

EXECUTIVE SUMMARY OF THE WORKING PLAN FOR THE SIRONCHA FOREST DIVISION

Working Plan for Sironcha Forest Division covers Reserved and Protected Forest areas admeasuring 212,492.479 ha in charge of forest department located in the Gadchiroli District and within the civil territories of Aheri (Part) and Sironcha Tahsils. Boundaries are as follows:

North:- Allapalli and Bhamaragad Forest Division.

East :- Indravati river along the Chhattisgarh State.

South :- Godavari river along Andhra Pradesh State.

West:- Pranhita river along Andhra Pradesh State.

It lies between latitudes 18°41'15" North to 19° 20' North and longitudes 79°55'19" East to 80°22'30" East. Average elevation above MSL is 130 m. Highest point in the tract is near Rompalli at an elevation of 660 m above MSL.

Geology is divided into Recent, Upper Gondwana, Lower Gondwana, Upper Cuddapah and Archaeans. Rocks are sandstone, shale, gneiss, granite schist and soil is alluvium, Laterite, sandy loam and clayey loam. No major minerals are found. Fossils are found along Pranhita River near Tekada in Sironcha Tahsil.

The weather remains hot and dry for the major part of the year. The mean maximum temperature is 48.1° C and the mean minimum temperature is about 8.9° C during winter. The average rainfall over the areas is about 1923 mm.

The forests are of the “Southern Tropical Dry Deciduous Forest” and “Southern Moist Deciduous Forests” categories. Commonly found important species are *teak*, *ain*, *anjanwak*, *bija*, *hirdra*, *beheda*, *semal*, *haldu*, *dhaoda*, *bhirra*, *tendu*, *salai*, *mowai*, *lendia*, *garari*, *khair* etc. Bamboos mainly *Karaka* and *Katang* are found in large tract.

Fire causes considerable damages to establishment of young recruits near human habitation. **Grazing** in the forests mainly surrounding villages has caused severe impact in regeneration of forests by grazing and trampling of young seedlings. **Organized illicit felling** of trees and bamboo and **encroachment** upon forest land are of major concern as Naxalites are covering the activities. **Drought, frost, insects, pests and parasites** have little impact on the health of forests.

Large number of wild animals are found in the tract. Tiger, leopard, wild dogs, fox, hyena, cats, wolf, jackal etc are main carnivore. Cheetal, nilgai, sambar, sloth bear, wild boar, barking deer, chausingha, black buck, **wild buffalo**, bison, common langur, rhesus macaque, hare etc are found. Wild buffalo is found only in this tract in Maharashtra. Porcupine, mongoose, rats, mice, flying squirrel, giant squirrel, mouse deer etc are rodents. Crocodiles, pythons, cobra, krait, viper, rat snakes, common lizard, monitor lizard, ghorpad, chameleons etc are reptiles prominently found. Almost all common birds are found. Besides, these, Great Indian Hornbill, cranes, teals, pigeon, mor, jungle fowl, titar, biter, hawk, vultures etc are found.

Total **human population as per 1991** census is 101,000. Out of the total population Scheduled Tribes comprise 36% and Scheduled Castes 20%. **Cattle population** as per 1992 estimation is 266000 cattle unit. **Carrying capacity** of the forests of Sironcha is 268000 cattle units.

FDCM Ltd, an undertaking of Maharashtra Government is presently working on 16,122.186 ha of forest land since 1974. It is engaged in developing low value forests in high value forests. FDCM has developed successful valuable forests mainly of teak during that period. Thus it has distinct role in development of forests.

Component of **five year plans** for development of forests in the tract were very low, hence no impact of five year plans are visible.

Labour supply for forestry works is mainly through local population.

Sironcha, Jimalgatta and Korepalli forest blocks were declared reserved forests as per Indian Forest Act, 1878 from 1879 to 1924 and finally 1942 under IFA, 1927. Ex-jamindari forests were declared protected forests in 1955. Most of protected forests were declared as reserved forests in 1992.

Working Plans for Reserved Forests:

Shri J Carr prepared the first Working Plan in the year 1917-18. The forests were divided into three main types: (i) Mixed and Teak Forests, (ii) Anjan Forests and (iii) Low Mixed Forests. Forests were worked as per requirement of Crown.

Shri M.T.Hussain's Plan (1927-38 to 1953-54): The plan constituted four working circle viz. (i) The Conversion working Circle, (ii) The improvement working circle, (iii) The Miscellaneous working Circle, and (iv) The bamboo overlapping Working Circle.

(1) Conversion Working Circle: Conversion period = 80 years to achieve 105 cm gbh with four PBs.

(2) Improvement Working Circle: Selection girth: 135cm for site quality II and 120 cm for III and 75 cm for IV.

(2) Bamboo (overlapping) Working Circle: 4 years felling cycle.

Dashputre's Plan (1954-55 to 1968-69): The following working circles were formed

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|-------|-----------------------------------|---|
| (i) | The Conversion Working circle: | 10, 601.6 ha: Conversion period 120 years. |
| (ii) | The Selection-Cum-Improvement WC: | 35,350.8 ha: selection girth 150cm for II, 120 cm for III |
| (iii) | The coppice with Reserved WC | 3, 005.2 ha |
| (iv) | The Miscellaneous Working Circle | 31, 061.2 ha |
| (v) | The Bamboo (Overlapping) WC | 24, 426.0 ha |
| (vi) | The Semal (Overlapping) WC | 17, 817.6 ha |

Joshi's Plan 1974-75 to 1983-84 This was a revision of Dashputre's Plan by Shri R B Joshi. The following working circles were formed

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|--------|--|----------------|
| (i) | Protection Working Circle | 13,377.96 ha |
| (ii) | Conversion Working Circle | 17,446.59 ha |
| (iii) | Selection Cum Improvement Working Circle | 52,640.59 ha. |
| (iv) | Coppice With Reserve Working Circle | 5,637.60 ha. |
| (v) | Miscellaneous Working Circle | 19,565.55 ha. |
| (vi) | Bamboo (Overlapping) Working Circle | 33,329.785 ha. |
| (vii) | Khair (Overlapping) Working Circle | 14,037.71 ha. |
| (viii) | Semal (Overlapping) Working Circle | 25,936.79 ha. |

Working Schemes for Protected Forests:

Shri P.P.Joshi prepared Working Scheme for 75,590 acre of Protected Forests of Dechali range for period from 1960-61. Three felling series namely Tonder, Kolamarka and Dechali were carved. Felling cycle was fixed at 30 years and selection girth as 4' for group II trees and 5' for group I trees.

Shri B.P.Desai prepared Working Scheme for the period 1966-67 to 1975-76 for the forests as given below:

(1) Selection Cum Improvement Working Circle 24435.28 ha. Rotation period 120 years, Felling Cycle 20 years, Selection Girth 150 cm for group I, 120 cm for group II, 90 cm for group III and 45 cm for garari.

- (2) Minor Forest Working Circle 2430.94 ha.
 (3) Khair (Overlapping) Working Circle 3649.86 ha.
 (4) Bamboo (Overlapping) Working Circle 22137.92 ha.

Exproprietary Forests of Sironcha and Asarali Ranges

The 1965-66 to 1974-75 Scheme of Shri R L Choudhary: These forests covered 51 villages and an area of 3450 hectare. The prescriptions laid down by Shri Choudhary constituted only one working circle i.e. coppice with reserve system with rotation period at 20 years to meet the requirements of local people.

Ex-Aheri Jamindari Forests of Umanoor and Edranga blocks : Shri S C Agrawal's Scheme for period 1956-57 to 1975-76: Shri S C Agrawal prepared a Working Scheme for the part of Ex-Aheri Jamindari Forests of the South and East Chanda Division for a period from 1956-57 to 1975-76. The area covered under this tract comprised of Umanoor block and Edranga block of Repanpalli (Present Jimalgatta Range) range. Silvicultural system adopted was selection cum improvement system with 20 year of felling cycle and selection girth as 4' except that of garari for which it was 1' 6". 50% of available trees were prescribed for felling.

Ex-proprietary Forests of Kamalapur, Pranhita, Dechali and Jimalgatta Ranges

Shri M B Mankare's Scheme for period 1970-71 to 1979-80: Shri M B Mankare prepared scheme for the area 73,315.4 ha of the tract in Kamalapur, Pranhita, Dechali and Jimalgatta ranges.

- (1) Protection Working Circle 969.63 ha.
 (2) Selection cum Improvement Working Circle 56,337.47 ha. Felling Cycle 20 year, selection girth at 135 cm, 120 cm, 90 cm and 45 cm for group I, II, III and garari respectively with removal of 1 out of 3 available trees.
 (3) Teak Plantation Working Circle 4,696.38 ha.
 (4) Minor Forest Working Circle 11,311.94 ha.
 (5) Khair (Overlapping) Working Circle 5,751.81 ha.
 (6) Bamboo (Overlapping) Working Circle 1,909.91 ha.

SIRONCHA FOREST DIVISION: CONSOLIDATED WORKING PLAN:

SHRI A. P. DESHMUKH'S WORKING PLAN (1991-92 to 2000-2001)

A.P. Deshmukh prepared consolidated working plan for forest area under forest department:

- (i) Protection Working Circle 14,348.340 ha.
 (ii) Selection cum Improvement Working Circle 137,582.814 ha. Felling cycle 20 years, selection girths 120cm, 105cm, 90cm and 45cm for group A, B, C and D respectively.
 (iii) Improvement Working Circle 51,492.344 ha.
 (iv) Miscellaneous Working Circle 28,711.304 ha.
 (v) Wildlife (Overlapping) Working Circle Entire tract.
 (vi) Bamboo (Overlapping) Working Circle 55,256.459 ha
 (vii) Minor Forest (Overlapping) Working Circle Entire tract.

RESULTS OF PAST WORKING:

In **Protection Working Circle** area received rest as no fellings were carried but illicit fellings in large scale in some patches are noticed.

In **Improvement Working Circle** the prescription of removal of dead dying tress were seldom carried out. But the rest given to the crop is excellent.

In **Bamboo(overlapping) Working Circle** the prescriptions of working plan were followed up in part as the felling of bamboo used to be interrupted by Naxalites from time to time. Hence the crop remained untreated partially. Even Ballarpur Paper Mill withdrew its working from the tract due to anti social activities of people with following of naxalites. The remaining crop is of congested clumps and needs regular removal of culms.

In **Wildlife (Overlapping) Working Circle**, nothing specific regarding wildlife management had been carried out. The result of that is the number of wildlife species is on decline.

In **Minor Forest Produce (overlapping) Working Circle** no specific management was done except the removal of minor forest produce by forest dwellers and disposing them through **Tribal Development Corporation (TDC)**. No processing or value added works were carried out to enhance the income of the people. The tract is rich in non wood forest produces and that is to be harnessed to optimum extent without hampering the biodiversity and sustainability.

In **Miscellaneous Working Circle** no prescription was given for working.

Stem analysis of teak was carried out for **site quality I, II, III, IV**. Results have been compiled. **1% sampling enumeration** has carried out by SOFR unit Chandrapur during 2002-03. **Stock mapping** of the tract have been carried out during 2004-05 by Working Plan Chandrapur_2 unit. Stocking has been ascertained with the help of satellite data at Geomatics Centre Nagpur. **Old yield table and form factors** developed on the basis of actual working in the past are to be used in future plan period.

FUTURE MANAGEMENT DISCUSSED AND PRESCRIBED

National Forest Policies for India were enunciated in the years 1894, 1952 and 1988. The changes in the policy were brought about according to prevailing national needs and public requirements both local and general. National Wildlife Action Plan, National Forestry Action Programmes, etc have been discussed in brief.

SPECIAL OBJECTS OF MANAGEMENT :

- (1) To preserve and enrich the growing stock in natural forests and to restock all under-stocked and degraded areas of the forests with the help of soil and moisture conservation measures, reforestation and regulation of grazing.
- (2) Preservation and improvement of minor forest to obtain progressively increasing yield of small timber, fire wood, and poles in order to meet the demands of local people and to provide grazing area to local cattle.
- (3) To combat ill effects of soil erosion wherever it has already started and to prescribe preventive measures.
- (4) To increase the production of non-timber forest produce and to manage the same scientifically.
- (5) To increase the productivity and ensure progressively increasing yield of forest produce in demand.
- (6) To achieve compatible wildlife management with emphasis on rare, endangered and endemic species like tigers, panthers, wild buffalos, four horned antelopes, sloth bears, wild dogs and sambhars.

Based on the objectives of the management and the methods of treatment, the following working circles have been carved out:

Sr. No	Working Circles	A.P.Deshmukh Plan (area in ha)	Present (area in ha)	Plan	Remarks
1	Selection Cum Improvement	137,582.814	132,070.021	-	5,512.793

	Working Circle				
2	Improvement Working Circle	51,492.344	56,086.858	+ 4,594.514	
3	Protection Working Circle	14,348.340	14,152.120	- 196.220	
4	Teak Plantation Working Circle		10,189.412	+ 10,189.412	
5	Bamboo (Overlapping) Working Circle	55,256.459	55,781.939	+ 535.480	
6	Non Timber Forest Produce			Overlapping	
7	Miscellaneous Working Circle	28,711.304	-----	- 28,711.304	
8	Wildlife (Overlapping) Working Circle	Entire tract	Entire tract	Overlapping	
9	Joint Forest Management		Overlapping		
10	Forest Protection		Entire tract		
11	Ecotourism		Entire tract		
12	FDCM Ltd	In Miscellaneous Working Circle		+16,122.186	
13	Working Plan Area	232,134.802	212,498.579	-20,636.223	

* Miscellaneous area consists of 49,164.415 ha out of which 723.736 ha is river bed declared reserved forests and not included in any working circle and 48,440.679 ha is as difference in planimitted and notified area.

PERIOD OF THE PLAN: The period of the plan is fixed for 10 years from 2005-2006 to 2014-15. Mid term review of the plan may be taken up during 2010-11, if the prescriptions are found not conducive to the fulfillment of objectives.

Selection Cum Improvement Working Circle:

Area- 132,085.505 ; Felling Cycle 20 years; Stem analysis result is as follows:

Site Quality	Age in year	Girth (OB) in cm	Harvestable Girth in cm
I	108	240	240.
II	103	190	195
III	94	127	135.
IV	84	105	105.

Harvestable girths are as follows:

Species/Group	SQ_1	SQ_2	SQ_3	SQ_4
Teak	240cm	195cm	135cm	105cm
Group A	240cm	195cm	135cm	105cm
Group B	240cm	195cm	135cm	105cm

Group C : Lendia and Khair : 75cm

Group D : Garari : 45 cm.

Where:

Group A consists of Ain, Bija, Haldu, Kalamb, Shisham, Tiwas.

Group B consists of Dhaoda, Salai, Mowai and other species not specified as Teak, Group A, Group C or Group D.

Group C consists of Lendia and Khair and

Group D consists of Garari.

No of felling series 56 full + 5 Part = 61.

YIELD DETERMINATION IN SCI WC RESPECTIVE GROUPS OF SPECIES

GROUPS	% removal of available trees	No of trees/ha to be removed in the felling cycle from each coupe	In terms of number out of available selection trees
A+Teak	36%	6.02	4 out of 10
B	36%	8.14	4 out of 10
C	39%	2.74	4 out of 10
D	40%	13.93	4 out of 10

Average area in SCIWC for working per year = 6604 ha
 Assuming 50% area is having density > 0.4, area available will be = 3300 ha (say)

GROUPS	No of trees/ha	Harvestable girth in cm	Form Factor for timber	Volume in m ³	Timber in m ³	Fuel beats
A+Teak	6.02	135	0.660	13100	13100	3900
B	8.14	135	0.660	17700	17700	5300
C	2.74	75	0.200	1808		2200
D	13.93	45	0.075	3500		1800
Total	30.83			43800	30800	13200

Where,

Group A + teak 30% of volume of timber, taken as fuel beat.

Group B 30% of volume of timber is taken as fuel beat.

Group C 100% of total volume is taken as fuel beat.

Group D 100% of total volume is taken as fuel beat.

Round off figures have been taken.

Mode of Regeneration – Natural.

Treatment prescribed:

Coupe will be demarcated one year before main felling except first coupe which will be demarcated and felled to stream line the working sequence. Treatment map will be prepared identifying the coupe area in following categories:

Type A: Protection area having steep slope more than 25 degree, sacred grove, riparian zone.

Type B: Buffer area 20 meter around the water bodies, 20 meter along the road side, under stocked area with density less than 0.4, erodable area, natural blanks.

Type C: Pole crop of (a) Natural growth and (b) Plantation area and

Type D: Well stocked area having density more than 0.4.

Works to be carried out: Water and soil conservation measures to be taken in entire area as per requirement and model sanctioned by competent authority. For felling following prescriptions are given:

Type A: No felling.

Type B: In under stocked area only improvement felling in the form of removal of dead, dying and malformed species. With artificial regeneration improvement in the stocking will be carried out.

Type C: In (a) category area thinning will be carried out to bring the spacing to one third of height of the pole and in (b) area thinning will be carried out as per the prescription given Teak Plantation Working Circle.

Type D: In this category main selection and improvement felling will be carried out. First the site quality will be determined. As per the site quality, enumeration of approach class and above selection girth class will be carried out. Out of silviculturally available 100 tree for selection 86 trees will be marked for felling leaving fruit bearing, medicinally valuable trees and unknown trees not to be felled. Selection will be from higher girth class to lower girth class. For improvement felling irrespective of girth classes, all dead, dying and malformed trees will be marked for felling. Subsidiary cultural operations will be carried out in subsequent year and cleaning in fifth year. Regeneration will be from natural regeneration. Strict protection from fire and grazing will be ensured to have natural regeneration established.

Improvement Working Circle –

Area 56,086.858 ha.

Mostly near villages. Degraded or under stocked.

To give rest and improve it through improvement and artificial regeneration.

No yield calculation.

Felling Cycle 20 years. 26 Felling Series each with 20 coupes.

Treatment : Coupes will be demarcated and classified in four categories: Types A, B, C and D as in SCIWC and prescription for working as the same except in Type D where only improvement felling will be done.

Protection Working Circle

Area 14,152,120 ha.

Steep slope and prime forest—No working and only protection to the area and vegetation.

Teak Plantation Working Circle-

Area 10,189.562 ha including old teak plantation of 6,235.952 ha and overwood removal of 3,953.610 ha.

Area for overwood removal is approximately 4000ha.

Yearly teak plantation is to be the extent of 250 ha.

Yield $250\text{ha} \times 80 \text{ cubic meter/ha} = 20,000 \text{ cubic meter}$ out of which 50% i.e. 10,000 cmt timber and rest 10,000 fuel beat.

Thinning of approximately 600 ha/year, yield will be mainly in form of pole approximately 30,000..

In overwood removal area regeneration will be achieved through artificial plantation. In thinning area no regeneration will be taken.

Bamboo Overlapping Working Circle

Area – 31,745.357 ha out of 55,781.939 ha area.

Cutting cycle 3 years.

Felling series 17. Bamboo yield approximately 300,000 long bamboo.

Mandatory chapters : On Wildlife Protection, Joint Forest Management, Ecotourism, NTFP and Forest Protection chapters have been written.

Wild buffalo is found in the tract which is unique in Maharashtra.

Tiger and *Panther* are also found.

Financial forecast reveals revenue exceeds expenditure, revenue in rupees 4,250 lakh annual with respect to expenditure 1,041 lakh on average.

HIGHLIGHT OF THE PLAN: Tract is vulnerable for organised illicit felling of valuable trees and bamboo on Maharashtra, Andhra Pradesh border under the cover of anti social elements mainly Naxalites. Forest personnel are being assaulted and Government properties being burnt and common resources are not being harvested by legal means by Government machinery. They are not allowing the normal working of forestry.

CONCLUSION:- *Working Plan prescriptions are excellent if implemented. But that will be materialise in course of time is to be watched. Otherwise forest of Sironcha is going to be ruined in no time to come.*