over the commercial area of the working circle, calculated at lower confidence limit of mean value after due deduction on account of mortality is tabulated under:

Table 11.11 Species and diameter-class wise potential availability of trees from the commercial area of Fir Selection Working Circle

Deodar							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	Below 30	30-40	40-50	50-60	60-70	Above 70	
Total no. of trees assessed at mean value	0	0	0	0	0	0	0
Total no. of trees assessed at lower limit of confidence interval.	0	0	0	0	0	0	0
Age of entry in class(Years)	0	57	71	90	110	135	
Years in class transition.	0	14	19	20	25		
Survival coefficient of class.	0	0.30	0.60	0.80	0.90	0.95	
No.of potentially available trees	0	0	0	0	0	0	0

Kail							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	Below 30	30-40	40-50	50-60	60-70	Above 70	
Total no. of trees assessed at mean value	74716	13466	7541	1847	1154	154	98878
Total no. of trees assessed at lower limit of confidence interval.	52301	9426	5279	1293	808	108	69214
Age of entry in class(Years)		42	55	72	91	115	
Years in class transition.		13	17	19	24		
Survival coefficient of class.		0.45	0.60	0.80	0.90	0.95	
No.of potentially available trees		4242	3167	1034	727	102	9273

Fir							
Class	(vi)	(V)	IV)	(III)	(II)	(I)	Total
	30-40	40-50	50-60	60-70	70-80	Above 80	
Total no. of trees assessed at mean value	82719	83642	57480	37089	19314	15928	296171
Total no. of trees assessed at lower limit of confidence interval.	57903	58549	40236	25962	13520	11150	207320
Age of entry in class(Years)	84	109	136	166	196	221	
Years in class transition.	25	27	30	30	25		
Survival coefficient of class.	0.20	0.40	0.50	0.60	0.85	0.95	
No.of potentially available trees	11581	23420	20118	15577	11492	10592	92779

11.11 Yield Regulation:

11.11.1 Brandis Diameter Class Method

Table: 11.12 Yield Calculation for Fir Selection Working Circle using Modified Brandis Diameter-Class Method

Felling cycle: 30 year

I item	Deodar	Kail	Fir
a. Total no. of trees in class I	0	102	10592
b.Total no. of trees likely to pass on to class I in First felling cycle from	0	727	11492
Class II Class III	0*(5/20) 0	1034*(6/19) 327	15577*(5/30) 2596
c. Total recruitment in class (I) from(II) and(III) during first felling cycle (II +III)	0	1054	14088
d. Annual recruitment from class II and III during first felling cycle (c/30)	0	42	470
e. Stock required to be kept as reserve C/2	0	527	7044
f. Surplus no of stocks of trees of class (I) (a-e)	0	-425	3548
g. Total possibly of yield in first felling cycle if all the Surplus stocks in (f) is removed (C+F)	0	629	17636
h. Annual yield for one felling cycle (g/30)	0	21	588
i. Total possibility of yield if all surplus stock(f) in removed in two felling cycle (c+f/2)	0	629	15862
j. Annual yield for two felling cycles (i/30)	0	21	529
k. Weighted average volume of trees above exploitable dia as per Kulu Volume Table in cubic meteres	6.11	5.66	9.30
l. Total annual volume yield (m3)	0	119	4917
m. Deduct 15% from d[illegible]to account for mortality	0	101	4180
n. Annual yield rounded off to lower multiple of 100	0	100	4100

Total Annual Yield (Deodar+Kail+Fir) = 0+100+4100 = 4,200 m^3

11.11.2 Von Mantel's Formula:

The entire growing stock enumerated from 10-20cm to 100cm and above was considered. Kulu volume table values were used for calculation of volume from each of the diameter classes.

Table 11.13 Yield Calculations based on Von Mantel's Formula:

Species	Kail	Fir	Total
Total Commercial volume available based on mean value (m^3)	29217	828297	857514
Total Commercial volume available based on minimum availability (m^3)	20452	579808	600260
Annual Yield = 2GS/R	273	4935	5208
Rounded Off to lowest multiple of 100	200	4900	5100

Growing Stock taken at lower limit of confidence and Rotation taken as 150 years for Kail and 235 years for Fir.

Table 11.14 The comparative statement of Annual Yield obtained using both the methods is as given below:

Methodology	Deodar	Kail	Fir	Total
Modified Brandis Diameter Class method (One Felling Cycle)	0	100	4100	4200
Von Mantelôs Formula	0	200	4900	5100

From the perusal of the above comparative statement it is clear that the yield calculated by Brandis Method is less than the yield calculated from Von Mantel's Formula.Therefore the yield calculated from Brandis Method is conservative and is adopted.

11.11.3 **Size of Annual Coupe:**

The size of the annual coupe is calculated as under:

$$\textit{Size of Annual Coupe} = \frac{\text{Total Commercial area of W.c (ha)}}{\text{Felling cycle (yrs)}}$$

$$= \frac{7617.8}{30} = 253.92 \text{ (ha) say } 253 \text{ ha}$$

11.11.4 Allowable cut per hectare: It is determined by dividing the annual volume yield by the size of annual coupe. It works out to be as follows:

$$\text{(ha/year)} = \frac{\text{Annual Yield}}{\text{Size of annual coupe}}$$

$$= \frac{4200}{253} = 16.60 m^3$$

11.12 Realisation of the Yield:

The yield prescribed shall include the volume of all trees of 30 cm d.b.h. and above marked for whatever purpose including concessions marking, illicit damage etc. As Kail and Fir are not uniformly mixed, it may not be possible to maintain the proposition of species, in realisation of the yield, prescribed. The attempt therefore should be to realise the prescribed yield in totality. The yield will be subject to an area check. The felling shall be strictly in accordance to the felling schedule proposed in the working plan. The annual yield prescribed should be strictly adhered to. Deviations in annual yield to the extent of 20 percent are permissible for certain administrative or technical reasons. Deviations beyond the above limits shall require prior sanction of the Chief Conservator of Forests. However, cumulative deviations over the entire working plan period should not exceed the prescribed yield.

11.13 Sequence of Felling:

In view of the current ban on green felling, the sequence of fellings has been left to the discretion of the Divisional Forest Officer who shall exercise his judgement keeping in view the progress of regeneration.

11.14 Method of Executing Felling:

The felling should primarily be directed at careful opening of the canopy in accordance with the requirements of the regeneration. The over wood above the regeneration must be gradually removed in order to avoid the invasion of the area by weeds which come up profusely in the gaps. The canopy needs to be manipulated with utmost care. Selection forests require elaborate management and great skill on the part of the executive staff that have to handle the crop properly. It is left to the discretion of the D.F.O concerned to make up annual prescribed yield by sleeting suitable annual coupes. Accordingly, the following marking rules are laid down for guidance of the marking officer.

11.15 Marking and Felling Rules:

The marking officer, prior to conducting the marking, must acquaint himself thoroughly with the condition and composition of the crop in the compartment and its boundaries by traversing the area of the compartment.

- Marking should be done by the DCF in charge of the Division or well trained and experienced ACF. The marking should never be conducted by anybody below the rank of a well trained and experienced Range Officer, in which case, the DFO / ACF should check at least 25% of these markings.
- No marking, except the removal of dead and diseased trees shall be done in area near and around cultivation and behaks within a distance of 100 metres from their periphery.
- No marking, except the removal of actually dead, diseased trees shall be done along nallah banks within a distance of at least 150 metres on either side.
- No healthy trees below the exploitable size be marked.
- No attempt shall be made to disturb the process of the succession by giving preference to one species over the others. The selection character of the crop shall be preferred over the area of this working circle and should be maintained by retaining some healthy trees of exploitable size which do not cause any suppression to the crop.
- No marking should be conducted in areas lacking regeneration.

- No marking should be done on steep and precipitous slopes.
- The over mature trees should get preference over the relatively younger and healthier ones.
- Improvement and hygienic markings in all age classes should be done.
- Marking for improvement felling shall form an integral part of the major markings. All dead and diseased trees shall be marked together with malformed and unfit trees.
- All the trees of exploitable size (70 cm d.b.h. in case of Deodar and Kail, and 80 cm d.b.h. in case of Fir), standing over adequate advance growth should be removed. Selection marking of light to very light intensity shall be carried out in area having inadequate but established regeneration.
- In dense groups of trees, of and above exploitable size, the spacing between the stems to be retained will be spaced 7 to 12m apart, depending upon the status and amount of regeneration present.
- In the mixed crop, ecologically most suitable species to the locality should be favoured.
- The intensity of felling over a particular compartment will largely depend upon the degree of biotic interference to which it is subject to, the amount and status of regeneration, and its topography, slope and aspect.
- Extreme care has to be exercised at the time of felling so as not to damage the regeneration below.
- Trees marked for felling should be lopped before execution of felling.
- In case of compartments worked in parts over the years, the markings should start from the farthest end of the compartment and proceed across the contours.

11.16 Supplementery Marking

As soon as the felling following major marking is over, supplementary marking of poles and trees damaged in felling or those that have died, dried or fallen off subsequent to the major felling and which are incapable of recover should be done. Due caution is required to be taken to avoid large scale supplementary markings which prove dangerous to the ultimate requirement of the crop and the site. Preferably, these markings should be conducted by the DFO himself. Judicious discretion of the marking officer is, therefore, needed to ensure that provision of supplementary marking is not misused, and only such trees as are considered definitely unfit for retention, or are not likely to survive in the near future, are marked.

11.17 Subsidiary Silvicultural Operations:

Heavy accumulation of the slash in Fir forests is inimical to the Fir regeneration besides the threat of accumulation of fire hazard. Quick disposal of felling debris in the worked coupes, should receive good deal of attention. This is much more importance for fir forests located in far off area where despite the heavy accumulation of debris and off cuts, the disposal through local off-take is negligible. The indisposed refuse should be heaped, preferably in blanks or nallas, away from the regeneration and advance growth and burnt with due precautions. This should be done soon after the melting of snow in spring, when the forest floor is damp enough to prevent the fire from spreading.

11.18 Regeneration Programme:

The natural regeneration of Fir is facilitated in its establishment by the judicious and careful opening of canopy but is ensured if the inimical biotic factors, particularly the unregulated grazing, are eliminated as well. The intensity of the fallings should be governed by the quantity of the regeneration actually present. It should be light where the regeneration is deficient and extremely low to nil where regeneration is lacking. After the coupe is worked, in order to ensure regeneration, the area equivalent to annual coupe in the felling series must be closed by fencing. Further operations like removal of weeds, racking up of humus is also essential to get natural regeneration. In case of Fir, there is another problem associated with regeneration is that even though seeds germinate and seedlings come up after good seed years (3-4 years), the growth is very slow and success rate to establishment is very poor. Hence along with the closing of the area, artificial regeneration must be attempted. In highly refractory sites, nursery grown seedlings preferably 3-4 years old should be planted and carefully protected. High altitude nurseries should be specially created for the purpose.

11.19 Control of Grazing:

In Fir areas, there is heavy biotic pressure in the form of uncontrolled, unregulated grazing. Control of grazing, particularly in the recently worked sites is very essential to get natural regeneration. It is essential to closed these areas by fencing and should be followed by artificial regeneration preferably nursery grown saplings.

11.20 Nursery & Plantation Techniques:

The detail has already been given under Section 10.19 on Working Plan for Deodar Kail Selection System in Chapter X.

CHAPTER-XII

Working Plan for the

Ecological Conservation

Working Circle

CHAPTER-XII

Working Plan for the Ecological Conservation Working Circle

12.1 General Constitution of the Working Circle:

Major portion of the Special Forest Division Kulgam is located in higher reaches. These forests are unexploitable, are slopy and prone to damage from various sources. The alpine pasturelands, all high lying compartments as are situated on a very steep to precipitous terrain are included in this working circle.These forests are generally inaccessible and economically unworkable, being situated on too steep a topography to be exploitable from the view point of soil and water conservation. The forests, by and large, are poor both qualitatively and quantitatively. Fir constitutes the major crop and is generally mature and compact at places.The broadleaved species are found along nallas and cooler aspects. The alpine pastures are subject to a pressure of excessive and unregulated summer grazing. These forests are the source of a variety of minor forest products including the medicianal plants like Kuth, Kode, and Dhoop etc. The total area allotted to this working circle is 18390.9 ha. The commercial area is 4208.3 ha which only 22.88% of the total area is. The percentage of Deodar, Kail and Fir is 0.0, 11.21 and 55.35 respectively. The data of this working circle has been taken from 53 sample points in 21 compartments / sub compartments in the commercially exploitable stratum.

Table 12.1 The compartments in Ecological Conservation Working Circle as per the plan under revision are as follows:

Range	Blocks	Compartments	Total area
Veshew	Niken, Kungwattan, Manzgam, K.B.Pora	V12b, V13b, V14,V15a, V15b, V23, V24, V25a	12284.3
D.H.Pora	Nagam ï A, Nagam-B, Chimmer	N1, N2, N3, N4, N5, N7, N8, N11, N12, N13, N14, N20b	6106.6
Kulgam	Nil	Nil	Nil
		Total	18390.9

12.2 General Character of the Vegetation:

Fir constitutes the major crop and is generally mature and compact at places. Broad leaved species like *Betula* spp (Birch, bojpathar) occupies high altitudes. Big Patches of Rhododendron and *Juniperus* spp can be seen at higher altitudes. The Compartments in this working circle abode vast variety of medicinal plants. Dioscorea *(Dioscorea deltoidea)*, Kuth *(Saussurea lappa)*, Kode *(picrorhiza kurva)*, Artemisia *(Artemisia spp)*, Bankakri (*Podophyllum spp*), Dhoop *(Jurinea macrocephala)* etc. are some of the economically important medicinal plants. The alpine pastures in this working circle are subjected to heavy excessive and unregulated summer grazing. Mostly these forests have only patches of regeneration of fir and it is absent in most of the compartments.

12.3 Special Objectives of Management:

- To conserve and maintain the existing conifer crop.
- To preserve all life forms so that soil and water regime is not affected.
- To retain all existing crop in order to prevent erosion, landslips and avalanches.
- To preserve forests for soil and moisture conservation.
- To check degradation of forests by taking up measures in order to restore the normal stocking and productivity.
- To protect forests from excessive grazing, forest fires and illicit damage.

12.4 Area and Allotment:

The detailed area statement of the compartments and sub-compartments assigned to the Working Circle is given in Annexure VII. The following table shows the distribution of the area by Ranges and Species in the Working Circle.

Table 12.2 Range wise area under various species for Ecological Conservation Working Circle

Range	Commercial area in ha						Un commercial Blanks	Total
	Deodar	Kail	Fir	B.L	Blank	Total		
Veshew	0	396.6	254.8	149.7	648.0	489.1	10795.2	12284.3
D.H.Pora	0	75.5	1990.5	0	653.2	2719.2	3387.4	6106.6
Kulgam	0	0	0	0	0	0	0	0
Total	0	472.1	2245.3	149.7	1341.2	4208.3	14182.6	18390.9

12.5 Analysis and Valuation of the Crop:

Table 12.3 Results of Statistical analysis of *Ecological Conservation Working Circle*

Variable (ha)	Sample points (n)	Mean (X)	Variance (S^2)	Standard Deviation (S)	Standard error (S.E)	Coefficient of variation (%)	Confidence limits (95%) (X±t x S.E.)		Confidence Interval (C.I)	Lower limit as mean (%)
							Lower limit	Upper limit		
1	2	3	4	5	6	7	8	9	10	11
t=2.0066468										
No. of stems	53	23.19	1131.12	33.63	4.62	145.04	13.92	32.46	18.54	60%
Volume	53	43.05	2929.88	54.13	7.44	125.74	28.13	57.97	29.84	65%

Column 6: S.E = S/square root (n)

Column 7: C.O.V (%) = (S/X) × 100

Column 8: Lower limit = X- 1.96× S.E

Column 9: Upper limit = X+ 1.96 × S.E

Column10:C.I=Upper limit-Lower Limit

Table 12.4 Statement showing species and diameter(cm) class wise tree count per hectare for Ecological Conservation Working Circle											
Tree count per hactare (mean value)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	0.00	0.00	0.79	0.62	0.66	0.28	0.49	0.38	0.11	0.04	3.38
Fir	0.00	0.38	1.83	4.62	2.60	1.92	0.57	0.28	0.06	0.13	12.40
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.L.	0.00	1.62	2.40	1.64	0.53	0.74	0.19	0.09	0.06	0.15	7.42
Total	0.00	2.00	5.02	6.89	3.79	2.94	1.25	0.75	0.23	0.32	23.19

Table 12.5 Total tree count over the entire commercial area of Ecological Conservation Working Circle										(Area =4208.3hectares)	
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	0	0	3335	2620	2779	1191	2064	1588	476	159	14213
Fir	0	1588	7702	19453	10957	8099	2382	1191	238	556	52167
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	6829	10084	6908	2223	3097	794	397	238	635	31205
Total	0.00	8417	21121	28982	15960	12387	5241	3176	953	1350	97585

Table 12.6 Statement showing species and diameter (cm) class wise volume (m^3) of Conifers in Ecological Conservation Working Circle									
Volume of conifers per hectare (Mean Value)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	0.60	0.85	1.50	0.95	2.17	2.02	0.70	0.25	9.03
Fir	1.54	7.21	7.73	9.43	3.88	2.35	0.53	1.35	34.02
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.14	8.06	9.23	10.38	6.05	4.37	1.23	1.60	43.05

Table 12.7 Total volume of conifers over the entire commercial area of Ecological Conservation Working Circle								(Area =4208.3hectares)	
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	2535	3564	6308	3978	9125	8496	2925	1070	38001
Fir	6470	30347	32544	39685	16317	9886	2239	5664	143151
Chir	0	0	0	0	0	0	0	0	0
Total	9004	33911	38852	43663	25442	18382	5164	6734	181152

Table 12.8 Distribution of stems and volume (m^3) in Ecological Conservation Working Circle, computed at lower confidence interval											
Total tree count of commercial area										Lower limit 60%	
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	0	0	2001	1572	1667	715	1239	953	286	95	8528
Fir	0	953	4621	11672	6574	4859	1429	715	143	333	31300
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	4097	6050	4145	1334	1858	476	238	143	381	18723
Total	0	5050	12673	17389	9576	7432	3144	1906	572	810	58551

Table 12.9 Total volume of conifers over the entire commercial area 4208.3 ha) Lower limit confidence interval.								Lower limit 60%	
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	1647	2316	4101	2586	5931	5522	1901	696	24701
Fir	4205	19726	21153	25795	10606	6426	1455	3681	93048
Chir	0	0	0	0	0	0	0	0	0
Total	5853	22042	25254	28381	16537	11948	3357	4377	117749

12.6 Method of Treatement Prescribed:

The forests in this working circle are essentially the sources of the various streams of the area like Veshew and Kandai nalla. The forest cover over such a vulnerable terrain should be protected so as to safeguard against hazards of erosion, to prevent denudation of countryside and to ensure perrenial flow of water in springs. These forests will, therefore, be managed with the sole aim of their preservation, protection and further development. Following treatment is prescribed for these forests:

- Complete rest is suggested and no regular fellings are prescribed.
- Excessive grazing should be stopped.The grazing should be regulated on scientific principles and its intensity decreased to obviate chances of sheet or gully erosion.
- Lopping and illicit felling of trees particularly broadleaved trees should be stopped.
- Forest fires should be taken care of.
- The vast treeless blanks within the ecological zone of principle conifers should be stocked by artificial planting.
- Assisted natural regeneration should be done in treeless blanks of the area to improve density of the crop.
- Artifical forestry measuresto be undertaken to restore water conservation.
- Pasture development measures to be taken in high level grazing pastures to assist the eco-restorative process.

CHAPTER-XIII

Working Plan for the

Reboisement Working Circle

CHAPTER-XIII

Working Plan for the Reboisement Working Circle

13.1 General Constitution of the Working Circle:

This working circle has been proposed as there are many degraded compartments in the division. The working circle includes all such poorly stocked forest areas as are potentially productive in nature, yet are not fit for any systematic working on account of the degradation in crop condition and quality. The compartments of this working circle being mostly located in close proximity of the habitations, have either suffered on account of past maltreatment by way of excessive grazing, lopping, encroachments and illicit fellings. These areas have been rendered understocked and contain a sparsely scattered stunted, malformed and multibranched tree crop in fairly open patches. The regeneration has nearly been wiped out from some of the compartments like V-34c, V-35a, and V-36 etc. The condition of these forests can be improved if given prompt and proper treatment. The rehabilitation measures shall have to be expedited under a vigorous artificial regeneration programmes. In addition, the natural regeneration should be assisted in viable areas by closing them to grazing and carrying out soil working, humus raking and weed eradication etc. The total area of the working circle is 2828.25 hectares. The whole of which is commercial area in which 1127.20 hectares are blank which constitutes 40% of the total commercial area. The maximum area under this working circle falls in D.H.Pora Range. The data for this working circle has been taken from 35 sample points in 23 compartments / sub compartments in the commercially exploitable stratum.Range wise Compartments of Reboisement Working Circle.

Table 13.1 The compartments in Reboisement Working Circle

as per the plan under revision are as follows:

Range	Blocks	Compartments	Total area
Veshew	Manzgam, K.B.Pora	V34c, V35a, V35b, V36	1024.1
D.H.Pora	Nagam-A Nagam ï B Chimmer ,Khull	N6, N16a, N16b, N24a, N25, N26a, N26b, N26c, N26d, N46, N47, N48	1287.2
Kulgam	Lammer, Chambgund	N35a, N35b, N36a, N36b, N43, N44, N45	516.95
		Total	2828.25

Table 13.2 Compartments in Reboisement Working Circle as per the previous plan:

Working Plan Division	Range	Compartments	Total area (ha.)
Kashmir Forest Division	D.H.Pora	N5, N6, N9, N10, N15, N16a, N16b, N17, N18, N19, N20a, N22a, N22b, N23, N24a, N24b, N24c, N26a, N26b, N26c, N26d, N46, N47, N48	7937.55
	Kulgam	N27a, N27b, N28, N29, N30, N31a, N32b, N34, N35a, N35b, N36a, N36b, N43, N44, N45	
Pirpanjal Forest Division	Veshew	V27c, V28a, V31b, V32a, V32b, V33b, V34c, V35a, V36a	1849.2
		Total	9786.75

13.2 General Character of Vegetation:

The following categories of the forest areas are allotted to this working circle.

- Those of the potentially productive areas which have now been rendered degraded and under-stocked because of maltreatment in the past including excessive lopping, encroachment, over exploitation and biotic interference. These areas are being treated as degraded forests. The crop either has low density or is in the form of isolated trees, small patches or even without tree cover.
- Those potentially productive forest areas that have deteriorated due to natural physical calamities.
- The productive forests, though adequately stocked, yet are considered unfit for commercial exploitation, because of their proximity to the large human settlements rendering them more vulnerable to the excessive pressures of ever rising population and their demand for timber, firewood, grazing etc.

13.3 Special Objectives of Management:

- To afforest/reforest the open, degraded forests to bring the area under tree cover
- To restock the forest crop to increase the density by adopting strict forest protection and plantation measures.
- To preserve all life forms so that soil and water regime is not affected.
- To retain all existing crop in order to prevent erosion, landslips and avalanches.
- To preserve forests for soil and moisture conservation.
- To protect forests from excessive grazing, forest fires and illicit damage.

13.4 Area and Allotment:

The detailed area statement of the compartments and sub-compartments assigned to the Working Circle is given in Annexure VI. The following table shows the distribution of the area by Ranges and Species in the Working Circle.

Table 13.3 Range wise area under various species for Reboisement Working Circle

Range	Commercial area in ha						Un commercial Blanks	Total
	Deodar	Kail	Fir	B.L	Blank	Total		
Veshew	10	297.45	0	0	209.5	516.95	0	516.95
D.H.Pora	0	557.2	113	0	617	1287.2	0	1287.2
Kulgam	0	95.2	591.3	36.4	301.2	1024.1	0	1024.1
Total	**10**	**949.35**	**704.3**	**36.4**	**1127.2**	**2828.25**	**0**	**2828.25**

13.5 Analysis and Valuation Growing Stock:

Table 13.4 Results of Statistical analysis of *Reboisement Working Circle*

Variable (ha)	Sample points (n)	Mean (X)	Variance (S^2)	Standard Deviation (S)	Standard error (S.E)	Coefficient of variation (%)	Confidence limits (95%) (X±t x S.E.)		Confidence Interval (C.I)	**Lower limit as mean (%)**
							Lower limit	Upper limit		
1	2	3	4	5	6	7	8	9	10	**11**
t=2.0066468										
No. of stems	53	23.19	1131.12	33.63	4.62	145.04	13.92	32.46	18.54	60%
Volume	53	43.05	2929.88	54.13	7.44	125.74	28.13	57.97	29.84	65%

Column 6: S.E = S/square root (n)

Column 7: C.O.V (%) = (S/X) × 100

Column 8: Lower limit = X- 1.96× S.E

Column 9: Upper limit = X+ 1.96 × S.E

Column10:C.I=Upper limit-Lower Limit

Table 13.5 Statement showing species and diameter(cm) class wise tree count per hectare for Reboisement Working Circle											
Tree count per hacter (mean value)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	5.14	14.29	9.06	3.57	2.86	2.31	0.89	0.23	0.03	0.14	38.51
Fir	0.00	0.00	3.17	1.86	1.40	0.69	0.14	0.00	0.00	0.00	7.26
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.L.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.14	14.29	12.23	5.43	4.26	3.00	1.03	0.23	0.03	0.14	45.77

Table 13.6 Total tree count over the entire commercial area of Reboisement Working Circle (Area =2828.25hectares)											
Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	14545	40404	25616	10101	8081	6545	2505	646	81	404	108928
Fir	0	0	8970	5252	3960	1939	404	0	0	0	20525
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	0	0	0	0	0	0	0	0	0	0
Total	14545.29	40404	34585	15353	12040	8485	2909	646	81	404	129453

Table 13.7 Statement showing species and diameter (cm) class wise volume (m^3) of Conifers in Reboisement Working Circle									
Volume of conifers per hectare (Mean Value)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kail	6.88	4.86	6.49	7.73	3.91	1.22	0.18	0.96	32.23
Fir	2.66	2.90	4.16	3.36	0.98	0.00	0.00	0.00	14.06
Chir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	9.55	7.75	10.64	11.09	4.89	1.22	0.18	0.96	46.29

Table 13.8 Total volume of conifers over the entire commercial area of Reboisement Working Circle (Area =2828.25hectares)									
Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	19468	13737	18343	21862	11072	3459	496	2723	91160
Fir	7534	8194	11760	9503	2768	0	0	0	39759
Chir	0	0	0	0	0	0	0	0	0
Total	27003	21931	30103	31364	13840	3459	496	2723	130919

Table 13.9 Distribution of stems and volume (m^3) in Fir Selection Working Circle, computed at lower confidence interval

Total tree count of commercial area (2828.25 ha) Lower limit 34%

Spp.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0	0	0
Kail	0	13737	8709	3434	2747	2225	852	220	27	137	32090
Fir	0	0	3050	1786	1346	659	137	0	0	0	6979
Chir	0	0	0	0	0	0	0	0	0	0	0
B.L.	0	0	0	0	0	0	0	0	0	0	0
Total	0	13737	11759	5220	4094	2885	989	220	27	137	39069

Table 13.10 Total volume of conifers over the entire commercial area 2828.25 ha. Lower limit confidence interval. Lower Limit 49%

Spp.	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100 <	Grand Total
Deo.	0	0	0	0	0	0	0	0	0
Kail	9539	6731	8988	10712	5425	1695	243	1334	44668
Fir	3692	4015	5762	4656	1356	0	0	0	19482
Chir	0	0	0	0	0	0	0	0	0
Total	13231	10746	14751	15369	6782	1695	243	1334	64150

13.6 Method of treatement prescribed:

In view of the discussion above, and in order to achieve the special objects of management, these forests require complete rest, and strict protection from biotic interference, the most important being grazing, fire, illicit damage, encroachments and lopping. The following treatment is prescribed to be given to these forests.

13.6.1 **Areas with tree crop – open forests type:**

Adequate protection is the first priority. Strick closure for grazing should be ensured. Enforcement of efficient protection measures against grazing and lopping together with soil working & raking of humus will help in attaining natural regeneration. Conservation measures, including closure, planting and engineering works are necessary in areas under the grip of soil erosion.

The selected localities, which are too difficult to be planted with conifers, shall be planted with suitable and desirable broad leaved species.

13.6.2 **Areas with no tree crop:**

A culturable blank comes under this category. Closure of area by fencing and artificial regeneration is the surest method. Conifers will be given first priority wherever possible.

The degraded forests near and around the huge human settlements, shall be planted with fruit, fodder and firewood yielding and soil enriching species with a view to lessen the pressure on the commercial forests. Besides, these species will help in improving the rural economy. Highly degraded and dry sites will be rehabilitated with hardy and drought resistant species like *Robinia pseudoacacia*, *Prunus armeniaca* and Fraxinus spp. and other broad leaved species should be tried.

13.7 Realization of Yield:

No regular fellings of any sort are prescribed in this working circle. Hygienic and improvement markings may, however, be conducted to ensure removal of dead, diseasesed and malformed trees but in no case any healthy tree will be marked.

13.8 Afforestation Measures:

If the degraded forests are to be rehabilitated-reboised within a period of 30 years it implies that out of a total area of 2828 Hactares, an area of 94 ha. is to be treated. So the same area in Hactares /annum is recommended to be taken up for reforestation.

CHAPTER-XIV

Working Plan for

Wildlife Management

(Overlapping) Working Circle

CHAPTER-XIV

Working Plan for Wildlife Management (Overlapping) Working Circle

14.1 General description and present condition of wildlife:

Kulgam Division is one of the very important Divisions from Wildlife point of view. Because of altitudinal variations and variation in climatic conditions from temperate region to alpine region, a variety of wildlife is met with over the entire division. The important species of the wildlife found in this division have already been enlisted and described in detail in Chapter-II of Part I of this plan. Leopard, Brown bear, Himalayan Black Bear, Kashmiri Stag, Musk Deer and Snow Leopard are some of the prominent members of Wildlife present here.

The man-animal conflict is one of the important aspects in wildlife management. Because of wildlife habitation and its corridors are fragmented by roads, human habitations, Man-Animal conflict is on the rise particularly w.r.t to bear and leopard. Since wildlife has no boundaries, managing wildlife is also an important aspect of territorial division. It is also to mention that most of the man-animal conflicts were reported in non protected area network in this division.

Protection and control of wildlife was given importance in J&K even before independence. The Jammu and Kashmir Game Preservation Act, 1998 (1942 AD), Act No. XXIV of 1998 is an example to that. Thereafter, the Jammu and Kashmir Wildlife (Protection) Act, 1978, was passed by the State Legislature with elaborate provision for the conservation of wildlife. This act is now being amended to incorporate changes that have been made in the wildlife related laws nationally and internationally, and to meet the challenges thrown up by the spurt in wildlife offences. Following is the Range wise list of compartments in which the majority of wildlife is noticed:

Range	Compartments
Kulgam	N34,N43,N44,N45
Veshew	V27a,V27b,V27c,V28a,V28b,V31a,V31b,V32a,V32b
Total	13 Compartments

14.2 Wildlife Management Objectives:

This will be an overlapping working circle constituted mainly to ensure that silvicultural prescriptions of the working plan are in harmony with requirement of wildlife and its habitat. The specific objectives of this working circle are-

To assess the status of the Wild animal species with emphasis on Markhor, Brown bear, Snow leopard, Musk Deer, Wolf etc.

- To protect and restore habitats of species like Markhor, Brown Bear, Wolf, Snow leopard, Musk Deer etc.
- To stop the non-traditional herders and the non-traditional ways of grazing.

- To mitigate human-wildlife conflict in and around the Division.
- To strengthen surveillance and protection measures.
- To improve attitude of local communities to wildlife Conservation and publicizing their importance.
- To preserve and protect the wildlife.

14.3 Management prescriptions:

14.3.1 Habitat Management:

Habitat management is one of the important aspect of Wild Life Management. If the habitat is healthy, wildlife can prosper without interfering the human habitat. The primary requirement of habitat management is to study the habit and habitat of wildlife in a scientific manner. In case of Kulgam division it is not possible to separate wildlife habitat from human interference. The wildlife habitats are heavily utilized by the humans both nomadic graziers and villagers in the vicinity of the forest. The cattle population of Kulgam is more than human population. The major source of fodder for the cattle is ground flora of forest only. Hence the management of wildlife in Kulgam division is a much complex one. The following measures need to be taken to during the working plan period to keep the habitat healthy.

- All the **plantation** programmes should include **fruit and fodder species** for wildlife to increase the food availability to herbivores.
- There is need to **create water-holes** as during summer water availability in the forest except for streams is very limited. Creating waterholes can restrict wildlife movement to the forest area itself.
- **Salt licks**: Where ever possible, salt licks need to be kept for wildlife as it is essential component of wildlife diet.
- During breeding season of wild animals, no or only minimum disturbance alone can be allowed. This is not possible without the support of general public. So public awareness is very essential.
- For all these activities, there is need to take support of Wildlife (Protection) Department as they have expertise in this field.

14.3.2 Training:

There is a need for training territorial staff in all aspects of wildlife in general and management of man animal conflict in particular. Most of the time, the territorial staff gets the first hand information. Since their presence is there in every compartment, they can reach immediately as soon as man-animal conflict situation arises. Presently, the territorial staffs are neither trained nor well equipped. The delay in response in man-animal conflict situation, can lead to loss of precious human or wildlife, the training and capacity building aspect need to be taken on priority.

There are certain forest areas in which increased wildlife activities were noticed which resulted in escalation of man-animal conflict in these areas.

14.3.3 Awareness Programme:

There is need to create awareness among masses about the importance of wildlife. Massive awareness programmes are to be organized among general public, students, prominent citizens and others. The

committees constituted for the protection of wildlife should be provided with funds for such activities. They also need to be provided with communication gadgets for real time response in case of conflict situations.

14.3.4 **Management of Man Animal Conflict:**

As mentioned in previous paras, it is very essential to given due importance for habitat management. There is a need to create massive awareness on this front.

The compartments/areas in which man-animal conflict is noticed, people are to be trainined to handle and live with wildlife without any loss to both human and wildlife. The following points/issues are to be followed:

- Children should not be allowed to move alone
- People should move in groups particularly in the early morning and late evening
- Sarpanch and Panchs of the area should be provided with mobile numbers of field staff of wildlife department as well as territorial staff.
- There is need to change crop composition. Suitable economic replacement need to be identified in co-operationwith Horticulture/Agriculture department.
- Creation of awareness through print media and by regularly organizing area specific awareness programmes.
- Signage need to be placed on sensitive areas for the information to the general public
- Regular joint patrolling by the territorial field staff and Wildlife (Protection) department staff
- Regular co-ordination meeting between forest territorial staff, wildlife (Protection) Department and Police department
- Prompt response to distress call from public
- Triaing of territorial staff and anti-poaching committees already created to handle man-animal conflict
- Prompt reporting, and prompt disbursement of relief

CHAPTER-XV

Working Plan for

The NTFP (Overlapping)

Working Circle

CHAPTER-XV

Working Plan for the NTFP (Overlapping) Working Circle

15.1 General Description of the Working Circle and Character of the Crop:

This Working Circle is constituted to give special impetus to the conservation of NTFPs. The division is endowed with rich variety of Non Timber Forest Produces. Because of the altitudinal variation and due to climatic variation from temperate to alpine, large number of medicinal plants are listed. The medicinal plants are available in all kinds of forests. It is a overlapping working circle. Abundant quantity of medicinal and aromatic plants are found in most of the areas. These medicinal plants can be collected from different places of the division like Tangmarg, D.K.Marg, Khul, Akhal, Lammer etc

Most of these species are collected by the local people for their bonafide self-use, with species forming the mainstay of household needs. Some of the important commercial NTFPs like Kuth (Saussurea lappa), Belladona (Atropa Belladona), Dioscorea (Dioscorea deltoidea), Dhoop (Jurinea macrocephala), Bankakri (Podophyllum hexandrum), Kahzaban (Arnebia spp) , Patees (Aconitum heterophyllum), Banafsa (*Viola odorata)*, Gucchies(*Morchella spp), Taxus spp.* are harvested for commercial purposes.

These NTFPs were auctioned, as is where is basis, in the past to the highest bidders which led to unregulated, over extraction of the medicinal plants. Considering the over exploitation, the government has put a ban on collection of NTFPs. Later on, in the year 2013, it has been given permission to extract only the above-ground parts like flowers, seeds, leaves etc. The edible Mushrooms, Gucchies and Walnuts are regularly auctioned.

The division is in need of the NTFP nurseries which can be set up on a large area and revenue can be collected. Besides it will provide employment to local gujjar community residing in the villages in nearby forest areas.

The following is the list of compartments which are rich in NTFP and need special attention:

Range	Compartments
Kulgam	N-30, N-31a, N-33, N-34
D.H.Pora	N-15, N20a, N-25
Veshew	V-31a, V-31b, V-32a
Total	10

15.2 Objectives of Management:

- To Conduct scientific survey to assess the source and availability of medicinal plants for sustainable use of the resources
- Management of the diverse medicinal plants/Non Timber Forest Produce.
- Create specific conservation reserves for long term conservation and study of threatened species and strengthening of their population status
- To meet the genuine demands of local people

- Capacity building of the staff in identification, monitoring and management of the medicinal plants and other NTFPs.
- Improving the income of local people by improving quality of harvested produce, better post harvest handling and efficient disposal.

15.3 Management Prescriptions:

To take up scientific survey in consultation with experts and professionalists for long term strategy for conservation and management of NTFP's, the management prescriptions include: -

- **Ex-situ measures:**

  It is further proposed that, there is need for few more gene banks for the purpose of creation of awareness, research and for propagation.

- **Training/Capacity Building**

  Training field staff:

  It is proposed to train the field staff from Range Officer to Forest Guard and watcher in identification, documentation of NTFPs, scientific harvesting and post harvest management.

  It is also proposed to train the communities, local people through the medium of Village Forest Committees in proper identification, scientific non-destructive harvest and post harvest management.

- **Research:**

  Mapping of the populations with higher alkaloid content for propagation.

  Propagation techniques of priority species

  Economics of cultivation of priority species.

  Developing Good Agricultural and Collection Practices for medicinal plants.

15.4 Method of Harvest:

The present methodology followed was destructive one and because of which only the population of NTFPs particularly Medicinal Plants dwindled and government has put a ban. Presently the data obtained through Working Plan is not very elaborate. Hence, after proper survey and assessment with regard to availability and its quantity it will be decided. Good Agricultural and Collection Practices on the lines prescribed by World Health Organisation for medicinal plants is a good step as it can ensure quality herbal medicine and also ecologically sound cultivation practices. The GACPs cover a wide spectrum of cultivation and collection activities, including site selection, climate and soil considerations, and identification of seed, main post-harvest operations, and legal aspects. It is necessary to concentrate on standardizing the cultivation practices, collection practices, and post-harvest technologies for these plants adhering to GACPs. Hence, with the help of scientific organisation specialised in this aspect GACPs shall be developed for important commercial NTFPs of Kulgam division and it will be put into practice.

15.5 Walnut:

In this division, walnut trees are present naturally in some of the forests. It is also systematically introduced in the past in the plantation programme. It is given special importance in Chief Ministers Participatory Afforestation Programme. Because of such efforts, the division started getting revenue in

the form of auctioning of walnut fruits. As walnut is one of the NTFP intertwined with the economics of rural area, enough attention needs to be given for the development of it. There is need for compulsory introduction of walnut in the planting programme as a broadleaved component in all closures. At least 10% of the saplings should be walnut.

15.6 Medicinal Plants Conservation Area (MPCA):

Medicinal Plants conservation areas (MPCAs) are the sites, which capture the specific medicinal plants diversity existing in the forest habitat. MPCAs can serve as study sites to learn about the presence of medicinal plants as well as insitu gene bank of the medicinal plants of the State. Thus, there is urgent need of formation of MPCAs in Kulgam Forest Division, which should be viewed as sites of research, conservation and educational activities. To begin with, the following compartments are proposed to be taken as MPCAs.

1. N30
2. N31a
3. N15
4. N25
5. V31a
6. V31b

15.6.1 **Prescriptions For Laying Out of MPCAs:**

1. In the beginnings, it is advisable to take smaller areas as demonstration plots, preferably of about 15 – 20 hectares size for effective management.
2. The area should be properly fenced for effective protection against grazing, which in any case shall not be allowed in such areas.
3. Rigid protection from biotic interference should be given by forming local management committees on the lines of Village Forest Committees.
4. No removal shall be permitted from an MPCA except for the collection of seeds or propagules for multiplication. Such collection shall be minimal.
5. Floristic survey shall be carried out in the area by expert hands and local botanist.

15.6.2 **Concept of JFM in Conserving & Propagation of Medicinal Plants:**

The concept of Joint Forestry Management for conservation and propagation of medicinal plants can be applied both for forest areas as well as areas outside the forest like private herbal gardens, school herbal gardens, community herbal gardens etc. There is an immediate need to educate the people about the economic and health benefits of medicinal plants to motivate them for their commercial propagational practices. The degraded forests and private areas adjacent to these forests can be converted into herbal gardens where the medicinal plants could be grown jointly by the forest department as well as the local panchayats. The department shall later on formulate the rules for sharing the benefits of such gardens. The village “Botanists and Hakeems” could be involved in such practices to give a boost for its successful

implementation. These areas could serve as demonstration plots as well as nurseries to educate the people about the medicinal plants and their propagation techniques.

15.6.3 **Training of Field Staff:**

The medicinal plants existing in Kulgam Forest Division are a natural resource and not much has been done to raise these in artificial conditions. The need for training of staff, therefore, is of paramount importance so far, as the techniques of raising these plants in nurseries etc. is concerned. The training of Staff shall include:

1. Identification of medicinal plants of the area.
2. Medicinal uses of the important medicinal plants.
3. Species which need special attention like rare and threatened one and species in high trade.
4. Assessing the plants for primary health case use by locals.
5. Inventorisation and resources assessment by sampling techniques.
6. Seed collection, propagation and nursery techniques of important medicinal plants of the Division.

15.6.4 **General:**

Due to general devastation of forests in the Division, the habitat for the medicinal herbs has been degraded resulting in their low production as also the extinction of some of the species. Additionally, with the increase in demand for these medicinal herbs in the National and International markets, there has been an uninterrupted exploitation of these resources particularly, through illegal channels. It is the alpine and high temperate forest region of the Division which is comparatively rich in minor forest produce. This entire area needs to be protected against biotic interference in order to promote the growth of MFP's. The main area of attention therefore would be to create greater resources of MFP's through massive plantation, depending on the demand of particular MFP. Number of demonstration plots are proposed to be laid out in Ecological niches of MFP's and the nursery techniques of raising MFP's, so that their regeneration techniques and harvesting are standardized. Extensive plantation of important and marketable MFP's need to be undertaken within the forest areas and other wastelands on degraded forest sites. It is proposed to take up the following MFP's in the first phase.

Dioscorea deltoida, Rauwolfia serpentine, Digitalis purpurea, Aconitum heterophylum, Viola odorata, Berberis lycium, Atropa accuminata, Artemesia spp., Punica granatum, Pyrethrum spp., Podophyllum hexedrum, Ephedra spp., Aegle marmelos, Parrotiopsis jacquemontiana, Phyllanthus emblica, Tamarind spp., Crocus sativa, Dendrocalamus strictus, Arundneria falcate, Terminalia bellerica etc.

CHAPTER-XVI

Working Plan for

Eco-Tourism (Overlapping)

CHAPTER-XVI

Working Plan for Eco-Tourism (Overlapping) Working Circle

16.1 General Description of the Area:

The Kulgam district has marvellous scenic beauty. In Eco-tourism there is larger scope for paragliding, mountaineering, trekking, skiing, river rafting, angling etc. The concept of home-stay which is very successful in Ladakh region, if properly introduced can have greater scope in this region.

The following is the list of compartments which have high ecotourism potential:

Range	Compartments
Veshew	V14,V15b, V27c,V28a ,V31a,V31b
D.H.Pora	N3,N18
Kulgam	N35a, N35b, N44, N45
Total	12

16.2 Important Activities Identified under Eco Tourism:

16.2.1 **Trekking:**

The trekking is a long, adventurous journey undertaken on foot in areas where common means of transport are generally not available. There are short as well as long trek routes available in the division and hence can cater to different audience. Along the trek route, one can see and experience the life of nomadic graziers. Some of the trek routes end in a water body which has a mention in the ancient traveller's books. The following are given the range wise important ecotourism spots and trekking paths in the division.

16.2.2 **Para gliding:**

Paragliding is the recreational and competitive adventure sport of flying paragliders: lightweight, free-flying, foot-launched glider aircraft with no rigid primary structure. The pilot sits in a harness suspended below a hollow fabric wing whose shape is formed by its suspension lines, the pressure of air entering vents in the front of the wing and the aerodynamic forces of the air flowing over the outside.

16.2.3 **Angling:**

Angling means catching of fresh water fishes using fishing rods. It is widely followed as a recreational hobby in other countries.

16.3 Eco-Tourism spots:

Following is the description of the important eco-tourism spots in Kulgam Forest Division:

1. **Kounsarnag**:

   It is one of the largest, most picturesque and fascinating high altitude mountin lakes of Kashmir. It is the source of Veshew river. The lake is located at a height of about 4000mtrs above msl. It is about 2-3 kms long with depth varying from 50-80mtrs. Ice floes, resembling miniature ice bergs, float in the lake even in July and August, the hottest period of the year in Kashmir. The lake has an amusing background of the trident peak on the south, while a big glacial moraine dams it up the north. Water of the lake does not seem to come out of the lake as the lake is bounded by hilly elevations all around. This is an interesting feature of the lake. Water seeps through this moraine down at Mahinag, where from the Veshew takes up a regular course. The glaciers on the mountains surrounding the lake become the source of water for the lake.

   Kounsarnag is about 25 Kms from the famous tourism spot Aharbal. One can only go on foot or on a horse to Kounsarnag and it is about a journey of 6-8 hours. Kongwattan the famous meadow is enroute to Kounsarnag. The place is quite suitable for trekking lovers, as it offers a good deal of adventure to them. One can see live glaciers while going to Kounsarnag. Trekkers and Tourists who would like to stay at Kounsarnag should take camping items like alpine tents etc with them.

   Kounsarnag is regarded as a sacred lake both by the Hindus and the Muslims. Local Gojjars and Kashmiris offer *Niyaz* by way of Martyring sheep on the banks of the lake. The water of the lake is also regarded as sacred and is not contaminated or polluted in any way.

2. **Kongwattan**:

   It is a lush green meadow, calm and replete, with coniferous trees all around. It is situated on the eastern bank of Kounsarnag Nallah. It is about 5 kms from Aharbal and is a journey of about 1 & ½ hour on foot or on horse. The place is very ideal for day visit. One can stay for nights also at Kongwattan with ease. Visitors are advised to take tents and other items with them if they want to stay there for the night. Kongwattan lacks basic facilities like hutments etc. Alpine meadow Ramakhanstar is situated very near on western side of Kongwattan at the bank of Kounsernag Nallah. A foot path leads from Kongwattan to famous Chiranbal meadow.

3. **Aharbal**:

   It is known for its 20 mtr high waterfall on Veshew river at Gurwattan. It is 75 kms far from Srinagar and is located in South Kashmir's Kulgam District. One can reach Aharbal either taking Anantnag Kulgam Route or Pulwama Shopian Route. One gets fascinated while driving through the apple orchards of Shopian and Kulgam Districts. It is said that Mughal Emperors used to rest at Aharbal after taking long trip from Delhi to Kashmir.

The roaring and large volume of water at the fall is quite fascinating and one gets enchanted by its noisy and tumultuous nature. It is very dangerous to go very near to the fall as it has claimed several lives so far. So it is advised not to venture to go very near to the fall. One should watch it safely at a distance. The Veshew at Aharbal shelters countless trout fish and due to it Fisheries Department offers permits for fishing in it. The place is very calm and replete and lush green forests on two banks of Veshew surround it. If one starts trekking from Aharbal it would lead him to the beautiful lake called Kounsarnag via Kongwattan. The place is also ideal for river rafting which has not been as yet started at a desired frequency.

However the place is deprived of deluxe hotels and other basic tourism infrastructure. Hence tourists are advised to carry tents with them for night stay.

4. **Chiranbal**:

It is the biggest sub alpine meadow in the Division situated on the bank of Zajinar which sis the most important tributary of Veshew. One can reach Chiranbal either from Manzgam via Hallan through Comparment V-34 and V-35 or from Avil village.

Chiranbal meadow is bifurcated into two spots *Her* and *Bon* Chiranbal. *Her* Chiranbal is smaller than *Bon* Chiranbal. A vast range of alpine margs like Kachoi, Bardalow Rehman Dar, Manzpal, Hapthnard etc can be viewed from Chiranbal meadow. The place is ideal for day as well as night stay. It leads to some alpine meadows like Kadalbal, Zajimarg, Hakwas etc.

5. **Zajimarg**:

It is large alpine marg which has some important Nags or Csars around it like Bramsar, Chirsar etc whose water runs right through it and joins Zajinar. It is very ideal trekking spot one can reach Zajimarg starting either from Avil K.B. Pora via Her Chiranbal by foot or horse or from Nandimarg via Zumsthal. It is journey of about 6 hours on foot.

6. **Panchanpathri**:

It is a lush green meadow in between forests of compartment N-18 near Humpathri village of Tehsil Damhal Hanjipora. A Kacha road of 2 kms leads from Humpathri to Panchanpathri. The place is replete and calm with coniferous trees all around. It is ideal for day visit, school excursions and local picnics.

7. **Badi Beh – Yaripathri**:

It is a sub alpine meadow enroute to Moh-Mangth of Ramban District from Kutmarg Dandward villages of Damhal Hanjipora Tehsil. A small river Sekiwas originates from Yaripather which is an important tributory of Veshew.

Range wise list of Eco-Tourism Spots:

Range	Spot
Veshew	Kungwattan, Kounsarnag, Aharbal, Chirranbal, Zajimarg
D.H.pora	Trajan, Zumstal, Panchan-pathri, Yaripathri
Kulgam	Arigutan, Lammer

Trekking paths:

1.	Veshew Range	Kms-away	Time hours	Route used
(i)	Aharbal to kounsarnag	25Kms	5-6 hours	By foot
(ii)	Aharbal to Kongwattan	5Kms	1-1 ½ hours	By foot/horses
(iii)	Manzgam- Halan to Chirranbal	5-6 Kms	1 ½-2 hours	By foot/horses
(iv)	Chirranbal to Kadlabal	5 Kms	1-1 ½ hours	By foot/horses
(v)	Kadlabal to Hakwas	5 Kms	1-1 ½ hours	By foot/horses

2.	D.H.pora	Kms-away	Time hours	Route used
(i)	Nandimarg-via to Zajmarg	5Kms	1-1 ½ hours	By foot
(ii)	Zumistal to Zajmarg	10 Kms	3-4 hours	By foot/horses
(iii)	Kutmarg to Badi beh yaripathri	8Kms	2 hours	By foot/horses
(iv)	Badi beh yaripathri to Muhmangth (Ramban)	8 Kms	2 hours	By foot/horses

16.4 Home-Stay:

One way of reducing the infrastructure gap is by encouraging Home-Stay. The inbuilt aspect of Eco-tourism understands the local culture, customs etc. It can be done by encouraging Home-stay. The concept has become very successful in Ladakh region. The willing households can be asked to refurbish one room for the visiting tourists. The allocation of rooms can be turn by turn controlled by the society manned by the unemployed local youths, house wives by forming the society and having a front office in Srinagar for easy reach of the tourists. The households can be given training in the preparation of various varieties of dishes as well as in the presentation of the food.

16.5 Management Prescriptions:

- Local communities should be motivated to be a part of the Eco-Tourism activities. They should be employed as guides for the treckkers.
- In order to promote tourism a network of trekking routes criss crossing the compartments should be constructed. In addition to this, view points, cafeteria picnic pavilions & a few huts need to be constructed for the tourists as well.
- Look out points and observation towers should be constructed at suitable places for providing a commanding view of the landscape.
- Plantation of ornamental species like Chinar, Cupressus, Rhododendron, Willow, Lagerstroemia etc should be taken up along the trekking routes, inspection paths and roads. Wooden benches should be provided at certain places for relaxation.
- Artificial regeneration in the compartments of this Working Circle should be taken up wherever required.

CHAPTER-XVII

Working Plan for

Joint Forest Management

(Overlapping) Working Circle

CHAPTER-XVII

Working Plan for Joint Forest Management (Overlapping) Working Circle

17.1 Introduction:

The foresters had long been working with the forest dwellers through the taungya system of cultivation under which the agriculture crops were raised alongwith the forest plantations for a few years. Joint Forest Management (JFM) programme in the present form can be traced to the Arabari experiment initiated by foresters in the state of West Bengal. This experiment provided a strong feedback for incorporation of the system in the National Forest Policy of 1988. In many locations people's voluntary groups were engaged in protection of forests without any initiative from the Government. Subsequently, based on the experience, the process of institutionalizing people's participation in forest protection and regeneration began. This type of collective endeavour in protection and management of forests through people's involvement was later termed as Joint Forest Management. As per the provisions of National Forest Policy 1988, the Government of India, vide letter No.6.21/89-PP dated 1st June, 1990, outlined and conveyed to State Governments a framework for creating massive people's movement through involvement of village committees for the protection, regeneration and development of degraded forest lands. This gave impetus to the participation of stakeholders in the management of degraded forests situated in the vicinity of villages. The joint forest management programme in the country is structured on the broad framework provided by the guidelines issued by the Ministry of Environment and Forests (MoEF).

The National Afforestation Programme was started by Government of India in the Xth five year plan by amalgamating the programme and schemes of similar objectives. The Government of India has created a National Afforestation and Eco-Development Board as part of MoEF to which NAP was entrustedThe aim of the programme is afforestation of degraded forests with the active involvement of local people.It was implemented through the registered society called Forest Development Agency (FDA).During the course of implementation of FDA, various Village Forest Committees were formed to formulate and implement the programmes under FDA. It is properly registered to give a legal status.

The Village Forest Committee consisted of General Body and Executive Body. All the households in the coverage of VFC were made members of General Body. The VFC elected its Chairperson of the Executive Committee of the VFC. The Block Forest officer is the Member Secretary. Due representation of women and SC/STs are ensured in these committees. A joint account is opened in the bank to implement the programmes prepared through Micro Plan. They collectively operate the consensus plan made by the public. The micro plans for afforestation activities and for developing other village amenities prepared by the Forest Officers and Village Forest Committees (VFCs)/JFMCs after detailed PRA exercise.

The afforestation programme basically contains components such as advance work, creation and maintenance of closures for next three years. The degraded forests can be treated under any one of the

modes such as aided natural regeneration, artificial regeneration, regeneration of perennial herbs and shrubs, silvi-pasture development and development of bamboos etc.

In case of J&K State Forest Policy, 2011 also gives enough emphasis for people's participation. The basic unit of FDA is VFC. The joint forest management programme is successfully functioning in the valley since 2001.

17.2 General Constitution of the Working Circle:

This working circle has been formed for implementation of the policies and guidelines of the Joint Forest Management formulated by Central and State Governments. A large part of this Division has potential for developing into good JFM working areas. However, stress may be given to those where there are more barren areas in the form of degraded forest, institutional land or wasteland, as well as area prone to illicit damage. This selection may be judiciously done by Divisional Forest Officer to create sense of responsibility towards the forest and to suit the needs of protection of state's valuable forests.

For the first time in 1988, National Forest policy of India recognized the need to provide greater control to local communities over forests and their resources and to integrate conservation and development through and active participatory role of local people. This concept of involving local communities in the protection, development and regeneration of the forests came to be known as ***"Joint Forest Management (JFM)".*** The JFM was formally adopted in Jammu & Kashmir State by issuing a notification SRO-61 dated: 19-03-1992.

17.3 Special Objectives of Management:

- To give adequate protection to the existing forest resources in the Division through effective people's participation
- To maintain and improve the quality of the environment, that is, the existing vegetation/tree cover should be maintained for the conservation and improvement of the environment and for the better living conditions for human beings.
- To reduce the pressure on the forests by diverting the pressure with the alternative sources of energy.
- To manage the forests in such a way that there is effective sharing of usufructs to the people in a sustainable manner.
- To create awareness among the people about the importance of the forest resources/ tree cover for a better future to humanity.

17.4 Government Policy on JFM:

The Government of Jammu & Kashmir passed a resolution vide Notification No.SRO-61 of 19-3-1992 for the constitution of JFM committees. All the JFMCs in each forest Division are coordinated under the ***Forest Development Agency (FDA's)*** for that particular Division. The main objectives of this agency are

- Conservation, management and increase in the forest cover in the project area, in a sustainable manner.
- Conservation of soil and water in the project area.
- Employment generation through creation of productive community assets.
- Formation of village level committees which will carry out the activities mentioned above.
- Employment generation to most needy section of the society, particularly women, SC/ST and landless labourers and encourage them to be self-sufficient.
- To train the rural women in income generating activities and to improve their social, economical and health conditions.
- To avail the alternative sources of energy to the rural people, and subsequently decreasing their dependence on forest for fuel.
- To inculcate the idea of conservation of natural resources among the members of JFMs and other people.
- To ensure the active people participation in the implementation of the different objectives of the project
- To share the usufructs with the local people.

As discussed above realising the necessity of active participation of local people in regeneration, maintenance and protection of plantations done for Afforestation and rehabilitation, the J&K Government vide SRO-61 of 1992 at 19-3-1992 notified the J&K (Rehablitation Of Degraded Forests and Village Plantation) Rules 1992 which states as under :-

"*Whereas certain areas in the demarcated forests have been identified as degraded forests, and*

Whereas it is necessary to afforest the waste Khalsa land not under cultivation for the benefit of agriculture and agriculturilists and to prevent denudation and soil erosion in such areas, and

Whereas raising of village woodlots in these areas is necessary to meet the fuel fodder, fibre and small timber requirement of the local people, and

Whereas active participation of local people is vital for regeneration, maintenance and protection of plantation done for Afforestation and rehabilitation as aforesaid.

Now, therefore the Government in exercise of the powers conferred under sections 5 and 14-A of the Jammu & Kashmir Forest Act, Svt 1987 (Act No. II of 1987) is pleased to make the following rules.

The Jammu and Kashmir

(Rehabilitation of Degraded Forests & Village Plantations) Rules, 1992.

Chapter - I

1. Short title and commencement:-

(1) These rules may be called the Jammu and Kashmir (Rehabilitation of degraded Forests and Village Plantation) Rules, 1992.

(2) These shall come into force from the date of their publication in Government Gazette.

2. Definitions:-

In these rules unless the context otherwise requires the words and expressions used shall have the same meaning as assigned to them respectively in Jammu and Kashmir Forest Act, Svt 1987.

Chapter - II

Village (Rehabilitation of Degraded Forests) Committee.

3. Composition:-

i. There shall be constituted a village (Rehabilitation of Degraded Forests) Committee for each village or group of villages for the purpose of protection and management of degraded forests.

ii. People residing at the edge of degraded forests shall form the basis of membership of the village (Rehabilitation of Degraded Forests) Committee.

iii. One adult male / female member of each independent household residing at the edge of degraded forests shall have the right to become member of a village (Rehabilitation of Degraded Forests) Committee. The Block Forester and / or Forest Guard shall verify the membership of all members of village (Rehabilitation of Degraded Forests) Committee within their area of jurisdiction.

iv. Each village (Rehabilitation of Degraded Forests) Committee shall have an Executive Committee of 11 to 15 members (including at least two women and three members from Scheduled Caste / Scheduled Tribe / Backward Classes), a representative of nomads and two members from each Panchayat falling under the jurisdiction of Village Committee to be nominated by the Sarpanch to carry out the task of such committee. The Patwari of the halqa shall be ex-officio member of Executive Committee.

v. The members of Executive Committee shall be elected once in three years by the respective village (Rehabilitation of Degraded Forests Committee). In the event of any default by the Executive Committee in the performance of its duties fresh elections shall be held by the said committee. The concerned Range Officer / Block Forester shall be returning officer for conducting such elections.

vi. The Executive Committee shall select one of its members as Chairman and also chose a treasurer amongst themselves.

vii. The concerned Block Forester / Forest Guard shall act as member-Secretary and shall be responsible for assisting the village (Rehabilitation of Degraded Forests) Committee to co-ordinate its activities with other Government Departments and shall also be responsible for the maintenance of records of the concerned committee.

viii. Constitution of all the committees under these rules shall be subject to the approval of concerned Divisional Forest Officer (Territorial) or Divisional Forest Officer, Social Forestry, as the case may be.

ix. If any inclusion or change in the Village (Rehabilitation of Degraded Forests) Committee or executive committee is necessitated after its initial constitution, the executive committee shall make the recommendations to the Divisional Forest Officer (Territorial) Divisional Forest Officer, Social Forestry as the case may be, whose decision shall be final.

4. Meetings:

The Member Secretary of the Executive Committee shall convene at least 2 formal meetings of the Executive Committee and one meeting of the general body in a calendar year".

5. Supervision:

District level policy review committee shall supervise and review working of all the committees and shall consist of:-

a) Dy. Commissioner of the concerned District - Chairman

b) All the Division Forest Officers both - Members

Territorial as well as Social Forestry of the District.

c) Three prominent non-govt; officers includes two panches of the area to be nominated by the Dy. Commissioner. - Members.

6. Agreement :

The village (Rehabilitation of Degraded Forests) Committee shall enter into an agreement with the Divisional Forest Officer (Territorial), or Divisional Forest Officer Social Forestry, as the case may be, in terms of the conditions agreed upon by the parties. The Agreement shall be in the Form "A" appended to these rules.

7. Functions:

The Village (Rehabilitation of Degraded Forests) Committee shall perform the following functions, namely:

a. To associate the Social Forestry Department / Forest Department, as the case may be, in protecting the Social Forestry / Forest Department Plantations through the members of the committee.

b. To inform Forest personnel of any person or persons attempting trespass and willful damage to the Social Forestry/ Forest Department plantations or commit theft thereon;

c. To associate Social Forestry/Forest Department in preventing such trespass, encroachment, grazing, fire, theft or damage;

d. To associate Social Forestry/Forest Department in smooth and timely execution of all plantation works taken up in the Degraded Forests;

e. To associate the concerned Social forestry/Forest Department Officials in selecting/engaging labourers required for plantation works;

f. To associate in harvesting of the plantation by the Social Forestry/Forest Department.

g. To associate the concerned Social Forestry/Forest Department officials in the distribution of the usufructs among the members of the village (Rehabilitation of Degraded Forests) Committee as per-the register of members maintained by the Committee;

h. To associate in preventing any activity done at the plantation site in contravention of the provisions of Jammu and Kashmir Forest Act, Svt. 1987 and the rules made there-under;

i. To report about activities of a particular member which are prejudicial and detrimental to the interests of plantation, to the concerned Range Officer which may result in cancellation of membership of the erring member.

j. To associate with Forest Officials to take action or proceed under J&K Forest Act, Samvat 1987 (Act No.II of 1987) and the rules made there under against the persons involved in Forest offences in Degraded Forests; and

k. To evolve procedure in consultation with Social Forestry/ Forest Department Officers to be adopted by its members for collecting produce such as fodder, grass, dry and fallen wood from the plantation site in a manner which ensures sustainable yields of such produce from the area.

8. Termination:-

The Divisional Forest Officer or any Range Officer authorized by the Divisional Forest officer in this behalf may take action including termination of the membership against any member who has failed or neglected to perform his functions under these rules.

9. Appeal: -

(1) Any person aggrieved by the order made under rule 8 may, within 15 days, prefer an appeal to-

a. The Divisional Forest Officer against an order of Range Officer,

b. The Circle Conservator of Forests/ Regional Director. Social Forestry concerned against the order of Divisional Forest Officer.

(2) The Order passed under sub-rule (1) shall be final.

10. Maintenance of Register:

(i) The village (Rehabilitation of Degraded Forests) Committee shall maintain a register showing necessary particulars of beneficiaries who are members of the Committee, e.g;

a. Name b. Father's Name c. Address d. Age e. Members of the family f. Name of the nominee.

(ii) The nomination forms duly filled in and approved by the Executive Committee should be pasted in the register. Such registers are also to be maintained in the concerned Range Office of the Social Forestry/Forest Department for permanent records.

(iii) Each member of the village committee will be provided with a pass book showing therein details as at sub-rule(1) above. All the benefits derived by the members shall be entered in the pass book at the end of each financial year and shall be duly authenticated by the concerned Block Foresters."

11. Proceedings:

The village (Rehabilitation of Degraded Forests) Committee shall maintain a "Register" where-in proceedings of the meetings of the Executive Committee held from time to time as well as proceedings of the annual general meetings of the village (Rehabilitation of Degraded Forests) Committee will be

recorded under the signature of the Chairman of the Committee and such minutes duly attested shall be sent to the concerned Range Officer for record.

12. Sharing of harvest:-

1) The committee in consultation with all the members will determine how to share 50% of the proceeds from each major harvest of the plantation in kind or the sale proceeds of the produce of the plantation of degraded forests amongst members".

(2) The Village (Rehabilitation of Degraded Forests) Committee may generate common village fund in the name of committee by sale of surplus interim produce or from the share of the sale of major produce and keep the deposit in any of the Scheduled Banks to be utilized for the welfare of villagers. The bank account/accounts would be operated upon by the Chairman, the secretary and the treasurers only".

13. Works :

(1) An Agreement specifying the rights and responsibilities of all parties shall be signed before commencement of any works in the plantation.

(2) The content of the works to be undertaken shall be decided in consultation with the village (Rehabilitation of Degraded Forests) Committee.

14. Usufructary benefits:

(1) The Block Forester / Range Officer in consultation with the Execution Committee and with the approval of the Divisional Forest Officer concerned will distribute to the beneficiaries their proportionate share of usufructs from the final harvesting, not before the crop attaining the age of 10 Years.

(2) The members shall be entitled to collect free of royalty, without causing any damage to the plantation, grass, fodder, dry and fallen wood, pruning, thinning etc. with the permission of Block Forester.

(3) The members will have to assist in protecting the plantation to be eligible for sharing of usufructs under these rules.

(4) The members will not be entitled to produce from trees preserved under Jammu and Kashmir preservation of specified trees Act 1969 (V of 1969).

(5) An individual whose membership stands terminated under any of these rules shall not be entitled to benefit / sharing of usufructs under these rules.

15. Reviews:-

The major rights and responsibilities of village (Rehabilitation of Degraded Forests) Committee and Executive Committee will be reviewed by principal Chief Conservator of Forests / Chief Conservator of Forests (Project Director) Social Forestry Project annually.

Chapter – III

Village Plantation (Protection And Management) Committee

16. Composition :-

There shall be constituted a village plantation (protection and management) committee in a village or group of villages for the purpose of protection and management of such waste lands / un-demarcated forests and khalsa sarkar lands as are not included in demarcated forests. The composition and other conditions regarding membership and election of the committee shall be the same, as provided for village (Rehabilitation of degraded forests) Committee".

17. Meetings:

(1) The Committee will meet at such place as may be convenient to members or in such villages where such plantations are to be raised on the dates that may be notified by the Chairman.

(2) The committee will in consultation with people of the village concerned select area as required for the benefit of the villagers, their Cattle and agriculture and for prevention of denudation and soil erosion.'

(3) The committee will open a file in each case in which the statement of villagers, the points agreed upon and the decision of the committee are recorded in the form of a resolution in the following manner.

a. Description of boundaries of the area to be covered.

b. The produce to be removed by the villagers.

c. Acts that are prohibited,

d. Regulation on closure of grazing.

(4) All points of disagreement between villagers, objections, claims and rights will be heard, discussed and eliminated by the committee before a final decision is recorded which should be signed by all members.

(5) The rules of protecting the Forest will be the same as provided for in the Forest Act, Samvat 1987. Similarly the concessions as granted in Jammu and Kashmir Forest Notices will be availed of by the villagers.

(6) The file be then handed over to the Revenue Official who will get the area demarcated through villagers by means of boundary pillars of the same type as Forest boundary pillars. Patwari halqa will prepare a map of the area and demarcate the same on the ground through villagers.

(7) The file be submitted to the Deputy Commissioner through the Divisional Forest Officer concerned

(8) Notification will be issued by the Deputy Commissioner under Chapter III-A of the Forest Act. The file will then be returned to the Divisional Forest Officer concerned with a copy of the Tehsildar of the area

18. Functions:

(1) The village plantation (Protection and Management) Committee will enter into an agreement in terms of resolution arrived at and sanctioned by the authority with Divisional Forest Officer, Social Forestry Wing of the area. The agreement shall be as per Form "B" appended herewith.

(2) The village plantation (Protection and Management) Committee will then enforce the rules framed for the protection of the area and regulation of concessions, benefits and grazing rules as sanctioned in the file.

(3) In case of an act, concession or benefits not specifically provided in the rules as sanctioned in the file then village plantation (Protection and Management) Committee will enforce rules formed under Jammu and Kashmir Forest Act, Samvat 1987.

19. Supervision:-

The functioning of the Village Plantation (Protection and Management) Committee shall be subject to the supervision and review of the District Level Policy Review Committee constituted under rule. 5.

20. Motivation of villagers:-

The Deputy Commissioner and the Divisional Forest Officer of the District in which these rules are made applicable will discuss and explain the advantages of the scheme to the villagers in their respective jurisdictions and watch the work of the village plantation (Protection and Management) Committees and report their progress to the Divisional Commissioner and Regional Director/Conservator of the province respectively.

21. Grazing:-

The area should usually be closed to grazing when closure of the whole area is not possible, as much of the area as can conveniently be closed for a number of years, should be closed.

22. Joint Management:

(1) For the joint management of the area, a development cum-management plan will be prepared by the Social Forestry in collaboration with villagers.

(2) If the villagers undertake to carry out a programme of sowing and plantation, it will be done under the joint management of the Social Forestry Department and the villagers.

23. Cost of Planting, Maintenance and Protection:

(1) Cost of planting, maintenance and protection would be borne by the Social Forestry Department for the first five to ten years but the local population will participate in protecting the plantation. Thereafter the management and protection of the plantation will be the responsibility of the village plantation (Protection and Management) Committee.

(2) The Social Forestry Department will continue to monitor and control the management of the plantation even after management and protection has been taken over by the village committee.

(3) At each major harvest after establishment to the plantation, Social Forestry Department will recover 25% share from the sale of fuelwood timber or poles and 75% of cash balance will be given to the village plantation (Protection and Management) Committee.

(4) The Village Plantation (Protection and Management) Committee may generate common village fund in the name of committee by the sale of exertive interim product or from the share of the sale of major produce and keep the deposit in any of the scheduled banks to be utilized for the welfare of villagers. The Bank Account(s) would be operative by Chairman, Secretary and the Treasurer only.

24. Distribution of Funds:

The village plantation (Protection and Management) Committee will utilize the funds either for replanting the area or for financing the establishment of additional village woodlot or for financing public works in the village/ villages (i.e., construction or water supply, village roads etc.)

25. Usufructs and Benefits:

(1) The villagers will be entitled to collect grass, fallen wood and tree loppings from the plantation area as provided under the Kashmir Notice for Kashmir province and Jammu Notice for Jammu Province.

(2) Social Forestry Department acting through its field staff will encourage villagers to participate in establishing village woodlots by explaining the benefits to be obtained from community plantation and assist village plantation (Protection and Management) Committee and village (Rehabilitation of Degraded Forests) Committee in demarcating areas of waste land on which plantation is to be done.

Chapter - I V

Repeal And Saving

26. All rules and orders corresponding to these rules in force immediately before the commencement of these rules are hereby repealed:

Provided that all rules and orders made, permits, license and passes granted, fees levied, imposed or assessed proceedings instituted and all actions taken or things done under any of the rules or orders inforce before the commencement of these rules shall be constituted to have been made, granted, levied or done under the corresponding provisions of these rules.

17.5 Implementation of JFM In Kulgam Forest Division:

The natural forests have deteriorated alarmingly due to illicit felling, encroachment, grazing and absence of regeneration. The plantations raised artificially could not be protected to their rotation ages. Constraint to protection of forests is mainly due to the close vicinity of the forest with human habitations.

The forest areas have depleted considerably and more and more areas are going out of management every year. The result of deterioration and depletion of forests is that an acute crisis of timber, firewood and other forest produces has risen.

The forest of Kulgam has gone through a sea change in extent, quality, composition, spatial distribution and status. By dint of inheriting a historically notorious background of harbouring reckless professional timber smugglers certain forest areas witnessed destruction, irreversible in a way. The situation has come to such a pass that State alone despite men, machinery and rules/ laws – cannot arrest the alarmingly dwindling trend and that is way like other parts of the State here too Joint Forest Management through active peoples participation has came to be recognized as a panacea for effective management of forests. It is realized has dawn that forest resources cannot be preserved without involving the populace inhabiting around, in implementation and evaluation of Schemes relating to development and protection of forests.

17.5.1 **Problems faced with JFM:**

- While the concept of JFM was catching up in 90's in rest of the Country, the State was in the grip of militancy. Although some headway was made in the Jammu region, but in the Valley formation of VFC's has been affected more out of compulsion of the Project requirement and objectives and less for integrating local communities into the process of development and regeneration of the forests.

- Secondly the VFC members usually consider membership of such communities as an opportunity or stepping stone for future appointments in the forest department which when not achieved disappoints and dis-functions such members.

- The forest department staffs on its part so far failed to overcome their policing psyche over the people and has miserably failed to shed their image of a policing force and have not been one with local communities.

- There has definitely been a lack of proper successful blending of the department and the communities with a common aim of improving the forests for the good of the community. For a success model, the staff has to sincerely and regularly interact with the communities right from planning stage upto its implementation. Otherwise, the programme is bound to fail if there is no consensus on the methodology of development and the choice of species on the project area.

- VFC's which are expected to protect their JFM forest from willful damage, theft, encroachment, grazing and any Act prejudicial and detrimental to the interests of the forests, have necessarily to be benefited from sharing the benefits for which collaborated schemes need to be formulated.

The name and the number of VFCôs registered in the Division are depicted below in table:

S. No	Range	Name of VFC
1	Kulgam	Malwan
2		Chambgund
3		Akhall
4		Lammer
5		Banimullah

The compartments and sub-compartments allotted to Rehabilitation Working Circle which were degraded due to past maltreatment can effectively be tackled by active participation of local people living in and around such forests by ensuring successful blending of the staff concerned and the communities with a common aim of improving the forests for the good of the community. In order that the JFM in the Division become a success model, it will be ensured that there is a consensus on the methodology of development and choice of species on the Project area by effecting sincere and regular interaction among the staff and the communities involved. The VFC's will be involved right from planning stage upto its implementation stage. Besides compartments under Rehabilitation Working Circle, the JFM will also form a part of Plantation Working Circle, NTFP Working Circle etc.

The following is the list of compartments around which the JFM Schemes can be implemented:-

Range	Compartments
Veshew	N27a, N27b, N27c, N28, N29, N30, N31a, N31b, N32a, N32b, N34, N35a, N35b, N36a, N36b, N43, N44, N45
D.H.Pora	V31b, V32a, V32b, V33a, V34a, V34b, V34c, V35a, V36a
Kulgam	N1, N2, N5, N6, N9, 10, N15, N16a, N16b, N17, N18, N19, N23, N24a, N24b, N24c, N26a, N26b, N26c
Total	46

17.5.2 **Suggestions for Successful Implementation of JFM:**

- The local communities will appreciate closure of a forest area by forgoing their immediate need of fuel wood, fodder, timber etc. in the hope of better deal in future. Therefore, in a JFM Programme, provision of alternative source of fuel wood, timber, fodder need to be kept in mind.

- The local communities not only sustain their requirement of fuel wood, fodder and timber but also make some livelihood out of it, so in order to involve them in forest protection activity besides Entry Point Activities, some alternative wage employment needs to be provided to compensate for the income loss due closure of forests.

- Villagers are mainly dependent on forests for their grazing. Complete refusal to grant them a space for grazing by closing entire areas is counterproductive. Some areas should always left open for rotational grazing to allow the people to continue grazing their small livestock.

- The VFC activities should be extended to NTFP management for promoting regeneration, development and sustainable harvesting of NTFP which can be given to them on concessional rates or in a benefit sharing mechanism, with an aim to ensuring multi-oriented and more NTFP oriented approach, with changing the basic principles of silviculture.

17.6 Works executed under FDA and NAP (National Afforetation Programme):

Progress Report for Approved Annual Plan 2012-13 Executed in 2013-14 ending 03/2014

FDA Kulgam Forest Division *Area in ha. Rs .In lacs*

S.No	Item of Work	Rate (Rs)	Approved Annual Programme 2013-14		Achievement upto ending 03/2014	
Advance Work and Creation			Phy.	Fin.	Phy.	Fin.
1	*Aided Natural Regeneration*					
	a.Advance Work	5572	25	1.393	25	1.393
	b.Creation	6750	25	1.688	25	1.6875
	S. Total	12322	25	3.081	25	3.081
2	*Artificial Regeneration*					
	a.Advance Work	12936	50	6.468	50	6.468
	b.Creation	12713	50	6.357	50	6.357
	S. Total	25649	50	12.825	50	12.825
3	*Silvi Pasture*					
	a.Advance Work	7736	20	1.547	20	1.547
	b.Creation	7286	20	1.457	20	1.457
	S. Total	15022	20	3.004	20	3.004
4	*Regen. Of Med. Herbs & Shrubs*					
	a.Advance Work	16964	5	0.848	0	0.000
	b.Creation	12873	5	0.644	0	0.000
	S. Total	29837	5	1.492	0	0.000
	Advance Work		100	10.256	95	9.408
	Creation		100	10.145	95	9.501
	S.Total		100	20.401	95	18.909
	M&E			0.210		0.210
	EPA			1.850		1.850
	S&M			0.000		0.000
	Overhead (10% of Plantation cost)			0.000		0.000
	S. Total			2.060		2.060
	Total		100	22.461	95	20.969

Rate /Rft :39.93

S.No	Name of VFC	Comptt.	Component Wise Details (Fencing)						
			Phy. Target		Phy. Achievement		Balance		Amount
			ha.	Rfts	ha.	Rfts	ha.	Rfts	Rs (in Lacs)
1	Banimulla	N-27b	40	12000	40	12000	0	0	4.792
2	Akhal	N-29	20	6000	20	6000	0	0	2.396
3	Lammer	N-34	20	6000	20	6000	0	0	2.396
4	Malwan	N-27c	20	6000	20	6000	0	0	2.396
		Total	100	30000	100	30000	0	0	11.979

Balance Material Procured & Utilized								
Scheme	Opening Balance		Procured		Utilized		Blance Utilized	
	Fence Posts	Barbed Wire	Fence Posts	Barbed Wire	Fence Posts	Barbed Wire	Fence Posts	Barbed Wire
	Noôs	Qtls	Noôs	Qtls	Noôs	Qtls	Noôs	Qtls
CAMPA	0	0	7500	120	7500	120	0	0

CHAPTER-XVIII

Working Plan for

Forest Protection (Overlapping)

Working Circle

CHAPTER-XVIII

Working Plan for Forest Protection (Overlapping) Working Circle

18.1 General

In broad terms protection pertains to shelter or shield against the dangers or damages that may otherwise be caused to that which is being afforded protection. Forest protection pertains to activities or actions directed towards the prevention and control of damage to trees, forests and the entire forest ecosystem by human beings and his activities, animals (both wild and domestic), insects, diseases, plants and adverse climatic conditions.

Benefits of Forests: Forests are being protected for their benefits. They are important for the overall well being of not only the people of a region or country but of the entire human race. The wood consumption of a nation is being used to measure its economic prosperity. The direct economic benefits and indirect eco-system benefits of forests are listed below:

1. Source of energy.
2. Fodder, Food, Fruit and Fibre.
3. Source of employment.
4. Raw material for large, medium and small scale and local cottage industries.
5. Amelioration of climatic conditions.
6. Soil and moisture conservation.
7. Flood control.
8. Aesthetic and Recreational role.
9. Improving the eco-system.
10. Controlling environmental pollution.
11. Habitat for wild animals.

- **Constraints for Forest Protection**: Forest Protection is affected by the following constraints:

(i) Vast Extent of Forests: The forest area to be protected is very vast in extent. As a result it is difficult to protect it from the ever increasing biotic pressure.

(ii) High costs: Forest Protection is usually fairly costly and often funds needed may not be available.

(iii) Rights and Concessions: People living in and around forest areas enjoy rights and concessions in forests with respect to a number of forest products and pasture of their cattle. This allows the right of entry into forests which leads to the problems of illcit damage, forest fires etc

(iv) Lack of awareness: There is a general lack of awareness amongst people living in the vicinity of forests about:

- The seemlingly inexhaustible resources in the forest.
- The role played by forests with respect to food and ecological security.
- The need to protect and conserve forests.

- The magnitude of damage caused to the forest eco-system on a long term basis.

Types of protective measures: Forest protection measures may be classed into the following:

Preventive measures: These include:

- Legal safeguards for prevention of damage.
- Creation of public awareness.
- Putting of signs and posters.
- Earning the good will and cooperation of the local people in forest protection.
- Measures such as laying out fire lines and control burning.
- Patrolling by the forest staff.
- General vigilance against forest offences.
- Sanitation measures.
- ***Remedial measures:*** This class of measures include steps taken after the occurance of damage. They also include measures for controlling the damage and also rehabilitation of the affected area. They include:
- Putting out fires once they have broken out.
- Controlling the out break of an insect or disease attack on the trees in a forest.
- Rehabilitation of damaged areas.

18.2 General Constitution of the Working Circle:

The Kulgam forest division is vulnerable to various factors natural as well as man made which are inimical for the development and maintenance of productive forests. Many forests are near to habitations and are approachable which make them vulnerable for smuggling activities. Some of the forests are very much prone to fire and pests and diseases. Encroachment is also a concern.This is by far the most important Working Circle of the Division and deserves a special emphasis. The main pressure on the forests is illicit damage, fire, encroachment etc.

18.3 Major Threats to the Forests and Management Prescriptions:

18.3.1 Smuggling and illicit felling:

During the period of disturbance, green kail trees were illicitly felled and transported at the back of horses and ponies and also in vehicles. In Kulgam Range, the forest blocks viz., Akhal, Lammer and Chamgund and in Veshew, Nikan block bore the maximum damage. The staffs have seized huge numbers of horses and ponies during the past. Similarly many of the vehicles carrying illicit timber have been seized, confiscated. The forests, which are near to habitations, suffered the most on this account.

Presently, the number of forest offences has gone down due to improvement in law and order, development in mobile communication, combined efforts of law enforcing agencies etc., Apart from that, timber is made available to general public at concession rate through vast network of Forest Sale Depots. Timber to the people living inside/near to forests is provided through Kashmir Notice. Moreover, imported timber was allowed in Jammu and Kashmir and no restriction was placed in its movement.

Opening up of Imported Timber Sale Depots were encouraged in the private sector, which highly reduced the pressure on forests.

Measures to be adopted:

There is large scale construction boom in kulgam division. Similarly, for people living inside and near to forests, timber should be made available through Kashmir notice. There is need to increase the awareness with regard to usage of alternative to traditional methods like utilisation of composite wood, Chemically improved wood etc., in house construction.

Improving the co-ordination between law enforcing agencies by regularly conducting monthly meeting between these agencies at Division and at range level.

Check posts: Checkposts at important sites are already established.

Improving the communication facilities like providing mobile phones to control room and making it public; vehicles for mobility to the team to reach the spot in time. Presently both the facilities are not made available to the field staff.

Providing training to the law enforcing agencies like forest department, Forest Protection Force and Police department in intelligence gathering, search operations, preparing seizure memo, prosecution of the case etc. There is a need to increase the conviction rate which can act as a deterrent against forest offences.

Consolidated Range Wise Damage Case Statement of Kulgam Forest Division

w.e.f 01-04-14 to 31-03-2015

S. No	Range	Particulars	O.B as on 01-04-2015	Reciepts w.e.f 01-04-2015 Upto 20-05-15	Total O.B + Reciepts	Disposal	Closing Balance	No.of FIRôs Lodged	No of Culprits booked
1	Kulgam	Deptt.	2854	0	2854	0	3854	10	47
		Police	203	0	203	0	203		
		Court	116	0	116	0	116		
		Sub Total	4173	0	4173	0	4173	0	0
2	Veshew	Deptt.	1380	0	1380	0	1380	0	0
		Police	64	0	64	0	64		
		Court	167	0	167	0	167		
		Sub Total	1611	0	1611	0	1611	0	0
3	D.H Pora	Deptt.	1173	0	1173	0	1173	0	0
		Police	14	0	14	0	14		
		Court	61	0	61	0	61		
		Sub Total	1248	0	1248	0	1248	0	0
Grand Total			**7032**	**0**	**7032**	**0**	**7032**	**0**	**0**

Abstract

Particulars	O.B as on 01-04-15	Receipts w.e.f 01-04-15 upto 20-05-15	Total OB + Receipts	Disposal	Closing Balance
Department	6407	0	6407	0	6407
Police	281	0	281	0	281
Court	344	0	344	0	344
Total	**7032**	**0**	**7032**	**0**	**7032**

Range Wise Consolidated Seizure Statement of Kulgam Forest Division w.e.f 01-04-2014 to 31-03-2015														
S. No	Range	Depot	Zone	SPP	O.B as on 01-04-14	Receipts w.e.f 01-04-14 upto 31-3-15	Total OB + Receipts	Disposal upto 31-3-2015				Revenue Obtained (in Rs)	Closing Blance
								Cash Sale	Deptt Works	Supply to Flood Victims	Total		
1	Kulgam	RD Kulgam	MC	D/R	92.43	0.00	92.43	0	0	0	0	0.00	92.43
				D/S	10.07	0.00	10.07	0	0	0	0	0.00	10.07
				K/R	1158.89	236.00	1394.89	0	0	93	93	0.00	1301.89
				K/S	646.81	0.00	646.81	0	0	0	0	0.00	646.81
				F/R	63.46	0.00	63.46	0	0	0	0	0.00	63.46
				F/S	14.37	0.00	14.37	0	0	0	0	0.00	14.37
				P/R	8.00	0.00	8.00	0	0	0	0	0.00	8.00
				F/W	15 Qtls	0.00	15 Qtls F/W	0	15 Qtls F/W	0	15 Qtls F/W	0.00	0.00
Sub Total					1994.03	236	2230.03	0	0	93	93	0.00	2137.03
					F/W 15 Qtls	0.00	F/W 15 Qtls	0	15 Qtls F/W	0	15 Qtls F/W	0.00	0.00
2	Veshew	CRD Nehama	B	K/R/S	947.73	47.85	995.58	0	0	0	0	0.00	995.58
				F/R/S	51.26	0.00	51.26	0	0	0	0	0.00	51.26
				F/W	10.80	0.00	10.80	0	0	0	0	0.00	10.80
Sub Total					998.99	47.85	1046.84	0	0	0	0	0.00	1046.84
					F/W 10.80 Qtls	0.00	F/W 10.80 Qtls	0	0	0	0	0.00	F/W 10.80 Qtls
3	D.H.Pora	D.H Pora	A	K/R/S	640.99	94.81	735.80	0	0	0	0	0.00	735.80
				F/R	163.91	0.00	163.91	0	0	0	0	0.00	163.91
Sub Total					804.90	94.81	899.71	0	0	0	0	0.00	899.71
Grand Total					3797.92	378.66	4176.58	0	0	93	93	0.00	4083.58
					F/W 25.80 Qtls	0.00	F/W 25.80 Qtls	0	15 Qtls F/W	0	15 Qtls F/W	0.00	FW 10.80 Qtls

18.3.2 **Encroachment:**

It is yet another major threat to forests. The forest area is encroached to expand the cultivable land. It is very much visible near to habitations. It is mostly done during spring. The cultivable land near to forests is slowly expanded by adding few feet's every year. Factors like increasing population and reducing per capita land availability, ever expanding road network which makes land available away from towns costlier etc. This could not be controlled by the department mainly due to dilapidation of boundary pillars, willful removal/ destruction of boundary pillars. Non availability/maintenance of demarcation records at range level is also one of the important reasons.

Measures to be adopted / fine tuned:

1. Consolidation of demarcation records and reconciliation of records between forest territorial division and demarcation division.
2. Immediate replacing of damaged boundary pillars / removed pillars etc. near to habitations
3. Digitization of forest boundary: It is not yet started in the state and it has to be the priority.
4. Immediate demarcation of forests which are near to towns, habitations.
5. There is no alternative other than regular patrolling of the forest area by the field staff particularly by the Forest Guard and Foresters.
6. Prosecution of offenders.

18.3.3 **Fire protection:**

There is a high occurrence of fire incidents in the Division. In Kulgam Range, the areas like Chamgund, Akhal, Malwan, Lammer, and Banimullah. In Veshew Range, Kungwatan, Chirinbal and Khull, Nagnad, & Gudder in D.H.Pora Range are prone to fire.

Measures to be adopted:

1. There is need to create and maintain fire lines. This will cut down the damage due to fire.
2. Regular and frequent patrolling is must in fire prone forests. During the dry seasons, patrolling needs to intensified. Report of patrolling should be submitted at every level to the next hierarchy so that information is available with DFO to analyse the report and take appropriate action.
3. Fire fighting tools are to be readily available at every Block Head Quarters. The division has previously purchased fire fighting equipments and kept few sets in every block. The numbers need to be increased.
4. Creation of communication facilities is one of the important measures for realtime response. At present except at division level, no vehicle is provided for the mobility of staff even during the time of crisis. It has to be resolved and vehicles should be provided at range level for quick response. The funds available under various Centrally Sponsored Schemes shall be utilized for the purpose.
5. Creation of awareness among local people, forest living and fringe living communities. Taking them along through JFM activities will help in confidence building measures.

18.3.4 **Grazing:**

Grazing is a major problem in the division. It has reduced the capacity of alpine and sub-alpine pastures of the division in supporting the number of livestock. It has also severely affected regeneration of Fir and Kail. Uncontrolled grazing can make the area compact and prone to soil erosion.

Measures to be adopted:

The following suggestions are laid down for the regulation of grazing:

(i) Prior to undertaking any actual work for the development of these grazing areas it will be relevant to conduct a detailed survey of these grass–lands to know their present condition, trend and future potential. The proper grazing of the areas should be thus done and be given the best scientific treatment it warrants.

(ii) The introduction of legumes like Red Clover (Trifolium prantense) and fertilization with phosphate fertilizers will go a long way in increasing the forage yield of these pastures.

(iii) The introduction of rotational grazing will definitely yield the desired dividends. The grazing should be deferred in the areas overgrazed in past.

(iv) The public opinion should be mobilized by propaganda so that the useless and scrub cattle are castrated. Heavy grazing taxes, if imposed, would discourage the practice of keeping large but uneconomic herds.

(v) Any effort aimed at the development of these pastures cannot meet enough success unless the grazers too are involved in the task. The problem should be tackled on the socio-economic grounds. The semi nomadic and nomadic graziers should be trained in the field and made to participate by providing job opportunities to them on priority basis. Facilities in the form of shelter –sheds, farm –ponds, bridle-paths should be provided on different routes of their migration.

(vi) There is a deficiency of technical know-how in the field and as such Forest Officers should be sent to undergo trainings and higher studies in the field of range management and fodder production.

18.3.5 **Pests Diseases & Parasites:**

- **Pests:**

  Insect attack is not significant in the forests of the Division. Eventhough, in few patches deodar defoliator Ectropis deodarae is seen, it is not very significant. Similarly kail stem borers are noticed in few pockets but not widely prevalent.

  In the year 2013-14, the pohu was attacked by tent caterpillar. The damage was seen in compartment 11V and 12V. The entire pohu shrubs were defoliated gave burnt appearance. Once the larval stage was over, the damage diminished and all the pohu shrubs got fresh leaves. The attack of same magnitude was noticed a decade back.

- **Diseases:**

  In case of Kail and Deodar, Fomes pini – the destructive fungi which can cause heart rot disease was prevalent in some pockets of the division. Similarly, other diseases like *Armillarea* root rot caused by Armillarea mellea, root and butt rot in conifers by *Heterobasidium annosum* and draft mistletoe disease by *Arceuthobium minutissimum* is also very rare and uncommon

- **Parasites:**

  Armi (*Arceuthobium minutissimum*) attack is very common in Kail species in the higher localities. The trees attacked by the parasite start drying and their branches get clustered to form “witches broom”.

18.3.6 **Management Measures:**

Since the pest, disease and parasitic attack has near attained economic threshold level and the attacks were seen only in pockets, there is no need for drastic measures to be taken. However, the following steps can be taken:

Felling refuses should be heaped in nallas after the compartment is worked and should be burnt at the earliest to avoid pest build-up. In subsidiary felling, trees which are damaged by the fall of other trees are to be marked and removed as the open wounds are the places from where fungal infection starts. Diseases trees shall be marked as additional marking and it should be removed to avoid spreading of the same to other trees.

CHAPTER-XIX

Working Plan for

Plantation (Overlapping)

Working Circle

CHAPTER-XIX

Working Plan for Plantation (Overlapping) Working Circle

19.1 General constitution of Working Circle:

Due to various forest offences like illicit felling, excessive and unregulated grazing, lopping and forest fires, a major portion of the forest area of the division has got devoid of vegetal cover. D.H.Pora Range has suffered the most.Thus an overlapping working circle covering all the working circles wherever natural gaps/commercial blanks are available has been constituted to restock such areas with aided natural regeneration and artificial regeneration.It also covers open and degraded areas. This working circle gives overall plantation requirement of the division. The forest areas where regeneration could not keep pace with the removal of the over-wood after seeding felling/ main felling and potentially productive forest areas that have deteriorated due to natural physical calamities or adequately stocked which are near to habitation and hence rendered unfit for commercial exploitation.

All the coupes where timber would be harvested as per this plan must be treated and regenerated properly. The forest areas which are being sanctioned under Jammu and Kashmir Forest Conservation Act, 1997 for non-forestry purposes must be monitored properly and the treatment should be imparted as per the guidelines, if any.

The Range wise Area of compartments available for planting:

Range	Total Area available for planting (ha.)
Kulgam	500
Veshew	1000
D .H.Pora	2000
Total	3500 ha.

19.2 Objectives of Management:

To restock the degraded areas and others areas through Aided Natural Regeneration, Artificial Regeneration by adopting scientific technology. To take up soil and moisture conservation activities in these areas to prevent soil erosion and to improve the soil moisture regime. To provide employment oppurtunities to forest dependent communities by involving VFCs in the programme right from planning to implementation stage.

19.3 Method of Treatment:

The compartments/coupes in which felling has gone over, prelimnary step is to remove the felling refuses to provide the seeds access to soil. Removal of weeds, heeping of humus in case of Fir forests, working of soil in patches in all forest areas to aid natural regeneration are important activities to be taken up.

19.3.1 **Maintenance/Establishment of new Nursery:**

Since the plantations are to be done in large scale, there is a need for good nurseries to produce saplings to meet the demand. The existing nursery has to be extended. At present there is a single nursery in the division established by the SC Range in the division premises. The present production capacity is 0.5 lakh saplings only. It needs to be enhanced tremendously particularly for conifer saplings.Similarly there is need for establishing high altitude, temporary nurseries particularly to develop Fir and spruce saplings.

19.3.2 **Nursery and Plantation Techniques:**

- **Conifers:**

  For conifers detailed nursery and plantation techniques are elaborated in Deodar-Kail Selection Working Circle.

- **Aesculus indica:**

  Seed: Ripes in September-November should be collected from the trees or ground. Can be stored in dry earth till spring. About 640 seeds weigh a kilogram. Germination capacity is fairly high (70-90 percent).

  Nursery Technique: Seed sowing be done in autumn immediately after seed collection. Patches be kept at a spacing of 2 x 2 metres in shady, cool beds. Sowing be done 5 cm below the soil in drills, 15-30 cm apart. Some watering is required.

  Planting Technique: Seedlings (6,12 and 18 months old) with naked roots are transplanted during winter, in prepared pits at 2 x 2 metres spacing. Weeding and cleaning be done for 1-2 years. Dry exposed situations be avoided for planting work.

- **Alnus nepalensis:**

  Found between 800 to 2700 metre. It is susceptible to snow-break, frost, grazing and insect attack. It is a fast growing species. Fruits ripen in February-March. They should be collected by lopping the branches. Seeds be extracted after sun drying by beating the cones. Seeds are very minute, about 8 lakhs per kg. They should be dried before storage. Germination is about 70 percent, 4 to 6 weeks after sowing.

  Nursery Technique: Direct or broadcast sowing be done in February-March in shaded beds; should be covered by mulch. At low elevations i.e. below 1500 metre, transplanting in May and at higher elevation planting be done in the following rains.

  Planting Technique: Seedlings 15 cm to 75 cm long, with or without the ball of earth around the roots be planted out in prepared pits, at the beginning of first or second rains. Autumn transplanting in September and winter transplanting be done in January. It is successful in moist and humid localities, requires no tending after the third year.

- **Juglans regia:**

  Found between 1200 to 3300 metre. Fruits ripen in September-October, can be collected by beating and shaking the branches. Outer fleshy coats be removed or be rotten off and nuts be dried in the sun. Should be stored in a well ventilated room, in tins or jars or in a pit in dry ground, filled with dry earth until

required for sowing. Nuts 90-100 per kg. Germination capacity is 70 to 80 percent. Germination gets completed in 5-7 weeks normally.

Nursery Technique: Nuts may be dibbled in pits 2 x2 metres apart, during autumn, before snowfall or in January-February. Two seeds per patch 5 cm deep be sown, should be covered with thorns. Seeds may also be sown in 25 cm deep drills, in lines 10 cm apart.

Planting Technique: Seedlings, without or with earth ball around the roots, be transplanted in the first winter. However, second winter transplants are better for difficult sites. Transplanting during the rainy season is not so successful. Thorough weeding and soil working be done for the first/second year. It is sensitive to weed competition.

- **Robinia pseudoacacia:**

It is a native of North America, and can grow at an elevation of 1500 to 2000 metres. It can grow on a variety of soils but not on very sandy, very acidic or wet soils. Drainage is an important factor affecting the growth of this species. Seeds: They are dried in the sun, thrashed and winnowed to obtain clean seeds. About 33 to 77 seeds weigh a gram. They can be stored in airtight containers for one year at room temperature without any appreciable loss in their viability. But, in a dry place and at low temperature (0^{o} C to 4 ^{o}C) seeds can be kept viable for 5 years in sealed containers. Seeds require pre-sowing treatment (Sulphuric acid scarification of a short-while, or immersion in hot water).

Nursery Technique:

Sowing be done in beds in lines 20 cm apart. Depth of sowing should be about 1.5 cm. Sowing in irrigated nurseries be done in March-April, but in rain-fed nurseries, in June-July. Germination starts in a week and continues up to 10 days. About 85 percent germination can be obtained if the seeds are pre-treated.

Planting Technique:

Eight-nine month old seedlings can be planted in 30 cm^3 pits at a spacing of 2.5 x2.5 metres. In poor sites, 2 x 2 metres spacing can also be used. Naked rooted plants may also be used for planting. Plantation areas be closed for grazing.

CHAPTER-XX

Miscellaneous Regulations

CHAPTER-XX

Miscellaneous Regulations

20.1 General

These regulations which from a part of the mandatory text of the working plan, shall be discussed under the following subsidiary headings:

1. Pastureland Development Regulations.
2. Infrastructure Development Regulations.
3. Forest protection and land conservation Regulations.
4. Public benefit Regulations.

20.2 Pastureland Development Regulations:

The division is bestowed with extensive pasturelands or margs, most of which fall within the montane Alpine climatic region. Some of the important Behaks are Nikan, Zajmarg, Trajan, Chirranbal, Hakwas etc. But despite such a huge pasturage area, the forests suffer the most on account of unrestricted, uncontrolled and unregulated grazing, the pastures having deteriorated themselves, both in terms of quality as well as quantity of grasses and other forage materials. Also since these grazing lands carry more than the desired number of live stock, pronounced depletion of the plantable fodder species has occurred giving way to unpalatable and obnoxious weeds. Thus important it becomes to upgrade and optimize the productivity of these pasturelands to relieve the pressure on them as well as to help indirectly the regeneration of the tree lands.

It must be remembered that not all the area under these blanks could be considered as grass lands or pasturelands. Some of it would be rocky outcrops, recipes, snow hallows, glacial moraines etc. only the rest which has a definite pastoral use could be classified as 'cultivable pastureland; hence almost the entire sub-alpine blank area is cultivable as pastures.Besides the local livestock, a good number migratory Bakerwals move through this Division every year on their way to terminal pastures. Comparing the actual carrying capacity of the pastureland, and the present grazing intensity, alarming results can be easily predicted.

20.3 Infrastructure Development Regulations:

20.3.1 **General:**

The impact of the tremendous developmental activity generated by the successive National plans can neither be implemented and monitored nor even felt and appreciated without the provision of necessary infrastructure as roads, bridges and buildings etc. The forestry operational planning also would be useless without the provision of roads, bridges and labour sheds etc. The expansion of the forestry harvesting

programme has resulted in a network of fairweather forest extraction roads suitably connected to the main road systems. However, there is still paucity of such roads in the interiors of Veshew (Zajinar and Harseni Nalla). Similarly quite a few bridges and buildings have come up recently in the Division.

20.3.2 **Forest Roads**

- Aharbal–Kongwattan-Chirrinbal-Kadlabal (approx length: 25 Kms). This road should be taken up in 3 phases viz (1) Aharbal-Kongwattan (2) Kongwattan-Chirinbal and (3) Chirranbal-Kadlabal. This will open up the big forest potential in Zajnar drainage.
- Sedau-Lassigassan-Narilwan (approx.length 10 Kms) This road will help open up the Narilwan Tathjan forests(viz,Cos.V8-V13).Ultimately this should be extended upto Kongwattan via Rahmakantsan.
- The fair wether road from Manzgam-Hallan upto Her and Bun Chirranbal and Kadlabal needs to be improved on priorty.
- The Fair weather road from village Sainyardi upto Pazmal co/14/N and road from Humpathri upto panchanpathri Co: 18/N needs to be improved.

The above road development progamme will involve the constitution of the following bridges;

1. Over Veshew at Sangam (near Kongwattan), over Zajnar at Bun Chirranbal (Co.V28) for the Aharbal – Kongwattan-Chirranbal-Kadlabal road.
2. Over Harseni Nalla near Lassigassan on Sedau-Narilwan road.

20.3.3 **Buildings**

The condition of the various forest buildings existing in the Division is generally satisfactory. Divisional office cum DFO's residence (constructed by erstwhile Jhelum project), newly constructed range office Kulgam and the old range residence are prominent buildings in Forest Complex Kulgam.

The old range residence building presently serving as Range office SC Range needs renovation. At D.H.Pora, Range office cum residence exists, owned by the Forest Department.

A newly constructed Range Office for Veshew Range is at village Avil which is yet to function.

Other buildings /Huts of importance in the Division are:

1. B.O.s Hut at Arigutanoo Comptt. N-44.

2. Guard hut at comptt. N-43 Chambgund

3. Guard hut at comptt . N-27/b Chandergi

4. Guard hut at comptt. N-27/c Malwan

5. Guard hut at comptt. N-30/c Akhal

6. Guard hut at comptt . N-35/a Lammer

7. Guard hut at comptt. N-32/b Lammer

Some of the Guard Huts like the ones at Akhal, Lammer, Malwan etc lack basic facilities of drinking water, electricity etc.

20.4 Forest protection and land conservation regulations:

20.4.1 **Forest Demarcation:**

The condition of forest demarcation has improved a little with the introduction of the masonary (concrete) boundary pillars in place of the old wooden cairns in quite a no. of such vulnerable places .However, one disquieting feature is that the encroachment which have become vivid with this re-fixation of a pucca demarcation line ,have not been got vacated. This should be the first concern of the territorial authorities. Another disturbing feature is the general apathy and unfortunately lukewarm attitude of the territorial staff towards the maintenance of the demarcation line where the masonary pillars have not gone into position yet. It surely needs emphasis here that the extension of the concrete pillars in the rest of the area after due checking of the demarcation line and ejection of the encroachers under the eviction of unlawful premises Act should receive top priority. Funds for such jobs should never be a constraint.

20.4.2 **Compartment boundaries:**

The territorial staff, especially the Beat Guards, should see that the compartment and Block boundaries denoted on spot are not removed or mutilated as also the numbers and symbols carved on the layout boards are not disfigured or shaved off by the miscreants among the villagers.

20.4.3 **Illicit damage:**

At present, there are least signs of illicit damage in the Division except in Nicken blocks of Veshew Range which is in close vicinity of Sedaw & Ladigassan villages of Shopian District. However the forests of Kulgam Division have also suffered from menace of smuggling for the last two decades of turmoil in the state.

Lopping, yet another malady spelling doom of forestry in Kashmir is almost universal among all those forests that lie nearer to habitations.

But the forest officials of the Division should not ignore the chances of any illicit damage or pilfererage going on unnoticed under the garb of Kashmir Notices or such, for that purpose, the following few suggestions are put forth to curb the tendency of illicit removal of forest trees.

To focus attention of the authorities towards this wonton holocaust of forests, the following few suggestions are put forth to (at least) curb the tendency of illicit removal of forest trees.

(1) It must be taken as an admitted fact that, by and large, no illicit damage can take place without the connivance / knowledge of the Forest Guard in-charge of the particular beat. Obviously, once a Forest Guard has been found guilty, he should be dealt with firmly and resolutely under rules. The general tendency on the part of the supervising authorities. For good reason or bad, to show leniency should be viewed with disfavour and law allowed to take its own logical course. Even if it means, sacrifice, of a few officials, it can set forth an example for the rest.

(2) No beat Guard should be allowed to remain at a place ordinarily for more than one year, nor should the transfers be too frequent. In the first case, if he overstays, he is likely to develop a vested, interest and in the latter case, it becomes difficult to locate the responsibility if some damage is detected later on.

(3) For notorious beats, two Forest Guards should be provided. However, never should the same two Guards be posted together at two or more different places

(4) Genuine demands of the cocessionists should be met even if there is some hesitation on the part of the subordinate staff.

(5) The Department should press for formulation of special regulations regarding usage of timber by contractors engaged by other Departments, to guard against misuse.

(6) The maintenance of Guard book for the purpose it is meant should be checked on each inspection by the DFO and RO ,who should close and initial the Guard book

(7) If possible, the idea of attaching the Foresters as staff officers to the RO rather than directly and permanently as Block Officers, should, be considered .It has been found that the smugglers have a tendency to 'involve', if they can, the Foresters also in their nefarious trade.

(8) Speedy disposal, preferably time-bound, of the damage case work by the foresters should be ensured.

(9) Punitive action e.g., suspension of concession or right, should be taken under rules for those localities as have shown tendency towards increase of forest offences despite warnings issued by the DFO or RO.

Last, but not the least propaganda and publicity regarding the social benefits of forests, the ugly role played by the smugglers in jeopardizing the national economy and well being of the people by wonton destruction of the national forests should be carried out far and near and continuously throughout. It is an admitted fact that majority of the people are always law –abiding, peace loving and yet manage to be obstinate. Naturally we have got to take the majority into confidence and carry them with us to hunt and track down these unlawful elements. There is no dogma in it, has successfully been done in the past, though not very frequently.

20.4.4 **Fire Protection:**

Fortunately, forest fires are very rare and not of much consequence in these forests. However, the staffs have to remain vigilant in periods of extreme drought conditions, which are by no means uncommon.

20.4.5 **Soil conservation:**

The menace of soil erosion is gaining momentum in the Division mainly due to the reduction in the tree cover, unchecked spread of cultivations over the encroached slopes and the faulty methods of agriculture being followed. The construction of roads on a steep topography has disturbed the angle of repose of the soil and paved the way for land slides. The erosion has assumed alarming proportions on the Karewas which are comparatively more friable and vulnerable. The problem should be solved by treating all the vulnerable areas according to their needs under a soil conservation scheme. The erosion susceptible areas should be closed and the soil loss checked by raising the soil-binding grasses and such broad leaved trees as Robinia spp, Fraxinus spp, Ailanthus spp, etc. The engineering structures in the form of breast-

walls and retaining walls on the uphill and downhill sides of hill roads respectively, should be constructed. Check dams and spurs would be raised in the eroding Nallas, wherever necessary, to arrest the soil wash and bank cutting. The encroachments will be ejected so that the tree-less blanks on the steep topography are planned up. Terracing would be advocated wherever the cultivation is practiced under hilly conditions.

20.5 Public benefit Regulations:

20.5.1 **Bio-aesthetical planning:**

Kulgam is one of the picturesque regions of the state. It encompasses within its limits quite a number of places of immense tourist potential, chief among which are Konsarnag, Kungwattan A motorable road from Aharbal falls to Kungwattan will attract lot of tourists to Konsarnag lake which probably is the second biggest mountain lake in Kashmir,after Gangbal.Kungwattan is itself a very beautiful meadow which can attract tourists if facilities like hutments,hotels, sports (golf) etc .are introduced there A planned and balanced development of these spots of great potential for tourist traffic is needed.

20.5.2 **Timber sale depots:**

There is no denying the fact that one of the prime contributory factors for illicit removal of forest trees is the dearth of constructional timber, at reasonable prices, in the fast urbanizing payeen Ellaqa, including mainly the prominent towns, in the public interest at large and in the interest of the forests in particular, it will always be a rational and sound step to increase the number of public sale depots in the payeen Ellaqa as far as possible. Some are working at present, and others need be put into operation as per the recommendations charted out in due course.

20.5.3 **Firewood sale depots:**

Of utmost importance at the moment is to resuscitate firewood depots in the most populous towns of Kulgam etc which being in close proximity of forests are notorious for smuggling of firewood. It is difficult to ask a man to desist from bringing firewood from a nearby forest for his bonafide requirements. It is an altogether different thing to stop him from doing so once he is supplied with the requirement nearby his home. Once adequate supply of firewood is guaranteed, severe punishment should be inflicted on both the protective staff as well as the firewood smugglers for unlawfully carrying on this trade. 20.5.4 **Firewood supply:**

The forests of this Division have been under tremendous strain on account of the firewood requirements of the country side. The problem has assumed alarming dimensions as the past relentless and unsystematic tapping of the fuel-wood reserves has reduced these forests to the virtual exhaustion, yet the demand for fire-wood continues touching new heights. The villagers' trees as the brush-wood and other fuel material have already been swept away from all the accessible forests. To relieve the forests of this wanton pressure, It is imperative that ways and means are explored to meet the genuine

requirements of the people .A long term policy will have to be evolved in this context. However, to mitigate the hardships of the people at this stage, firewood sale depots should be opened up at all the important towns. The people should be educated to give up the wide-mouthed conventional chulas (with hardly 10% efficiency) in favour of scientifically designed high efficiency chulas. A taste should be developed in them for use of Biogas and wood scheme to assess the fuel wood potential of these forests vis-à-vis the demand. Obviously the available resources would considerably fall short of the requirement. The best solution to the problem therefore, Lies in undertaking a vigorous programme of planting fast growing fuelwood species in the suitable treeless areas adjacent to the demarcation line. The participation of the locals should be invoked so as to initiate planting on every piece of waste land available. Necessary plant material and expertise for the purpose should be provided on the terms quite convenient to them.

20.5.5 **Medicinal plant cultivations:**

The Division has a natural wealth of medicinal plants viz. Kuth, Dioscorea, Artemisia, Belladona, Banafsha, Podophylum, Aconitum, Morchella, Rheum emodi etc. A separate NTFP working circle has been allotted for conserving plant wealth of the Division.

CHAPTER-XXI

Financial Forecast & Cost of the Plan

CHAPTER-XXI

Financial Forecast & Cost of the Plan

21.1 Future Yield and Revenue:

For Kulgam Division, the major source of revenue is Timber. Apart from timber, firewood is also extracted and sold to religious institutions during winter. Other sources of revenue are from the auctioning of walnut and Gucchies, renewal of private timber sale depots and saw mills annually. But except for timber, revenue from other sources are meagre only.

21.1.1 Revenue from Timber:

Timber Yield from various Working Circles (figures are in m^3)

	Deodar	Kail	Fir	Total
Deodar Kail Selection WC	0	2000	300	2300
Fir Selection Working Circle		100	4100	4200
Total	0	2100	4400	6500

On the basis of the royality chargeable to SFC for the above listed species, the total annual revenue from timber harvest is worked out as under:

Species	Volume (m^3)	Royality (Rs./Cft)	Revenue Rs
Deodar	0	105.32	0
Kail	2100	54.45	114345.00
Fir	4400	39.24	172656.00
Total			*287001.00*

Through the network of 67 FSDs selling timber at subsidized rate to public to quench the timber demand of public for house construction

- **Sale of timber through FSD:**

Species	Quantity	Rate	Revenue
Deodar	2000	345	690000
Kail	18000	245	4410000
Fir	60000	138	8280000
Total	80000		13380000

20.1.2 **Firewood:**

Firewood extraction (qtl)	Sold to religious institutions	Cost(Rs.) /qtl	Sale Rate (Rs/qtl)	Net profit (Rs/qtl)	Revenue (Rs/qtl)
2000	1500	155	190	35	52500

21.1.3 **Revenue from NTFPs:**

NTFP	Average Annual Revenue (Rs.)
Walnut	90000
Gucchi	0

The total revenue from timber, firewood, NTFPs and from other miscellaneous sources is Rs.1.50 crores. The revenue is calculated on the conservative side only by taking the lowest sale rate for 'B' and 'C' class timber. Since there is total ban on green felling, the estimated revenue cannot be realised. Even, if the Hon'ble Supreme Court is approached for lifting of ban on green felling on the basis of working plan, it can only be assumed that only 20% of the yield may be allowed. This is only an estimate based on current costs and prices. Both cost of extraction and price of timber is going to have upward spiral, the estimate is subject to change.

21.2 Future Expenditure:

The working circle wise area proposed to be taken for rehabilitation with annually with details of expenditure is as under:

S. No.	Working Circle	Area in hectares	Average expenditure per hectare	Annual Amount Required
1	Deodar-Kail Selection Working Circle	194.48 (Annual Coupe)	-	-
A	For Artificial Regeneration with Fencing (20% of Annual Coupe)	38.89	1,00,000	3,889,000
B	For Assisted Natural Rgeneration without Fencing (20% of the Annual Coupe)	38.89	45000	1,750,050
C	For Silvicultural Operations (20% of the Annual coupe)	38.89	25000	972,250
			Total	*6,611300*

S. No.	Working Circle	Area in hectares	Average expenditure per hectare	Annual Amount Required
2	Fir Selection Working Circle	253.92 (Annual Coupe)	-	-
A	For Artificial Regeneration with Fencing (20% of Annual Coupe)	50.78	1,00,000	5,078,000
B	For Assisted Natural Rgeneration without Fencing (20% of the Annual Coupe)	50.78	45000	2,285,100
C	For Silvicultural Operations (20% of the Annual coupe)	50.78	25000	1,269,500
			Total	*8,632,600*
3	Reboisement Working Circle	94	1,00,000	9,400,000
			Total	*9,400,000*
Grand Total				
S. No.	Working Circle	Annual Amount Required		
1	Deodar-Kail Selection Working Circle	*6,611300*		
2	Fir Selection Working Circle	*8,632,600*		
4	Reboisement Working Circle	*9,400,000*		
	Total	*24,643,900*		

In addition, the Projection for the average amount required per annum over the next ten years to cover the normal expenditure of the Division is as under:

Item	Amount (Rs)
Salary	6,50,00,000.00
T.E.	20,000.00
O.E.	20,000.00
Motor Vehicles	20,000.00
Firewood	2,00,000.00
Timber	50,00,000.00
Miscellaneous	1,00,000.00
Total	7,03,60,000.00

The total expenditure under non-plan therefore is projected at Rs.07.03 crores.

The above said estimates are only projections. It is affected by so many factors like escalation in cost of extraction and timber Sale rates; nevertheless these figures bring out very clearly that if proper investment made in the forestry sector, the state shall be in a position to regenerate the dwindling forest reserves and the tangible and intangible benefits that will accrue, will far exceed the initial investment. The expenditure on account of Salary is bound to raise on the higher side due to D.A. increment to be added every year, promotions to the next scale and expected 7th Pay Commission report and its impact etc.

21.3 Cost of the Plan:

The expenditure incurred on the revision of the Working Plan for Kulgam Forest Division is as under:

Unit of Appropriation	Year	Expenditure made (in Rs)	Remarks
Plan			The expenditure is inclusive of the amount spent on the purchase of various equipments required for carrying out the Working Plan exercise & Layout exercise.
13th Finance Commission Award	2010-11	7,94,000.00	
	2012-13	50,000.00	
	2013-14	5,00,000.00	
	2014-15	1,50,000.00	
Total		*14,94,000.00*	

CHAPTER-XXII

Control Forms

CHAPTER-XXII

Control Forms

22.1 Control Forms

As per the standard procedure, the following Control Forms, as prescribed should be maintained.

1. ***Control Form A:*** This form shall be maintained for recording the major markings/ fellings which are being carried out in Deodar Kail Slection Working Circle & Fir Selection Working Circle. As usual a deviation statement indicating specie wise plus minus account of the actual removal, vis-à-vis, the prescribed yield will be compiled at the end of the year and the same brought forward in the subsequent year and summed up (plus or minus) with the prescribed yield for the last year.
2. ***Control Form B:*** This form shall be maintained on the standard format for recording the yield realized from Deodar Kail Slection Working Circle & Fir Selection Working Circle. It shall be maintained in the same way as control form-A, except that the excess removals, if any during a year are to be adjusted in the subsequent year but the deficit shall lapse to the forest.
3. ***Control Form C:*** It will be maintained to record and monitor the progress of regeneration works in the area taken up for artificial regeneration. Such areas are to be written off from this form only after they carry adequate and established regeneration.
4. ***Control Form D:*** This form shall indicate the proposals of the territorial DFO for markings of coupes during the next three years following the year in which the proposals are made. It is required to be submitted well in time to Conservator of Forests Working Plan and Research Circle, through the concerned territorial Conservator of Forests, who will convey his approval after due scrutiny of the proposals in consultation with the Chief Conservator of Forests. The arrears in respect of Control Forms need to be completed at once and their future maintenance ensured, so that they become purposeful.

22.2 Compartment Histories:

These are, in fact, the most important records of happenings in a forest. They must be objectively maintained and updated both at Range as well as Divisional level. Entries regarding marking, extraction, plantation and development works, fire, encroachment, land transfer and any other significant event that happens in a compartment must be made in the compartment history file. A summary of the year's entries should be submitted to Conservator of Forest Working Plan Circle every year.

22.3 Divisional Journal:

This document, although very important, has been neglected in the Division. It is of immense use to the DFO and must be maintained and updated regularly. It should contain detailed information on subjects like regeneration, plantation, Soil Conservation works, seed years, disease/ insect attacks, statistics of out-turn of timber and firewood, sample plots, roads, buildings, meteorological data and any other relevant information as the DFO may deem fit. On the analogy of the Divisional journal, record must be maintained at Range and Block level too.

22.4 Guard Books:

By and large, the guard books are not being maintained properly. In many cases, the guard books have been found lacking even the elementary data regarding description of boundaries of the beat, number and name of the compartments, beat maps and number of boundary pillars. The guard books must be checked frequently by Range Officers atleast once a month and by DFO once in six months.

CHAPTER-XXIII

Summary of Prescriptions

CHAPTER-XXIII

Summary of Prescriptions

23.1 Summary of Prescriptions:

Details of Prescriptions
Constitution of the Working Circles
Period of the Plan: Ten years, 2014 to 2024
Deodar – Kail Selection Working Circle
Total Area of the Working Circle = 5969.60ha Commercial Area of the Working Circle = 5834.4 ha Silvicultural System : Selection System Exploitable Size Deodar and Kail = 70 cm d.b.h Fir = 80 cm d.b.h Rotation Deodar = 150 years Kail = 150 years Fir = 235 years Felling Cycle = 30 years Felling Series = one Details of Prescriptions Annual yield from the working circle Deodar = 0 Kail = 2000m^3 Fir = 300 m^3 _____ Total = 2300 m^3 _____ Size of the Annual Coupe = *194.48ha* Allowable cut per hectare of the Annual Coupe = 11.82m^3 per annum
Fir Selection Working Circle
Total area of the Working Circle =16889.5 ha Total Commercial Area of Working Circle : 7617.8 ha Silvicultural System: Selection System Exploitable Size Deodar and Kail = 70 cm d.b.h Fir = 80 cm d.b.h

Rotation

Deodar = 150 years

Kail = 150 years

Fir = 235 years

Felling Cycle = 30 years

Felling Series = one

Details of Prescriptions

Annual yield from the Working Circle

Kail = 100 m^3

Fir = 4100 m^3

Total = 4200 m^3

Size of the Annual Coupe = *253.92ha*

Allowable cut per hectare of the Annual Coupe = 16.54 m^3 per annum

Ecological Conservation Working Circle

Total Area of the Working Circle = 18390.9 ha

Objects of Management:

Method of treatment Prescribed

Reboisement Working Circle

Total Area of the Working Circle = 2828.25 ha

Special Objects of Management:

Method of treatment Prescribed

Wild Life Management (Overlapping) Working Circle

Wildlife Management Objectives

Method of treatment Prescribed

NTFP (Overlapping) Working Circle

Objectives of Management

Management Prescriptions:

Method of Harvest:

Eco-Tourism (overlapping) Working Circle

Objectives of Management

Method of Treatment Proposed

Joint Forest Management (over lapping) Working circle

Objectives of Management

Method of Treatment Proposed

Forest Protection (Overlapping) Working Circle

Objectives of Management

Method of Treatment Proposed

Plantation (Overlapping) Working Circle

Objectives of Management

Method of Treatment Proposed

ANNEXURES

Annexure – I

DIVISIONAL AREA STATEMENT COMPARTMENT-WISE

S.No.	Comptt.	Commercial area (ha.)	Uncommercial area (ha.)	Total area (ha.)	Working Circle (main)	Aspect	Major Crop	Density	Geo Location	
									North latitude	East longitude
1	V-8	125.3	3433.1	3558.4	Fir Selection	South Western	Fir	.2 to.4	33^0 36' 45"	74^0 42' 30"
2	V-9	313.6	277.3	590.9	Fir Selection	Northern	Fir	.3 to .5	33^0 37' 15"	74^0 44' 00"
3	V-10	133.4	331.9	465.3	Fir Selection	Northern	Fir	.3 to .6	33^0 36' 30"	74^0 44' 30"
4	V-11	370.2	0	370.2	Fir Selection	North Eastern	Fir	.2 to .5	33^0 38' 00"	74^0 45' 00"
5	V-12a	143.6	22.2	165.8	Deodar-Kail	North Eastern	Kail	.1 to .4	33^0 37' 45"	74^0 46' 15"
6	V-12b	352.1	18.2	370.3	Ecological conservation	North Eastern	Fi	.2 to .6	33^0 36' 15"	74^0 44' 45"
7	V-13a	139.5	0	139.5	Fir Selection	North Eastern	Fir	.1 to .4	33^0 36' 15"	74^0 45' 15"
8	V-13b	718.5	2668	3386.5	Ecological conservation	North Eastern	Kail	.1 to .4	33^0 35' 00"	74^0 44' 45"
9	V-14	143.6	4607.2	4750.8	Ecological conservation	Western	Fir	.1 to .3	33^0 35' 00'	74^0 46' 00"
10	V-15a	151.7	70.8	222.5	Ecological conservation	North Western	Fir	.1 to .4	33^0 35' 00"	74^0 47' 00"
11	V-15b	80.8	0	80.8	Kail conversion	North Western	Kail	.2 to .6	33^0 31' 00"	74^0 45' 00"
12	V-16	453.3	93	546.3	Fir Selection	South Eastern	Fir	.3 to .6	33^0 35' 45"	74^0 47' 15"
13	V-17	263	228.7	491.7	Fir Selection	Eastern	Fir	.3 to .6	33^0 34' 45"	74^0 48' 15"
14	V-18	333.7	621.7	955.4	Fir Selection	North Eastern	Fir	.2 to .6	33^0 34' 15"	74^0 48' 30"
15	V-19	309.5	572.7	882.2	Fir Selection	North Western	Fir	.2 to .5	33^0 34' 30"	74^0 48' 15"
16	V-20	336.2	757	1093.2	Fir Selection	Eastern	Fir	.2 to .5	33^0 34'00"	74^0 50' 45"
17	V-21	210.3	1113.2	1323.5	Fir Selection	Eastern	Fir	.1 to .5	33^0 33' 00"	74^0 50' 00"
18	V-22	111.2	1589	1700.2	Fir Selection	Eastern	Fir	.2 to .5	33^0 33' 30	71^0 50' 30"
19	V-23	0	2793.5	2793.5	Ecological conservation	Eastern	Blank	0	33^0 29' 45"	74^0 53' 15"
20	V-24	0	289.4	289.4	Ecological conservation	Eastern	Blank	0	33^0 31' 15"	74^0 54' 30"
21	V-25a	42.4	348.1	390.5	Ecological conservation	Western	Kail	.2 to .5	33^0 32' 45"	74^0 53' 15"
22	V-25 b	60.6	0	60.6	Deodar Kail	South Western	Kail	.2 to .5	33^0 32' 45"	74^{0}53' 15"
23	V-26a	88.9	0	88.9	Fir Selection	South Western	Fir	.2 to .6	33^0 33'15"	74^0 52' 15"
24	V-26b	153.7	0	153.7	Kail conversion	North Western	Kail	.3 to .6	33^0 33'15"	74^0 52 15"

S.No.	Comptt.	Commercial area (ha.)	Uncommercial area (ha.)	Total area (ha.)	Working Circle (main)	Aspect	Major Crop	Density	Geo Location	
									North latitude	East longitude
25	V-27a	121.4	12.1	133.5	Fir Selection	North Western	Fir	.2 to .6	33^0 34' 15"	74^0 52' 00"
26	V-27b	230.6	0	230.6	Kail conversion	North Western	Kail	.3 to .6	33^0 35' 00"	74^0 51' 00"
27	V-27c	44.5	0	44.5	Deodar Kail	North Western	Kail	.3 to .7	33^0 35' 45"	74^0 50' 15"
28	V-28a	101.1	0	101.1	Deodar Kail	South western	Kail	.2 to .7	33^0 36' 30"	74^0 48' 45"
29	V-28b	311.6	0	311.6	Kail conversion	South Western	Kail	.3 to .7	33^0 36' 15"	74^0 49' 45"
30	V-29a	182.1	0	182.1	Kail conversion	North Eastern	Kail	.2 to .5	33^0 36' 30"	74^0 48' 00"
31	V-29b	84.8	0	84.8	Fir Selection	North Eastern	Fir	.2 to .5	33^0 36' 45"	74^0 47' 30"
32	V-29c	234.7	0	234.7	Kail conversion	North Eastern	Kail	.2 to .5	33^0 36' 45"	74^0 47' 45"
33	V-30	206.4	0	206.4	Deodar Kail	North Eastern	Kail	.2 to .6	33^0 38' 00"	74^0 47' 45"
34	V-31a	177.9	0	177.9	Fir Selection	Western	Fir	.3 to .7	33^0 38' 00"	74^0 47' 00"
35	V-31b	113.1	0	113.1	Deodar Kail	Western	Kail	.2 to .7	33^0 38' 00"	74^0 46' 30"
36	V-32a	246.9	0	246.9	Fir Selection	North Eastern	Fir	.2 to.5	33^0 38' 30"	74^0 47' 30"
37	V-32b	218.4	0	218.4	Fir Selection	North Eastern	Fir	.2 to .5	33^0 38' 45"	74^0 48' 15"
38	V-33a	271.1	0	271.1	Fir Selection	North Eastern	Fir	.1 to .4	33^0 37' 30"	74^0 49' 15"
39	V-33b	141.5	0	141.5	Fir Selection	North Eastern	Fir	.2 to .5	33^0 37' 45"	74^0 48' 30"
40	V-34a	276.1	0	276.1	Fir Selection	North Western & North Eastern	Fir	.2 to .5	33^0 36' 00"	74^0 50' 00"
41	V-34b	90.9	0	90.9	Fir Selection	South Western	Kail	.1 to .5	33^0 36' 45"	74^0 51' 15"
42	V-34c	44.8	0	44.8	Reboisement	North Eastern	Kail /Fir	.2 to .4	33^0 36' 00"	75^0 06' 30"
43	V-35a	538.3	0	538.3	Reboisement	South Eastern	Fir	.1 to .5	33^0 36'00"	75^0 06' 30"
44	V-35b	40.4	0	40.4	Reboisement	North Eastern	Kail	.1 to .4	33^0 35' 30"	75^0 00' 00"
45	V-36a	400.6	0	400.6	Reboisement	North Eastern	Fir	.2 to .4	33^0 32' 00"	74^0 53' 00"
46	N-1	448	132	580	Ecological conservation	North Western	Fir	.1 to .4	33^0 34' 00"	74^0 53' 15"
47	N-02	217.5	220.5	438	Ecological conservation	North Western	Fir	.1 to .3	33^0 33' 45"	74^0 54' 15"
48	N-03	265	203	468	Ecological conservation	South Eastern	Fir	.1 to .3	33^0 32' 45"	74^0 54' 15"
49	N-04	270	170.7	440.7	Ecological conservation	North Eastern	Fir	.1 to .4	33^0 32' 00"	74^0 54' 15

S.No.	Comptt.	Commercial area (ha.)	Uncommercial area (ha.)	Total area (ha.)	Working Circle (main)	Aspect	Major Crop	Density	Geo Location	
									North latitude	East longitude
50	N-5	291	25	316	Ecological conservation	North Western	Fir	.1 to .3	33^0 32' 45"	74^0 56' 00"
51	N-6	121	0	121	Reboisement	South Eastern	Kail	.2 to .4	33^0 34' 30"	74^0 57'15"
52	N-7	181	316	497	Ecological conservation	North Eastern	Fir	.1 to .3	33^0 32'00"	74^0 56' 45"
53	N-8	128	415	543	Ecological conservation	North Eastern	Fir	.1 to .3	33^0 31'15"	47^0 56'30"
54	N-9	197.5	57.5	255	Fir Selection	North Western	Fir	.1 to .3	33^0 32'15"	74^0 57'00"
55	N-10	200	10	210	Fir Selection	Northern	Fir	.1 to .3	33^0 32'00"	74^0 57'45"
56	N-11	50	248.7	298.7	Ecological conservation	North Eastern	Fir	.1 to 4	33^0 31'15"	74^0 57'15"
57	N-12	372.2	75	447.2	Ecological conservation	North Eastern	Fir	.1 to .4	33^0 31' 15"	74^0 57' 15"
58	N-13	0	1048	1048	Ecological conservation	North Western	Blank	0	33^0 31' 15"	74^0 58' 45"
59	N-14	42.5	153.5	196	Ecological conservation	South Eastern	Kail	.1 to 3	33^0 29' 30"	74^0 59' 30"
60	N-15	312	0	312	Fir Selection	South Western	Fir	.1 to .4	33^0 30' 45"	74^0 69' 30"
61	N-16a	140	0	140	Reboisement	Northern	Kail	.1 to .5	33^0 31' 00"	74^0 59'15"
62	N-16b	55	0	55	Reboisement	Eastern	Kail	.2 to .5	33^0 32' 45"	74^0 58' 45"
63	N-17	102.5	0	102.5	Deodar Kail	North Western	Kail	.1 to .3	33^0 33' 00"	74^0 58' 15"
64	N-18	400	0	400	Fir Selection	North Eastern	Fir	.2 to .4	33^0 34' 45"	74^0 48' 15"
65	N-19	725	175	900	Fir Selection	North Western	Fir	.2 to .6	33^0 22' 30"	74^0 59' 30"
66	N-20a	552	0	552	Fir Selection	North Eastern	Fi	.2 TO .6	33^0 31' 00"	75^0 01' 15
67	N-20b	115	205	320	Ecological conservation	North Eastern	Fir	.2 to .4	33^0 30' 30"	75^0 02' 00"
68	N-21	339	175	514	Ecological conservation	South Western	Fir	.2 to.5	33^0 30'00"	75^0 03' 30"
69	N-22a	276.2	0	276.2	Fir Selection	North Western	Fir	.2 to .6	33^0 31' 45"	75^0 04' 15"
70	N-22b	369	45	414	Deodar Kail	South Western	Kail	.3 to .5	33^0 32' 30"	75^0 04' 00"
71	N-23	359.5	0	359.5	Deodar Kail	South Western	Kail	.3 to 7	33^0 33' 15"	75^0 03' 30"
72	N-24a	43	0	43	Reboisement	South Eastern	Rubinia pure	.2 to .4	33^0 32' 45"	75^0 03' 15"
73	N-24b	137.5	0	137.5	Fir Selection	North Western	Fir	.2 to .5	33^0 33' 00"	75^0 02' 00"
74	N-24c	273.5	15	288.5	Deodar Kail	South Western	Kail	.3 to .6	33^0 34' 15"	75^0 01'45"

S.No.	Comptt.	Commercial area (ha.)	Uncommercial area (ha.)	Total area (ha.)	Working Circle (main)	Aspect	Major Crop	Density	Geo Location	
									North latitude	East longitude
75	N-25	197	0	197	Reboisement	South Western	Kail	.2 to .5	33^0 34' 45"	75^0 00' 45"
76	N-26a	186.2	0	186.2	Reboisement	North Western	Kail	.1 to .5	33^0 35' 00"	74^0 59'45"
77	N-26b	75	0	75	Reboisement	North Western	Kail	.1 to .5	33^0 35' 15"	740 59' 15"
78	N-26c	55	0	55	Reboisement	Northern	Blank	0	33^0 35' 15"	74^0 59' 15"
79	N-26d	62.5	0	62.5	Reboisement	North Western	Kail	.1 to .3	33^0 36' 00"	74^0 59'15"
80	N-27a	40.5	0	40.5	Deodar Kail	Southern	Kail	.1 to .4	33^0 35' 30"	74^0 59' 45"
81	N-27b	278	0	278	Deodar Kail	North & North Western	Kail	.2 to .5	33^0 35' 00"	75^0 00' 45"
82	N-27c	342.5	0	342.5	Deodar Kail	North Eastern	Kail	.1 to .6	33^0 34' 45"	75^0 01' 00"
83	N-28	292.5	0	292.5	Deodar Kail	North Western	Kail	.1 to .3	33^0 35'00"	75^0 02' 00"
84	N-29	241	0	241	Deodar Kail	North Western	Kail	.2 to .6	33^0 36' 00"	75^0 02' 45"
85	N-30	265	25	290	Deodar Kail	North Western	Kail	.1 to .6	33^0 36' 00"	75^0 03' 45"
86	N-31a	377.25	28	405.25	Deodar Kail	South Eastern	Kail	.1 to .5	33^0 35' 00"	75^0 03' 30"
87	N-31b	130	0	130	Deodar Kail	Northern Western/Southern	Kail	.1 to .5	33^0 34' 00"	75^0 03' 15"
88	N-32a	152.5	0	152.5	Deodar Kail	South Western	Kail	.1 to .6	33^0 34' 00"	75^0 03' 00"
89	N-32b	166.25	0	166.25	Deodar Kail	Northern	Kail	.2 to .6	33^0 34' 30"	750 05' 30"
90	N-33	568.7	0	568.7	Deodar Kail	North Eastern	Kail	.2 to .6	33^0 34' 00"	75^0 04' 15"
91	N-34	93.7	0	93.7	Deodar Kail	Northern	Kail	.2 to .6	33^0 34' 15"	75^0 05'45"
92	N-35a	82.5	0	82.5	Reboisement	South Eastern	Kail	.2 to .5	33^0 36'00"	75^0 06' 30"
93	N-35b	25	0	25	Reboisement	Eastern	Kail	.2 to .5	33^0 36' 00"	75^0 06' 30
94	N-36a	35	0	35	Reboisement	Western	Kail	.1 to .5	33^0 35' 30"	75^0 06' 30
95	N-36b	87.5	0	87.5	Reboisement	Western	Kail	.1 to .4	33^0 35' 30"	75^0 06' 30
96	N-43	66.25	0	66.25	Reboisement	Northern	Kail	.2 to .6	33^0 37' 15"	75^0 01' 45"
97	N-44	102.5	0	102.5	Reboisement	Northern	Kail	.2 to .6	33^0 37' 30"	75^0 00' 00"
98	N-45	118.2	0	118.2	Reboisement	Northern	Kail	.2 to .5	33^0 37' 45"	74^0 59' 45"
99	N-46	125	0	125	Reboisement	North Western	Kail	.2 to .5	33^0 37' 00"	74^0 59' 15"
100	N-47	105	0	105	Reboisement	Northern	Kail	.2 to .6	33^0 37' 15"	74^0 57' 30"
101	N-48	122.5	0	122.5	Reboisement	Southern	Nil	Nil	33^0 34' 45"	75^0 01' 00"

Annexure – II

ADMINISTRATIVE SETUP OF KULGAM DIVISION (RANGE, BLOCK, BEAT AND COMPARTMENT WISE)

S. No.	Range	Range Head Quarter	S. No	Block	S. No	Name Of The Beat	Compartment
1	D.H.PORA	D.H.Pora	1	Nagam A	1	Yadikah	N/1
					2	Nandimarg	N/2,N/3, N/4
					3	Nagam	N/5,N/6,N/7
			2	Nagam B	1	Dragdon	N/8,N/9,N/10,N/11,N/12,N/13
					2	D.K.Marg	N/14,N/15,N/16,N/17
			3	Chimmer	1	Kutmarg	N/18,N/19,N/20
					2	Badijahalan	N/21,N/22,N/23,N/24
			4	Khull	1	Khull	N/25,N/26
					2	Gudder	N/46,N/47,N/48
2	KULGAM	Kulgam	1	Chambgund	1	Chambgund	N/43,N/44
					2	Banimullah	N/27a,N/27b
					3	Pranhall	N/95
					4	Malwan	N/27c,N/28
			2	Akhal	1	Khaloora	N/29
					2	Akhal	N/30
			3	Lammer	1	Brinal Lammer	N/31,N/32,N/33,N/34,
							N/35,N/36
3	VESHEW	Nehama	1	K.B.Pora	1	K.B.Pora	V/26a,V/26b,V/35a,
							V/35b
					2	Soipathri	V/25a,V/25b,V/36
			2	Manzgam	1	Manzgam	V/19,V/20,V/21,V/22,
							V/23,
							V/24,V/27a,V/27b,V/27c,V/34a, V/34b,V/34c
					2	Asnoor	V/18,V/28a,V/28b,V/33a, V/33b
			3	Kungwattan	1	Tangmarg	V/15a,V/15b,V/16,V/17,
							V/29a,V/29b,V/29c,V/30,V/31a, V/31b,V/32&b
			4	Niken	1	Niken	V/8,V/9,V/10,V/11,V/12,V/12b, V/13a,V/13b,V/14

Annexure-III

Divisional Administrative Area Statement – Range, Block, Beat and compartment wise.

Kulgam Range					
Block	**Beat**	**Comptt.No**	**Total Area (ha)**	**Latitude**	**Longitude**
Akhal	Akhal	N-29	241.5	33° 35' 45" N	75° 02' 45" E
		N-30	290	33° 36' 15" N	75° 04' 00" E
Chambgund	Chambgund	N-43	66.25	33° 37' 15" N	75° 01' 45" E
		N-44	102.50	33° 37' 30" N	75° 00' 00" E
		N-45	118.20	33° 37' 30" N	74° 59' 45" E
	Banimulla	N-27a	40.50	33° 35' 30" N	74° 59' 45" E
		N-27b	278	33° 35' 00" N	76° 00' 45" E
	Malwan	N-27c	342.50	33° 34' 15" N	75° 02' 00" E
		N-28	292.50	33° 35' 30" N	75° 01' 45" E
Lammer	Brinal Lammer	N31a	405.25	33° 35' 00" N	75° 03' 00" E
		N-31b	130	33° 34' 00" N	75° 02' 45" E
		N32a	152.00	33° 34' 30" N	75° 04' 15" E
		N32b	166.25	33° 34' 15" N	74° 04' 15" E
		N-33	568.70	33° 33' 45" N	75° 04' 15" E
		N-34	93.70	33° 34' 15" N	75° 05' 45" E
		N-35a	82.50	33° 36' 30" N	75° 05' 45" E
		N-35b	25.00	33° 36' 00" N	75° 06' 30" E
		N-36a	35.00	33° 36' 00" N	75° 06' 45" E
		N-36b	87.50	33° 35' 30" N	75° 06' 30" E

Veshew Range					
Block	***Beat***	***Comptt.No***	***Total Area (ha)***	***Latitude***	***Longitude***
Nicken	Nicken	V-8	3558.40	33° 32' 00" N	74° 42' 30" E
		V-9	590.90	33° 37' 15" N	74° 44' 15" E
		V-10	465.30	33° 36' 30" N	74° 44' 15" E
		V-11	370.20	33° 38' 00" N	74° 45' 00" E
		V-12a	165.80	33° 37' 45" N	74° 46' 15" E
		V-12b	370.30	33° 36' 15" N	74° 45' 00" E
		V-13a	139.50	30° 36' 15" N	74° 45' 15" E
		V-13b	3686.50	33° 35' 45" N	74° 45' 30" E
		V-14	4750.80	33° 34' 30" N	74° 46' 30" E
Kungwattan	Tangmarg	V-15a	222.50	33° 36' 45" N	74° 46' 45" E
		V-15b	80.80	33° 35' 00" N	74° 47' 00" E
		V-16	546.30	33° 36' 15" N	74° 47' 15" E
		V-17	491.70	33° 35' 45" N	74° 48' 45" E
		V-29a	182.10	33° 37' 15" N	74° 48' 15" E
		V-29b	84.80	33° 36' 45" N	74° 47' 30" E
		V-29c	234.70	33° 36' 45" N	74° 47' 45" E
		V-30	206.40	33° 37' 30" N	74° 47' 00" E
		V-31a	177.90	33° 38' 15" N	74° 47' 00" E
		V-31b	113.10	33° 38' 45" N	74° 47' 15" E
		V-32a	246.90	33° 38' 15" N	74° 47' 45" E
		V-32b	218.40	33° 38' 45" N	74° 48' 30" E

Veshew Range					
Block	***Beat***	***Comptt.No***	***Total Area (ha)***	***Latitude***	***Longitude***
Manzgam	Manzgam	V-19	882.20	33° 34' 30" N	74° 49' 15" E
		V-20	1093.20	33° 34' 30" N	74° 50' 30" E
		V-21	1323.50	33° 32' 45" N	74° 49' 45" E
		V-22	1700.20	33° 33' 30" N	74° 51' 30" E
		V-23	2793.50	33° 31' 15" N	74° 53' 30" E
		V-24	289.40	33° 31' 15" N	74° 54' 30" E
		V-27a	133.50	33° 34' 15" N	74° 52' 00" E
		V-27b	230.60	33° 35' 00" N	74° 51' 00" E
		V-27c	44.50	33° 35' 45" N	74° 50' 15" E
		V-34a	276.10	33° 36' 30" N	74° 50' 00" E
		V-34b	90.90	33° 36' 45" N	74° 51' 45" E
		V-34c	44.80	33° 36' 45" N	74° 52' 00" E
	Asnoor	V-18	955.40	33° 35' 00" N	74° 49' 00" E
		V-28a	101.10	33° 36' 30" N	74° 48' 45" E
		V-28b	311.60	33° 36' 00" N	74° 48' 45" E
		V-33a	271.10	33° 37' 00" N	74° 48' 45" E
		V-33b	141.50	33° 37' 45" N	74° 48' 45" E
K.B.Pora	K.B.Pora	V-26a	88.90	33° 33' 00" N	74° 53' 00" E
		V-26b	153.70	33° 33' 15" N	74° 52' 15" E
		V-35a	538.30	33° 35' 00" N	74° 51' 30" E
		V-35b	40.40	33° 35' 15" N	74° 51' 45" E
	Soipathri	V-25a	390.50	33° 32' 00" N	74° 53' 00" E
		V-25b	60.60	33° 32' 45" N	74° 53' 15" E
		V-36	400.6	33° 34' 45" N	74° 54' 30" E

D.H.Pora Range					
Block	***Beat***	***Comptt.No***	***Total Area (ha)***	***Latitude***	***Longitude***
Nagam A	Yadikah	N-1	580.00	33° 34' 00" N	74° 53' 15" E
		N-2	438.00	33° 34' 00" N	74° 54' 15" E
	Nandimarg	N-3	468.00	33° 32' 00" N	74° 54' 00" E
		N-4	470.70	33° 31' 45" N	74° 55' 00" E
		N-5	316.00	33° 33' 00" N	74° 56' 30" E
	Nagam	N-6	121.00	33° 34' 30" N	74° 57' 15" E
		N-7	497.00	33° 32' 15" N	74° 56' 45" E
Nagam B	Dragdan	N-8	543.00	33° 31' 00" N	74° 56' 15" E
		N-9	255.00	33° 31' 30" N	74° 56' 45" E
		N-10	210.00	33° 32' 15" N	74° 57' 45" E
		N-11	298.70	33° 31' 15" N	74° 57' 15" E
		N-12	447.20	33° 31' 15" N	74° 58' 45" E
		N-13	1048.00	33° 29' 00" N	75° 00' 00" E
	D.K.Marg	N-14	196.00	33° 30' 45" N	74° 59' 30" E
		N-15	312.00	33° 31' 45" N	74° 58' 45" E
		N-16a	140.00	33° 33' 00" N	74° 58' 45" E
		N-16b	55.00	33° 33' 45" N	74° 59' 00" E
		N-17	102.50	33° 31' 15" N	74° 59' 30" E
Chimmer	Kutmarg	N-18	400.00	33° 31' 30" N	75° 00' 15" E
		N-19	900.00	33° 30' 45" N	75° 01' 00" E
		N-20a	552.00	33° 31' 00" N	75° 02' 15" E
		N-20b	3230.00	33° 30' 00" N	75° 03' 30" E
	Badijahallan	N-21	514.00	33° 31' 30" N	75° 04' 45" E
		N-22a	276.20	33° 31' 30" N	75° 04' 00" E
		N-22b	414.00	33° 32' 00" N	75° 03' 45" E
		N-23	359.50	33° 32' 45" N	75° 04' 00" E
		N-24a	43.00	33° 32' 45" N	75° 00' 45" E
		N-24b	137.50	33° 33' 15" N	75° 02' 30" E
		N-24c	288.50	33° 34' 15" N	75° 01' 15" E
Khull	Khull	N-25	197.00	33° 34' 00" N	75° 00' 30" E
		N-26a	186.20	33° 35' 00" N	74° 59' 45" E
		N-26b	186.20	33° 35' 15" N	74° 59' 15" E
		N-26c	55.00	33° 35' 30" N	74° 59' 30" E
		N-26d	62.50	33° 36' 00" N	74° 59' 15" E
	Gudder	N-46	125.00	33° 37' 00" N	74° 59' 15" E
		N-47	105.00	33° 37' 15" N	74° 57' 30" E
		N-48	122.50	33° 37' 15" N	74° 56' 00" E

Annexure-IV

AREA STATEMENT OF DEODAR-KAIL SELECTION WORKING CIRCLE

Range	Co. No	Commercial Area						Un-Commercial Area			Grand Total
		Deo	Kail	Fir	B.L	Blanks	Total	Wooded	Blank & Alpine	Total	
Veshew	V12a	0.00	78.90	36.40	0.00	28.30	143.60	0.00	22.20	22.20	165.80
	V25b	0.00	44.50	10.10	0.00	6.00	60.60	0.00	0.00	0.00	60.60
	V26b	0.00	60.70	12.10	0.00	80.90	153.70	0.00	0.00	0.00	153.70
	V27b	0.00	163.90	46.50	0.00	20.20	230.60	0.00	0.00	0.00	230.70
	V27c	0.00	18.20	0.00	0.00	26.30	44.50	0.00	0.00	0.00	44.50
	V28a	0.00	24.20	0.00	0.00	76.90	101.10	0.00	0.00	0.00	101.10
	V28b	0.00	257.00	0.00	0.00	54.60	311.60	0.00	0.00	0.00	311.60
	V29a	0.00	143.70	10.10	0.00	28.30	182.10	0.00	0.00	0.00	182.10
	V29c	0.00	125.50	72.80	0.00	36.40	234.70	0.00	0.00	0.00	234.70
	V30	0.00	70.80	0.00	0.00	135.60	206.40	0.00	0.00	0.00	206.40
	V31b	0.00	72.80	12.10	4.00	24.20	113.10	0.00	0.00	0.00	113.10
Sub Total		**0.00**	**1060.20**	**200.10**	**4.00**	**517.70**	**1782.00**	**0.00**	**22.20**	**22.20**	**1804.30**
D.H.Pora	N17a	0.00	102.50	0.00	0.00	0.00	102.50	0.00	0.00	0.00	102.50
	N22b	0.00	0.00	289.00	0.00	80.00	369.00	0.00	0.00	45.00	414.00
	N23	0.00	322.00	0.00	0.00	37.50	359.50	0.00	0.00	0.00	359.50
	N24c	0.00	241.00	0.00	0.00	32.50	273.50	0.00	0.00	15.00	288.50
Sub Total		**0.00**	**665.50**	**289.00**	**0.00**	**150.00**	**1104.50**	**0.00**	**0.00**	**60.00**	**1164.50**
Kulgam	N27a	0.00	20.00	0.00	0.00	20.50	40.50	0.00	0.00	0.00	40.50
	N27b	5.00	215.00	0.00	0.00	58.00	278.00	0.00	0.00	0.00	278.00
	N27c	0.00	122.00	220.00	0.00	0.00	342.50	0.00	0.00	0.00	342.50
	N28	0.00	5.00	287.00	0.00	0.00	292.50	0.00	0.00	0.00	292.50
	N29	0.00	217.50	0.00	0.00	23.50	241.00	0.00	0.00	0.00	241.00
	N30	0.00	250.00	0.00	0.00	15.00	265.00	0.00	25.00	25.00	290.00
	N31a	3.75	266.00	0.00	11.25	96.25	377.25	0.00	28.00	28.00	405.25
	N31b	0.00	0.00	100.00	15.00	15.00	130.00	0.00	0.00	0.00	130.00
	N32a	0.00	12.50	72.50	27.50	40.00	152.50	0.00	0.00	0.00	152.50
	N32b	7.50	146.25	0.00	0.00	12.50	166.25	0.00	0.00	0.00	166.25
	N33	0.00	330.00	165.00	0.00	73.70	568.70	0.00	0.00	0.00	568.70
	N34	0.00	30.00	0.00	0.00	63.70	93.70	0.00	0.00	0.00	93.70
Sub Total		**16.25**	**1614.25**	**844.50**	**53.75**	**418.15**	**2947.90**	**0.00**	**53.00**	**53.00**	**3000.90**
TOTAL		**16.25**	**3339.95**	**1333.60**	**57.75**	**4747.55**	**5834.40**	**0.00**	**75.20**	**5908.60**	**5969.70**

Annexure-V

AREA STATEMENT OF FIR SELECTION WORKING CIRCLE

Range	Co.No	Commercial Area						Un-Commercial Area			Grand Total
		Deo	Kail	Fir	B.L	Blanks	Total	Wooded	Blank & Alpine	Total	
Veshew	V-8	0	0	113.3	4	8	125.3	275.3	3157.8	3433.1	3558.4
	V-9	0	0	279.3	4	30.3	313.6	117.4	159.9	277.3	590.9
	V-10	0	12.1	115.3	6	0	133.4	93.1	238.8	331.9	465.3
	V-11	0	70.8	263.1	28.3	8	370.2	0	0	0	370.2
	V-13a	0	0	87	12.1	40.4	139.5	0	0	0	139.5
	V-16	0	44.7	334	48.5	26.1	453.3	44.5	48.5	93	546.3
	V-17	0	10.1	220.6	0	32.3	263	68.8	159.9	228.7	491.7
	V-18	0	38.4	263.1	8	24.2	333.7	76.9	544.8	621.7	955.4
	V-19	0	24.2	236.8	0	48.5	309.5	48.5	524.2	572.7	882.2
	V-20	0	36.4	257.3	0	42.5	336.2	76.9	680.1	757	1093.2
	V-21	0	2	182.1	10.1	16.1	210.3	72.8	1040.4	1113.2	1323.5
	V-22	0	10.1	93.1	0	8	111.2	89	1500	1589	1700.2
	V-26a	0	10.1	64.7	4	10.1	88.9	0	0	0	88.9
	V-27a	0	16.1	72.8	4	28.5	121.4	12.1	0	12.1	133.5
	V-29b	0	16.1	36.4	0	32.3	84.8	0	0	0	84.8
	V-31a	0	14.1	143.7	6	14.1	177.9	0	0	0	177.9
	V-32a	0	16.1	178.2	12.6	40	246.9	0	0	0	246.9
	V-32b	0	56.6	14.1	0	147.7	218.4	0	0	0	218.4
	V-33a	0	0	257	4	10.1	271.1	0	0	0	271.1
	V-33b	0	32.3	44.5	6	58.7	141.5	0	0	0	141.5
	V-34a	0	14.1	188.2	10.1	63.7	276.1	0	0	0	276.1
	V-34b	0	60.7	24.2	0	6	90.9	0	0	0	90.9
Sub Total		**0**	**485**	**3468.8**	**167.7**	**695.6**	**4817.1**	**975.3**	**8054.4**	**9029.7**	**13846.8**
D.H.Pora	N-9	0	0	122.5	0	75	197.5	0	0	57.5	255
	N-10	0	0	165	0	35	200	0	0	10	210
	N-15	0	10.1	237	0	65	312	0	0	0	312
	N-18	0	15	340	0	45	400	0	0	0	400
	N-19	0	0	690	0	35	725	0	0	175	900
	N-20a	0	7.5	387	0	157.5	552	0	0	0	552
	N-22a	0	5.7	215.5	0	55	276.2	0	0	0	276.2
	N-24b	0	0	135.1	0	2.5	137.5	0	0	0	137.5
Sub Total		**0**	**38.3**	**2292.1**	**0**	**470**	**2800.2**	**0**	**0**	**242.5**	**3042.7**
Total		**0**	**523.3**	**5760.9**	**167.7**	**1165.6**	**7617.3**	**975.3**	**8054.4**	**9272.2**	**16889.5**

Annexure-VI

Area Statement of Ecological Conservation WORKING CIRCLE

Range	Co. No	Commercial Area						Un-Commercial Area			Grand Total
		Deo	Kail	Fir	B.L	Blanks	Total	Wooded	Blank & Alpine	Total	
D.H.Pora	N-01	0	0	320	0	128	448	0	0	132	580
	N-02	0	0	115	0	102.5	217.5	0	0	220.5	438
	N-03	0	0	265	0	0	265	0	0	203	468
	N-04	0	0	270	0	0	270	0	0	170.7	440.7
	N-05	0	0	170	0	121	291	0	0	25	316
	N-07	0	0	76	0	105	181	0	0	316	497
	N-08	0	0	128	0	0	128	0	0	415	543
	N-11	0	0	50	0	0	50	0	0	248.7	298.7
	N-12	0	0	295.5	0	76.7	372.2	0	0	75	447.2
	N-13	0	0	0	0	0	0	0	0	1048	1048
	N-14	0	42.5	0	0	0	42.5	0	0	153.5	196
	N-20b	0	0	45	0	70	115	0	0	205	320
	N-21	0	33	256	0	50	339	0	0	175	514
Sub Total		**0**	**75.5**	**1990.5**	**0**	**653.2**	**2719.2**	**0**	**0**	**3387.4**	**6106.6**
Veshew	V-12/b	0	153.8	12.1	0	186.2	352.1	0	18.2	18.2	370.3
	V-13b	0	159.9	46.5	34.4	477.7	718.5	0	2668	2668	3386.5
	V-14	0	0	70.8	72.8	0	143.6	109.3	4497.9	4607.2	4750.8
	V-15a	0	0	93.1	42.5	16.1	151.7	0	70.8	70.8	222.5
	V-15b	0	72.8	0	0	8	80.8	0	0	0	80.8
	V-23	0	0	0	0	0	0	0	2793.5	2793.5	2793.5
	V-24	0	0	0	0	0	0	0	289.4	289.4	289.4
	V-25/a	0	10.1	32.3	0	0	42.4	0	348.1	348.1	390.5
Sub Total		**0**	**396.6**	**254.8**	**149.7**	**688**	**1489.1**	**109.3**	**10685.9**	**10795.2**	**12284.3**
Total		**0**	**472.1**	**2245.3**	**149.7**	**1341.2**	**4208.3**	**109.3**	**10685.9**	**14182.6**	**18390.9**

Annexure-VII

Area Statement of Reboisement Working Circle

Range	Co No.	Commercial Area						Un-Commercial Area			Grand
		Deo	Kail	Fir	B.L	Blanks	Total	Wooded	Blank & Alpine	Total	Total
D.H.Pora	N-06	0	121	0	0	0	121	0	0	0	121
	N16a	0	0	113	0	27	140	0	0	0	140
	N16b	0	55	0	0	0	55	0	0	0	55
	N24a	0	0	0	0	43	43	0	0	0	43
	N-25	0	102.5	0	0	94.5	197	0	0	0	197
	N26a	0	178.7	0	0	7.5	186.2	0	0	0	186.2
	N26b	0	12.5	0	0	62.5	75	0	0	0	75
	N26c	0	0	0	0	55	55	0	0	0	55
	N26d	0	0	0	0	62.5	62.5	0	0	0	62.5
	N-46	0	50	0	0	75	125	0	0	0	125
	N-47	0	32.5	0	0	72.5	105	0	0	0	105
	N-48	0	5	0	0	117.5	122.5	0	0	0	122.5
Sub Total		***0***	***557.2***	***113***	***0***	***617***	***1287.2***	***0***	***0***	***0***	***1287.2***
Veshew	V34c	0	12.4	12.4	0	20	44.8	0	0	0	44.8
	V35c	0	40.4	342.1	0	155.8	538.3	0	0	0	538.3
	V35b	0	36.4	0	0	4	40.4	0	0	0	40.4
	V36a	0	6	236.8	36.4	121.4	400.6	0	0	0	400.6
Sub Total		***0***	***95.2***	***591.3***	***36.4***	***301.2***	***1024.1***	***0***	***0***	***0***	***1024.1***
Kulgam	N35a	10	72.5	0	0	0	82.5	0	0	0	82.5
	N35b	0	0	0	0	25	25	0	0	0	25
	N36a	0	20	0	0	15	35	0	0	0	35
	N36b	0	50	0	0	37.5	87.5	0	0	0	87.5
	N-43	0	66.25	0	0	0	66.25	0	0	0	66.25
	N-44	0	67.5	0	0	35	102.5	0	0	0	102.5
	N-45	0	21.2	0	0	97	118.2	0	0	0	118.2
Sub Total		***10***	***297.45***	***0***	***0***	***209.5***	***516.95***	***0***	***0***	***0***	***516.95***
TOTAL		**10**	**949.85**	**704.3**	**36.4**	**1127.7**	**2828.25**	**0**	**0**	**0**	**2828.25**

Annexure-VIII

List of Names of Forests (as per Revenue Record) with other particulars as per Forest Department Form No: 1

S.No	Name of Forest	Area (Ha.)	No. of Boundary Pillars	Length of demarcation line (Kms)
1.	AKHALL	466.771	133	14.30
2.	KHULL RINGAT	180.00	84	11.76
3.	THUSOO	13.15	0	2.68
4.	KHURIBATPORA	1631.09	106	25.14
5.	KUTMARG(II)	26.65	16	2.28
6.	DANH-LATHER	1247.06	3	17.38
7.	RINGDALLAW	46.77	35	3.69
8.	HUMPATHRI	49.81	93	7.71
9.	SARMARG	67.22	58	3.35
10.	KUTMARG(I)	1077.27	20	16.47
11.	BRINAL LAMMER	838.54	103	16.36
12.	LAMMER	476.97	43	12.54
13.	DAMHAL-HANJIPORA	47.11	34	7.76
14.	BOH-NAGAM	106.78	128	10.40
15.	MOSHIPATHRI BAMENDRI	19.84	112	5.32
16.	DANEW	1751.07	74	22.94
17.	NAGNARD-CHIMMER	54.89	51	17.07
18.	NAGNARD	1641.61	53	20.77
19.	DANDWARD	1670.32	63	27.64

List of Names of Forests (as per Revenue Record) with other particulars as per Forest Department Form No: 1				
S.No	**Name of Forest**	**Area (Ha.)**	**No. of Boundary Pillars**	**Length of demarcation line (Kms)**
20.	BADIJAHALAN	557.59	34	13.64
21.	CHINDERGI MALWAN	1120.66	174	26.73
22.	MENGON-DANGI	18.80	20	1.87
23.	BALDAR	57.91	75	6.05
24.	CHOWGAM	51.69	75	6.04
25.	LANKER-PAMBAY	9.07	31	2.34
26.	SANI-MARG	97.59	78	7.29
27.	GHORET	6.13	27	1.51
28.	RINGTRAJI	9.49	51	
29.	DUDA-KUCHAN	40.06	21	14.70
30.	DERDHGUND	10.05	30	2.15
31.	GUDDER	390.12	359	23.35
32.	KHALOORA	6.13	27	1.51

(a) No. of Forests: 32
(b) Area of Forests: 13779.21 Hectares
(c) No. of Pillars around the Forests: 2211 Pillars
(d) Length of Demarcation: 352.74 Kms

Annexure-IX

List of Bahaks Beat / Block, & Compartment wise			
Kulgam Range			
Block	Beat	Comptt. No.	Name of Bahak
Akhal	Akhal Khaloora	Top of Comptt. N/29 & N/30	Sahi-koot
Lammer	Brinal	N/31	Busan-Dalau
	Lammer	N/33	Rangmal
Veshew Range			
Manzgam	Manzgam	V/20	Manzpal
		V/21	Gattiwali
		V/19	Sunderbugh
Manzgam	Asnoor	V/18	Punch-khal
		V/18	Tchri-khal
K.B.Pora	K.B.Pora	V/26a	Kadalbal
Manzgam	Manzgam	V/27b	Har-Chirranbal
Manzgam	Asnoor	V/28	Bun-Chirranbal
Kungwattan	Tangmarg	V/15a	Kungwattan
Manzgam	Manzgam	V/24	Google marg
		V/24	Zaji marg
		V/22	Hakwas
Nicken	Nicken	V/14	Astan-marg
Manzgam	Asnoor	V/18	Drakhwali
Nicken	Nicken	V/14	Mahinag
		V/13b	Satpukhran
		V/13a	Ramakantsan
		V/8	Tathgen-topi
		V/12	Niken
D.H.Pora Range			
Nagam-A	Nandimarg	N/3	Zamastal
Chimmer	Kutmarg	N/19	Nusu-Behk
Nagam-B	D.K.marg	N/15	Pazimal
Chimmer	Badhijalan	N/21	Sundertop
		N/21	Yaripathri
		N/21	Badi-Beh
Nagam-B	Dragdon	N/12	Dand-lutoor
Nagam-A	Nagam	N/5	Nablan
	Nandimarg	N/2	Trajan

Annexure-X

Range Wise Forest Road Details of Special Forest Division Kulgam

Veshew Range

S.No.	Name of the Road	Compartment			Length (km)	Remarks
		From	*Via*	*To*		
01.	Sedew-Niken Road	V5	V6	V11	10 km.	Fair- Wealth road.
02.	Manzgam-Chirranbal	V34	V27,V28	V26	12 km.	Needs repairing very steep road.

D.H.Pora Range

S.No.	Name of the Road	Compartment			Length (km)	Remarks
		From	Via	To		
01.	D.K.marg-Comptt.14	N16	N15	N14	8 km.	Steep & rocky needs repairing
02.	Kutmarg-Walinard	N24	N23	N22	8 km.	Needs repairing

Annexure-XI

Infrastructure details of the KULGAM Division

S. No.	Name of Establishment	Location	Latitude/ Longitude	No. of Rooms	Remarks/ Present Condition
01.	Divisional Office Cum DFO's Residence.	Forest Complex Kulgam.	N 33^0 38' 34" E 75^0 00' 56"	2 stories (8 rooms)	Good condition.
02.	Range Office Cum Residence.	Forest Complex Kulgam.	N 33^0 38' 34" E 75^0 00' 56"	4	Newly constructed in 2012-13
03.	Old Range Office	Forest Complex Kulgam.	N 33^0 38' 34" E 75^0 00' 59"	3	Needs renovation
04.	B.O's Hut	Arigutan. Comptt. N/44	N 33^0 37' 31.6" E 75^0 00' 16.3"	3	Newly constructed in 2013-2014
05.	Guard hut Chambgund.	Chambgund Comptt. N/43	N 33^0 37' 16.1" E 75^0 01' 28.8"	2	Lacks water facility & electricity.
06	Guard hut at Chandergi	Chandergi Comptt. N/27/b	N 33^0 35' 40.8" E 75^0 00' 34.6"	2	Good condition
07	Guard hut at Malwan	Malwan Comptt.N/27c	N 33^0 35' 23.6" E 75^0 01' 29.9"	2	Lacks Bathroom, Water facility & electricity.
08	Guard hut at Lammer	Lammer N-35	N 33^0 36' 3.5" E 75^0 05' 52"	2	Lacks Bathroom, Water facility & electricity.
09.	Guard hut at Lammer	Lammer -32	N 33^0 34' 58.4" E 75^0 04' 55.6"	2	Lacks Bathroom, Water facility & electricity.
10.	Guard hut at Akhal	Akhal N-30	N 33^0 36' 21.6" E 75^0 03' 29.9"	2	Lacks Bathroom, Water facility & electricity.
11.	Range Office, D.H.Pora	D.H.Pora village	N 33^0 36' 26.8" E 74^0 55' 46.2"	4	Needs renovation
12.	Range Office Veshew	Avil village	N 33^0 36' 28.1" E 74^0 52' 35.4"	4	Newly constructed.
13.	Guard hut Akhal	Aharbal Comptt.V-31/b	N 33^0 38' 52.7" E 74^0 46' 54"	2	Lacking basic facilities of water, electricity etc.

Annexure-XII

Details of CAMPA funds as on date with details of expenditure made item wise

Year	Funds incurred (in Lacs)	Targets Achieved							
		Area Treated in Ha	Plantation	Fencing	Infrastructure raised				
			Phy	Phy	Office Building	Hut	Others	Total	Remarks
			Lac No's	Lac No's	No's	No's	No's	No's	No's
2009-10	-	-	-	-	-	-	-	-	-
2010-11	69.73	43	0.33	0.13	-	-	-	-	-
2011-12	51.58	53	0.39	0.20	1	-	-	1	Construction of Range Office Kulgam
2012-13	55.13	30	0.40	0.9	-	1	-	1	Construction of B.O.'s Hut at Arigatnoo
2013-14	43.91	65	0.615	0.20	-	-	-	-	

Annexure-XIII

List of Divisional Forest Officers of Special Forest Division Kulgam

S.No.	Name of the DFO	Designation	From	To
1	Ab Hamid Rather	ACF	10/2010	04/2012
2	Syed Altaf Gillani	DCF-SG	05/2012	Till date

Annexure-XIV

Royalty statement showing the position of marking conducted in Special Forest Division Kulgam and handed over to SFC w.e.f 10-2010 to 31-12-2013

S.No.	Comptt. No.	Marked volume handedover Kail+Fir (cfts)	Amount due (Rs.)	Amount received (Rs.)	Balance Amount (Rs.)
1	V-16	42547	1187783	0	1187783
2	V-17	105766	4123553	0	4123553
3	V-18	65880	2564944	0	2564944
4	V-19	148550	5815862	0	5815862
5	V-20	124124	4882555	0	4882555
6	V-21	39866	1564342	0	1564342
7	V-22	73140	2991731	0	2991731
8	V-25B	49078	2620943	0	2620943
9	V-26B	26148	1170700	0	1170700
TOTAL		**675099**	**26922413**	**0**	**26922413**