

Executive Summary of the Working Plan For Bhandara Forest Division.

1. This is the 8th. Working Plan for the Bhandara Forest Division, under the Conservancy of Nagpur Circle in the Bhandara District of Maharashtra State. Vide Govt.letter No.FDM-2003/C R-168/F-2, dated 13/04/2007; the Bhandara and the Gondia Forest Divisions have been reorganized to coincide with the revenue districts of Bhandara and Gondia respectively. After the reorganization, the Bhandara Division has ten Territorial Forest Ranges, namely Bhandara, Sakoli, Pauni, Lakhni, Lakhandur, Nakadongri, Lendejhari, Tumsar, Jamkandri and Adyal. Out of these ranges, Lendejhari, Nakadongri, Lakhani and Lakhandur are newly created ranges. Tiroda range of old Bhandara Division has been transferred to Gondia Forest Division.

The Division consists of 39 rounds and 163 beats. The Bhandara Forest Division is situated between 20°39' to 21°38' North Latitude and 79°25' to 80°42' East Longitude and the altitude of the district varies from 310 mts. to 340 mts. above the mean sea level. The division is surrounded as follows.

North & North East → M.P.State and Gondia Division, Gondia Distt.

East & South East → Gondia Division, Gondia District.

South & South West → Bramhapuri Division, Chandrapur District.

West → Nagpur Division, Nagpur District.

Bhandara Working Plan is written for 927.79 sq.kms. forest area for the period 2009-2010 to 2018-2019. It comprises of

- i. 547.13 sq.km.of Reserved Forests (160 comppt.)
- ii. 275.68 sq.km.of Protected Forests (275comppt.)
- iii. 100.22 sq.km.of Jhudpi Jungle (324 Village)
- iv. 4.76 sq.km.of Unclassed Forests (1 Village.)
- v. 24.92 sq.km.of area under other Department

In the year 2007 reorganisation of Bhandara division, on the line of revenue district boundary was done and in the process 8159.466 ha. of RF, 7623.167 ha. of PF, Gose PF, 347.900 and 3559.689 ha. of Jhudpi jungle (total area 19690.173 ha.) have been transferred to Gondia Division. In the same way, 2009.078 ha. of RF; 2286.241 ha. of PF and 475.635 ha. of un-classed forest and 885.130 ha. of Jhudpi Jungle (total area 5656.084 ha.) have been transferred to Bhandara Division. These areas already included in current Gondia Division plan but this area has been incorporated in the current

working plan of Bhandara, as the working plan of Gondia Division will be expiring in 2012 - 2013.

For administrative reasons Bhandara District has been bifurcated in to two districts and the present Bhandara district consists of 7 talukas namely Tumsar, Sakoli, Bhandara, Paoni, Lakhandur, Lakhni & Mohadi.

2. The Soils of the district are highly varied. The main types of soils are Black, Cankar, Sihar Marad, Kharoli, and Bardi. The other Soils of the district are Kachhar, Marhami & Petari which are found along the river banks.

3. The geological formation is Archean system; Sakoli and Sausar series.

4. The climate of the division is in general moderate, where the summer is hot while the winter is mild. In April the maximum temperature goes up to 42°C, while in May it goes up to 47°C. The winter is mild during December to mid February and the minimum temperature varies between 6°C to 17°C. The average rainfall in the district during the period 1996 to 2005 was 1128 mm.

5. As per 2001 census, population of Bhandara District is 11.36 lakh comprising 5.73 lakh male & 5.63 lakh female. Out of which 10.73 % is Scheduled Tribe and 18.97 % is Scheduled Caste. There are 660 Villages in the district (division), out of which 388 villages are adjoining the forest areas. At present 210 villages have been covered under the JFM scheme and 22614.271 ha area have been handed over to the Committees. People are economically not very sound but the literacy is about 70%. As per 2005 cattle census cattle population in Bhandara District is 4.78 lakh out of which 47% are cows & bulls, 19% buffaloes, 33% are sheep, goats & horses. The cattle density is 778 per sq.km. Due to concentrated grazing of cattle in the forests adjoining these villages, the health of the forest is poor, specially the regeneration is not very good in the areas facing heavy grazing pressure.

6. Forest of the Bhandara Division as per Champion & Seth's classification are as below:

<u>Forest Type</u>	<u>Type Description</u>
Group-5	Tropical Dry Deciduous Forest
Sub-group-5A	Southern Tropical Dry Deciduous Forest
i) Climax Type	
5A/C1	Dry Teak Bearing Forest
5A/C3	Southern Dry Mixed Deciduous Forest
ii) Degradation Stage	
5/DS1	Dry Deciduous Scrub
ii) General Serial Type	
5/1S1	Dry Tropical Riverian Forest

The Forest of Bhandara Division is susceptible to injuries from the following:

- i. **Grazing:** Grazing Pressure is acute due to large number of cattle present in this tract. The forests adjoining the villages face severe grazing pressure due to concentrated grazing by cattle including large number of goat and sheep. Over grazing is leading to destruction of ground flora, specially the regeneration of valuable spp. Like Bija, Shisham, Shivan etc. At the same time the soil has also been deteriorated due to compaction and erosion. The loss of various herbs and shrubs are not accounted for.
- ii. **Forest Fire:** Regular Annual Fires are also highly destructive factor for the flora and fauna of the tract.
- iii. **Illicit Felling:** Illicit cutting of trees for local and commercial consumptions and for encroachments upon the forest land is another important factor adversely affecting the forests of the division..
- iv. **Encroachment:** Encroachment upon Forest land is considerably high and as per records, a total of 433.27 ha. of Forest Land is under encroachment.
- v. **Drought** is seldom felt. **Frost** never reported in the area. **Diseases** reported are not so epidemic. Drought, Frost, insects, pests and parasites have little impact on the health of these Forests.

The injuries to the forest can be minimized by strictly implementing all the prescriptions of the plans.

7. 33407.80 ha. of forest land in the tract has been managed by the Forest Development Corporation of Maharashtra and a separate management plan for the said area is prepared by the FDCM.

8. Though the District consists of forest (area of this division) to the tune of 25%, the budgetary allocation of the district planning is too less to experience the impact on the development in the forestry sector.

9. Labour supply for forestry working is mainly through local population, and most of the coupe works are done through F.L.C.S.

Past System of Management:

10. The forest of this area was declared as reserved in 1879. These forests were brought under scientific management only in 1893. At that time these forests were open to all activities for a person who took a license. The systematic working of this forest started in the year 1893 under the range wise Working Plans. In these plans no working was prescribed for the inaccessible areas. Other working Circles formed, were, IWC and Conversion Working Circle. The IWC coupes were worked under Coppice with Standard system on a 30 year rotation and areas of conversion to High Forest Working Circle were worked under Improvement fellings.

11. The area, formerly belonging to Malguzars, vested in the state govt. on 1st.April, 1951, were taken over by the Revenue Department and subsequently transferred to the Forest Department up to 1954. They were then declared as Protected Forests. Notification under Indian Forest Act, 1927 was issued in respect of all these forests. In 1977 some more areas were declared as Reserved Forest.

12. Before a consolidated Working Plan for the tract, written by Dr.Nandkishore and Shri.G.U.Bhaid (1996-97 to 2005-2006 extended up to 2007-2008), the areas were brought under scientific management under the following Plans.

Table No.1 List of Working Plans its' Period and Prescriptions.

Sl.No	Schemes of	Period	Prescription
1	Range wise Plan	1893 to 1910	IWC WC, CHF WC, U WC, WC,
2	Best	1910 to 1930	HF WC, CWS WC, B WC,
3	Chaddha	1930 to 1940	HF WC, SC WC, B WC, M WC
4	Jagdamba Pd.	1940 to 1957	HF WC, IWC WC, CWR WC, M WC, S WC , P WC
5	Trivedi	1957 to 1977	SCI WC, CWR WC, P WC, M WC , B WC , L WC
6	Patil & Sardar	1977 to 1996	C WC, CWR WC, K WC, M WC, B WC , W WC

Where ;

SCIWC = Selection Cum Improvement Working Circle.

IWC = Improvement Working Circle.

CHF WC = Conversion to High Forest Working circle.

UWC = Unworkable Working Circle.

GWC = Grazing Working Circle.

HFWC = High Forest Working Circle.

CWSWC = Coppice-with Standard Working Circle.

BWC = Bamboo (O.L.) Working Circle.

SCWC = Simple Coppice Working Circle.

MWC = Miscellaneous Working Circle.

CWRWC = Coppice with Reserve Working Circle.

SWC = Semal (O.L) Working Circle.

PWC = Plantation/Pasture Working Circle.

LWC = Lac (O.L.) Working Circle.

CWC = Conversion Working Circle.

KWC = Kuran Working Circle.

WWC = Wildlife (O.L.) Working Circle.

13. Dr.NandKishore & Shri G.U.Bhaid's Plan for the Period 1996-97 to 2005-2006, extended up to 2007-2008. This plan dealt most of the areas of the division with the following Working Circles.

Table No. 2. Working Circles, its Area and Prescriptions.

Sl.No.	Working Circle	Area(in ha.)	Prescriptions
1	SCI WC	43744.495 ha.	Thinning Felling in each girth lass.
2	IWC	40005.318 ha.	Improvement Felling.
3	FFP WC	11610.239 ha.	Pasture Area Development No work.
4	Miscellaneous WC	30161.547 ha.	Area under various Department
5	Bamboo (OL) WC	5564.474 ha.	Silvicultural Harvesting of Bamboo. No Commercial Felling.
6	Wild life(OL) WC	125521.599 ha.	Protection &Development of W.L.
7	Tassar Cultivation (OL) WC	175.590 ha.	Raising Plantation of Tassar.

14. Impact of Execution of Dr. Nandkishore's Plan:

The said working plan was sanctioned in the year 1998. The coupe No. I, II and VII could not be worked and were left un-worked for various reasons. It is also observed that the important Subsequent Silvicultural Operations, after the main working, like CBO, cleaning, thinning, singling, protection from fire and grazing etc. have been neglected thus leading to the general deterioration of the forests. Besides this, information in the prescribed Control Forms were not supplied to this division during the implementation of the plan. Considering all these facts it is concluded that the prescriptions of the working plan could not be implemented effectively and hence it is not possible to assess any considerable impact/result due to the implementation of this working plan.

- i. SCI Working Circle:** Total area due for working was 24347.800 ha. out of which only 14214.003 ha. (58.38%) area was worked. On many occasions concentrated felling was done thus creating an opening in the forest. Thinning was not done in the area having congested young crops and old teak plantations, thus adversely affected the crop. Important subsequent operations after main felling like stool dressing, removal of live stumps, CBO, cleaning, thinning were prescribed in the plan but were not implemented seriously. Considerable area of this working circle was also heavily damaged due to regular fire and



uncontrolled grazing (including grazing by goats). Marking rules of this working circle were little complicated for the field staff to understand and practice in the field and important operations of marking have been neglected. Regarding regeneration operations these coupes were not successfully regenerated either naturally or artificially. Only 2044 ha. of plantations were taken during the period. Many of these plantations, in the areas adjoining to the villages are failed.

- ii. **Improvement Working Circle:** Out of 22268.31 ha. due for working, only 10714.198 ha. (48.11%) area was worked. Regarding regeneration only 1089.40 ha. (4.89%) area has artificially been regenerated. The condition of Natural Regeneration is also poor, as most of the areas are around villages and under tremendous biotic pressure.
- iii. **Fuel-wood Fodder and Pasture Working Circle:** As per the prescriptions, the area was supposed to be closed for grazing, high quality grasses were supposed to be planted and protected from fire and unregulated grazing, but none of these operations were carried out properly, as a result the area under this working circles has further deteriorated. Out of 6377.097 ha. area, under this working circles a total of only 228 ha. of grass plantation was taken. Most of these plantations do not exist on the ground.
- iv. **Bamboo (Overlapping) Working Circle:** Natural Bamboos are confined to a small area of this division, which too have deteriorated due to non working and illicit cutting. Large scale plantations have been taken through out the division, which are satisfactory. But due to nonworking, these clumps have become congested and some of them even dead. In some Bamboo plantation areas it has been noticed that in one clump more than one species of Bamboo have been planted. This might be due to mixed seeds of Bamboo was sown in the same poly pot.
- v. **Wildlife (Overlapping) Working Circle:** The location of forests of Bhandara division is very important from the Wild life Management point of view. The population of wildlife in Bhandara division is fairly good. There were several prescriptions in the working plan for wildlife management, but most of these prescriptions could not be implemented.
- vi. **Tussar Cultivation (Overlapping) Working Circle:** The quality of the forest, where this cultivation is practiced has become highly degraded, due to continuous pollarding of the crop, haphazard working and total lack of scientific knowledge of forestry among Tussar (Kosa) cultivators.

15. Present Plan (2009-2010 to 2018-2019) Discussed: National Forest Policy, National Wildlife Action Plan, National Forest Action Plan, Hon. Supreme Court's directives, State Working Plan Code , National Working Plan



Code 2004 and **The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights), Act 2006 and its Rules**, form the basis of preparation of present working plan report. The plan is supposed to deal in the technical aspect of the forestry required for scientific sustainable management of the forests. The silvicultural prescriptions have to be followed, irrespective of the ownership and rights on the forest and all the forest resources.

Following working circles and mandatory chapters are the constituents of the present working plan:

Table No.3 Comparative Area Distribution in the Previous and the Present Plan

Sr.No.	Working Circles	Dr.Nand Kishor Plan (Area in ha.)	Present Plan (Area in ha.)	Remarks
1	SCI	43744.495	25742.851	
2	IWC	40005.318	24083.454	
3	FF&PWC	11610.239	6277.468	
4	Misc.WC	30161.547	-	Deleted
5	Bamboo(OL)WC	5564.474	22626.218	OL WC
6	Wildlife(OL)WC	125521.599 (Entire Area)	92779.057 (Entire Tract)	Entire Area , O.L.W.C.
7	Tussar WC	175.590 Ha.	-	Deleted
8	P & Catch. AMWC	-	10335.424	New Working circle
9	AFF.WC	-	26339.86	New Working circle
10	NTFP(OL)WC	-	Entire Tract	New Working circle
12	Old Teak Pl.WC		5272.7	New Working circle
	Total	125521.599	92779.057	

15.1 Selection-Cum Improvement Working Circle: Selection-cum Improvement Working Circle consists of Forest Areas to the tune of 25742.851 ha. which is 27.74 % of the total plan area. Forest areas with matured crop and capable of producing large sized timber has been included in this Working Circle. The special objects of management are.

1. To gradually convert stunted coppice crop, of valuable species, with reduced coppicing vigor in to high forest.
2. To obtain sustained supply of medium to large sized Timber and poles.
3. To maintain mixed forest composition & high forest of the forest crop and improve the density of the stocking.
4. To increase the proportion of Teak and other valuable miscellaneous trees species in the crop.
5. To improve the productivity of Bamboo.
6. To improve the biological diversity and habitat for the wildlife.

Felling cycle, Felling Series, Harvestable Girth etc. are as follow:

Felling cycle = 20 years.

Number of felling series are 14 and average area of the coupes is 92 ha.

Selection Girth:

For Group -1 Species Teak

Site quality III - 135 cm.

Site quality IV - 120 cm.

For group II Species (Ain, Bija, Haldu, Kalam)

Site quality III - 135 cm.

Site quality IV - 120 cm.

For group III Species (Dhaoda, Tiwas, Surya etc.)

Site quality IV - 90 cm.

For group IV species (Garadi, Lendia)

Site quality IV - 45 cm.

Yield calculation was done, based on the stem analysis work, carried out by the C.F. Working Plan Division Nagpur. **F.D.Liocourt's** method of calculation of yield in all aged forest for selection felling of silviculturally available trees, has been adopted. 50% of the available trees are proposed to be removed and thus marked for felling. The annual yield will be approximately 3366.23 M³. The annual yield per ha. is estimated to be 0.1299 M³, which is as comparable to the volume per ha. in the previous plan i.e. 0.1576 cum. The main reason for the reduction in the yield is due to the transfer of best forest areas of Tiroda range to Gondia Dn.

Coupes will be demarcated & marking of trees will be followed. Coupes will be demarcated and treatment map will be prepared classifying the areas in categories A, B, C & D.

A-Type is protection area and no marking for felling will be done. SMC works, seed sowing and stake planting is recommended. Planting of suitable spp. may be taken if necessary.

B-Type area is under stocked, having crown density below 0.4. No selective marking will be done, only dead and malformed trees will be marked for felling. SMC works will be carried out. Natural Regeneration will be augmented and seedlings of seed origin will be given preference over coppice. Area without NR will be regenerated artificially with choice species. Teak should not be more than 50%.



C-Type area consists of young crop. These areas will be thinned as per rules to provide sufficient growing space to the young crop for proper growth.

D-Type area consists of forests with crown density more than 0.4. Selection felling will be followed for harvesting. No fruit and NTFP bearing trees will be marked for felling. 1st. & 2nd. due coupes for operation will be marked in the first year of operation. Coupe will be marked one year in advance and followed by felling in the next year. SMC works will also be carried out with marking work and will be completed by the onset of monsoon. Regeneration will be achieved by NR. Natural seedling will be treated & tended. Cut back operation in the following year and cleaning in 6th. year of the main working year to be carried out. Regeneration with artificial means will be carried out if it is necessary. Thinning will be carried out in the 11th. year.

15.2 Improvement Working Circle: Improvement Working Circle consists of forest areas to the tune of 24083.454 ha. which is 25.95 % of the total plan area. The special objects of management are:

- i) To improve the existing crops & nursing back these forests to normalcy by carrying out improvement felling in favour of desired species and tending of natural regeneration and supplementary plantations of valuable species.
- ii) To check soil erosion and conserve soil moisture.
- iii) To provide small timber, poles & firewood to meet the bona fide needs of the local people, besides improving the young crop.
- iv) To improve the quality of Wildlife habitat.

Felling cycle will be 20 years; number of felling series will be 11. Average area of the coupes is 109.47 ha. No selection girth prescribed as only improvement felling will be carried out to remove dead and malformed trees. Regeneration will be carried out by Natural Regeneration and if required, supplemented with Artificial Regeneration.

15.3 Afforestation Working Circle: The Afforestation Working Circle consists of forest area to the tune of 26339.860 ha. which is 28.36 % of the total plan area. The special objects of management are:

- i) To restore the vegetative cover of the degraded & open areas and to increase its' productivity.
- ii) To check the loss of top soil and to increase the water absorption capacity of the soil.
- iii) To meet the local demand of fuel wood, small timber & poles.
- iv) To improve the quality of the forest by favouring the valuable species.
- v) To restore the habitat of the local wild animals and birds

Felling cycle will be 20 years. Number of felling series will be 10 with an average coupe area of 79 ha. No felling is prescribed in these areas except

the dead, damaged, malformed and live high stumps. Soil & moisture conservation works; plantations of valuable miscellaneous species. Plantation of Teak will also be carried out, only if suitable areas are available for Teak plantation. While tending the N.R., seedlings of seed origin will be given preference over coppice. Involvement of local communities would be an integral component of all the activities.

15.4 Protection & Catchment Area Management Working Circle: This working circle consists of forest area to the tune of 10335.424 ha. which is 11.13 % of the total plan area. Considering the number of water bodies in the district and importance of water supply to the local people, this new working circle has been formed in the Bhandara division. The majority of the areas of all the major, medium & minor irrigation projects of Bhandara division, having catchment area in the forest, have been included in this working circle. The special objects of management are:

- i) To preserve and increase the vegetal cover & to help check the soil erosion and to arrest the runoff
- ii) To protect the fragile forest sites and to prevent the siltation of the dams and water bodies.
- iii) To conserve the bio-diversity and develop a suitable habitat for the wild animals and birds including the migratory birds.

Total 5 treatment series (Felling Series) with an average area of 103 ha. /coupe has been formed. The working circle consists of areas directly draining into the water body. No harvesting except dead trees removal is prescribed. Thinning is proposed in the congested pole crops if necessary. Silvicultural system is proposed on the pattern of watershed management in the areas. Soil and moisture conservation works along with the afforestation is proposed in the erosion prone areas, to prevent further soil erosion and siltation of reservoirs.

15.5 Fuel-wood, Fodder & Pasture Working Circle: The Fuel wood, Fodder & Pasture working circle consists of an area of 6277.468 ha. which is 6.76 % of the total plan area. Area incapable of producing timber and fire wood are included in this working circle. These areas are located in the immediate vicinity of the villages and have heavy demand of grazing. The objects of management of this working circle are:

- i) To augment fodder requirement of the villages and to improve the productivity of dairy industry.
- ii) To introduce the suitable improved variety of grasses as well as legumes and fodder tree species.
- iii) To meet fuel wood and small timber requirement of the local people.
- iv) To reduce the fodder pressure on good forest areas.

Treatment Cycle is fixed at 4 years. Total area of this working circle has been divided into 6 fodder series & each series further divided into four coupes viz. A, B, C & D. Average area of the coupe will be 261.5 ha. Each year area suitable for fodder development will be selected out of the coupes and developed for fodder either by removal of obnoxious weeds if good quality grass is present in the coupe or through plantation of superior grasses on beds of 8 m X 1 m. X 0.15 m dimension, 38 beds/ha. and fodder tree plantation at an spacing of 15 m X 15 m.

15.6 Wildlife (Overlapping) Working Circle: This is an overlapping working circle consisting of whole area of the Bhandara dn. The forests of Bhandara dn. is extremely important from wildlife management point of view, as it can act as corridor between important Protected Areas like Pench, Kanha, Nagzira, Navegaon and Tadoba. Exclusive areas from the point of W.L. management like corridor and additional space for the wild life from Nagzira Wildlife Sanctuary, Navegaon National Park and Tadoba-Andhari Tiger Reserve (through Pauni and Lakhandur Forests) are identified. The prescriptions given in this chapter relating to wildlife conservation; scientific management of wild life in the managed forest by undertaking measures like habitat management (waterhole development and planting of suitable fodder spp. etc.), protection of ecologically sensitive and special habitat sites, compilation of wild life and rare spp. related database. Besides these, proper actions to be taken to protect the wild animals from various deceases and poaching. Action also will be taken to control the illegal trade in wild animal and animal articles in and around the Bhandara city. Large scale 'Awareness Programmes' will be carried out among the local people to develop a better understanding about wild life and its management and to minimize the man animal conflicts.

15.7 Bamboo (Overlapping) Working Circle: Area admeasuring 22626.218 ha. bearing 5161.974 ha. of Bamboo area in 54 compartments has been proposed to be worked under this working circle. 9 felling series with 3 years of cutting cycle have been proposed. The average coupe area is 838 ha. The area is to be worked departmentally to improve the clumps and at the same time meet the requirement of the local people.

15.8 Old Teak Plantation (Overlapping) Working Circle: The total area of 5272.700 ha. of Teak plantations have been discussed under this working circle. Successful plantations will be treated for the thinning in 5 years interval for 1st two mechanical thinning i.e. at the age of 6th year and 11th year. After that the silvicultural thinning at an interval of 10 years till the age of 65 years is prescribed. Since no tending and thinning has been done in most of the plantations in the past, the 1st. thinning (B grade) in plantation raised before 2003 rains and subsequent thinning will be done every 10 years after B grade thinning. Prescribed mechanical thinnings will be carried out in plantations raised after 2003 rains.

15.9 Non Timber Forest Produce (Overlapping) Working Circle: There are many NTFPs like Mahua flower, Mahua seed, Kullu, Dhaoda & Salai gums, Charoli, Myrabolon (Hirda, Beheda, Aonla), honey, lac, Kosa (Tassar) Palas leaves, grasses etc. are the main NTFP of the area. Besides these there are many medicinal plants also found in Bhandara division. A list of the plants has been prepared by the staff of the Working Plan Dn. Nagpur, with the help of the local people of Bhandara division. Developing a data base and techniques of non-destructive harvesting of these NTFP and medicinal plants is the main objective of management. JFM committees are to be encouraged in this regards. The technical knowhow for the harvesting and value addition is to be provided to the people, through proper trainings and workshops of the concerned villages and disposal of these produce will be done as per the recently enacted act i.e. **‘The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights), Act 2006 and its Rules,’** or as decided by the competent authority.

15.10 Joint Forest Management: It is a mandatory chapter added to encourage the people’s participation in forest management. Poverty and illiteracy are the main obstacles in formation of the JFM committees, eviction of encroachments are also working as obstacle for success of JFM. But few successful JFM results will eliminate these obstacles from the tract. The department will continue to work for promoting JFM. All the micro plans prepared under the JFM scheme, will be in conformation to the silvicultural prescriptions for the area recommended in this plan.

15.11 Forest Protection Scheme: Today protection of forest resources is the greatest challenge before the Forest Department and to meet this challenge we have to devise a mechanism of protection within the existing resources. The D.C.F will have to mobilize his staff to protect the forest from illicit cutting, illegal grazing, fire, encroachment, theft of other forest resources and wild life offences. The existing resources will be utilized as per the requirement during different seasons. Various areas where more attention is required will be identified and plan will be executed accordingly. JFM committees will be motivated and taken into confidence for the protection and conservation of forest resources.

15.12 Miscellaneous Regulations: All important regulations have been discussed in this chapter. Coupe demarcation and marking techniques, harvesting and disposal of forest produce, irregular harvesting, maintenance of boundaries, artificial regeneration, soil and moisture conservation measures etc. have been discussed under this chapter and suitable guidelines have been given.

15.13 Control and Records: Performa for Control Forms, Compartment History, Plantation and Nursery Registers and Divisional Note Book have been given.

15.14 Financial Forecast: On the assumptions that labour wage rate, salary and benefits to staff and static market price for forest produce and

average production of the forest produce and un hindered execution of prescriptions of working plan, financial forecast has been projected as follows:

Table No. 4.Revenue and Expenditure Forecast. *The rates are at 2009-2010 rates.*

Sl. No.	Year	Revenue (Rs in Lakh)	Expenditure (Rs in Lakh)	Wage Component Departmental + licensees
1	2008-09	1,122	531	300
2	2009-10	1,122	544	313
3	2010-11	1,122	566	335
4	2011-12	1,122	607	376
5	2012-13	1,122	656	425
6	2013-14	1,122	702	471
7	2014-15	1,122	717	486
8	2015-16	1,122	722	491
9	2016-17	1,122	727	496
10	2017-18	1,122	714	483
