

MANAGEMENT PLAN
OF
PRIVATE FOREST AREAS CLOSED
UNDER SEC. 4 & 5 OF
PUNJAB LAND PRESERVATION ACT-1900

Trees for India



(2007-2008 To 2016-17)
Hoshiarpur Forest Division

Prepared by:-

Divisional Forest Officer,
Hoshiarpur Forest Division,
Hoshiarpur.

Important Abbreviations:-

BH	:	Breast Height
CCF	:	Chief Conservator of Forests .
DFO	:	Divisional Forest Officer
FCA	:	Forest Conservation Act
FPC	:	Forest Protection Committee.
GBH	:	Girth at Breast Height
MoEF	:	Ministry of Environment and Forest
PCCF	:	Principal Chief Conservator of Forests.
PLPA	:	Punjab Land Preservation Act.
VFC	:	Village Forest Committee
JFMC	:	Joint Forest Management Committee

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Sewa Singh
IFS
Divisional Forest Officer
Hoshiarpur

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Chapter-I

The tract dealt with

Chapter- I

The tract dealt with

1.1: Name and situation:

The tract dealt with in this Management Plan falls under the territorial Forest Division of Hoshiarpur. Hoshiarpur Division lies between longitude east $75^{\circ} 50'$ and $31^{\circ} 50'$ north. Following survey sheets cover the area concerning this Management Plan of Hoshiarpur Forest Division.

S.No	Scale	Surveysheet No
1	1:2,50,000 & 4" = 1 mile	44M, 53A & 53B
2	1:50,000 & 1" = 1 mile	44M/6,9,10,11,13,14,15,16 53A/2,3,4,7,8,12, 53B/1,5,9

This Management plan covers the sub mountainous area of 50 villages as described in para no.1.6. Hoshiarpur Forest Division is a part of Hoshiarpur district and covers the whole of Hoshiarpur and a part of Dasuya Civil Sub division. The altitude range of this Forest Division is 311.5 m to 716.52 m. The boundary of Hoshiarpur Forest Division runs along Una Forest Division of Himachal Pradesh on one side and Dasuya, Jalandhar and Garshankar Forest Divisions of Punjab on other sides of Hoshiarpur. There is also one division of Wild Life with headquarters at Hoshiarpur and this covers the entire district of Hoshiarpur.

1.2: Configuration of the Ground:

Basically the whole area forms part of the Shivalik hills and is a sub-mountainous tract. A large number of Hilly torrents and small rivulets (choes) garland the area ultimately draining into river Sutlej and river Beas. The slopes along the main ridges are

quite steep but it is quite gentle in the riverain tract where the topography is almost plain. The Hoshiarpur Forest Division spans three macro watersheds.

1.2.1 Area under Management Plan & Map

The area of this Management Plan falls in number of watersheds. Total forest area dealt with is 44278 hectare, which is closed under section 4 & 5 of Punjab Land Preservation Act, 1900.

1.3: Geology of Rocks and Soil:

As far as geology is concerned the rocks are classified into two broad belts - an outer belt and an inner belt, formed respectively of the upper tertiary and lower tertiary periods. The characteristic features are:

Upper Shivalik: Soft Earths, Clays & Boulders, Conglomerates.

Middle Shivalik: Massive sand rock & Clay beds.

Lower Shivalik: Grey Micaceous sand stones and unfossiliferous slabs.

On the basis of morphological, physico-chemical and chemical studies of the soil profile from the different meteorological divisions, Sharma (1953) classified the soils into the world group Zone No.2. The **Soil Profile** of virgin waste land of these areas consists of following zonal descriptions:

Depth (Inches)	Description
0-6	Dark brown, silty clay loam, no effervescence with

	HCl , pH approx.7.
6-42	Brown clay compact, no effervescence with HCl, pH same as above.
42-66	Same as above.
66-92	Same as above, but grey spots are found sporadically.
91-108	Grey loose fine, no effervescence with HCl, pH approx. 6.5.
108-120	Dark brown, clay loam compact, no effervescence with HCl, pH same as above.

Profile analysis reveals that soil is clayey with large preponderance of silt fraction and the soils are siliceous in nature.

The amount of silica sesquioxide increases with depth while Calcium Carbonate is absent. The clay is kaolinitic mixed with hydrous mica and montmorillonitic clay minerals in the bottom layer. These soils have been designated as transitional soils of alluvial origin. The hilly areas have a slope varying from 10 to 50 percent or even more at few places. In the hills and foothills, the soil is almost pure sand or clay mixed with coarse ingredients of pebbles and gravel. In the bela areas, the soil is comprised of coarse sand or sandy loam. In mand areas the top layer is almost invariably of silt loam with comparatively fine sand underneath. The soils are generally shallow in hills and foothills and quite deep in the plains. They are generally well drained. Soil is mostly poor in nitrogen and organic matter

1.4: Climate:

In mountainous and sub-mountainous zone temperature and other climatic factors are greatly altered due to altitudinal variation. The climate of the area is described as semi-arid. Most of the rainfall is received during monsoon from July to middle of September, while rains are few during January-February. Average annual rainfall as per the recent data varies from 945.4 mm to 1242 mm. Precipitation in the form of dew also

occurs in winter from October to January which has beneficial effects on young plants. April to June is generally dry months. During summer, the maximum temperature reaches 45⁰ C and minimum temperature touches 24.7⁰ C and during winter the maximum temperature of 26⁰ C and minimum temperature of 0.7⁰ C were recorded in the month of January . Due to high temperature and dry climate in the summer months, mortality in young plantations has been noticed. During winter, pool frost and advective frost is quite common which cause damage to frost- tender species in the young stages. Following table shows monthly rainfall data recorded in the last ten years at Hoshiarpur.

Monthly Rainfall Data (mm) recorded at Hoshiarpur Station

Rainfall data of Hoshiarpur Forest Division

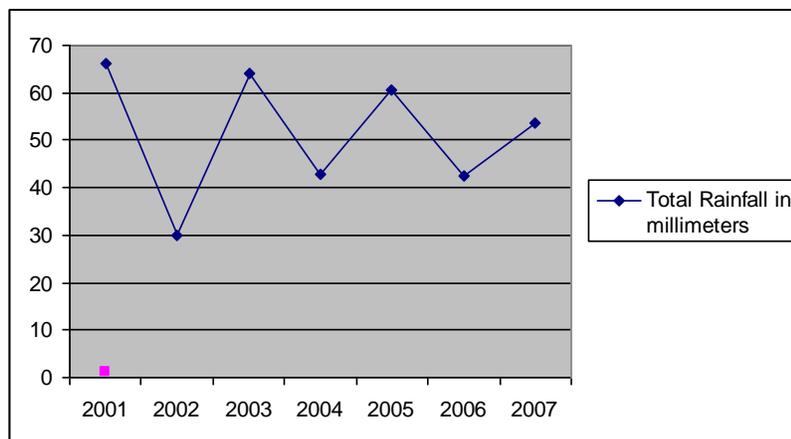
Rainfall in millimeters

Name of month	2001	2002	2003	2004	2005	2006	2007
January	18.3	5.5	9.7	58.2	49.4	10.5	0.3
February	1.9	6	70.2	13.8	72.8	2.3	64.2
March	14.3	3.2	45.3	0	37.5	47.6	68.1
April	47.7	9.1	9.1	11	7.3	0.9	6.7
May	83.7	26.7	1.8	42.9	13.1	25	14.9
June	75.5	35.1	53.7	88.7	31.7	28.6	32.7
July	364.1	59.1	173.2	110.6	281.1	149	160.8
August	143.4	91.2	266.5	95.7	95	149.2	80.2
September	38.8	107.6	128.1	1.9	137.4	83.2	
October	0	15.7	0	80	0	3.7	

November	0	0	4.2	1	0	2.2	
December	4.4	0	7.6	10.3	0	9.6	
Total	792.10	359.20	769.40	514.10	725.30	511.80	427.90
Average	66	29.93	64.11	42.84	60.44	42.65	53.48

From this we can safely conclude that the rainfall is quite erratic and unpredictable:

The past trend can be plotted as follows:



1.5: Water Supply:

The tract dealt with is slopy and undulating. The precipitation in the Shiwalik Hills is drained by ‘Choes’ or hill torrents which spring up during the rainy season. Irrigation is not possible in case of plantations on hills and foothills of Shiwaliks because of acute shortage of water even for drinking purposes. Conventionally hand watering or irrigation is not undertaken in Shiwalik plantations as these are only rain fed. Therefore, the success of plantations mainly depends on timely planting during the monsoon period and soil and moisture conservation measures taken up in the vicinity of plantations. Many earthen dams, artificial barrages, multipurpose dams with small and big reservoirs have also been constructed recently for augmenting irrigation facilities in

Kandi area. Kandi Canal has also been constructed and second phase of the project is in progress.

1.6: Distribution of area:

Area is privately/common/panchayat owned and closed under sec 4 & 5 of P.L.P.A 1900. Detail of area under this Management Plan which falls in 50 villages is as per list of notifications: -

Annexure- 11

List of Private Forests Closed in Hoshiarpur Forest Division under Section 4 and 5 of Punjab Land Preservation Act of 1900

S.no	Name of vill. & H.B No.	Total Area in acres	Area Ha.	Area closed under section 4 acres	ha.	Area closed under section 5 acres	ha.
1	Atwarapur 482	1662	664.8	1662	664.8	372	148.8
2	Arniala shahpur 491	1628	651.2	1628	651.2	463	185.2
3	Bahera 474	2309	923.6	2309	923.6	1361	544.4
4	Barikhad 473	2212	884.8	2212	884.8	621	248.4
5	Baroti 493	1927	770.8	1972	788.8	0	0
6	Baruhi 463	1259	503.6	1259	503.6	0	0
7	Bassi Jamal Khan(337)	60	24	17	6.8	17	6.8
8	Bassi Mustafa 353	293	117.2	55	22	29	11.6
9	Bharoom 475	273	109.2	273	109.2	93	37.2
10	Chack sadhu 503	3915	1566	3915	1566	0	0
11	Chohal 494	2247	898.8	2247	898.8	1031	412.4
12	Dada 496	6069	2427.6	4099	1639.6	0	0
13	Dallewal 500	2057	822.8	2057	822.8	1045	418
14	Dandoh 479	1623	649.2	1623	649.2	809	323.6
15	Dholbaha 476	5608	2243.2	5520	2208	2287	914.8
16	Dehrian 471	4022	1608.8	4022	1608.8	2622	1048.8
17	Janauri 478	5247	2098.8	5247	2098.8	2542	1016.8
18	Handowal kalan 311	507	202.8	89	35.6	81	32.4
19	Hussainpur 484	573	229.2	573	229.2	49	19.6
20	Kapahat 489	2164	865.6	2164	865.6	374	149.6
21	kataur 468	1109	443.6	223	89.2	79	31.6

22	Khangwari 465	2668	1067.2	2399	959.6	436	174.4
23	Kharkan 502	2847	1138.8	887	354.8	525	210
24	Kort 480	1370	548	1370	548	304	121.6
25	Koi 462	2230	892	2230	892	251	100.4
26	Kukanet 472	3823	1529.2	3821	1528.4	3821	1528.4
27	Lehali kalan 307	501	200.4	69	27.6	51	20.4
28	Lehali khurd 314	262	104.8	50	20	50	20
29	Machian 44	259	103.6	35	14	35	14
30	Malot 486	3357	1342.8	3357	1342.8	682	272.8
31	Manhota 466	788	315.2	788	315.2	283	113.2
32	Manjhi 497	3959	1583.6	3509	1403.6	3406	1362.4
33	Mehngrowal 488	6574	2629.6	6572	2628.8	5839	2335.6
34	Mustapur 490	460	184	451	180.4	58	23.2
35	Nara 498	3874	1549.6	3424	1369.6	2120	848
36	Nari 492	3029	1211.6	3029	1211.6	2453	981.2
37	Naroor 464	2869	1147.6	2869	1147.6	0	0
38	Patial 481	3668	1467.2	3668	1467.2	3658	1463.2
39	Patiari 483	1888	755.2	1888	755.2	0	0
40	Patiarian 501	2531	1012.4	2188	875.2	1915	766
41	Phaphial 477	385	154	385	154	94	37.6
42	Phalahi 291	892	356.8	208	83.2	34	13.6
43	Raghwal	1193	477.2	1193	477.2	202	80.8
44	Rehmapur 485	964	385.6	964	385.6	166	66.4
45	Ramatwali 470	2933	1173.2	2931	1172.4	657	262.8
46	Saleran 495	3765	1506	3734	1493.6	183	73.2
47	Satial 366	347	138.8	43	17.2	0	0
48	Takhani 487	2258	903.2	2258	903.2	714	285.6
49	Thana 467	2663	1065.2	2651	1060.4	898	359.2
50	Tharoli 499	1574	629.6	1574	629.6	0	0
	Total	110695	44278	101711	40684.4	42710	17084

1.7: Legal status:

The ownership of the area dealt with is either private, common or Panchayat land. The closed area has been classified as “Private Forest” meaning thereby that these areas are not owned by the State Government but are managed by the Punjab forest department and are closed under section 4 & 5 of Punjab Land Preservation Act 1900 as per the provisions of the Act and approved Management Plan by Govt. of India. To give effect to the provisions of section 4 & 5 of the said Act, Punjab Govt. has issued notifications for specific periods in conformity with the broad outline of the Act. The purpose of this

closure is to protect this area from soil erosion and degradation. The closed area is classified as "Private Forest" as on account of being included in annexure 'G' of the State affidavit submitted on the subject to the Hon'ble Supreme Court. According to Apex Court's judgment dated 12-12-1996 in respect of Writ Petition No. 202 of 1995 i.e T.N Godaverman Thirumulkpad v/s Union of India & others, the 'closed area' classified as "Private Forest" in the annual administrative report is 'Forest'. Therefore the provisions of Forest Conservation Act, 1980 are also applicable with regard to diversion of forest area for non-forest purpose unless permitted under ancillary activities for broader objective of conservation in the management plan approved by the competent authority.

In compliance of the above-mentioned Court's order, the present management plan for private area is prepared on the basis of relevant provisions and Punjab Government notifications in this regard. The land covered under this Management Plan is private forest owned by private individuals, communities and panchayats and they are responsible for protection of the forest areas under their holding.

1.8 Provisions of Section 4 & 5 of P.L.P.A.

The whole of the tract which is mostly undulating is closed under Section 4. The area comprising upper reaches which is more vulnerable to soil erosion is closed under Section.5. The list of 50 villages closed under section 4 & 5 has already been mentioned at section 1.6 of this chapter. The conditions as contained in Sec. 4 & 5 of PLPA are as follows: -

Section 4: In respect of areas notified under section 3 (of PLPA) generally or the whole or any part of any such area, the State Government may by general or special order temporarily regulate, restrict or prohibit-

- (a) the clearing or breaking up or cultivating of land not ordinarily under cultivation prior to the publication of the notification under section 3;
- (b) the quarrying of stone or the burning of lime at places where such stone or lime had not ordinarily been so quarried or burnt prior to the publication of the notification under section 3

- (c) the cutting of trees or timber , or the collection or removal or subjection to any manufacturing process, otherwise than as described in clause (b) of this sub-section, of any forest-produce other than grass, save for bona fide domestic or agricultural purposes of right-holder in such area;
- (d) the setting on fire of trees, timber or forest produce;
- (e) the admission, herding, pasturing or retention of sheep goats or camels;
- (f) the examination of forest-produce passing out of any such area ; and
- (g) the granting of permits to the inhabitants of towns and villages situated within the limits or in the vicinity of any such area, to take any tree, timber or forest produce for their own use there from or to pasture sheep, goats or camels or to cultivate or erect buildings therein and the production and return of such permits by such persons.

Section 5: In respect of any specified village or villages, or part or parts thereof, comprised within the limits of any area notified under section 3 (of PLPA), the State Government may, by special order, temporarily regulate, restrict or prohibit-

- (a) the cultivating of any land ordinarily under cultivation prior to the publications of the notification under section 3;
- (b) the quarrying of any stone or the burning of any lime at places where such stone or lime had ordinarily been so quarried or burnt prior to the publication of the notification under section 3 ;
- (c) the cutting of tree or timber or the collection or removal or subjection to any manufacturing process, otherwise than as described in clause (b) of this sub-section, of any forest-produce for any purposes ; and
- (d) the admission, herding, pasturing or retention of cattle generally other than sheep, goats and camels, or of any class or description of such cattle.

Section 4 & 5 of the PLPA are among the most important regulatory sections of PLPA. Out of above regulations of these sections only those provisions are applicable to an area which are duly notified under the relevant Section 4 or 5 notification for that area.

Chapter-II

Flora and Fauna

Chapter –II

Flora & Fauna

Flora:

2.1: General description of the growing stock:

The shivalik areas are in general extremely biodiverse and have rich floral diversity. Parker (1921) reported 1121 floral species in Punjab west of river Yamuna. The floral diversity includes Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms (Grasses, Weeds, Medicinal plants & Forest trees). The vegetation over the tract can broadly be divided into three types namely

- (i) Scrub forests in hills
- (ii) Khair –Sissoo forests in foot – hills and
- (iii) Chil forests over parts of shivaliks.

2.2 Past fellings: -

As the area is fragile and crop composition uneven, the principal species in the private forest area have been harvested under the Selection System. Therefore volume harvested is uneven depending on the silvicultural availability of the trees.

2.3: Scrub Forests in Hills:

Majority of the area falls under scrub forests . Most of these areas have remained under section 4 and 5 of the Punjab Land Preservation Act, 1900 for decades together. As a result of restrictions imposed under the Act, for felling trees, the vegetative cover over these areas has in general improved specially

in upper parts of the catchments and along choe banks . The proportion of valuable species particularly khair and bhabber has also considerably improved on account of sowing and planting operations.

In addition to Khair (*Acacia catechu*) and Shisham (*Dalbergia sissoo*), other tree species forming part of the vegetation in these areas include Rajain (*Holoptelia integrifolia*) Simal (*Bombax ceiba*) , Amaltas (*Cassia fistula*) , Amla (*Emblica officinalis*), Kahmbal (*Lannea grandis*), Phalahi (*Acacia modesta*), Neem (*Azadirachta indica*), Kinu (*Diospyros montomentosa*), Bel(*Aegle marmelos*), Kangu (*Flacourtia ramontchii, flacourita indica*), Dhak (*Butea monosperma*), Tun (*Toona ciliata*) Sannan (*Ougeinia oojeinensis*), Padal (*Oroxylum indicum*), Beri (*Zizyphus mauritiana*), Dhaman (*Grewia opositifolia*), Chhal (*Anogeissus latifolia*), Kikkar (*Acacia Nilotica*) etc.

Two common bamboos are *Dendrocalmus strictus* and *D.hamaltonii*. Common shrubs include Mallah (*Zizyphus nummlaris*), Kuri (*Nyctanthes arbortristis*) Dhavi (*Woodfordia fruticosa*) Panchi phulli (*Lantana camara*) ,Jatropha spp, karaunda or garna (*carrissa spinaram oparca*), Mehndar (*Dodonaea viscosa*) Kaner(*Nerium indicum*) , Gandla (*Murraya koenigii*) etc. Taur (*Bauhinia vahlii*), Guleo (*Tinorsporam albarica*), Gauj (*Milletia suriculata*), Bakarbel (*Ichnocarpus frutescens*), Daghiari (*Mimosa himalayana*) are the common climbers . Grasses generally found and making thick mat on moderate slopes are lunci (*Thamedia ananthera*), Satiala (*Heteropogon contortus*), Dhalu (*Chrysopogon motanus*) Palwan (*Dicanthium annulatum*) and Babbar (*Eulaloposis binata*)

2.4 : Khair-sissoo forests:

These are mainly man made forests as a result of planting in foot hills , bela areas along choes and mand areas. In addition to the khair - sissoo, eucalyptus hybrid is another species planted over substantial areas.

2.5 : Chil Forests:

Chil (*Pinus Roxburghii*) Forests are also found in the upper reaches of the Shivaliks. In lower reaches they occur in combination with miscellaneous species, whereas in the higher reaches it occurs isolated interspersed with small patches of grasses.

Some of the important flora endemic to Shivaliks is as follows: -

Ougenia, Butea, Caesulia, Glassocardia, *Hibiscus hoshiarpurensis* (Paul&nayar), *Argyrolobium album*, *Rumex punjabensis*, *Polycarpos prostratum*, *Waltheria indica*, *Zoxyphylla*, *Campylotropus ericarpa*. “International Union for Nature Conservation” recommended ‘insitu’ conservation of these species by declaring them protected, preventing their uprooting, attempting regeneration in similar ecological habitats and preservation of their seeds.

2.6: Status of Natural regeneration:

Status of natural regeneration is good in protected areas where grazing of cattle is controlled and the owner also protects wildlife attack by different ways and means, but on the other hand natural regeneration is poor in unprotected and unfenced areas.

2.7: Injuries to which crop is liable:

The main injuries to which the forest crops are liable are: -

- 1) Grazing and browsing.
- 2) Lopping.
- 3) Fire
- 4) Frost
- 5) Drought
- 6) Floods
- 7) Wild animals, Birds and Rodents.
- 8) Insects and Fungi.

A very recent phenomenon observed in the entire shivaliks is the rapid proliferation of obnoxious weeds like lantana and parthenium. In particular, the infestation of Lantana has reached alarming proportions. Due to its allelopathic affect, the lantana is not allowing other economically important plants to grow, thus affecting the income of communities depending on the forest produce. Urgent steps are required in this direction and the best approach would be to look at Lantana as a biomass resource and to put it to economically important use.

Fauna:

2.8 : General description of the fauna found in forests:

The faunal diversity includes Protozoans (84 species), Platyelminthes (47 species), Nematodes (140 species), Annelids (36 species), Arthropods (1206 species), Pisces (143 species), Amphibians (14species), Reptiles (30species), Aves (461species) and Mammals (30 species).

Since the beginning of the 19th century ruthless destruction of wild life habitat has resulted in pronounced impoverishment and regression of wild animals. During the past the wild animals particularly the carnivores have been indiscriminately hunted and killed from this area to the point of extinction. Also the habitat of wild animals has been greatly affected by intensive agriculture, urbanization and construction of dams and canals. Now most of the land of the State has been cleared for cultivation leaving only about 5.76 % under forests. Intensive agriculture on one hand depleted the habitat of herbivores whereas on the other hand it favoured rodent pests. The population of these pests has increased to alarming proportions. Also due to the depletion of their natural habitat and the destruction of the natural predator, the herbivores are now raiding the standing crops of the forest neighbouring communities. The Wild Life Protection Act, 1972 was enforced in Punjab State w.e.f 1/4/1975 to save the wild life .

Many rare animals like Pangolins and Pythons ,which are included in the international red data list of I.C.U.N, are found in this part of the Shivaliks. Other

herbivores found in this region are Sambar, Barking deer, Hog deer and Wild pig and these are included in schedule –III of Wild Life Protection Act, 1972. Tiger and Panther are not found in the area but panther some times migrates from Himachal Pradesh to areas of Hoshiarpur district.

A great diversity of birds are also found in the biodiverse region of the Shivaliks in General and Hoshiarpur in particular. During the year 1982, Bombay Natural Society in collaboration with Wild Life wing of Punjab conducted birds ringing programmes in Mehngrowal, Nara and Talwara areas. 280 birds of 38 species were ringed in Mehngrowal area in 8 days. Forests in Mehngrowal are composed of khair (*Acacia catechu*), Simal (*Bombax ceiba*), Ber (*Zizyphus mauritiana*) trees. In the dense bush canopy bulbul nests are seen in good number. The forest of nara is well stocked with shisham (*Delbergia sissoo*), khair (*Acacia catechu*) Phalai, Jamun, Erythrina spp. Khajur (*Phoenix*) spp. Pipal, *Ficus glomerata* etc. The scrub area is largely comprised of lantana bushes. The hillocks are covered with lantana and dense growth of bhabbar, sarala, kana and sabbal grass. Blue tailed bee eater, green bee eater, Blue throated barbet, red rumped swallow and golden oriole are seen in the area.

A large number of migratory birds also frequent these areas. The artificially created water retention structures in Dholbaha, and Hoshiarpur ranges are good birding sites for the migratory birds such as Brown chiffchaff, Plain leaf warbler, Yellow headed wagtail, Rose finch, European bee eater, grasshopper warbler, Siberian lesser white throat, Brambling and several Buntings.

2.9: Injuries to which the fauna is liable and its protection

The **endangered** species of fauna in Punjab according to Prasad (1984) of ZSI are Desert cat, Caracal and those belonging to **Vulnerable** category are wolf,

clawless otter, Leopard cat, Panther, Black buck and Chinkara. 29 species are under schedules of Indian Wild Life Protection Act 1972 and 8 species are under CITES.

Some birds such as yellow wattled lapwing, Painted stork, Crested honey buzzard, Golden eagle, King vulture, Horned owl have become **rare**.

Recently, Wild Life Forest Divisions have been set up by the government of Punjab to meet the challenges posed to the wild animals. There is a Wild Life Division headquartered at Hoshiarpur which caters to the wildlife in the Hoshiarpur District.

2.10: Habitat Destruction:

The habitats of many wild animals are dwindling at an alarming rate. Pangolin, Python, Barking deer, Hog deer and sambhar are species required to be protected. Proper habitat management practices are to be undertaken as an ameliorative step to save the remaining degraded habits. The wildlife division is working with this mandate.

2.11 : Fire protection:

Fire is potentially a deadly enemy of both forest and wild life . Rapid running forest fires , may be very destructive to wild life in particular. If it occurs in the nesting season of birds, breeding stock is destroyed .Therefore fire protection measures should be taken on a big scale especially during the hot season.

Chapter –III

Utilization of the Produce

Chapter - III

UTILIZATION OF THE PRODUCE

3.1 Agricultural Customs and wants of the people

Population is predominantly dependent on rain fed agriculture. Now, Horticulture is being practiced side by side. There are lots of sawmills, furniture makers both small and big, which employ large chunk of work force. Grazing is not a very predominant feature for the employment purpose. The pressure on the forest is mostly from the inhabitants for the supply of small timber, fodder and fuel wood. Of late, the trend of alienation of people has grown on account of strict implementation of forest laws. It is very important to reverse this trend and enlist people's willing support for long term cause of conservation in accordance to the provisions of the Forest Policy.

3.2 Market & Marketable Produce: -

Local market of wood is very well established. Main mandies of this region are Hoshiarpur, Kartarpur, Dasuya, Tanda, Mukerian, Garhdiwala and Hoshiarpur. The woods which are normally traded for furniture and construction works are Shisham and Eucalyptus besides other species. For firewood and katha, the woods normally traded are kikar and khair respectively. Baggar grass is basically used for Ban making, paper and pulp industries. Fodder grasses are not sold because the need for fodder is usually fulfilled from agriculture crops and grazing in the open. Baggar, Munj etc are used for paper pulp and rope making. Leaves of Butea monosperma and Bauhinia vahlli are used for making leaf plates and dishes.

There is also a katha factory near Mukerian in this division which uses local khair timber for katha extraction, it also imports khair timber from other states.

3.3 Lines of export

Road and Rail Network is extensive. Normal means of transportation are car, bus, train, tractor, truck, Bullock Cart etc.

3.4 Method of exploitation and their cost: -

In Section 4 & 5 areas closed under Land Preservation Act, 1900 the exploitation of forests is done according to approved Management Plan. The method of exploitation in these private forests is purely according to the approved felling programme and according to approved Management Plan. Permits are issued to land owners for exploitation of timber and fuel wood from these closed areas.

3.5 Past and current prices of wood products:

Generally the round timber of all sizes and length is brought to the market by local people and is sold by weight in quintals. The people are more interested in bringing the timber to market as soon as they fell the trees without losing moisture and thus to get more weightage. The rates of timber have increased manifold in the past decades due to two factors viz increasing demand and inadequate availability of timber have played evidently big role for such rise. During the last five years the price of khair wood has decreased due to a substitute discovered for making katha. Market price of khair is about Rs. 3000 per quintal which was earlier around Rs.3500 per quintal. The price of other woods like eucalyptus and poplar has been rising and good wood is now fetching around Rs. 300 to 400 and 400 to 500 respectively for one quintal. Bamboos these days are fetching around Rs.25-30/-per culm and rate of Baroza is about 35-40/-per Kg.

3.6 Wood-based Industry regulations Rules:-

Vide Government of Punjab Department of Agriculture and Forests Notification No. G.S.R.34/C.A.16/1927/Ss.41,42,51 and 76/2006 dated 07.07.2006 rules have been framed for regulating the operation of Saw Mills, Veneers and Plywood Industries in the State of Punjab. Under these rules the above said industry is going to be regulated and licensed by Forest Department, so that demand, supply and working of these industry may be put under a closer look and wood producing forests can be well preserved. This will be helpful in proper management of all types of forests.

Chapter –IV

General History of the Forests

Chapter- IV

General History of the forest

4.1: General History: The Shivaliks are ecologically a very fragile area and the tract dealt with lies in the very heart of Shivaliks. As a consequence of the destruction of undergrowth and forests in the shivalik mountain range the surface soil has been exposed and largely washed away from the high lands by rains and the injurious action of mountain torrents and steams. The adjoining fertile lowlands on the other hand have been destroyed due to the deposition of sand and boulders with a result that the vast fertile land is converted into choe beds and has lost the productive power totally. The injury done to the fragile ecosystem of shivalik range caused great anxiety to the government for many years. A two pronged strategy was devised to prevent any further deterioration by an enactment and reclaim those lands already deteriorated by application of large scale afforestation and soil conservation measures.

The enactment of the “Punjab Land Preservation Act 1900” was the first attempt made to provide for the conservation of subsoil water and for the prevention of erosion in any area subject to erosion or likely to become liable to erosion. The operative clause

of the Act 4 & 5 provide for general prohibitions and restrictions contemplated as applicable to notified areas. The legal status of the area so notified is described as closed area under section 4 & 5 of the “Punjab Land Preservation Act 1900”. The “Closed area” in Hoshiarpur Forest Division as per the Annual Administrative Report which is the official record of the Punjab Forest Department in 1995-96 is 33002 ha. The closed area was classified as “Private Forest” in the said report. According to the Supreme Court interim order dated 12.12.1996 in respect of the Writ

Petition (C) no. 202 of 1995 i.e T.N Godavarman Thirumulkpad Versus Union of India and Others , the “ Closed Area” classified as “ Private Forest” in the Annual Administrative Report is “Forest”. Therefore the provisions of Forest Conservation Act 1980 are also applicable with regard to diversion of forest area for non forestry purpose.

In compliance of the above mentioned Supreme Court interim order, the present Management Plan for private areas is prepared for the period from 2007-08 to 2016-2017 on the basis of different Acts and Punjab Government notifications relevant in this regard. The land covered under this management plan is private forest owned by private individuals / panchayats and the owners / right holders are fully responsible for protection of the forest areas under their holding .

The management plan is applicable in the whole of undulating and gair mumkin pahar which are closed under section 4 and upper reaches which are more vulnerable to soil erosion and closed under section 5 of the Punjab Land Preservation Act 1900 in Hoshiarpur Forest Division . Hoshiarpur Forest Division is a part of Hoshiarpur district and covers the whole of Hoshiarpur and a part of Dasuya Civil Sub divisions . Boundary of Hoshiarpur Forest Division runs along Una Forest Division of Himachal pradesh on one side and Dasuya , Jalandhar and Garshanker Forest Divisions of the Punjab on other sides.

4.2 Past System of Management and results: -

Forest Management from 1900-1939: -

During this period LPA was implemented and lands were classified as closed areas under of LPA Section 4 & 5. Section 4 areas constituted the lands with gentle slope or slightly undulating. In these lands the trees could be felled for bonafide domestic and agricultural use and grazing normally allowed except by camels, goats and sheep. The

trees could only be sold with the permission of civil authority. Restrictions under Section 5 were more rigorous. In these areas no grazing and no felling of trees is allowed even for bonafide use. Trees were only made available to local population by permit from civil authorities. No improvement works could be carried out.

PLPA was promulgated in 1900, then rules under this act were framed and accordingly these areas were managed. This was the time of Britishers and they were too much conscious for preserving this fragile tract. British Officers controlling these areas took keen interest in various soil conservation measures in the area. R. Macclagan Gorrie D.Sc was prominent and pioneer in this context. His book on the subject “Soil and Water Conservation in Punjab” is considered a pioneer work in the subject. He practiced all these formulations in the field of Soil Conservation in Shiwalik Hills. As early as 1930, works on soil conservation were started by Forest Department which included afforestation, Choe training, Contour trenching, gully plugging, check dams, baggar planting etc.

After that control of these areas was transferred to Forest Department from the Civil Authorities. 1947 was the year and there was partition and lot of Muslim land owners of the area left for Pakistan. Independent India was on foot in fifties and then planning was started in all spheres. Fifties to seventies was the period when State Government Policies controlled and preserved these areas. After that KWADP was started and various works were done.

Afforestation & Soil Conservation Works have been taken up extensively in these areas from 1980 onwards under various centrally sponsored schemes, State schemes and under externally aided schemes such as IWDP (Phase-I), IWDP (Phase-II) and JBIC Project.

Keeping in view the last management plan of this division the felling programme has been redesigned. There was extreme workload in some years, but some years were

totally free of workload for ten years felling. In this management plan the complete rationalization has been done to divide the workload equally in the whole ten years on five years cycle basis.

4.3 Special works of improvements taken during the earlier management plans.

The Management for these areas were first prepared after the order of Hon'ble Supreme Court in this regard. In the earlier plan period there has been a lot of stress on Soil Conservation works along with afforestation to give green cover to denuded hills. For this purpose plantations works & Soil Conservation Works were carried out during 1980-81 to 1990-91 under various schemes like Soil Water Scheme, Kandi Watershed & Area Development Scheme, National Rural Employment Project & Minor Forest Produces & Fodder Fuel wood Scheme. A separate project of Integrated Watershed Development Project IWDP (Hills) was in operation since 1990-91 under which various plantation Soil Conservation & other development works were carried out to increase the vegetation cover, conserve the soil & water. Significant plantations and ancillary works were carried out under JBIC project which is coming to a close now. These various schemes and projects has helped in uplifting the socio-economic status of the local population as well as the ecological status of the area. The major thrust of the project was to restore the vegetative cover by massive afforestation along with the soil conservation measures in the selected watersheds. Emphasis is on treating the water shed holistically on the basis of factors like slope, run off rate, rain fall intensity etc. This project envisages areas under Shiwalik belt to have improved quality of life for the target population. Besides forestry and soil conservation works animal husbandry component deals with better qualitative milk cattle. Horticulture component deals in bringing more area under high yielding fruit crops with the supply of superior quality planting stock. Through Agriculture extension farmers are educated to follow improved agriculture such as agro forestry and farm forestry practices for better crop yields and remuneration. Bamboos these days is fetching around Rs. 25-30/- per culm and rate of broza is about Rs 35-40/- per Kg.

Chapter V

Objectives, Management Strategy and Proposals

Chapter No-V

Objectives, Management Strategy and Proposals

5.1 Objectives of Management.

The most important goal of the National Forest Policy is to maintain ecological balance. Keeping in this in view the following objectives of management are being proposed-

- a) To reverse degradation of ecologically fragile ecosystem of the Shiwaliks.
- b) To conserve soil and subsoil moisture and ground water recharge.
- c) To enhance productivity of the closed forest areas through qualitative and quantitative improvements in the growing stock by undertaking massive afforestation and other conservation works.
- d) To ensure active community participation.
- e) To create awareness and ecoeducation through Ecotourism and other measures.
- f) To improve biodiversity and the wildlife habitat and management of invasive weeds.

5.2 Approach for treatment of areas closed under section 4&5 of the PLPA, 1900:

To achieve above objectives of the plan the following proposals are being made:-

5.2.1 Soil Conservation

The basic thrust of the management will be to conserve soil, moisture and vegetative cover on the Shivalik hills through active community participation. The endeavor will be to do the extensive soil conservation and watershed treatment works on micro-watershed basis to improve moisture regime and green cover in a site specific manner. Soil conservation works will include vegetative barriers in the upper reaches,

loose stone check dams in the middle stage, crate wire/Gabion check dams and stone masonry structures etc. in the lower reaches to check torrents. Other important measures would include choe training, contour trenching, contour bunding, run-off control structures etc. Precautions will be taken to reverse the destabilization of soil. Blank patches and areas prone to sheet, slip and gully erosion will be taken up for soil conservation works on priority basis. 'Baggar' and other soil binding grasses, shrubs and herbs will be planted along the choe beds, gullies and on the berms of trenches and other areas..

5.2.2 Natural Regeneration

There is good root stock existing in some areas. Such areas of with good potential for natural regeneration will be fenced, tended and protected against the cattle damage.

5.2.3 Artificial Regeneration:-

Artificial Regeneration will be taken up in all the villages and areas closed under section 4 & 5 of PLPA. After the closing of JBIC Project, afforestation works in section 4 & 5 areas in these closed villages will be done under other projects/ schemes. Condition for some bare minimum planting by farmers in private forest land after harvest have also been included in Para 9 (ii) of the felling policy described later in this chapter.

While natural regeneration will be encouraged, artificial planting in blanks with species like Khair, Shisham, Neem, Paper Mulberry, Rajain, Siris, Drek, Amla, Su-babul, Bamboos, fruit trees etc. will be promoted by the Forest Department. Eucalyptus planting will be deliberately reduced in stages in the upper reaches and resorted to only in such areas in the foot hills which are ecologically appropriate for such plantation. The advanced growth of Eucalyptus and other useful species will be retained. Under shade-planting of Mulberry and enrichment under partial canopy will be done through other appropriate species to improve stocking.

5.2.4 NTFP

There is wide scope of planting, augmentation, harvest and marketing of NTFP. Apart from this various income generating activities (IGA's) can be promoted in this area, especially forest biomass based IGAs depending upon the availability of NTFP. Following are the important produces having ample potential for value addition or marketing:-

- i) Amla (*Emblica officianalis*)
- ii) Desi Mango (*Mangifera indica*)
- iii) Neem (*Azadirachta indica*)
- iv) Amaltas (*Cassia fistula*)
- v) Giloe (*Tinospora cordifolia*)
- vi) Gandla (*Murraya koenigii*)
- vii) Basuti (*Adhatoda vasica*)
- viii) Bhabbar (*Eulaliopsis binata*)

Similarly other useful species like bamboo, shrubs, herbs and grasses- especially the ones that can silviculturally compete well with invasive weeds like lantana and have scope for value addition and potential market linkages, will also be encouraged.

5.3 Protection Measures: -

Special attention will be given to create and maintain fire-lines in the area to prevent and control forest fires. FPC's will be properly educated and involved in this regard.

5.4 Management Policy and Procedures

The following important policies and procedures will be adopted during the period of the management plan:

5.4.1 Notifications under Section 4 & 5 of PLPA 1900 & rationale for revised felling policy and ancillary provisions

To give effect to the provisions of section 4 & 5 of the PLPA, Punjab Govt. issues notifications for specific period under these Sections prohibiting certain activities in the notified areas in conformity with the broad outline of scientific management. Certain notifications are in pipeline for consideration and renewal but such areas have not been excluded from the preview of the management plan in anticipation of renewal of such notifications & in accordance with orders of Hon'ble Supreme Court. Further the State Govt. has revised/ approved certain provisions related to management of areas closed under section 4 and 5 of PLPA. These are felling policy and other related provisions including marking rules, felling rules, procedure to fell trees and guidelines for ground storey management and Lantana harvest/removal rules which have been notified by the State Government vide Punjab Govt. Memo No 39/2/200-ft-3/Spl. Chandigarh dated 25.09.2007 . The background and rationale for the revised felling policy is as below :-

The felling Policy for marking/harvesting of trees in areas notified under Section 4 & 5 of PLPA, of Punjab Government was earlier issued vide its Memo No. 39(3) FT –3 87/266 Dt. 22.3.1993. This was last modified vide memo no 39/2/200 –forest 3/4623 dated 19.04.2000.

A strong need was felt from quite some time to examine and review the existing provisions regulating tree felling from the private forest areas- including the felling policy, procedure for issue of permits, marking rules, felling rules and felling cycle etc (paras 5.4.2 to 5.4.8) so as to attain a delicate balance between the emerging needs of the local communities and long term ecological security of the State. This review was in the direction of simplifying and rationalizing the procedures for sustainable use of forest produce from such forests whilst simultaneously maintaining and enhancing the interests of local communities in forest resource conservation by providing them the direct benefits of forests on a sustainable basis.

After careful discussions and deliberations among the members of the committee appointed by the PCCF Punjab for conducting this review and informal consultations with other stakeholders, the existing provisions covering felling of trees from forest regulated under section 4 & 5 PLPA, 1900 were proposed for revision. The revised provisions are being incorporated in the Management Plans of Private Forests.

5.4.2 Felling Policy

1 The Principal Chief Conservator of Forests will approve the Felling Programme of forest areas notified under PLPA, 1900 in a given time frame. The programme will be based on 5 year cycle and will be termed as main felling programme. The approved main felling programme will be given wide publicity and Gram Panchayats/Joint Forest Management Committees/ FPCs will also be informed.

2. The marking /felling year for a particular village will generally be as prescribed above by the PCCF. However, the concerned DFO will be competent to grant permits in the year, subsequent to the main felling where owner of the forest could not avail permit or /could not fell the trees from his area in the prescribed year. The concerned Conservator of Forests will be competent to allow the DFO to grant permit for felling in such cases for another one year and CCF (Zonal) will be the authority to decide other remaining cases of deviations beyond two years*. In each case, the competent authority will record the reasons for granting such deviation after satisfying himself about the reasons for such deviations and shall also ensure that the deviation period is not being sought to be extended unduly. Any such change or deviation, however will not disturb the next stipulated felling programme of a village. Cases involving felling of trees from private forests on account of diversion of forest land for non-forestry purposes sanctioned under the Forest (Conservation) Act , 1980 by MoEF will not require further permission for deviation.

* This would include all areas from which permits could not be issued for felling or felling could not be carried out in previous ten years Management Plan

3 For the following types of felling, the marking will be done and permit will be issued by the concerned DFO without consideration of the felling cycle of the main felling programme. Such fellings can be termed as annual or subsidiary fellings:-

(a) Dead, dry, dying (trees with more than 2/3rd crown area dried/died back), and fallen trees. Such trees will be removed from the forest before the onset of fire season i.e 15th of April.

(b) Felling of trees (other than eucalyptus, poplar, drek,, subabul and mulberry) in cultivated lands

(c) Felling of Bamboo culms.

(d) Fast growing trees species like Eucalyptus, poplar Subabul, dhrek, Mulberry in non-cultivated area having overbark girth of 45 cm and above at BH.

In above cases, applications for issue of permits can be given throughout the year and permission will be granted by DFO within 45 days of receipt of complete application. Any delay beyond 45 days has to be explained to CF by the concerned DFO and owner has to be informed with reasons. No felling order, however, will be given for above cases during fire season i.e 15th April to 30th June.

Felling and sale of Poplar, eucalyptus dhrek, bamboo culms, subabul and mulberry trees from cultivated fields will not require any prior permission. However the owner will intimate the concerned forest Range Officer and DFO at least 15 days prior to the felling and obtain receipt of this communication from the concerned Range/Divisional office.

4. After fulfilling the requirements of felling policy, procedure for issuing permits and marking rules , the felling permits shall be issued by the concerned DFO in the name of land owner. No permit will be given for main felling (i.e. 5 year cycle) during the fire and plantation time i.e. from 15th April to 31st August and for subsidiary fellings between fire season i.e 15th April to 30th June.

5. The applications under the main felling programme, should reach the Divisional Forest Officer by 31st August during the year in which the area is due for felling.
- (i) Permission permit for felling of all eligible cases will be given by 15th December.
 - (ii) Felling will be completed by 28th Feb and felled material will be removed by 15th March.
6. (i) In exceptional cases, where circumstances are beyond the control of applicants like prolonged illness of the applicant, long stay away from home, non deposition of security due to financial hardship of the applicant etc.), the concerned DFO can issue permits upto 31st December and in such cases applications can be accepted upto 30th November,
- (ii) In such cases also, felling will normally be completed by 28th February and felled material will be removed from the forest area by 15th March.
7. In specific cases, however where the felled material could not be removed from the forest areas by the due date i.e 15th March, concerned DFO can allow removal of such felled material by 31st March after satisfying himself about the reasons given by the applicants and recording the justification for the same.
8. The operation of the permit can be cancelled by the competent authority at any time if the permit holder or his agent/representative is found guilty of illicit felling. The felled material can also be seized by the Forest officials in such cases and felling permits can also be denied to such applicants in future.
9. (i) For both cultivated and uncultivated areas felling permits will only be issued after depositing of security etc. by the applicant as assessed by the DFO and in accordance with provisions of para (6) of the procedure for issuing felling permits for sale of trees under the main felling programme. Where Forest Protection Committees (FPC) exist, non refundable amount equivalent to 5% of the security money for the permits will be deposited by the permit holder for FPC/Village Forest Committee (VFC) of the village. The amount will be deposited in a scparate account open for such purpose

by the DFO from where it will be released to the concerned FPC/VFC as per the stipulated conditions. The FPC/VFC would be expected to maintain vigil against any illicit felling as also to perform other appropriate responsibilities, assigned to them, were the Committee fails to discharge these functions properly, the amount may be forfeited.

(ii) In the case of permits issued under the main felling programme, the permit holder will be responsible for planting five plants per tree felled. This number would include any green stump of a coppicing species like Khair, Eucalyptus etc. and in such cases the no. of fresh plants required to be planted will be reduced correspondingly. For calculating the number of fresh saplings to be planted, landowners will be given the benefit of any earlier plantation they may have done upto 2 year prior to the issue of the permit. In case of subsidiary felling the permit holders will be required to plant saplings equivalent to the no of trees being harvested under sub clause 3 (b) & 3 (d) of the felling policy. Such trees could be planted one planting season prior to or after the period of grant of permit for felling. The permit holder will get it certified from FPC/JFMC/Range Officer that plantation has been done successfully to enable him to become eligible for the release security.

5.4.3 PROCEDURE FOR ISSUING FELLING PERMITS FOR SALE OF TREES UNDER MAIN FELLING PROGRAMME FROM THE NON-CULTIVATED PRIVATE FOREST AREAS NOTIFIED UNDER SECTION 4 & 5 OF PLPA, 1900:

1. The applications for felling of trees will be received from the land owner / Farmer's Societies on prescribed proforma. Each application should be accompanied with an affidavit about the ownership of the land duly signed by the owner/owners and also jamabandi giving the khasra numbers of the area from which trees are to be felled. The status of the land such as cultivated or uncultivated should also be given.

2. Normally, the application for the main felling programme should reach the Divisional Forest Officer by 31 August during the year in which the area is due for felling. The receipt and processing of applications would however be in accordance with the provisions of the Felling Policy.
3. All applications received in the office of the DFO will be entered date- wise in a separate register, which will be kept updated in the office of the DFO on 31st August. Report about the number of applications received upto 31st August will be sent the Conservator of Forest by 10th September
4.
 - (i) The marking will be done in the same order in which the applications were received. Any deviation in this regard will be recorded and reported by the DFO to CF.
 - (ii) The Forest Guard/Range Assistant will carry out the marking as per the marking rules.
 - (iii) Members of FPC/VFC will assist the field staff in the marking operation. For rendering such assistance, members of FPC/VFC will be duly trained by the field staff of the Forest Department.
 - (iv) Range Officers will check 50% of actual marking of every permit and the Dy. DFO/DFO will check an additional 10% of the actual marking.
 - (v) The Dy. DFO and Range Officer together will check 100% marking from the point of view of technical correctness as per marking rules and record a certificate to this extent on the marking list.
5. Before issuing a permit the DFO will record a certificate that the requirement of the marking rules, the policy of the Govt. and other related instructions have been met. The permit will only be issued to the landowner/society and not to any contractor or agent.

6. The price component of the prevalent compensation rates issued by PCCF will be the basis for calculating the security and related amount to be deposited. The computed amount will be duly conveyed to the owner.
7. In order to exercise control over fellings, every effort will be made to ensure that permits are issued in a staggered manner throughout the entire felling season.
8. In normal course, all the applications for issue of felling permits should be disposed off in the same season.

5.4.4 MARKING RULES

i) FOR MAIN FELLING PROGRAMME FROM NON-CULTIVABLE PRIVATE FORESTS NOTIFIED UNDER SECTION 4 & 5 OF THE PLPA:

1. Marking of trees under main felling programme will be conducted in accordance with the 5 year felling Programme approved by the PCCF, Punjab and other related provisions.
2. Only silviculturally available trees will be marked for felling.
3. The Principal trees will be marked under Selection System:
Khair, Shisham and other species (other than fast growing species mentioned in clause 3b to 3d of the felling policy) will be marked at an overbark girth of 60 cm or above (at Breast Height). Tun, and Simal will be marked above 90 cms overbark girth at BH.
4. All dead, dry dying (having more than 2/3rd crown dried/died, back) and fallen trees will be marked along with green trees in the areas due for main fellings.
5. (i) Even if the exploitable girth for a species prescribed otherwise is less, no green tree which is below 120 cms girth (over bark at Breast Height) and located at a distance of within 10 M from the center of a Choe or 5 M from bank of the choe (whichever is more) will be marked for felling.

- (ii) Green trees located within 10 m from an actively eroding deep gully, ravine or fresh and active landslide will not be marked for felling
6. No green Chir, Pipal, Bohr and Neem tree below 150 cm girth and fruit bearing trees of Harad, Bahera, Amla & Bil will be marked for felling unless they are threatening to cause damage to the life and property of the people in the area.
 7. Trees marked for felling will be hammer marked. Marking lists thus prepared and submitted for issue of permit will bear the facsimile of hammer used in marking.
 8. Converted timber will be hammer marked and stacked at designated temporary depots (near the felling sites) for removal from forest area under export permit to be issued by the DFO.
 9. Only those mango trees shall be marked for felling which have become completely dry. A certificate to this effect shall be recorded by the Dy. DFO / DFO before the issue of the permit.

5.4.5 MARKING RULES FOR FELLING TREES FROM CULTIVATED LANDS
CLOSED UNDER SECTION 4 & 5 OF PLPA

1. Mature trees standing in groups in cultivated fields where there is no danger of erosion may be heavily thinned. Such trees as are likely to be harmful for crop by their shade may be marked subject to the condition that their removal is necessary in the interest of agricultural crop and will not lead to accelerated levels of wind or water erosion.
2. Green Chil trees below 150 cms GBH overbark, fruit bearing Harar , Amla, Bahera, Jamun, Bil and green Bohr, Peepal or Neem trees will not be marked for felling unless they are severely damaging the agricultural crop or any physical structures like houses etc .
3. Clear felling of fast growing commercial trees like Poplar, Subabul, Eucalyptus, Dhrek and Mulbery will be allowed including uprooting of stumps from cultivated fields. For felling of these no permit will be required. The owner will

intimate the concerned Range Officer and DFO at least 15 days prior to the felling and will obtain receipt of this communication from the Concerned Officer.

4. Only those mango trees shall be marked for felling which have become completely dry. A certificate to this effect shall be recorded by the Dy. DFO / DFO before the issue of the permit.

5.4.6 BAMBOO

Bamboo clumps (whether occurring naturally or planted artificially) will be worked under improvement cum felling system on triennial cycle. Marking of Bamboos will be done clump wise. Cutting of Bamboos will be subject to the following restrictions:-

1. The old culms left must be evenly distributed over the clump.
2. Out of the culms, which are selected for removal, the older ones should be removed first.
3. The young shoots (Manus and Chals) must be provided with adequate support by retention of sufficient number of older bamboos uniformly distributed particularly on the downhill side.
4. All dead, dry and malformed Bamboos will be removed.
5. Bamboos on the periphery of the clump will not be cut. Cutting will be done with sharp edged tools and six inches above the ground.
6. Cutting will be done by following “horse shoe” method. The cut should be in slanting manner so that the rain water may not accumulate in the Bamboo stump.

5.4.7 Felling Rules: -

1. The felling of trees from any forest area notified under section 4&5 of PLPA, 1900 will be done as per the management plan approved by the competent authority in accordance with the prescribed regulations and as per stipulated terms and conditions.

2. As far as possible the main felling under 5 year felling cycle should be carried out between post-monsoon and spring season so that coppice shoots sprout to replace the harvested trees.
3. The Range Officer will intimate to the DFO the date of commencement of the main felling. The DFO will send a report in this regard to the CF. The felling will be checked / supervised regularly by the field staff with assistance of FPC/VFC. The Forest Guard should invariably check the felling daily and maintain the felling register correctly. The Forester should check the felling at least twice a week and the Range Officer once a week. The Dy. DFO and DFO should check the felling at least once fortnightly and monthly respectively. All the officials/officers should record their observations on the felling register.
4. All felled material should be hammer marked. The stumps of all the felled trees shall also be hammer marked and khudan number should be carved on them. Stumps should be properly marked showing marking number and the year of felling. In order to reduce soil erosion, facilitate subsequent checking and encourage coppicing, stumps of the trees felled will not be uprooted except in the case of cultivated fields.
5. The felled material will be first stacked in designated temporary depots and will be checked as per the felling register. After verification, the felled material will be allowed to be exported from the forest area through export permit issued by the concerned DFO.
6. All felled material from the main felling shall be removed from the forest area within the due date as stipulated in the felling policy. The competent authority may allow removal of felled material after due date only after satisfying itself and recording the reasons for non-removal. Removal of cut material will not be allowed after 31st March in any case.
7. After completion of felling, the area will be checked and a certificate recorded by the RO that action has been taken against the illicit felling, if any, as per the existing

laws/rules. Security will be released only after taking legal action in case of illegal felling. In case there is no breach of rules/ instructions, the security will be released to the permit holders immediately and similarly 5% equivalent of the security money due to FPC/JFMC should also be released promptly. In case the FPC/VFC failed to perform their duty satisfactorily, then the DFO may forfeit this amount.

5.4.8 Guidelines for Ground story Management and Rules for Harvest/Removal of Lantana.

I. Ground Story Management:

In view of increasing density of invasive weeds like Lantana and congress grass, it is important to manage crop composition of ground story with objectives as below:-

Objectives:-

- 1) To decrease the domain of invasive weeds.
- 2) To Change the crop composition of ground story by replacing invasive weeds with traditionally occurring/cultivated ground story valuable spps.

Supplementary artificial regeneration with suitable valuable spps will also be useful for soil and moisture regime and for better silvicultural substitution of Lantana by other appropriate species site specific planning and treatment should be done. Soil beds will be prepared along contours and planted with tufts or seed broadcasting. Sowing of grasses will be done in areas near habitations. Suitable fodder spps. which can compete with Lantana include napier grass, Guinnca grass, Desmanthus, Cenchrus spps. etc. Other appropriate spps. Including lemon grass, citronella, palmarosa, vetiver and medicinal herbs like chasku, kalmegh, ashwagandha, tulsi, agave, aloe vera, kaunch etc. could also be planted as a part of forest floor/understorey management.

II Lantana Harvest Rules

Lantana management is a critical issue which needs attention in areas closed under PLPA. Being an invasive alien weed which has covered very large tracts of

Shiwalik in last few decades the problem needs to be addressed urgently. Therefore for Lantana removal/harvest from a site following rules are made:

Lantana eradication/removal has to be done carefully. Therefore Lantana will not be burnt for clearing of site for plantation or others purposes.

People can harvest Lantana for bonafide use, if they think it to be of any use to the household needs.

Normally, Lantana would be cut back close to the ground and not uprooted or stubbed, in order to prevent soil erosion. Lantana can be stubbed in agricultural fields where the land is level and there is no danger of erosion. Lantana can also be cut/stubbed in a careful manner from such areas which are required for earthwork for plantation and improving the quality of ground cover. In such areas, Lantana stubbing will be confined only to trench areas for plantation or soil bed areas in case of sowing/planting of grasses or herbaceous or other species.

Heavy machinery will not be used to harvest Lantana on slopes.

No large scale Lantana cutting/stubbing will be done during fire season (16 April-15 July) except as a part of advance earthwork for planting or bonafide local use from private forests.

Total cutting/clearance of Lantana from a site will be confined to level areas or stable and gentle slopes only. But large stretches would not be cleared in one go.

For slopes which are moderate to steep or otherwise refractory in nature, only line cutting of Lantana will be done during site preparation. For Soil stability on such slopes Lantana will be removed in alternate lines/patches to ensure that soil is not fully exposed to the danger of any significant accelerated soil loss/erosion. Line cutting of Lantana/weeds will be carried with strip width up to 4 m and strip interval being 4-5 m.

For any commercial use/transportations of Lantana compressors etc. can be temporarily installed for making Lantana bio mass transportable.

5.5 Other proposals in cultivated/habitation and other Government institutional lands

It is a historical fact that a significant chunk of land closed under section 4 & 5 of PLPA has been under use as arable agricultural land and other similar uses to support livelihood of communities inhabiting the Kandi Tract. The non-forest land use in this area has been prevalent, many decades before the Hon'ble Supreme Court's order on 12.12.1996 in Writ Petition No. 202 of 1995 i.e. T. N. Godaverman versus Union of India & others. As per Govt. of India's Letter No. F.No. 8-18/2006-FC dated 16.03.06 in principle approval has been granted for agricultural land use and other bonafide livelihood activities as scope of such activities was inherently there under provisions of PLPA 1900 under which the areas are primarily regulated. Infact arable lands constitute about 40% of the area notified under PLPA, 1900. Due to a technicality resulting in rigid application of forest laws like FCA which has caused alienation as the significant area has been under cultivation before the promulgation of FCA and therefore the State Government had filed an affidavit and in principle approval was received from Government of India. Being mostly rain-fed areas, arable areas yield mostly depend upon rains. Now there is a thrust of planting of improved varieties of fruit plants on these and adjoining hilly areas, so that income of the local inhabitants can be increased. It is important to obtain people's participation by addressing their genuine needs for betterment of these arable areas. It is therefore proposed that in long term interest of conservation of the area through community participation works such as following will be allowed in these arable areas.

- a) Installation of tube well including electricity lines and small schemes for irrigation and drinking water for the local community stakeholders.
- b) Laying of underground water pipes for irrigation/other uses.
- c) Improvement of such lands enhancing efficiency of life saving irrigation for optimizing yield of the crops and curtail wastage of water.

- d) Removing of stones from such lands for optimizing productivities.
- e) Construction of dwelling units for livelihood needs of local community and for carrying out the bonafide agricultural activities by the local population and for meeting other livelihood needs.
- f) Construction of common public services or institutions like schools, dispensary and Community Centre etc, provided they are being made under a government scheme/Programme. Private institutions or commercial activities will not be permitted in these areas without prior approval of Govt. of India, under Forest Conservation Act, 1980.
- g) Felling in habitation/institutional lands will be as per rules applicable to cultivated lands(as given in Chapter No. V)

5.6 Other Proposals for Private areas under Forest

The following activity being beneficial for overall conservancy of private forest vegetation will be permitted:-

- a) Presence of feral cattle in these forest areas is having strong adverse impact therefore small parts of non arable part of private community forest areas may be demarcated and for cattle pounds which should be set up by appropriate agency like District Administration/ Animal Husbandry Department. Communities will be involved in this work through JFMC/FPC's.
- b) Area adjoining habitation with least risk of forest fire preferably on the fringe of the forest can be used as cremation ground with facilities for water storage or small temporary sheds where, in exceptional cases, there is no community land available for this purpose in cultivated areas. Such measures will go a long way to curb undue hostility against the Forest Department & obtain their co-operation.
- c) Planting of improved varieties of plants. Efforts will also be made for value addition and market linkage for herbs, shrubs and tree products.

d) To drought proof the area and facilitating ground water recharge and enhance productivity from lands as well as augment farmers income and availability of fodder to reduce pressure on forest land, various small conservation and local irrigation works such as Small Dams, Cement Masonry Structures, Silt Detention Structures, Makkowal Type Structures, Microlift irrigation and renovation/construction of new ponds will be allowed with active public participation which will be beneficial for soil/water conservation as well as improving productivity and reducing pressure on the forests. This is going to significantly improve the water regime of the area. Strategically such provisions are also essential to enlist effective voluntary community participation in overall conservation activities and reduce community's alienation which is other wise causing tremendous drain on time resources of the staff of Forest Department. Similarly appropriate infrastructure for ecotourism which blends well with the environment will be permitted to enhance community's stake in preservation of Forests.

5.7 Promotion of Eco-Tourism:

Eco-tourism - ecologically balanced tourism in wilderness areas with a motive of enjoying natural beauty is latest useful tool in nature conservation. It is helpful in bringing proximity between citizens and nature. There is a lot of potential of eco-tourism in this hilly tract so that people may be encouraged to increase and conserve forests. Therefore facilities for ecotourism which blend with the environment can be constructed. Walking trails, temporary camping sites with requisite facilities for eco tourists can be developed in suitable areas.

There are many potential sites in the Forest Division, which could be developed as camping sites for nature loving tourists. Sites which have great potential in terms of natural attraction would be taken up.

It is being planned to implement, community based Eco-tourism plan, on a pilot basis. After the successful implementation, the model of these activities would be expanded/ replicated to other sites in the Forest Division. All these activities shall be

aimed at raising interest and awareness level in biodiversity conservation. Some important sites/villages named 1) Nara 2)Chohal, and 3) Mehngrowal 4) Dehrian have been identified for his purpose. Forest Deptt./ Forest Corporation- Community partnerships will be encouraged to create appropriate infrastructure for ecotourism which blends well with natural surroundings.

5.8 Miscellaneous Regulations

5.8.1 Katha Making

Katha bhatties can be permitted in the area during the felling season. The number of bhatties and their location will be decided as per direction and due permission of DFO Hoshiarpur, keeping in view the availability of khair timber.

5.8.2 Petty Fellings & emergent Cleanings

Petty fellings and clearings for research, and nuseriers shall be allowed in the area by the concerned CF. These fellings can be done regardless of 5 year felling programme for the benefit of the forests.

5.8.3 Procedure for permission to cut timber/fuel wood for domestic use

The application for cutting of timber/fuel wood for domestic use (marriage, cremation etc.) from private areas under section 4 of LPA 1900, will be entertained by the Forest Guard of that area.

The application will be duly recommended by the Sarpanch/JFM Committee of the village.

After proper verification, if the case is found genuine, the Forest Guard will recommend the application for permission, along with species and girth at Breast Height.

Forester will submit the application in Range office after his recommendation.

Range officer will enter the application in his office Domestic Use Register along with species, girth and volume and will allow the applicant to cut the timber/fuel wood for domestic use.

Such decision can also be taken in JFM Committee meetings by the concerned Range Officer.

5.8.4 Resin Extraction

Resin is extracted from chil trees. The detail of Resin Tapping permits issued during last Management Plan is given at page no. 26 & 27. The regulation for resin tapping is laid down in the Punjab Forest leaflet number 13 annexed as Annexure II.

In Annexure-II excerpts have been reproduced depending upon the present Punjab because Punjab Forest Leaflet No. 13 relates to old Punjab.

- The marking is done according to rules approved by the PCCF as laid down in leaflet No. 13 only those trees are blazed for resin tapping which are technically/silviculturally fit. The marking is done after 5 years.
- Only one blaze is permitted on trees having girth between 105 Cm. And 180 c.m. At breast height. However, two blazes at horizontal distances of 10 Cm. , will be allowed on trees having girth above 180 Cm. at breast height.
- Originally the size of blaze will be 10 Cm. x 10 Cm.x 13mm (depth). Each freshning will be of 13mm length and above mentioned width and depth. At the end of the season (15 March to 15 Oct.). The total length of the blaze will not exceed 48 Cm. in the first year and 38 Cm. in the subsequent years. Maximum of one freshning will be allowed after 7 days.
- Each blaze will be allowed to be tapped for a maximum period of 5 years. At the end of five years duration each blaze will have a length of 200 Cm.
- Responsibility regarding measurement of blaze will be entirely of the owner. Any blaze put on undersized trees will be considered illegal.
- The maximum permissible quantity of resin tapped from a single blaze will be upto 2.5 kg/season. Any resin tapped over and above this quantity will be treated as illicitly tapped resin and may be seized and be liable to confiscation.
- The owner will be allowed to remove the resin only after paying the dues/penalties imposed on him after checking.

- Security money or any such balance thereof as may be left after making deduction in respect of checking cost and penalties etc. be realised from the permit holder after close of the operation and after the satisfaction of the DFO that all the terms and conditions of the permit have duly and faithfully carried out by the permit holder.
- Penalty for oversized blaze will be realised at rates prescribed vide PCCF Punjab's standing order no. 1 dated 29.11.1963 (annexed as Annexure III)

5.8.5 Grant of permission to make charcoal from dead dry chil trees or cut material of the chil trees permitted vide permit whose transportation is difficult: -

Permission for making charcoal in bhatties from dead dry chil or chil trees cut material vide permit whose transportation is difficult shall be given by Divisional Forest Officer, Hoshiarpur.

The following safe-guards shall be taken while granting such permits: -

1. Charcoal bhatties not to be permitted in summer/fire season to prevent forest fires.
2. Charcoal bhatties to be located near choe beds where water is available to put-off fire in case of any mishap.
3. Any other condition as the Divisional Forest Officer, Hoshiarpur forest division may deem fit.

5.9 Period of Management plan: -

Period of management plan will be 10 years starting from 2007-08 to 2016-2017 and shall be deemed to have come in force w. e. f. date of approval. Need based mid term review can be under taken after the expiry of 5 years after the commencement of this management plan.

Chapter VI

Joint Forest Management & Activities done in JFM

Chapter VI

Joint Forest Management & Activities done in JFM

6.1 Joint Forest Management (Detail of village Forest committees etc.)

Joint Forest Management has emerged as an important tool to enlist people's participation in Forest Management. Therefore it has important role & significance in Forest Management.

There are 47 Forest Protection Committees in this Division. List of village Forest Protection Committee is annexed. These committees were granted some funds during the year 2003-04 under JFM for some Entry Point Activities. Notification of Joint Forest Management (JFM) Govt. of Punjab is annexed as Annexure VIII

6.2 Present Forestry activities on the village land: -

Presently, the village lands closed under section 4 & 5 of PLPA, 1900 are being taken under plantation under the on-going schemes in the department. In these areas soil conservation works are also being taken up according to the needs of the areas to control soil erosion and to conserve moisture for better growth of vegetation. From the funding obtained under Japan Bank for international Co-operation (JBIC) Punjab Afforestation Project, the areas owned by panchayats, common lands of the villages and of private individuals have been planted under enrichment planting and raising of Silviculture treatments. Soil Conservation works like brushwood check dams, dry stone masonry dams, live hedges etc. have also been undertaken the effect of which has resulted in the decrease of soil erosion and improvement in the soil regime due to moisture conservation.

6.3 Formation of Self Help Groups

To reduce the pressure on the forests and to make the process of natural regeneration a sustainable one, the involvement of people is must. Therefore the Forest

protection **Committees** which represent all the stake holders of the village, have been constituted. Further more it is of paramount importance that alternative sources of income generation (livelihoods) for the people living in the vicinity of the forests be created, hence Forest Protection Committees have been granted with some corpus fund for financing **Self Help Groups** in these villages to generate income to individuals and committees. These Self Help Groups motivate the poor people for income generating activities like poultry, ban (rope) making, basket making, soap making and many other activities like computer training, beauty parlour training and soft toy making etc.

Besides this the entry point activities like construction of community centers, school rooms, micro lift irrigations and other developmental works in these villages have proved as a tool to bring local people closer to the forest staff which shall have a positive impact on biodiversity conservation.

Chapter No. VII

Scope of Wildlife Conservation

Chapter No. VII

Scope of Wildlife Conservation

7.1) Scope of wild life Conservation

The main wildlife present in this area has already been listed in **Chapter II** and as already mentioned the agriculture crops are being damaged by the Wild Boar, Blue Bull, monkeys, other deer species and feral cattle. To control this damage, Government has decided to sanction controlled hunting of certain animals and to issue hunting licenses to the landowners in these areas, so that agricultural crops like Wheat, Maize, Pulses etc. are not damaged by wild life.

7.2) Reduction in man & animal conflict:

Efforts will be made to reduce man and animal conflict and various types of measures will be tried for hostility of local population towards wild animals. Provision for water holes, salt licks, appropriate fencing etc. may be allowed for wild animals in non arable area, so that animal don't move to habitation and farm areas. Presence of stray cattle in these forest areas is having strong adverse impact on biodiversity and forest ecosystem. Therefore part of private community land / forest may be demarcated and well marked where stray cattle can be confined for protection of regeneration and biodiversity. Communities will be involved in this work through JFMCs/ FPCs. Such areas can be appropriately fenced for the purpose.

7.3 Takhani-Rehmapur Wildlife Sanctuary in Hoshiarpur Wildlife Division

Management plan of the Takhani Wildlife –Rehmapur Wildlife Sanctuary is being prepared by the wildlife division for approval of Chief Wildlife Warden Punjab.

ANNEXURES

(I to X)

Permit No. _____
Dated _____
Para No. of Govt. Policy _____

ANNEXURE – II

(FIVE YEAR FELLING)

_____ FOREST DIVISION

Permit for sale of trees in Village _____ Tehsil _____ and
District _____ Closed under Section _____ of P.L.P.A. 1900 vide
notification No. _____ dated _____ amended vide notification
No. _____ dated _____ Under Five Year felling programme.

Name & Address of owner	Details of Khasra No./ Area from which the cutting of trees permitted	Details of the trees permitted with Species & Numbers
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_____ This permit is being issued under the following terms and conditions:

- 1) That the permit holder shall be liable to pay the price and compensation as assessed by the DFO _____ to the Punjab Forest Department for any unmarked trees felled or damaged negligently or by his agent or servant.

- 2) That the felling and conversion of the trees will be completed by _____ and the cut material will be stacked at Depot.
- 3) That on the basis of assessment made by DFO _____ for the trees mentioned in this permit, the permit holder has to deposit Rs. _____ as security amount pledged to DFO _____ and 5% equivalent non-refundable amount Rs. _____ (which have been deposited in A/C Number/s _____ Dated _____ in _____)
- 4) That the permit holder shall leave the Govt. hammer mark intact on the stumps of all trees cut by him. The stumps shall be kept between four inches to six inches in height.
- 5) That the stumps should be properly marked showing marking number, species and year of felling.
- 6) That the permit holder shall agree to keep only such agents on work as may be approved by the DFO _____. The permit holder or his agent shall remain on the work and verify the damage list.
- 7) That the permit holder shall not allow any logs to either slide or drag in the area.
- 8) Unless otherwise ordered by the DFO, the legal responsibility for the sale of the forest produce mentioned in this permit shall be upon the permit holder/Owner and not upon the Govt.
- 9) That the breast height marking number of the trees shall not be removed which can be checked by the forest officer/official at "Bhathi/Depot."
- 10) That the stacked cut material shall be removed by the owner/permit holder only after getting the export permit for the purpose, which will be issued by the D.F.O. _____.

- 11) That the whole of the stacked material will be checked by D.F.O./Dy. D.F.O. If it is found that unauthorized pieces of wood have been mixed in the stacked material, the whole material will be seized and the seized material will be released only after the satisfaction of the DFO _____.
- 12) In absence of valid extension of date given for extraction of material of the permit, if the permit holder fails to remove the felled material from the forest within prescribed time, then such material can be removed from the forest by the Forest Department to prevent fire hazard at the risk and cost of the permit holder. The disposal of such material including forfeiture, extracted by the Forest Department will be at the discretion of the DFO. In any case felled material should be removed before the fire season by such date as provided in the felling policy.
- 13) That the DFO _____ is empowered to recover in cash or deduct from security money, the amount which may become due from the permit holder whether in respect of any damage done in the forest or expenditure incurred on checking.
- 14) That no extension shall be allowed if not applied by the permit holder within the permit period.
- 15) That in case of any violation of the terms and conditions of the permit, in addition to any other due legal action the permit holder shall be liable to levy of penalty which may lead to the forfeiture from security amount to the extent amount of penalty as determined by DFO in a manner prescribed by Punjab Forest Department.
- 16) That the security money or any such balance as may be left after making deductions in respect of any violation of terms and conditions of this permit as provided in para 15 above, shall be released to the permit holder after completion of the work.
- 17) That the DFO _____ may cancel the permit at any time for the violation of any terms and conditions of this permit.
- 18) That the permit holder will be responsible for any violation of terms and conditions

of the permit committed by himself or by his agents or by his servants.

- 19) That the permit holder will be responsible for planting five plants per tree felled or as prescribed in para 9 (ii) of the felling policy.
- 20) No transportation of timber will be done before sun rise or after sunset.
- 21) Any other appropriate provision added or amended by the PCCF, Punjab to fulfill the mandate of felling policy and associated provisions of the Management Plan.

Divisional Forest Officer
_____ **Forest Division**

Endst. No. _____ Dated _____

A copy to:

- 1) Range Officer, _____ in duplicate for information and necessary action. The 2nd copy is enclosed for communication to the permit holder. One copy of the marking list, duly countersigned is also returned herewith. R.O. should ensure that no unmarked tree is felled. Felling Register for the permit must be maintained by Forest Guard and checked by other officials/officers as prescribed in the felling policy.
- 2) The Dy. D.F.O. _____ for information and to check felling as prescribed in the felling policy.

Divisional Forest Officer
_____ **Forest Division**

Endst. No. _____ Dated _____

A copy is forwarded to the following for information: -

- 1) Principal Chief Conservator of Forests, Punjab Chandigarh.
- 2) Chief Conservator of Forests (Hills), Punjab Chandigarh.
- 3) Conservator of Forests, Shiwalik Circle, Punjab Chandigarh.

Divisional Forest Officer
_____ **Forest Division**

Permit No. _____
Dated _____
Under Para No. _____ of Govt. Policy

ANNEXURE – III

DEAD/DRY TREES

_____ FOREST DIVISION

Permit for sale of _____ trees in village _____
Tehsil _____ and District _____ Closed under Sect. _____
of P.L.P.A 1900 vide Pb. Govt. Notification No. _____
Dated _____ and amended by Notification No. _____.

Name of Owner & Address	Details of Khasra No., area from where trees are permitted	No. of trees
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Permit is issued subject to the following terms and conditions:

- 1) The trees will be marked & numbers engraved by a representative or a Forest Subordinate authorized by the Range Officer at the cost of owners.
- 2) That owners/permit holder to accept the measurement of the Divisional Forest Officer in regard to the marking of trees in the permit.
- 3) That for any unmarked trees felled or damaged negligently the owner /permit holder shall be liable to pay compensation and price of that trees to the Govt. (Forest Deptt.), that may be assessed by the D.F.O. _____.

- 4) For any other damage done by the owner/permit holder, he shall be liable to pay compensation that may be assessed by the D.F.O. _____.
- 5) Felling and Conversion of the trees will be completed by _____ and removal of timber/wood etc. will be completed by _____.
- 6) The owner has deposited Rs. _____ (Rupees _____ only) vide A/c No. _____ dated _____ 10% of sale proceeds as assessed by DFO as per prevailing market price as security pledged to DFO _____ after proper satisfaction of the Divisional Forest Officer.
- 7) The owner shall leave the Govt. hammer mark intact on the stumps of all trees cut by him. Stumps shall be kept between 4 inches to 6 inches in height.
- 8) The owner agrees to keep such agents on work as may be approved by the Divisional Forest Officer. The owner or his agent shall remain on work and verify the damage list.
- 9) The owner shall not slide or drag any log/logs along the ground.
- 10) Unless otherwise ordered by the DFO, legal responsibility for this act for sale will be upon the owner/permit holder and not upon the Govt.
- 11) The converted timber will be hammer marked before the removal from the felling areas.
- 12) Breast height marking numbers of trees should not be removed until or unless it is not checked by the Forest Officials/Officers at the Depot site.
- 13) No transportation of the cut material will be done between sunset to sunrise.
- 14) That in case of any violation of the terms and conditions of the permit, in addition to any other due legal action the permit holder shall be liable to levy of penalty which may lead to the forfeiture from security amount to the extent amount of penalty as determined by DFO in a manner as prescribed by Punjab Forest Department.

- 15) That the security money or any such balance as may be left after making deductions in respect of any violation of terms and conditions of this permit as provided in para 14 above, shall be released to the permit holder after completion of the work.
- 16) Any other appropriate provision added or amended by the PCCF, Punjab to fulfill the mandate of felling policy and associated provisions of the Management Plan.

Divisional Forest Officer,
_____ **Forest Division,**

Endst. No. _____ Dated _____

A copy to:

- 1) Range Officer, _____ (in duplicate for information & necessary action. The second copy is enclosed for communication to the owner. One copy of the marking list duly countersigned is also returned herewith. R.O. should personally ensure that no unmarked tree is felled. Felling register for the permit must be maintained by the Forest Guard and checked by the forest officials/officers as prescribed in the felling policy.
- 2) Dy. D.F.O., _____ for information and necessary action.

Divisional Forest Officer
_____ **Forest Division**

Enst. No. _____ Dated _____

A copy is forwarded to following for information:

1. Principal Chief Conservator of Forests, Punjab, Chandigarh
2. Chief Conservator of Forests (Hills), Punjab, Chandigarh.
3. Conservator of Forests, Shiwalik Circle, Punjab, Chandigarh.

Divisional Forest Officer,
_____ **Forest Division,**

Permit No. _____
Dated _____
Under Para No. ____ of Govt. Policy

ANNEXURE – IV

(Felling from Cultivated Lands)

FOREST DIVISION

Permit for sale of _____ trees in village _____
Tehsil _____ District _____. Closed under Section _____
of P.L.P.A. 1900 vide Notification No. _____ Dated _____ and amended
vide Notification No. _____ Dated _____.

Name of Owner & Address	Details of Khasra Nos/. area from where trees are permitted	Species/and Numbers of trees permitted
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Permit is issued subject to the following terms and conditions:

- 1) For any unmarked trees felled or damaged negligently, the owner shall be liable to pay compensation and price of trees to Government (Forest Department) that may be assessed by the Divisional Forest Officer.
- 2) Felling and conversion of the trees will be completed by _____ and removal of timber/wood etc. will be completed by _____.

- 3) The owner has deposited Rs._____ vide _____ A/c No._____ dated_____ as assessed by D.F.O _____. The owner shall get the refund of this security after completion of this work to the satisfaction of the Divisional Forest Officer.
- 4) The owner shall leave the Govt. hammer mark intact on the stump of all trees cut by him. The stumps shall be kept between 4 inches to 6 inches in height.
- 5) The owner shall agree to keep such agent on work as may be approved by the Divisional Forest Officer _____. The owner or his agent shall remain on the work & verify the damage list.
- 6) The owner or his agent shall not slide or drag any log/logs along the ground.
- 7) Unless otherwise ordered by DFO _____, legal responsibility for this act of sale will lie upon the owners/Panchayat and permit holder and not upon the Government.
- 8) Breast height marking number of the trees should not be removed until or unless it is not checked by the Forest Officer at Depot site.
- 9) No extension shall be allowed if not applied by the permit holder within the permit period.
- 10) The owner/permit holder shall not carry out any operation before sunrise or after sunset.
- 11) That in case of any violation of the terms and conditions of the permit, in addition to any other due legal action the permit holder shall be liable to levy of penalty which may lead to the forfeiture from security amount to the extent amount of penalty as determined by DFO in a manner prescribed by Punjab Forest Department.
- 12) That the security money or any such balance as may be left after making deductions in respect of any violation of terms and conditions of this permit as provided in para 11 above, shall be released to the permit holder after

completion of the work.

- 13) Any other appropriate provision added or amended by the PCCF, Punjab to fulfill the mandate of felling policy and associated provisions of the Management Plan.

Divisional Forest Officer,
_____ **Forest Division,**

Enst. No. _____ Dated _____

A copy to:

1. Range Officer, _____ (in duplicate) for information and necessary action. The 2nd copy is enclosed for communication to the owner/permit holder. One copy of the marking list duly countersigned is also returned herewith. Range Officer should personally ensure that no unmarked trees are felled. Felling Register for this permit must be maintained by Forest Guard & Checked by Incharge Block Officer & Range Officer as prescribed in the felling policy.
2. Deputy Divisional Forest Officer, _____ for information and to check felling.

Divisional Forest Officer,
_____ **Forest Division,**

Endst. No. _____ Dated _____

A copy is forwarded to the following for information:

1. Principal Chief Conservator of Forests, Punjab, Chandigarh.
2. Chief Conservator of Forests (Hills), Punjab, Chandigarh
3. Conservator of Forests, Shiwalik Circle, Punjab, Chandigarh.

Divisional Forest Officer,
_____ **Forest Division,**

Permit No. _____
Dated _____
Under Para No. _____ of Govt. Policy

ANNEXURE – V

(Felling of Bamboos)

_____ FOREST DIVISION

Permit for sale of _____ Bamboos in village _____
Tehsil _____ Distt. _____ Closed under Section _____ of
P.L.P.A. 1900 vide Notification No. _____ Dated _____

Name of owner and Address	Detail of Khasra No. from where the bamboos are estimated	Approximate No. of Bamboos= Kalan= Doem= Khurd= Sota Piece A= Sota Piece B= Total=

Permit is issued subject to the following terms and conditions:

1. The number and specification of bamboos allowed to be cut is based on estimation made by a forest representative (i.e. Range Officer/Forester etc.) authorized by the DFO, _____ and the owners/permit holder are bound to accept the same estimation.

2. For any damage done negligently the permit holder shall be liable to pay compensation that may be assessed by the Divisional Forest Officer other than the cost of the bamboos so felled or damaged to the malik/Society in addition to it he shall also be liable to any penalty as assessed by the DFO _____.
3. For any kind of other damage done by the permit holder he shall be liable to pay price compensation that may be assessed by the DFO _____.
4. Felling and extraction of the bamboos will be completed by_____.
5. **The cutting of bamboos will be subject to the following conditions:-**
 - i) All old bamboos must not be felled.
 - ii) The old culms left should be evenly distributed over the clump.
 - iii) The young shoots (Manus and Chals) must be provided with sufficient support by the retention of sufficient numbers of older bamboos uniformly distributed particularly on the lower side and on steep ground.
 - iv) No side cutting or cutting from the congested clump will be permitted except under the supervision of a Forest Official deciding the Silvicultural limits.
 - v) Cleaning and felling will be carried out simultaneously.
 - vi) Culms must be marked from top down wards systematically.
 - vii) All dead drying and mal formed bamboos will be removed.
 - viii) Bamboos on the periphery of the clump will not be cut.
 - ix) Bamboos to be cut 6" of the ground and just above a node.
 - x) The cut should be clean and made with a sharp-edged tool.
 - xi) Tearing and splitting of stumps should be avoided.
 - xii) No portion of the cut culm may be left in the clump.

- xiii) Manus and shoots of the previous year (Chal) are not be cut except when badly attacked by insect. Chal will not be cut even if malformed.
 - xiv) In case of flowered clump no clump may be cut unless seed has been formed.
 - xv) The contractor or his workers and agents are not permitted to shed smoke or kindle fire in the Forest. In the event of any fire breaking out in the Forest through the negligence of the permit holder or his agent, the permit holder should be held responsible for the same.
6. The contractor has to deposit Rs.....(10% of sale proceeds in subject to minimum Rs..... per hundred Bamboos) as security pledged to the D.F.O. _____ for preparation of the work according to the above condition. The Contractor shall get the refund of this security after the completion of this work to the satisfaction of the Divisional Forest Officer.
 7. Unless otherwise ordered by DFO, legal responsibility for the act of sale will be upon the owner/Society and permit holder and not upon the Government.
 8. The owner/permit holder shall not carry out any operation before sunrise or after sunset.
 9. That in case of any violation of the terms and conditions of the permit, in addition to any other due legal action the permit holder shall be liable to levy of penalty which may lead to the forfeiture from security amount to the extent amount of penalty as determined by DFO in a manner as prescribed by Punjab Forest Department.
 10. That the security money or any such balance as may be left after making deductions in respect of any violation of terms and conditions of this permit as provided in para 9 above, shall be released to the permit holder after completion of the work.

11. Any other appropriate provision added or amended by the PCCF, Punjab to fulfill the mandate of felling policy and associated provisions of the Management Plan.

Divisional Forest Officer,
_____ **Forest Division,**

Endst. No. _____ Dated _____

A copy to:

1. Range Officer _____ (in duplicate) for information and necessary action. The 2nd copy is enclosed for communication to the owner/permit holder. One copy of marking list duly countersigned is also returned herewith. Range Officer should personally ensure that no unmarked clump is felled. Felling register will be maintained by the Forest Guard and felling will be checked by the officials/officers as prescribed in the felling policy.
2. Deputy Divisional Forest Officer _____ for information and to check felling.

Divisional Forest Officer,
_____ **Forest Division,**

Endst. No. _____ Dated _____

A copy is forwarded to the following for information:

1. Principal Chief Conservator of Forests, Punjab, Chandigarh.
2. Chief Conservator of Forests (Hills), Punjab, Chandigarh.
3. Conservator of Forests, Shiwalik Circle, Punjab, Chandigarh.

Divisional Forest Officer,
_____ **Forest Division,**

ANNEXURE – VI

(Export Permit)

FOREST DIVISION

Export permit of trees cut by Permit No. _____ Beat _____
Block _____ Range _____ under _____ felling programme
_____ valid from _____ to _____ is hereby
issued as under: -

Sr. No.	Name & Address	No. of logs/Spp.	Cubic meter	Approx. weight (Qtl.)	Starting from (Place)	Destination To (Place_	Remarks
1	2	3	4	5	6	7	8

Property Mark of the Produce _____.

CONDITIONS:

1. Timber found without legal export permit will be seized and will be liable for confiscation.
2. Every truck should carry an export slip issued by the Range Officer concerned, copy of the export permit issued by the DFO _____ in original. The concerned Range Officer will also record the balance remained (if any) on the back of the export permit issued by the DFO _____.

3. The contractor/owner transporting wood will get the material entered at the check post.
4. After the expiry of the permit, he will report whether it has been availed of in full or a part. In case of timber being booked by rail from any railway station, the concerned Station Master may please endorse on the back of the pass the quantity of timber booked along with the date and destination so as to facilitate further checking.
5. That the permit holder will ensure that only those timber for which export permit has been given is transported, failing which the whole timber can be seized and security money deposited in that case of permit can be forfeited.
6. Material will be exported after the sun rise and before sunset only.
7. Any other appropriate provision added or amended by the PCCF, Punjab to fulfill the mandate of felling policy and associated provisions of the Management Plan.

Divisional Forest Officer,
_____ **Forest Division,**

Enst. No. _____ Dated _____

A copy is forwarded to:

1. Range Officer, _____. He is directed to ensure that no timber is exported without the proper hammer mark. Exportation of timber may be got done under his own supervision.

2. Deputy Divisional Forest Officer, _____ to check timber & report.

Divisional Forest Officer,
_____ **Forest Division,**

Annexure- VII											
List of Villages in Kandi Area in which funds are granted/to be granted to Village Forest Protection Committees during 2003-04 under JBIC Assisted Punjab Afforestation Project of Hoshiarpur Forest Division, Hoshiarpur.											
S.No	Forest Range	Village	DFO' s Notification No & Dt.	Nature of works to be carried-out.	Resolution received / not received	Letter No. & date vide sanction applied.	PCCF,Pb. Chandigarh sanction No. & Date	FPC Bank A/C No & Dt.	Cheque No. & Date	Amount Released	Remarks
1	Hoshiarpur	Dada		Construction of room, varandha & bathroom in Govt. middle school building	Received	1720 dt. 28/1/2004	30580-85 dt. 30/1/04	15033 Canera Bank Hoshiarpur	240435 dt. 2/2/04	1,00,000/-	
2	Hoshiarpur	Manjhi		School building	Received	1717 dt. 28/1/2004	30676-81 dt. 30/1/04	14536 Canera Bank Hoshiarpur	240440 dt. 2/2/04	1,00,000/-	
3	Hoshiarpur	Nara		Construction of room , varandha, Govt. Primary School, Nara	Received	1772 dt. 28/1/2004	30568-73 dt. 30/1/04	8477 Indian Bank Hoshiarpur	240436 dt. 2/2/04	1,00,000/-	
4	Hoshiarpur	Jahankhelan		Construction of room , varandha, School, building	Received	1719 dt. 28/1/2004	30776-81 dt. 30/1/04	73 Central Co-operation Bank	240441 dt. 2/2/04	1,00,000/-	
5	Hoshiarpur	Thathal		Repair of paths in villages	Received	1725 dt. 28/1/2004	30694-99 dt. 30/1/04	5292 Shivalik Kystria Bank	240446 dt. 2/2/04	1,00,000/-	
6	Hoshiarpur	Chohal		Construction of Panchayat house	Received	1710 dt. 28/1/2004	30812-17 dt. 30/1/04	5294 Shivalik Kystria Bank	240438 dt. 2/2/04	1,00,000/-	
7	Hoshiarpur	Nari		Construction of water tank	Received		30706-11 dt. 30/1/04	5305 Shivalik Kystria Bank	240437 dt. 2/2/04	1,00,000/-	
8	Hoshiarpur	Saleran		Solar light in village	Received	1724 dt. 28/1/2004	30700-05 dt. 30/1/04	5304 Shivalik Kystria Bank	240439 dt. 2/2/04		
9	Hoshiarpur	Mehlanwali		Repair of lanes / drains in village	Received	1711 dt. 28/1/2004	30806-11 dt. 30/1/04		240445 dt. 2/2/04	1,00,000/-	
10	Hoshiarpur	Satial		Construction of rooms in Primary School	Received	1721 dt. 28/1/2004	30574-79 dt. 30/1/04	15024 Canera Bank Hoshiarpur	240443 dt. 2/2/04	1,00,000/-	
11	Hoshiarpur	Bassi Purani		Construction of building in Govt. dispensary , community hall	Received	1716 dt. 28/1/2004	30788-93 dt. 30/1/04		240444 dt. 2/2/04	1,00,000/-	
12	Hoshiarpur	Barooti		Repair of lanes in village, Construction of water tank	Received	1709 dt. 28/1/2004	30818-23 dt. 30/1/04	5013 Shivalik Kystria Bank	240442 dt. 2/2/04	1,00,000/-	
13	Hoshiarpur	Janauri		Solar light	Received	1713 dt. 28/1/2004	30794-99 dt. 30/1/04	2046 Central Co-operative Bank	240401 dt. 2/2/04	1,00,000/-	

S.No	Forest Range	Village	DFO' s Notification No & Dt.	Nature of works to be carried-out.	Resolution received / not received	Letter No. & date vide sanction applied.	PCCF,Pb. Chandigarh sanction No. & Date	FPC Bank A/C No & Dt.	Cheque No. & Date	Amount Released	Remarks
14	Hoshiarpur	Chack noor ali		Preparation of road paths and street	Received	1736 dt. 28/1/2004	30604-09 dt. 30/1/04	A/c 8981 Punjab National Bank	240413 dt. 2/2/04	1,00,000/-	
15	Hoshiarpur	Bassi babu khan		Repair of road and hand pump	Received	1735 dt. 28/1/2004	30598-603 dt. 30/1/04	27263 Syndicate Bank	240409 dt. 2/2/04	1,00,000/-	
16	Haryana	Phaphial		Construction of community center and solar light	Received	1739 dt. 28/1/2004	30628-33 dt. 30/1/04	2033 O.B.C Haryana	240405 dt. 2/2/04	1,00,000/-	
17	Haryana	Dandoh		Repair of hand pump and solar light	Received	1714 dt. 28/1/2004	30664-69 dt. 30/1/04	11115 P.N.B Januari	240402 dt. 2/2/04	1,00,000/-	
18	Haryana	Bassi Ballo		Construction of community hall	Received	1740 dt. 28/1/2004	30616-21 dt. 30/1/04		240412 dt. 2/2/04	1,00,000/-	
19	Haryana	Chack ladian		Construction of community hall	Received		30586-91 dt. 30/1/04	8983 P.N.B Gondpur	240406 dt. 2/2/04	1,00,000/-	
20	Haryana	Shekhan		Repair of path	Received	1734 dt. 28/1/2004	30592-97 dt. 30/1/04	6985 P.N.B Gondpur	240407 dt. 2/2/04	1,00,000/-	
21	Haryana	Mastiwal		Construction of community hall	Received	1712 dt. 28/1/2004	30800-05 dt. 30/1/04	8984 P.N.B Gondpur	240408 dt. 2/2/04	1,00,000/-	
22	Haryana	Darapur		Construction of community hall	Received			8986 P.N.B Gondpur	240411 dt. 2/2/04	1,00,000/-	
23	Haryana	Musa		Construction of Panchayat House	Received			8982 P.N.B Gondpur	240410 dt. 2/2/04	1,00,000/-	
24	Haryana	Tappa		Construction of water tank	Received	1715 dt. 28/1/2004	30670-75 dt. 30/1/04	2045 Central Co-operative Bank	240404 dt. 2/2/04	1,00,000/-	
25	Haryana	Chameri patti		Solar light in village and boundary wall of school	Received	1718 dt. 28/1/2004	30782-87 dt. 30/1/04	2044 Central Co-operative Bank	240403 dt. 2/2/04	1,00,000/-	
26	Mehngrowal	Arniala		Construction of community center	Received	1726 dt. 28/1/2004					
27	Mehngrowal	Mustapur		Construction of community hall	Received	1730 dt. 28/1/2004	30640-45 dt. 30/1/04	3987 Shivalik Kystria Bank	240414 dt. 2/2/04	1,00,000/-	
28	Mehngrowal	Kapahat		Construction of community center	Received	1728 dt. 28/1/2004	30658-63 dt. 30/1/04	3860 Shivalik Kystria Bank	240415 dt. 2/2/04	1,00,000/-	
29	Mehngrowal	Mehngrowal		Repair of paths	Received	1737 dt. 28/1/2004	30610-15 dt. 30/1/04	4014 Shivalik Kystria Bank	240416 dt. 2/2/04	1,00,000/-	
30	Mehngrowal	Kort		Construction of community hall	Received	1727 dt. 28/1/2004	30862-87 dt. 30/1/04	11027 Shivalik Kystria Bank	240420 dt. 2/2/04	1,00,000/-	
31	Mehngrowal	Patial		Construction of community hall	Received	1729 dt. 28/1/2004	30640-51 dt. 30/1/04	4007 Shivalik Kystria Bank	240419 dt. 2/2/04	1,00,000/-	
32	Mehngrowal	Malout		Lift irrigation system	Received	1732 dt. 28/1/2004			240418 dt. 2/2/04	1,00,000/-	
33	Dholbaha	Dholbaha		Construction of cause way	Received	1704 dt. 28/1/2004	30754-57 dt. 30/1/04	2409 co-operative Bank Dholbaha	240425 dt. 2/2/04	1,00,000/-	

S.No	Forest Range	Village	DFO' s Notification No & Dt.	Nature of works to be carried-out.	Resolution received / not received	Letter No. & date vide sanction applied.	PCCF,Pb. Chandigarh sanction No. & Date	FPC Bank A/C No & Dt.	Cheque No. & Date	Amount Released	Remarks
34	Dholbaha	Bhatoli		Construction of concrete approach slab and repair of cattle pond	Received	1708 dt. 28/1/2004	30652-57 dt. 30/1/04	4703 P.N.B. Manhota	240434 dt. 2/2/04	1,00,000/-	
35	Dholbaha	Baruhi		Construction of room in school building	Received	1697 dt. 28/1/2004	30730-35 dt. 30/1/04	7670 P.N.B Manhota	240433 dt. 2/2/04	1,00,000/-	
36	Dholbaha	Barikhad		Construction of room in school building	Received	1699 dt. 28/1/2004	30718-23 dt. 30/1/04	10986 P.N.B Janauri	240422 dt. 2/2/04	1,00,000/-	
37	Dholbaha	Naroor		Construction of community hall	Received	1707 dt. 28/1/2004	30824-29 dt. 30/1/04	4260 P.N.B Manhota	240430 dt. 2/2/04	1,00,000/-	
38	Dholbaha	Kataur		Hand pump and drinking water lane	Received	1706 dt. 28/1/2004	30830-35 dt. 30/1/04	4612 P.N.B Manhota	240427 dt. 2/2/04	1,00,000/-	
39	Dholbaha	Ramtatwali		Construction of community hall	Received	1708 dt. 28/1/2004	30836-41 dt. 30/1/04	10886 P.N.B Janauri	240426 dt. 2/2/04	1,00,000/-	
40	Dholbaha	Bahera		Construction of room in school	Received	1701 dt. 28/1/2004	30770-75 dt. 30/1/04	11007 P.N.B Janauri	240421 dt. 2/2/04	1,00,000/-	
41	Dholbaha	Thana		Construction of community hall	Received	1762 dt. 28/1/2004	30764-69 dt. 30/1/04	4632 P.N/B Manhota	240431 dt. 2/2/04	1,00,000/-	
42	Dholbaha	Koi		Construction of room in school	Received	1703 dt. 28/1/2004	30758-63 dt. 30/1/04	4671 P.N.B Manhota	240432 dt. 2/2/04	1,00,000/-	
43	Dholbaha	Raghwal		Construction of community center	Received	1695 dt. 28/1/2004	30742-47 dt. 30/1/04	4667 P.N.B Manhota	240429 dt. 2/2/04	1,00,000/-	
44	Dholbaha	Manhota		Construction of room in school building	Received	1696 dt. 28/1/2004	30736-41 dt. 30/1/04	4666 P.N.B Manhota	240428 dt. 2/2/04	1,00,000/-	
45	Dholbaha	Dehrian		Construction of room in school building	Received	1698 dt. 28/1/2004	30748-53 dt. 30/1/04	2411 Co-operative Bank Dholbaha	240423 dt. 2/2/04	1,00,000/-	
46	Dholbaha	Kukanet		Construction of room in school building	Received	1694 dt. 28/1/2004	30724-23 dt. 30/1/04	11019 P.N.B Janauri	240424 dt. 2/2/04	1,00,000/-	

ANNEXURE-VIII

GOVERNMENT OF PUNJAB

Department of Forests

NOTIFICATION ON JOINT FOREST MANAGEMENT (JFM)

Notification No. 46/242/99-Ft.III/18759 Dated 18.11.2003

The Government of Punjab issued guidelines for Joint Forest Management (JFM) in forests of Kandi area of Punjab vide resolution No. 46/27/93-FT-III/8284 Dated 14-07-1993. These were subsequently revised in 1995. The Process of JFM has, however, been slow in taking off in the State in spite of the initial efforts made in this regard. After due consideration, the government of Punjab feels that there is a need to issue revised and more comprehensive guidelines for JFM in the State. Therefore in supper- session of earlier JFM guidelines and their subsequent amendments, the following JFM guidelines are now being issued.

- 1.1 The process of Joint Forest Management (JFM) may be instituted in the entire State. JFM provisions will be applicable on the Reserved, Protected and Unclassed Forests (hereinafter called forests) of Kandi area of Punjab While implementing the JFM Programme following will be kept in view: -
- a) Local people's interest and responsiveness prior to starting the programme at any given location.
 - b) initial emphasis should be on places where good and constructive local leadership is forthcoming and forest dependency is higher
 - c) the process should provide for local people's requirements and needs in planning, including some non-forestry developmental initiatives and programmes to be implemented by the Punjab Forest Department.

- d) It is intended to adopt a three pronged strategy to involve local people through Forest Protection Committee (FPCs). Non Government Organizations (NGOs) / Voluntary Agencies (VAS)/ Institutions/ Religious Bodies etc and farmers.
 - e) There shall be regular annual review of the programme by the Forest Department, involving other stakeholders for the lessons learnt, and also to identify strength and weaknesses so as to amend the rule and regulations to steer the course of events towards a positive direction in the overall interest of forest conservation and local people development.
2. Forest Protection Committee (FPCs)
- 2.1 Constitution of Forest Protection Committees
- In supersession of earlier instructions, the following guidelines are now being laid for constitution of the Forest Protection Committees: -
- 2.1.1 After adequate initial exploration and spadework the Forest Range Officer will convene in his jurisdiction a series of general meeting of a hamlet, a village or a cluster of village (hereinafter called “village”), in which all adults of the village should be invited to participate.
 - 2.1.2 During these meetings, the Range Officer (RO) will explain in detail about the spirit and concept of JFM and the proposals of the Government towards the benefits and responsibilities at various levels. The Range Officer can take the assistance of appropriate NGO(s) for mobilization of the local people. After explaining the concept of Joint Forest Management to the villagers and evaluating the responsiveness of the villagers, the Range Officer will take steps to constitute an FPC within the framework of these regulations. The RO shall endeavor to constitute FPC in as many villages as possible. The villagers

themselves on their own, may also take initiative in this regard and approach the local office of the Forest Department for formulation of FPCs.

- 2.1.3 Members of every household living in the Village (with adequate emphasis on households having greater dependence on forests for meeting their daily needs), would have the option of becoming members of the FPC. Any one adult members of a household, who ordinarily reside in the village, could represent the household.
- 2.1.4 After due deliberations and constitution of the FPC, a Management Committee (MC) will be constituted including elected representatives from amongst the members of the FPC to run the day –to-day affairs of the FPC.
- 2.1.5 The concerned Block Forest Officer (Forester) or the Forest Guard shall be the Ex-officio Secretary of the Management Committee (to be nominated by the Range Officer, after consultation with the DFO).
- 2.1.6 A register of FPC members will be maintained in the village and a decision should also be taken on contribution of a token annual membership fee. Similarly the FPC, through its MC, could also take decision on any other contributions to be made members of the FPC in the overall interest of forest conservancy and village development. A record of time and other resources spent by individual household/members of the FPC in interest of forest conservancy will also be maintained in an appropriate form so that it can help the FPC/MC to decide on the proportionate sharing of benefits.
- 2.1.7 Village Forest Committees (VFCs)
Village Forest Committees and their executive committees already constituted under the framework of Forest Development Agencies (FDAs) shall be deemed to be FPCs/Joint Forest Management Committees (JFMCs) / MCs constituted

under this notification and vice-versa and all the provisions applicable to FPCs shall apply to VFCs as well.

2.2 Duties and Responsibilities of the FPCs

2.2.1 The members of the FPC, individually and collectively will:

- (a) Proactively participate and help the local forest officials in protection of assigned forest area against grazing, fires and theft of forest produce and other injurious influences on forest;
- (b) make fellow villagers and their family members aware of the importance of forests and need for such participatory initiatives;
- (c) actively participate in the preparation of Joint Forest Management Plan for assigned forest/area;
- (d) cooperate with the Forest Officers in carrying out forestry and development works in accordance with the approved Joint Forest Management Plan.

2.2.2 A general body meeting of the FPC shall be held with at least quarterly periodicity to review the functioning of the FPC, the Management Committee and activities being carried out under Joint Forest Management Plan (JFMP). The Member-Secretary of the Management Committee will convene such meetings at a time and place convenient to the people in general and help maintain the records of the MC/FPC.

2.2.3 The FPC will discharge the above stated duties in the manner and procedure stated below:

- a) In the event of any forest offence like illicit felling grazing encroachment etc. the concerned local forest official shall take action in accordance with the provisions laid down in Indian Forest Act, 1927 or Punjab Land Preservation Act, 1900 and

other relevant laws, as the case be. Members of the FPC will actively assist the Forest Guard in the above-mentioned process especially in the detection of the offence.

- b) Thereafter offences shall be dealt as per procedure laid down by Punjab Forest Department.
- c) The members of FPCs/MC will institutionalize arrangements for preventive patrolling and guarding of the forest against theft and fire other injurious influences.
- d) In the event of any fire, not only will be FPC members bring it to the notice of the Forest Guard, Forester or Range Officer but they are expected to take initiative in actively helping in controlling the same.

2.3 Constitution of the Management Committee (MC)

2.3.1 In order to carry out an approved Joint Forest Management Plan within the scope of these rules as well as to mobilize people for forest protection, every FPC shall have a Management Committee (MC); FPC may constitute new MC in consultation with DFO if the performance of existing MC is not up to the satisfaction of FPC.

2.3.2 (i) The composition of the Management Committee shall be as follows:

(a) Sarpanch of the concerned Gram Panchayat: Member

(b) Six to nine elected representatives from the FPC: Members

(c) Representative of Panchayat Department

(in case of Panchayat Forests) : Member

(d) Concerned Forester or Forest Guard : Member Secretary

(ii) The Committee will elect its own Chairperson/Deputy Chairperson. Either the Chairperson or the Deputy Chairperson shall be a woman.

- (iii) Depending upon the size and number of the households in a village, number of elected representatives in a MC shall be between Six to Nine.
- (iv) The Range Officer shall act as returning officer for election of the members and office bearers of the MC. Not less than one third of elected representatives shall be women. Also, amongst the elected members of the MC, at least two members should be from Scheduled Caste or the landless or the marginal families and two members from among the landowners of the village. No habitual forest offender will have the right to be elected to, or remain the member of the MC. The matter of disqualification of a habitual forest offender will be decided by the DFO.
- (v) The Sarpanch will help in maintaining liaison of MC and FPC with the Panchayat.
- (vi) Half the total number of members of the Management Committee shall constitute the quorum for the meeting of the MC.
- (vii) One of the elected members of the MC will be elected to function as its Treasurer. Joint signature of the Chairperson and the Member-Secretary shall operate any bank account of the FPC. The treasurer will maintain account of all the transactions.

2.4. Duties and Responsibility of the Management Committee

2.4.1 The Management Committee will meet at least once in a month.

2.4.2 The Member – Secretary shall be responsible for convening the meetings and maintaining the record of proceedings. He shall promptly send a copy of the proceedings to the Range Officer to keep him informed and also to obtain necessary guidance from him. The Range Officer shall also forward a copy of the proceedings to the DFO.

- 2.4.3 The Conservator of Forest/ Divisional Forest Officer or the Range Officer may give directions from time to time for smooth and proper functioning of the committee and, depending on the nature of the issue under consideration, such direction will either be of advisory or binding in nature. Binding directions are to be given only in case the trend of the FPC activities reveals non-observance of forest laws or sound principles of forest conservation.
- 2.4.4 Since the MC will be a representative body of the FPC, other duties and responsibilities of MC remain the same as for the FPC mentioned earlier. The MC will ensure that all its obligations as well as obligations of the FPC are properly honoured.
- 2.4.5 Apart from concerned Range Officer, any other senior forest officer may also attend the Management Committee or FPC meetings in order to facilitate discussion and tender advice. The forest department may involve other government officials, consultants, nongovernmental organization, academicians etc. In such discussions it is likely to help in promoting the cause of forest conservancy and the welfare of the local people. None of such participants however will have any voting rights in the meetings.
- 2.5 Approval by the Divisional Forest Officer
- 2.5.1 upon receipt of the proposal from the Range Forest Officer regarding the constitution of the FPC and MC, the Divisional Forest Officer (DFO), after considering the same, should accord recognition to it. Only such recognized institutions are entitled to operate under these rules.
- 2.5.2 The benefits of this notification shall also accrue to Forest Committees, which are already constituted, and functioning provided they agree to abide by the terms and conditions of this notification.
3. Involvement of Voluntary Agencies (VAs)

Reputed voluntary agencies such as NGOs, institutions, religious bodies etc, may be involved in afforestation and ancillary works in areas, which are neither taken up nor intended to be taken up by any FPC/VFC. The areas covered under the Punjab Apportionment of trees Rules, 2000 and in respect of which the concerned farmer has already signed an agreement under these rules, will also not be available to the voluntary agencies.

- 3.1 There must be a written agreement between the NGO and the local Forest Deptt. for involvement of NGO in Forestry works in a particular area. Whenever, an industrial House or an outside agency is supporting the NGO, there must be a tripartite agreement between NGO, local forest department and the industrial House or outside agency.
- 3.2 The agreement must have the commitment of the industrial house to bear the cost of the scheme of the NGO to faithfully implement the scheme under the supervision and direction of the Forest Department.
- 3.3 The industrial house and the NGO will not claim any right whatsoever over the forest land or the produce anytime thereafter.
- 3.4 The rights of local people, if any over the forest land will not be affected by this agreement.
- 3.5 The agreement will be for a period of say 5 to 7 years during which the area is likely to be tackled including maintenance.
- 3.6 These scheme should be prepared in such a way so that naturally occurring species should be given priority in the rehabilitation and plantation programme.
- 3.7 Only such forest lands that are less than 0.4 density and that cannot be regenerated with natural regeneration should be taken up under this scheme.
- 3.8 Any usufruct sharing with NGO's will be subject to the approval of the Govt. of India.

4. Involvement of Farmers.

Involvement of farmers shall be governed by the rules and procedures as laid down under the Punjab Apportionment of Trees Rules, 2000 the areas along roads and adjoining farmers fields in respect of which an agreement has already been signed between the farmer and the Forest Department. These areas may however, be taken up by the JFMC/VFC/FPC/VA for afforestation and ancillary works subject to a tripartite, agreement between the farmers, the Forest Department and the FPC/VA as per mutually agreed terms and conditions.

5. Joint Forest Management Plan (Microplan)

- 5.1 The Forest areas to be managed jointly by the department and FPC's will be decided by the territorial DFO in consultation with the FPCs. These forest areas need not be coterminous with the revenue village i.e. forest areas in a particular revenue village may be managed under JFM by an FPC of another neighboring village also. A Joint Forest Management Plan (JFMP) will be prepared for the area using tools like Participatory Rural Appraisal (PRA). During this process the FPC will be actively involved through the meeting of its General Body Prior to starting such exercises the Range Officer should collect available information (and also prepare maps) on the forest types, the species occurring in the forest, legal status of forest, in the area and extent of forest under each category, history of the forest, the land use of the non forest land in the area, important information on the concerned micro-watershed, population and other socioeconomic data of the villages in the vicinity of the forest. A copy of the JFMP proposal should be sent by the Range Officer to the DFO so that, if necessary, he may tender his advise. FPCs should also take up the Panchayat Forest Area in consultation, and with concurrence of the village Panchayat. This arrangement will benefit both the Panchayat and the members of the FPC as improved protection is likely to

enhance the quality and quantity of the forest produce available from the Panchayat forest areas. In case of Panchayat forest areas the Forest Department will act as facilitator to evolve a workable institutional arrangements between the Panchayat and the Forest Protection Committee as per these guidelines. No such arrangement is, however, possible for the Panchayat Forest areas without wholehearted and constructive support from the Rural Developments and Panchayat Department. The Rural Development and Panchayat Department shall, therefore, provide full and constructive support in facilitating such an arrangement for the protection and management of Panchayat Forests. The sharing of benefits between the Panchayat and the FPC can be on the same lines as the sharing of benefits between the FPC and the Government in case of the Protected/Reserved/un-classed Forest under these guidelines. If, after gaining initial experience in a village, the villagers wish to extend similar arrangements to forest areas which are common private holdings of a number of families of the village, they could decide to do so provided all the landholders and other local stakeholders come to a mutual agreement in this regard. The local forest officials can help in facilitating such arrangements if the land owners and other village stakeholders collectively decide so.

- 5.2 During preparation of the JFMP, specific attention should be paid to identification and participation of those stakeholders who are the most forest dependent and the poorest. The plan should also specifically address the issue of involving the women and taking care of their forest based and other developmental needs.
- 5.3 The Forest Department may also try to organize or support the existing self- help groups of villagers in the area, especially those of women and impart training to them for suitable income generating/ value addition activities and also facilitate process of obtaining loans/ grants by such groups through banks, NGOs etc.

- 5.4 In order to promote women's participation, the Forest Department may also consider engaging women facilitators and NGOs to facilitate adequate gender balance in community mobilization.
- 5.5 The overall implementation of the Joint Forest Management Plan and its supervision will be the responsibility of the Range Officer with the active assistance and participation of the FPC.
- 5.6 Soil and water conservation measures may also be incorporated as part of the Joint Forest Management Plan.
- 5.7 It shall also be the responsibility of the FPC/ Management Committee/VA/ Farmers to chalk out and implement an action plan assigning duties and responsibilities to ensure protection of the forest under its charge from theft, biotic interference, fire and other injurious influences and also to implement other measures involving paid labour and even unpaid inputs. In case of wage employment the members of the FPC shall have the first preference. The DFO shall have the discretion of getting works, which are otherwise conventionally executed under the direct supervision of the Forest Deptt. staff at the approved schedule rate, executed through MC/FPC by passing earmarked resources to MC after formally signing a Memorandum of Understanding (MOU) with the MC in this regard. In all such cases, if the FPC can save some money within the limits of the government approved scheduled rates for such jobs, by contributing voluntary labour or otherwise, the expenses saved would be credited to the FPC account. The MC will maintain and present for inspection appropriate record in all such cases. Such pooled money could also, in the long run, attract matching grants/loans for the village from Government, Banks, Non Governmental Organizations (NGOs), or other funding agencies. The FPC will decide the use of the money pooled in the MC account. Such money can be very useful for maintaining the works done under various Government Schemes/ projects

implemented in the area, especially after the Government Agency withdraws from the area. Minimum 50% amount shall be spent on forestry development projects. The Forest Department may help identify possibilities of grants/ loans for the FPC in order to help in sustainability and strengthening of these institutions. Wherever feasible, the Joint Forest Management Plan shall also explore the possibility of “Sharamdan”(unpaid labour contribution) from the FPC members.

6. Selection of areas for afforestation

The areas to be selected for a joint Forest Management under this Notification may preferably be those with less than 40% crown density. The first priority in respect of forest areas along roads shall be that of the farmers along whose fields the strip forest falls.

7. Funding the JFM plan

The Government will bear the expenditure to be incurred for implementing the Joint Forest Management Plan. Wherever a provision has been made as a part of the approved estimates, these expenditures shall be borne by National Afforestation & Eco-Development Board (NAEB)/State Govt./Central Govt. For this purpose the government may also take steps to tie up with appropriate national and international funding agencies.

The voluntary Agencies / NGOs will arrange their own resources such as from Industrial Houses, Grants-in aids etc.

8. Benefit sharing

8.1 The FPC will be entitled to the usufruct and Non Wood Forest Produce (NWFP) rights in the area, only if it properly discharges all its duties and responsibilities under these rules. It shall be within the competence of the FPC acting through its Management Committee, to assign the shares of the usufruct and other NWFP and

other benefits among its members. It shall be in order to grant fewer shares or no share to any member if he has not discharged the duties and responsibilities assigned to him. Similarly the FPC could decide to give more benefits to a family or persons if they have spent more time and efforts for the protection of the forest. For the purpose of such benefits each household is treated as one member. In case of areas covered under the Punjab Apportionment of Tree Rules 2000, the benefit sharing between FPC and farmers shall be as per the mutually agreed terms and conditions.

- 8.2 All conflicts and issues in respect of usufruct or other benefit sharing between individual members of the FPC or between members and non-members of the FPC shall be resolved by the Management Committee in the participatory manner. The Forest Department may aid and facilitate them in this process.
- 8.3 In case of compounding of an offence as per existing legal provisions, the Divisional Forest Officer can decide to pass the “price” charged for a forest produce to the MC if he is satisfied that the FPC is performing its obligations well and members of the FPC have made significant contribution in apprehending the culprits in a given case.
- 8.4 In case of protected/reserve or un-classed forest where the system of auctioning grass, fruit, palm leaves etc. to private contractors has been in operations, the FPCs will be given the lease of grass free of cost as the poorest households mostly use these materials. The FPC after meeting the requirements of its members either free or at a cost fixed by it, can sell the same. The removal of NWFP would be done under the supervision of the Department. The revenue from the sale of NWFP will be deposited in the account of FPC and used for forest conservation or common welfare schemes of its members (minimum 50% for forest conservation).
- 8.5 In case where the Forest Department or other Govt. agencies assist a FPC to get irrigation water either by constructing a dam or installing/renovating a kool

system, the initial financial investments shall be made by the Forest Department or the other agency. FPC members should however invariably contribute some voluntary labour for digging of the pipelines etc.

8.6 In case of commercial NWFP produce like “bhabbar” or “baggar” (Eulaliopsis binata), the FPCs will be given the lease of such produce free of cost. The FPC shall invest at least 50% of its income of such produce back into the joint management area for conservation, protection and regeneration of the forest area. Balance 50% will be used for other developmental and welfare activities for the common benefit of its members. However, the local requirement of users of such produce from amongst the members of the FPC will be first satisfied by the FPC before offering any produce for sale to any other agency or for any other purpose. This sale to any other agency will be made only after collection of the produce from forest area. In lieu of the lease, the FPC and the individual members will be expected to take all necessary measures for the protection of the forest and for enhancing the production of the forest produce from such areas.

8.7 In case of produce like timber, bamboo, khair etc. 25% of the revenue obtained by the Punjab Forest Department from auctions/ transfer of lots to Punjab State Forest Development Corporation Ltd. shall be retained by the forest department and given to the FPC as its share in lieu of protection/ assistance in management of assigned forest area. The FPC will invest at least 50% of its share of the income back into the Joint Management area for increasing its productivity. The remaining 50% of share received by the FPC could be used in an appropriate manner for other welfare activity of the FPC members or direct distribution of appropriate share among its members.

9 Other issues

9.1 The Forest Department will identify suitable entry point/development activities to establish a close and constructive rapport with the village communities. The entry

point activities/developmental activities will include suitable location specific non-forestry developmental or welfare activities for the benefit of the local community.

- 9.2 The working of the MC/FPC will be reviewed at least once a year by the DFO. In case the FPC or the MC fails to perform, the duties and responsibilities envisaged under this resolution, the DFO incharge of the area will be competent to de-recognize the FPC and in such case the FPC or the MC will loose all their rights and shares in respect of forest areas assigned to them. However the MC can appeal to the Conservator of Forests against the orders of DFO and Conservator of Forests may after due consideration pass appropriate orders on such appeal. The orders/decision of the Conservator of Forests will be treated final.
- 9.3 It is clearly being realized that initiating and consolidating the JFM process will call for radical change in mindset at all levels of hierarchy within the Government setup. This also calls for a change in the way business of the State has been conducted in the traditional mode. It was also require considerable devotion, efforts and time on the part of Forests personnel and as the process of JFM cannot be rushed through, all efforts will be made to provide necessary support and staff to the State Forest Department so that Forest personnel can spend adequate time in motivating, training and interacting with the local communities.
- 9.4 The FPCs and MCs will essentially function as apolitical bodies in the over all interest of forest conservancy and community welfare especially the welfare of the disadvantage and forest dependent groups.
- 9.5 JFM requires radically redefining the relationship between Forest Department and local communities. To bring in the attitudinal changes required for JFM and to enhance skills of the Forest Department Staff, there will be need to organize frequent trainings, workshops, field visits to other states etc. The Govt. may provide adequate support for this by providing provision for such trainings and

strengthening the training infrastructure within the Forest Department as well as through tie-ups with other suitable agencies. Simultaneously, awareness training for villagers is also equally important so as to educate them about the need for forest conservancy and attitudinal change to regard Government property as their own.

- 9.6 Wherever FPCs are assigned certain forest areas for protection/management, the current state of forest will be recorded in a participatory manner as a benchmark for future comparison of changes taking place in the area.
- 9.7 Special care will also be taken to regularly document and record the process of change under JFM: in terms of health of forest, the attitudinal changes of the staff and the community, the problems faced and how they were or are being resolved, the enhancement in skills, confidence and capacities of the people and staff, the lesson learnt through the process and so on. The research and extension wings of the forest department would be strengthened to support the JFM process in the state.
- 9.8 While it is being envisaged that benefits to local FPCs may be granted from Protected Forests/ Reserve Forests areas or Panchayat forest areas, the FPCs are also expected to help and support the forest department staff in protection and management of other categories of forest areas closed under Land Preservation Act, 1900 (LPA). As the process of JFM takes off, the Government may also regularly review, rationalize and reform the regulation under Punjab Land Preservation Act, 1900 and update them with the changing times and circumstances.
- 9.9 The Government may award appreciation letters and prizes to the officials and the FPCs which do outstanding work for promotion and success of JFM.

9.10 The Joint Forest Management Programmes will ordinarily be done after a period of two years by Government. However, the Government reserves the right to conduct earlier reviews if the circumstances so warrant.

10. Orders

The orders issued from time to time by the Government of India through directions/instructions or other forms of correspondence regarding matters related to Joint Forest Management shall be deemed to be a part of this notification.

Chandigarh
Dated 17-11-2003

Sd/-
(P.Ram)
Secretary to Govt. Punjab Deptt. of
Forests & Wildlife Preservation

ANNEXURE-IX

Excerpts from

PUNJAB FOREST LEAFLET No.13

Third Revised Resin Tapping Instructions and Rules

(First Published on 1st March 1915)

Dated 1st April 1933

(In Supersession of all previous orders)

CHAPTER I – INTRODUCTORY

From time to time instructions and rules have been issued on resin tapping both in Working Plan and other places. They were last issued as Punjab Forest Leaflet No. 13. This technical order is intended to replace all previous orders and to standardize all resin operations.

CHAPTER 2 – GENERAL CONSIDERATIONS

2.1Omitted.....

2.2Omitted.....

2.3 The wood of *Pinus longifolia* is nonporous and is composed mainly of tracheides. It exhibits clearly marked annual rings, conspicuously differentiated into 2 portions, the spring wood containing thin walled cells and large cavities and the summer wood having denser walled cells. A varying number of the outer most annual rings make up the

sapwood which is of a somewhat lighter colour than the heart wood which contains but little resin.

The outer-most layers of the sapwood are richest in resin and according to Mayer the part richest in resin is the root-wood and the poorest is the heart wood. A small scale experiment carried out in the Hoshiarpur Forest Division of the Punjab gave good grounds to believe that resin production is greater in and near the crown of the tree than elsewhere. The part of the bole itself which is the richest in resin is the butt-log, The side of the tree facing south is richer in resin than the side facing north. A hot climate produces a greater resin flow than a cold one, while a dry light soil yield better than a moist heavy soil. Finally a large spreading crown is a sign of probable good yield and small crowned trees yield poorly.

In the sapwood, resin is stored in two systems of elongated passages termed resin ducts. In one system, the ducts are parallel to the axis of the tree, in the other they lie horizontally in the radial planes. The vertical ducts are large: often being visible to the naked eye: the horizontal ones are included in fusiform rays and being small cannot be detected without the aid of a microscope. Both types are surrounded by one or two rows of thin walled resin cells. Distribution of resin ducts varies the vertical ducts number from 15 to 40 per square centimeter and the horizontal from 35 to 60. Both systems are more or less united since they frequently cross each other.

Successful resin tapping depends on keeping the sapwood in a healthy condition. When a cut is made in sapwood the growth of tissue near the wound is stimulated and the new wood formed is characterized by having in it a larger number of resin ducts than are normally found. It is both from the horizontally extended ducts as exposed on a freshly cut longitudinal surface and from the vertically extended ducts as exposed on the cross

section that the drops of resin exude. The maximum flow of resin is thus from the top of the “blaze” where both of the horizontal and vertical ducts are severed.

The process of resin tapping is not merely a drawing out of resin already formed. It is the collection of resin which is constantly being manufactured by the tree, when the sapwood is wounded the bulk of resin appears to be produced most profusely within a few inches of the wound and not far above it. The wound must, therefore be a perfectly clean cut which fully opens the resin ducts and wounding must be recurring as otherwise the resin at the cut and of the duct solidifies and prevents further flow.

A resin “blaze” correctly freshened shows clean white wood and a generally uniform distribution of exudation of resin in small clear honey coloured drops. A “blaze” not systematically freshened shows patches of faint dark streaks from which no resin exudes owing to the resin ducts being blocked with solidified resin. The flow of resin is greatest immediately after wounding or re-wounding, the flow gradually decreasing in the process of time until it practically ceases owing to the plugging of the ends of the ducts with the solidified resin. The plugged ducts immediately above the wound then become full and resin tends to diffuse itself over the surrounding wood: this diffused resin does not drain out when the wood is re-wounded.

Experience extending over some 20 years or more goes to show that in order obtain the most economical results the wood must be re-wounded at approximately 6 days intervals.

2.4 From the above short resume, certain fundamental deduction can be made in regard to the principles of resin tapping namely:-

- (i) Resin production will be improved if crops under tapping are maintained in a somewhat open condition.
- (ii) The blaze should be placed as low down on the stem of the tree, as possible; while the nearer it is to the south face of the tree, the better will be the yield of resin.
- (iii) Deep “blaze” extending beyond the outer layer of the sapwood and even into the heart wood of the trees do not mean a greatly increased yield of resin: on the other hand such deep blaze almost invariably result in the wounds not occluding.
- (iv) The blaze must always be made with a very sharp instrument so that the wound has a perfectly clean surface.
- (v) The “blaze” must be “freshened” by the removal of a very thin shaving of wood from the open part of the blaze at regular intervals of about 6 days.
- (vi) Blaze should not ordinarily be continued in length for more than 5 years otherwise the yield of resin will materially decrease. A fresh blaze should therefore be started at the base of the tree after 4 or at most 5 years tapping.
- (vii) The whole face to the blaze must always have a clean smooth surface over its whole length to ensure the rapid flow of resin to the collecting cup.

2.5 Since March, 1915 when the ordinal orders on resin tapping in the Punjab were issued much has been learnt by a process of trial and error. The system of continuous

light tapping has been adopted and it has been necessary to introduce more stringent regulations are regard the length width and depth of the channels.

CHAPTER 3 – ENUMERATION

3.1 *Preliminary operations :* Resin tapping schemes are usually embodied in Working Plans and such schemes will not be departed from except with the a approval of the authority competent to permit deviations from the prescriptions of such plans. Where, however, such schemes do not exist before any area is to be worked Range or other officers appointed must in the previous summer examine the whole area carefully and make recommendations to the Divisional Officers as to which portions of the forest areas should be brought under tapping.

3.2 *Selection of forest area for tapping:* In areas already under tapping a similar examination must be made and a report prepared showing the alterations in previous arrangement considered advisable. Areas with very sparsely scattered trees (3 or less to the acre) should be omitted, on the other hand any adjoining areas fit and available for tapping, which had not been originally included in approved schemes should be included.

When the boundaries and area of a block or sub block to be tapped for the first time, have been satisfactorily settled, the area must be enumerated to obtain an estimate of the number of trees and blazes.

As trees marked for felling other than in P.B.I. are ordinarily to be tapped to death, the marking of such trees should be done as far as possible before the resin enumeration is carried out, so that a proper estimate of the number of the blazes in a block or sub-block can be made Except in area under regeneration, trees to be felled

should be marked 3 to 5 years ahead of the year in which they are intended to be felled, so that the heaviest possible yield of resin may be obtained from such trees before they are felled.

No trees will be enumerated for tapping within 5 yards on either side of a footpath or road, where considerable wastage of resin and resin pots is likely to take place through the mischief of way farers.

Forests included under Unregulated Working Circles and protection forests that are never likely to yield timber should be included in a scheme of tapping if economic conditions so permit. Trees growing in such areas generally stand in open crops and have large branches and are most suitable for tapping.

3.3 *Enumeration work* : In the enumeration work, the trees to be tapped to death will be classified from the original marking lists for entry in Abstract Resin Form "A:" such trees will not be enumerated again, so that only trees to be lightly tapped will be counted, The results being abstracted from the enumeration note books for the purpose of Abstract Resin Form "A".

3.4 *Re-enumeration*: It will not in ordinary circumstances be necessary to enumerate trees every year but care must be taken to prepare a fresh Resin Form "A" once every 5 years as casualties by natural causes or by petty felling occur. In the event, however, of a serious natural calamity or heavy felling which materially affect the total stocking, a re-enumeration should be made immediately.

When a reduces out-put of resin in any year is ordered, this is best effected by abolishing one or more depots and not by a proportionate reduction of work in all depots.

3.5 *Number of blazes per tree:* For light continuous tapping, following limits are fixed, girth measurements being taken at breast height over bark, measured on the up-hill side of the trees:-

- (1) 4 to 6 feet girth, one blaze 4" wide..
- (2) above 6 feet girth, two blazes 4" wide.

For heavy tapping the general idea is to put on as many blazes as possible, leaving at breast height at least 4" of bark between every two blazes. For fairly well-formed straight trees, an approximate estimate of the number of blazes may be obtained from the formula $X+1$ where "X" is the girth of the tree in feet, ignoring all fractions of a foot.

Thus a 5 feet 7 inch tree will have 6 blazes.

Thus a 8 feet 5 inch tree will have 9 blazes, and so on.

For badly shaped, twisted, or those damaged the base by fire falling stones, villagers, etc. the number of blazes will be less than this. The minimum girth of tree which it pays to tap to death is 2 feet.

3.6 *Punch marking:* Every tree shall be serially numbered and the number of blazes indicated: thus 567/2, the upper figure showing the serial number and the lower figure the number of blazes permissible. The unit of enumeration will be the compartment. (or sub-compartment where such exist). For marking these numbers the bark is smoothed on the north side of a tree at about 5 feet from the ground and the numbers are punched in lightly with 1.1/4" figure punched (Set 0-9 are procurable from the Resin Factory Workshop, Jallo, at cost price, about Rs. 28 per set.)

3.7 *Summary of Enumeration Form "A"* (See Appendix-II) will give the result of enumeration of compartments or sub-compartments where such exist and will be a permanent record of work actually done. The Form will be abstracted as follows:-

Abstract Resin Form "A"

Division Range Block Compartment (or sub-compartment)	Year of commencement of tapping or re-enumeration
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Girth Class	Light Tapping		Heavy Tapping		Total	
	No. of trees	No. of Blazes	No. of trees	No. of Blazes	No. of trees	No. of Blazes
2' to 3'-11'	Nil	Nil	-	-	-	-
4' to 6'	-	-	-	-	-	-
Over 6'	-	-	-	-	-	-
Total						

The abstract will be entered in a register kept in the Range Office a copy is being sent for record to the Division Office, where this information shall be entered in Compartment History Files (or Forest Journals) where such are maintained. Non-Government forest areas tapped should be shown separately in Resin Form "A".

3.8 *Time of enumeration:* Marking of trees for tapping to death must be completed during the summer. Re-enumeration work when done must be taken in hand immediately after tapping seasons is over, viz., by 1st of November and completed by the 1st of December. When enumeration is done in a forest for the first time this work can be taken

in hand earlier and finished by 1st of December. One Forest Guard with three coolies can enumerate 400 trees a day.

CHAPTER 4—TOOLS AND STORES

4.1 *Indent of Stores* : The resin factory, Jallo, will supply lips, nails, chisels, adzes, nailplier, tins and all resin stores to ensure the standardizing of material and implementations used and also to secure the cheaper terms which result from the placing of large orders:-

The scale of tools and stores.

The following is the scale of implements required:-

Article	Specification	Remarks
Clay pots preferably with clay lids	External diameter at top 4. ½” bottom 3½” depth 6” with a small hole near top.	Made by village potters. Annual replacement 20% scale per channel secc Note.1.
Tin G.I. or iron lid are made old kerosene tins.	20 W.G. to 24 W.G., 6”x2”.	Scale, I per channel can be locally prepared. See Note2.
Iron Nails or wooden pegs to support the pots	1½” to 2” wire nails, about 300 to 350 per seer.	Scale, 1 per blaze : See Note 3.
Curved adzes 2½” edge back to be used as hammer. Edge to be kept of rozor like sharpness	Mild steel, standard pattern.	Scale, I per mazdoor that is I 1,000 blazes
Gwalior sandstone hooe to sharpen adge.	1 per mazdoor See ote 4.

Curved chisel 4.3/4" edge top make location to to receive tip.	Mild steel standard pattern	Maximum 1 per 1,000 blazes
Pillars to pull lipped	Iron or mild steel	1 per 1,000 channels
Hammers	Iron or mild steel
Flat wooden scrapers for scraping out resin from the pots.	Made by tapping mazdoor (1 per mazdoor) themselves free of cost.
Clean empty kerosene tins for collecting and storing resin.	Free from rust and with only bung hole open.	Scale 1. tin per mazdoor and 2 tins per maund of resin collection. See note 5.
Solder and soldering irons	Scale, 1 set to each forest resin depot.
Scales for weighting resin	Scale, 1 set to each forest resin depot.
Drums	Capacity 1 maund and 40 gallons drums.	Supplied by Jallo Factory . See Note 6.

NOTES:-

1. *Clay pots:* It is essential that clay pots should be of given uniform size. If they are smaller there is much wastage of resin during the season of heavy yield. If they are bigger

and not well burnt they break under the weight of resin and rain. It is, therefore essential to give the plotter a measured specimen. In order to ensure the correct size. The Forest Guards arranging for the pots will be made responsible for this.

2. *Tin lips:* Tin lips are much cheaper and can be easily prepared locally from old tins or they can be obtained from other divisions where surplus, Tin lips last for about 5 years and G.I. lips for 10 years.

3. *Nails:* It is advisable to use wooden in preference to iron nails are often removed by the villagers. Wooden nails are cheaper and they can be locally made from hard woods such as Khair. (Acacn Catechu), Koa (Olive) or Sanacha. Sometimes the heart of chil is used.

Wooden nails should always be ordered from a carpenter. If this is not done Forest Guards ordinarily leave the supply of wooden nails to the mazdoors who make use of all sorts of wood and the nails are never of a standard size and strength.

4. *Hones:* The coolies have now taken to stones locally obtained. The preliminary sharpening is done on a rough stone and later completed on a small hard stone (carried in the pocket). The use of sand stones hones has been given up in Rawalpindi East Forest Division.

5. *Tins:* It is essential that no more tins are ordered than are required during the seasons as they rust very rapidly and become unserviceable.

6. *Drums:* Drums had been introduced to reduce the cost of container. Their life has been estimated at 6 years. They are made at Jallo Factory t a cost of Rs. 4/- per one maund drum. The number of 1 maund drums required for any resin depot depends on...

(1) The average daily output of resin during May, July and August; and

- (2) The number of days the filled drums spend in transit to their destination and back.

Example: Supposing daily average collection of resin in a depot during the month of May, July and August is 2 maunds and number of days spent on the return trip to rail or cart depot (where the 1 maund drums are emptied into 40 gallon drums) is 6 days. The number of drums required will be double the number needed to contain 6 days output. Half the number will be traveling between forest depots and rail depot, the other half will be available for filling.

Similarly the number of 40 gallon drums required at the rail head or cart depot can be worked out in the basis of daily average arrival of resin from drum depots and the number of days required for a return trip to the factory. The number of drums can be further reduced if transport can be speeded up, i.e. if the transport men call for drums every second or third day instead of once a week.

As the out-put during June is higher than the average daily out-put during May, June and August, a certain number of tins (20% of normal requirements) will be kept as a reserve in drum depots against as emergency. These will be transferred to tin depot as soon as the average daily out-put falls to normal.

4.2 The following scale of stores is laid down for use in resin depots. The indent and consumption of these stores will be based on this scale:-

Solder	8chk, for 100 tins
Noshadar	1 chks for 100 tins
White Paint	6 chks for 100 tins
Blach Paint	3 chks for 100 tins
Charcoal	10 seers per 100 tins.

Charcoal for repairs of tools

½ seer per tool

New tins for soldering 2 per 100 tins.

Old tins for soldering 4 per 100 tins.

4.3 *Time and method of indent:* The indent for tools should be submitted on 1st October to the Manager Jallo Resin Factory, stating clearly the definite quantity required and the maximum permissible gross weight per package.

4.4 *Writing off unserviceable tools :* Much confusion result in indenting for stores if the unserviceable tools in forest depots are not examined annually and written off. It will also save correspondence between the Divisional Officer and Range Officers if unserviceable tools can be examined by the Divisional Forest Officer on tour so that by the end of the tapping season each depot is in a position to prepare a correct indent for the following year's supply.

4.5 *Disposal of unscrviceable stock:* It is essential that effective methods be employed in destroying unserviceable stores and if this is not done they are liable to be presented over and over again for writing off. Certain articles can be broken or burnt, other can be thrown into a river. Old tins cannot be destroyed in either of these ways they can either be converted into lips of these are required or a hole punched in the bottom center of a tin will permanently put it out of use. Other methods may be devised by the local Divisional Officers. The method employed just be effective.

Dispatch of old adzes and hammers to Jallo is expensive and is no longer ordered. Self if there is a demand for old scrap iron, otherwise the only effective method of disposing of such tools is to throw them into river.

CHAPTER 5—FASTENING OF LIPS AND POTS

5.1 *Cutting new channels:* Scrape the rough bark over a width of 6" and to a height of 2" over that part of the tree which will be tapped during the year leaving only $\frac{1}{4}$ " thickness of bark. This operation probably increases the output of resin as the rays of the sun have a better play on the resin ducts. Moreover the application of the adze becomes easier during refreshing. Then mark the lower end of the channel by a chisel or adze so that in the process of cutting a new channel, unnecessary injury to the cambium below the lip site is avoided. Cut the channel 4"x 4" and $\frac{1}{2}$ " deep in the middle.

5.2 *Fixing of lips:* at the lower end of the channel drive a chisel to a depth of $\frac{3}{4}$ ". Allowing $\frac{1}{2}$ " for the depth of the channel, this leaves $\frac{1}{4}$ " of depth for the lip. The shape of the chisel is such that it gives the cut a slope as the chisel is driven in with the hammer so that when the lip is fixed it assumes a sufficient slope to allow the resin to flow into the pot. But to ensure sufficient slope for the lips it should be seen that the chisel cut is at an angle of not less than 45° otherwise the resin will evaporate as it drips slowly and will collect on the lip.

Before the chisel is taken out, a lip is placed on it and with a light stroke of the hammer bent to give it a curve similar to that of the chisel and of the cut. The chisel is then pulled out and the lip is immediately driven home and the outer corners of the lip turned up. If the lip is not driven immediately after the chisel is withdrawn the cut meets again and it is not possible to drive the lip home without reopening the cut.

It is essential that the lip should be driven home to the full depth of the cut, if this is not done a gap will be left between the lip and the tree and resin will run to waste. For the same reason chisel should not be rounded at the corners, as a shallow cut at the corner

will not permit the lip to be driven home. Before commencing the second or subsequent year's work the lips are pulled out, collected, burnt (to remove old dry resin) straightened and then the lip nail and pot are moved up the length of the old channel leaving 4" from the top. This ensure the minimum distance for resin flow and prevents evaporation and solidification of resin on its way to the pot.

5.3 Fixing of nails: The nails are driven into the bark immediately above the cambium on one side of the channel so that the pot hangs in position to receive the resin dripping from the lip.

5.4 Size of pots: All pots will be of uniform size, 6" deep 4½" in external diameter at the top and 3½" at the bottom.

5.5 Preparation of pots: Pots should be prepared as near to the forest as possible and delivery should be taken in the deport or in a central place in the forest. Counting should be done by a reliable person and he must furnish a certificate on the bill that the pots were counted in his presence . The rate for the preparation of pots includes cost of transport to the forest to the forest or resin depot.

5.6 Season of making pots : First November to 15th December is considered the best, season for making pots., They should be ready before the winter rains. If this is not done potters will not be able to make them until the middle of March and tapping will be delayed.

A potter can make 500 pots a day and the same number can be baked at a time . It takes a week to complete the whole operation.

5.7 Collection of pots :- In old work the pots are safer on the trees and collection is an unnecessary expense except where breakages are heavy or in localities of heavy snow. In the latter case the collection and storage in a dry place is necessary. By leaving pots hanging on the tree much winter resin is collected which will otherwise be wasted

and the surroundings will be kept less inflammable. Where pots are not collected along with the lips and lower rate for raising the lips and pots should be paid.

5.8 *Hanging of pots* :- In new work the hanging of the pots is done after the lips are placed in position as the coolies cannot carry about baskets full of pots along with a number for tools and lips, consequently this is paid for separately.

In old work pots are already on the trees and the coolies merely put them up after refixing the nails. In this case broken pots must be replaced at the same time. The hanging of pots in old work forms part of the routine and is not separately paid for.

5.9 *Replacement of broken pots* :- In setting up crops it is a common practice to hold over the replacement of broken pots to the beginning of the tapping season with the result that very often this is neglected for a long time and, considerable wastage of resin takes place. This work must be done immediately after raising the lips and the labor should not be paid until this has been certified.

5.10 *Duration and season of setting up the crop* :- The work can be done in one month in any depot provided one coolie is employed per section. If other departmental works do not require the Forest Guard's attention else where this work can be taken in hand on 15th of February and completed by 15th of March. Otherwise it should be started on 1st of December and completed partly before the winter and partly after day, including fastening of the refreshing or opening of new channels, fixing of nails and hanging of pots.

CHAPTER 6- TAPPING WORK

6.1 *Tapping Unit* :- A tapping unit consists of a section worked by one coolie. Ordinarily it contains 1000 channels. The number of trees per section vary from 600 to 700 . Each mazdoor therefore refreshens $1000/6$ which equals 167 channels daily and collects resin from them., so that he that he can go over the section once in 6 days and thus refreshen each channel 5 times a month.

In order to accomplish this a mazdoor sub-divides a section into 6 parts by artificial or natural boundaries so that he can go over each sub-section in a day. The average number sections in a resin depot is 10 to 15, but a large number of sections can be attached to depot if the configuration of the ground justifies easy control. The seasonal out-turn for a full working season (15th March to 15th October) should be about 70 maunds per section.

6.2 *Tapping Season* :- The initial expenditure on setting up a crop remains the same whether the tapping work is carried on for a longer or a shorter period. In other words the cost of resin per maund for the season will be less if tapping is continued for the longest period possible and this should always be done.

Ordinarily tapping should begin on 15th of March and should continue for seven months ending on 15th of October and in warmer localities to 15th of November. There is a tendency both among the subordinate staff and mazdoors to start late and wind up the operations earlier. This must be strictly forbidden and the tapping season should not be reduced without the express sanction for the Divisional Forest Officer. During September and October harvesting and grass cutting is likely to interfere with the supply of labor

in some localities (not every where)and local variations in the tapping season may be necessary.

Addenda and Corrigenda to Punjab Forest

Leaflet No. 13

Resin Tapping Instructions and Rules.

Dated Lahore, the 27th July, 1937

Substitute the following for the existing paragraph 6.3 :-

6.3 *Spacing between the channels:-* The points of the stem most favourable for resin production are those directly facing the sun. Unless to be tapped to death, no trees of less than 4' girth should be tapped and the intervals of bark between two successive blazes should be approximately 8 inches at ground level. The Channels must be cut vertically upwards and where necessary a vertical line will be marked with a scribe before hand. It sometimes happens that the annual quota is completed before 15th October and tapping operations are brought to an end forthwith. This should not be

allowed as output per thousand blazes for the season will be low. The resin factory accepts resin to the extent of 10% plus or minus the specified allowance ‘.

A thin shaving is removed from the top curved part of the channel in order to open up closed resin ducts. In doing so the channel is lengthened by 1/3” to 1/2”. The total length of channel to be refreshed will be 4” for the purpose of opening closed ducts and another 2” lower down to smoothen up the surface.

6.5 *Thickness of shaving* :- The thickness of the shaving varies from 1/16” to 1/32”. The shaving must not ordinarily be too thin or it will not open clogged resin ducts. During May and June when the greatest heat prevails the shaving can be as thin as possible . The cut must be clean and not torn or jagged particularly in the neighborhood of the cambium and must taper to a feather edge where the cut and the cambium meet. If this is not neglected healing will be retarded. However, it is not always possible to avoid this in trees with twisted fiber.

6.6 *Depth of channels* :- All the sapwood in chir contains resin. The size of the longitudinal resin ducts is far larger than that of transverse ducts. Consequently deeper channels in sapwood give definitely more resin than shallow ones. But channels deeper than 1/2” do lasting damage and considerably delay the process of healing.

It is common fault to cut deep channels to obtain a greater yield. This is due to the following reasons :-

1. *Untrained labor* :- It is the duty of the staff to see that the labor is properly instructed

2. *An excessive curve in the cutting edge of the adze* :- The Manager, Jallo, is now providing an unbendable templet of cast iron to test the curve of the blade and the cutting edge and its use should be strictly enforced.

Worn out corners of the cutting edge also tend to deepen the channels. This can be Prevented in repairing; adze with badly worn corners should be written off.

(3) A channel gauge with graduated scale as shown in diagram No. 34 can be profitably introduced for the use of all concerned . This can be fixed to the handle of the scraper for the use of coolies.

- 6.7 *The interval and number of refreshenings* :- Refreshening must be done at regular intervals at the rate of 5 refreshenings per channel per month and the total number of refreshenings carried out during the year on one channel will vary according to the length of the season and will be 30 during 6 months tapping and 35 during 7 months. It has been found in practice that some trees give an abundant yield of resin in the month of June without being refreshed. Others are poor yielders and are neglected by the mazdoors. A channel which is not refreshed at short intervals ceases to give any yield of resin.

The colour of channels over the section will show the mazdoors has been working regularly or has neglected his duty.

It is also easy to determine from the length of the channels at any time of year whether the refreshening has been done regularly or not.

With five refreshenings a month the channel will be strengthened by 2-1/12" a month, so that if tapping is continued from 15th March, to 15th October the length of the channel at the end of 7 months will be 15" plus 4" its original length

at the beginning of the season , or in all 19". In subsequent years the channel will be lengthened by 15" every season.

6.8 *Maximum height to which a tree should be stopped:-* In the Landes tapping is done to a height of 12 feet. The determination of the height to tapping should be done depends on the importance of resin versus timber production. The best course seems to be carry out tapping so that its adverse effect on timber production is reduced to a minimum.

The yield of a new channel is low for the first year and it continues to increase during the 2nd and 3rd years and gives a maximum output during 4th year. It begins to fall in the 5th year by which time the height of the channel has reached to about 7'.

It is possible to tap this height without the use of a ladder, even when the channel is on the downhill side of a tree by piling a few stones to stand on.

A good deal of timber in the butt logs is wasted as the height to which trees are tapped varies. It is , therefore necessary to limit tapping so that the timber in the tapped butt log can be utilized. For this purpose 7' is a very desirable length as it is possible to convert the butt log into planks (7' x1' x1') or scandings which can be converted into bahis (side of bed 7' x2" x2-1/2") it is consequently uneconomical to tap a channel for more or for less then 5 year.

A very objectionable practice is to start a new channel without tapping the old channel to tis maximum height. Sometimes a channel is tapped beyond 7' with the result that a further length of the butt log is wasted. In order to prevent individual mazdoors tapping to various heights it is necessary to cut a belt round the bole 7' from the ground level so that each channel is carried to that height. In the case of trees having partially worked channels it should be seen that all channel are worked to their maximum height one after the other before any new channels are cut.

6.9 *Collection of resin from pots* :- Ordinarily a pot should be emptied into clean collecting tin once every 6 days, in other words, this is done as refreshing proceeds.

During the month of heavy flow in June the pots are filled in about 4 days and the mazdoors go round collecting resin every 4 days. In such cases as refreshing work cannot keep pace with the collection they do not refreshen the heavy yielders and only remove a very thin shaving from others trees. Sometimes they place an extra pot on the ground to receive the over flow. This leads to wastage and dirty resin.

The best course to follow during the month of June is to continue the refreshing and collection at regular intervals, but the mazdoors should go round once in 4 days collecting from the heavy yielders only. This is not difficult as with practice the coolies soon recognize such trees.

6.10 *Adulteration of resin*:- Sometimes resin is adulterated with mud grit and stones. This is done by mazdoors and depot guards to increase the weight or to make up deficiencies. If the clearing of resin and filling of this can be avoided. The depot guard is responsible. The inspecting staff should examine a large percentage of this before they are soldered. The present system of marking this is a safeguard against adulteration and should be continued.

6.11 *Tapping to death* :- All trees marked for felling except in P.B.I. should be tapped to death for 3 to 5 years before felling. It is not possible to fix lips on trees below 1'-6" in girth and 2' is a suitable minimum girth for tapping to death.

6.12 *Yield* : The graph attached shows the yield during the season. As yield varies from place to place according to locality local tables may be prepared to show the yield per 1000 blazes so that the progress of the yield month by month can be checked.

6.13 *Resting period:* No resting period is necessary under light continuous tapping except where sufficient space is not available to permit a spacing of 4-1/2" at breast height between channels.

 Sometimes on rocky and poor soil trees begin to die. In such cases the question of stopping tapping should be considered.

6.14 *Period of healing :* Very little is known about the rate of occlusion and further observations are absolutely necessary on this vital question.

ANNEXURE-X

Standing Order No. 1 Dated 29th November,1963, By Chief Conservator of Forests, Punjab.

Subject: Standard of resin tapping work by Contractor and Department.

In our Forests resin tapping work begin educated by the contractors and departmentally under the provisions laid down in Punjab Forest Leaflet No. 13 and conditions and contracts. In order to ensure that the tapping is x of the standard, it is necessary that adequate penalties should be prescribed where the blazes are made oversize. Similarly there is need for imposing adequate penalties for illicit tapping of blazes not enumerated for the purpose. In case of departmental work there are lapses for want of reports from the field staff on the quality of work being conducted in forests under their charges. There is no provision to encourage good labourers to give their quality of work according to rules. The bad workers continue to engage for years without any action against them. Taking these factors into consideration following standing instruction are being issued.

1. Contractor's Work: In order to lay down uniform rates of penalty for different types of lapses in resin tapping by the contractors it is highly desirable that penalty may be fixed on the gravity of the breach and also on the period for which an illicit blaze has been tapped. It has been observes that labourers increase the width, depth and length of the blaze in the cold months. They tap the illicit blazes during and rainy months when flow of resin is maximum. The following additional charges shall be levied in case of

increase in width over 10 Cm (4 inches) in depth over 13mm ($\frac{1}{2}$ ") and length in freshening over the prescribed length for the tapping season:-

Width	Additional charges over contract
10 cm to 10.5cm	To be treated as grace
10.5 cm to 11 cm	5%
11 cm to 12 cm	25%
12 cm to 13 cm	50%
13 cm to 14 cm	75%
14 cm to 15 cm	100% and so on

Depth	
13 mm to 15 mm	To be treated as grace
15 mm to 20mm	5%
20 mm to 25 mm	15%
25 mm to 30 mm	25%
30 mm to 35 mm	35%
35 mm to 40 mm	45% and so on.

Increase in length of blaze over prescribed length

Upto $\frac{1}{2}$ cm	To be treated as grace
$\frac{1}{2}$ cm 1 cm	5%
1 cm to 2 cm	10%
2 cm to 3 cm	15%
3 cm to 4 cm	20%
4 cm to 5 cm	25%
5 cm to 6 cm	30%
6 cm to 7 cm	35%

7 cm to 8 cm	40%
8 cm to 9 cm	45%
9 cm to 10 cm	50% and so on.

Where an intentional mischief to spoil trees is indicated higher rates may be charged. The detailed calculations on penalty will be made according to the above schedules for departmental purpose. The total penalty thus worked, will be divided by the total number of oversize blazes, after excluding the blazes which are within grace limits, and the average penalty per oversize blaze will be worked out. The contractor will be intimated with reference to the relevant clause of the agreement only the total number of oversize blazes and the average penalty per blaze so that there may not be disputes with him without exact measurements. In this connection a blaze which is oversize in width, depth and length will count as one oversize blaze and not three. The use of these rates will be compulsory from the working season.

Contractors may be informed that stricter action will be taken in future for poor quality of blazes.

If illicit tapping detected before rate	Two times the contract
30 th June and further tapping stopped rates	
If continued to be tapped after 30 th June rate	Three times the contract

DEPARTMENTAL WORK: In order to see that the length and width of the blazes do not increase during the tapping season, the resin guard or watcher should scribe the width and length to which the channel is to be freshened during the working season and mark the limits of freshening lengths of the channels for each month.

The depth should not exceed ¼ inch or 13 mm. A channel can be prevented from becoming deeper if it is remembered that the total length of channel to be refreshed at each refereshening is 4 inches and another 2 inches lower down to smoothen up the surface. The blaze should become uniformly deeper from the top till 3/8" or less depth is

achieved, at 4 inches below the top. Thus if a measuring seal with a straight edge is placed edge wise along the middle line of the blaze joining the top of the a point 4 inches below, then if the blaze is correctly obtained, it should touch the blaze surface along the entire length in order to achieve this, it is also important the bark above the blaze should have been removed leaving only a thin layer and the edges used should be sharp and without any defect. The Resin Guard or watcher is responsible to see that the resin tappers do not exceed limits mentioned above. The Forester and Range Officer will see during their inspections that the blazes in the forests visited by them bear these marks on the trees.

At the time of submitting monthly progress report on the resin tapping work, the resin guard of watcher will also report out the quality of work of labourers working under him. Approximate percentage of blazes having excess height, depth and width over the fixed limit should be reported section wise after a through inspection work.

In case it is found during checking by his superiors that the reports submitted by the resin guard are not correct, he will be held responsible for the lapse and will be open to disciplinary action.

The Range Officer and Range Assistant will record in the inspection register whether the monthly progress reports submitted by Resin Guard or watchers regarding the quality of tapping are correct be the approximate percentage of blazes having height, depth and width given by him in the report in as in old lapses. if any observed should be brought to the notice of the DFO.

The mazdoor who secures increases out put by remaining within the restrictions imposed regarding length, depth and width of blaze deserves on hanced payment for his good work over daily wages admissible to him as per existing system. Where the standard work has been unsatisfactory a suitable deduction from the payment due for increased output should be made so that obtaining enhanced yield of resin by increasing width, depth or length of blazes is no temptation to the mazdoors. Therefore, higher

output rates may be paid only for that much percentage of blazes such has been tapped by keeping them within the prescribed limits. Further deduction may be made if the tapping has been grossly bad.

A mazdoor who is found guilty of breach of rules repeatedly despite warnings issued to them during the tapping- season may immediately replaced by another mazdoor if available and failing that he may not be engaged on the work in the following year.

Tapping work in Private Areas:- In order to have cantrel on the resin tapping work in the forests leased at for the purpose by the owners, so that the standards for length, width and depth of blazes as fixed in the notification issued under the land Preservation Act are, not exceeded and defaulters are penalized for the lapses on their part the following instructions are issued:-

The defective tapping and also unauthorized blazes should as offences under the Land Preservation Act and dealt with according to the usual procedure. Where an offender wants to compound the offence compensation may be calculated on the same lines as the penalty for defective tapping of blazes from Department contractors to resin blazes are sold, subject the maximum limits laid down in Section 68 of the Indian Forest Act read with section 20 land preservation Act, Every Forest Officer can also interface to stop the commission of the offence of exceeding the size of the blaze given in the notification under Land Preservation Act and can stop their tapping by pulling out lips of such blazes in addition to taking cognizance of the case .

Sd/-G.S Dhillon.

CHIEF CONSERVATOR OF FORESTS, PUNJAB.

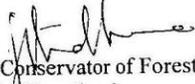
**Management Plan of Private Forest Areas
Closed Under Sec. 4 & 5 of PLPA, 1900
HOSHIARPUR FOREST DIVISION**

2007-2008 TO 2016-2017

Divisional Forest Officer,
Hoshiarpur Forest Division,
Hoshiarpur.


Conservator of Forests,
Shiwalik Circle,
Punjab Chandigarh


Chief Conservator of Forests,
W.P.M & E, Punjab, Chandigarh


Chief Conservator of Forests (Hills),
Punjab, Chandigarh


Add. Principal Chief Conservator of Forests, (Dev.)
Punjab, Chandigarh


Principal Chief Conservator of Forests,
Punjab, Chandigarh