



## **CHAPTER – I** **INTRODUCTION**

### **1.1 Forest (Conservation) Act, 1980:**

The FCA, 1980 deemed to be in force from 25-10-1980, extending to whole of India except the State of Jammu and Kashmir. The President of India granted assent to the Act on 27-12-1980 and the Act came in force as Act No. 69 of 1980. Section 2 of the Act imposes restriction on de-reservation of forest or use of forest land for non-forest purpose.

### **1.2 Area for Compensatory Afforestation:**

Government of India, Department of MOEF vide no. 2-3/86-FC, New Delhi, dated 31-07-1986 communicated guidelines for diversion of forest lands for non-forest purposes under the FCA.

The guideline no. 8.1 specifies norms for land of Compensatory Afforestation.

8.1(i) – Where non-forest lands are available, the CA be raised over equivalent area of non-forest land.

8.1(ii) – Where non-forest lands are not available, the CA be raised over degraded forest lands twice in extent to the area being diverted.

8.1(iii) – Where non-forest lands available is less in extent to the forest land being diverted, in addition to the CA on available non-forest land plantation be raised in the degraded forest twice in extent to the difference between forest land being diverted and available non-forest land.

8.2(c) – In cases of diversion of forest land less than 1 ha. In extent, unless asked for by the Forest Department, the CA shall not be insisted upon.

### **1.3 Creation of CAMPA – Maharashtra:**

There were many loopholes in carrying out CAMPA plantations on forest as well as non-forest lands and no sustainability throughout the country for implementation of the plantation programme for CA. The matter reached to the Supreme Court of India and it was settled by the Supreme Court in 2002 ordering the Central and State Governments to create Compensatory Afforestation Management and Planning Authority (CAMPA). In Maharashtra, the CAMPA was constituted and they are managing plantation of CA from 2010-11 onwards. Monitoring and Evaluation of the CA is one of the important activities of the CAMPA. Generally, the M&E is done by the evaluation wing of the State Forest Department, however, the concept of Third Party Evaluation was introduced according to the SC order.



#### **1.4 Afforestation / Plantations through CAMPA:**

In Maharashtra, there are 9 agro-ecological zones. About 50% of the forest land is degraded by biotic interference. The over grazing of cattle and repeated fires on forest lands, the forest area has become unsuitable for Natural Regeneration. The depth of soil in general is shallow. Hence, the concept of Treatment Map was introduced from 1986 onwards under the massive afforestation programme. The CA land to be treated is classified into various zones depending upon the soil depth and plantations are raised on Zone-II lands with smaller plant population and on Zone-III with higher plant population. Under the CAMPA Afforestation, bulk of the plantation programme is carried out in the pits along with SMC works and fencing. So far under the CAMPA, GoM has carried out afforestation programme over 11011.721 ha. of forest as well as non-forest land from 2010-11.

#### **1.5 Evaluation:**

The concurrent monitoring and evaluation is done internally by the Forest Department. However, the Department has limitations in carrying out evaluations and hence according to the SC order the third party evaluation concept came in force. The evaluation is needed for understanding sustainability of the plantations, to understand the rate of growth and survival of plants, general health of the plants, to mitigate needs of local beneficiaries and to regenerate the lands for strengthening ecology. The Additional Principal Chief Conservator of Forests (APCCF – MAH) identified the Sevanivrutt Van Karmachari Sangh, Maharashtra for carrying out third party evaluation of the CA programme and signed the Memorandum of Understanding for carrying out the evaluation.

#### **1.6 Target of Evaluation:**

MoU was signed by the APCCF and the SEVAK on 03-02-2020, which is enclosed as Annexure-I (in Marathi). Following area were brought under or proposed under CA from 2010-11 onwards in the State of Maharashtra as shown in the Table 1.1 below -

The MoU prescribes about 20% of the treated area for evaluation under various plantation models & year of operations.



**Table No.1.1 Details of Plantation Area selected for evaluation**

Sr. No.	Details of Plantation Operation	Total Area of plantation (In Ha.)	Area selected for evaluation (In Ha.)	No. of Sites	% of selected Area	Remarks	Overall %
1	Pre planting (PPO/PYO)	4005.344	768.500	45	19.19	Not evaluated so far	
2	First Year (FYO)	767.842	186.296	14	24.26	Evaluated	
3	Second Year (SYO)	1509.730	295.650	18	19.58	Evaluated	
4	5 <sup>th</sup> Year (5 <sup>th</sup> YO)	673.920	147.690	12	21.91	Evaluated	
5	8 <sup>th</sup> YO (8 <sup>th</sup> YO)	2811.180	561.700	34	19.98	Evaluated	
6	Conditional Plantations	1243.705	262.429	25	21.10	Evaluated	
	<b>Total</b>	<b>11011.721</b>	<b>2222.265</b>	<b>148</b>			<b>20.18</b>

**Table No. 1.2 Circle wise Abstract of Sites Evaluated**

Sr. No.	Circle	FYO	SYO	5th YO	8th YO	Conditional	Total
1	Nagpur	2	2	1	14	5	24
2	Chandrapur	1	0	1	2	1	5
3	Amravati	1	3	1	2	0	7
4	Yavatmal	1	3	0	1	1	6
5	Dhule	1	0	1	6	1	9
6	Nashik	4	0	1	2	1	8
7	Pune	1	1	0	3	1	6
8	Thane	1	8	2	1	10	22
9	Kolhapur	0	0	2	3	4	9
10	Gadchiroli	2	1	2	0	0	5
11	Aurangabad	0	0	1	0	1	2
	<b>Total</b>	<b>14</b>	<b>18</b>	<b>12</b>	<b>34</b>	<b>25</b>	<b>103</b>



**Table No. 1.3 Forest Circle/District/Forest Division wise  
distribution of 103 sites**

Sr. No.	Forest Circle	District	Forest Division	No. of Sites
1	Thane	Thane	Thane	4
2	Thane	Thane	Shahapur	6
3	Thane	Palghar	Dahanu	5
4	Thane	Palghar	Jawhar	3
5	Thane	Raigad	Alibag	4
Sub Total 1-4				22
6	Nagpur	Nagpur	Nagpur	7
7	Nagpur	Bhandara	Bhandara	2
8	Nagpur	Gondia	Gondia	11
9	Nagpur	Wardha	Wardha	4
Sub Total 6-9				24
10	Kolhapur	Kolhapur	Kolhapur	8
11	Kolhapur	Satara	Satara	1
Sub Total 10-11				9
12	Pune	Pune	Pune	1
13	Pune	Pune	Bhor	1
14	Pune	Pune	Junnar	4
Sub Total 12-14				6
15	Nashik	Ahmednagar	Sangamner	4
16	Nashik	Nashik	East Nashik	2
17	Nashik	Nashik	Malegaon	2
Sub Total 15-17				8
18	Dhule	Dhule	Dhule	6
19	Dhule	Nandurbar	Nandurbar	1
20	Dhule	Nandurbar	Newase	1
21	Dhule	Jalgaon	Yawal	1
Sub Total 18-21				9
22	Amravati	Amravati	Amravati	3
23	Amravati	Buldhana	Buldhana	2
24	Amravati	Akola	Akola	2
Sub Total 22-27				7
25	Yavatmal	Yavatmal	Pandharkawada	1
26	Yavatmal	Yavatmal	Pusad	2
27	Yavatmal	Yavatmal	Yavatmal	2



28	Yavatmal	Washim	Washim	1
Sub Total 25-28				6
29	Aurangabad	Aurangabad	Aurangabad	2
Sub Total 29				2
30	Chandrapur	Chandrapur	Bramhapuri	2
31	Chandrapur	Chandrapur	Central Chanda	1
32	Chandrapur	Chandrapur	Chandrapur	2
Sub Total 30-32				5
33	Gadchiroli	Gadchiroli	Wadsa	5
Sub Total 33				5
<b>Total 1-33</b>				<b>103</b>

**Table No. 1.4 Area Abstract of 103 Sites**

<b>FYO</b>	<b>SYO</b>	<b>5<sup>th</sup> Year</b>	<b>8<sup>th</sup> Year</b>	<b>Conditional</b>	<b>Total</b>
14 Sites	18 Sites	12 Sites	34 Sites	25 Sites	103 Sites
186.296 ha.	295.650 ha.	147.690 ha.	561.700 ha.	262.429 ha.	1453.765 ha.

### 1.7 Treatment Models for CA:

**Table 1.5 CA Treatment Models**

<b>Sr. No.</b>	<b>No. of plants per ha.</b>	<b>Spacing in meters</b>	<b>Species</b>
1	2500	2 X 2	Teak
2	625	4 X 4	Bamboo or medicinal trees
3	400	5 X 5	Bamboo, Fodder Trees
4	400+1100	5 X 5	In FYO, Bamboo
		3 X 3	In 5 <sup>th</sup> Year, Tree species
5	1100 or 1111	3 X 3	Tree species of community requirement





## **CHAPTER – II** **EVALUATION METHODOLOGY**

### **2.1 Evaluating Agency:**

The Sevaniivrutt Vankarmachari Sangh, Maharashtra (SEVAK) is entrusted the work of evaluating the plantation sites under CAMPA. The SEVAK is Retired Forest Employees association of Maharashtra. It is registered under Charity Commissioner, Maharashtra and has registration number F-13312, Dated 28-01-1997. It has a registered office located in Pune. The SEVAK has been carrying out various works related to Forest, Social Forestry and Wild Life Management since beginning. The important component of the activities is –

- Evaluation of Forest Development Agencies in Maharashtra
- Preparation of Flora and Fauna Conservation Plan within radius of 10 kms. around the project site / protected areas.
- Capacity Development and Training of Forest Personnel for strengthening of Forest Management under the JICA Funding Agency.
- Raising of 50,000 tall, rare medicinal plants at Amravati for supplying the seedlings to FD.
- Evaluation of Jalyukt Shiwar Abhiyan Works executed in forest area of Pune District.
- Preparation of Village Forest Management Plans in Dhule District.
- Printing of 1,000 copies of a forest related book authored by Shri. S. M. Jagtap, DFO (Retd.)
- Evaluation of CAMPA plantation activities in Maharashtra. The evaluation work is in progress.
- Publication of quarterly news letter “Nisargawani” upto 2007.

### **2.2 Constitution of Evaluation Teams:**

103 plantation sites were evaluated from 17<sup>th</sup> February 2020 to 5<sup>th</sup> March 2020. A team of two members of SEVAK evaluated the CAMPA plantation sites as under –

**Table No. 2.1 Composition of Evaluation Teams**

<b>Team Members</b>	<b>No. of Sites</b>	<b>Area</b>
S. S. Dole and V. B. Patil	9	Satara and Kolhapur Forest Divisions
A. R. Thakre, N. A. Patil and D. B. Patil	12	Thane, Dahanu and Jawhar Forest Divisions



G. P. Garad	4	Alibag Forest Division
G. P. Garad and R. K. Adkar	6	Pune, Bhore and Junnar Forest Divisions
U. Dhopeswarkar and R. T. More	6	Pandharkawada, Yavatmal, Pusad and Washim Forest Divisions
S. K. Gawli and B. R. Challare	17	Dhule, Shahapur, Sangamner Forest Divisions
P. H. Wagh and D. S. Pawar	8	Nandurbar, Mewasi, Malegaon, East Nashik, Yawal, Aurangabad Forest Divisions
V. S. Bhonsle and S. B. Dabhade	7	Nagpur Forest Division
D. S. Gadpande and A. S. Khune	9	Gondia Forest Division
S. A. Gawande and P. K. Lakade	8	Gondia, Bhandara and Wardha Forest Divisions
S. M. Jagtap and B. T. Fartode	10	Bramhapuri, Wadsa, Chandrapur and Central Chanda Forest Divisions
S. L. Bhagat and V. S. Nimbhorkar	7	Amravati, Akola and Buldhana Forest Divisions
<b>Total</b>	<b>103</b>	

The evaluation team along with the local forest staff visited the plantation sites and evaluated the works as agreed to in the MoU. A standard evaluation format was prepared in consultation with the APCCF, CAMPA for compiling the information for evaluation of the sites.

### **2.3 Selection of Evaluation Sites:**

About 20% of the sites were selected for evaluation considering representation to all forest circles, forest divisions, various treatment models and various year of planting. The broad classification is as under –

PYO / PPO – Total area proposed to be treated for PYO/PPO is 4005.344 ha. Out of this area, an area of 768.500 ha. on 45 sites will be selected for evaluation. However, these sites could not be evaluated in the first phase due to endemic of COVID-19 and inadequate fund flow for execution of the work.

FYO / SYO / 5<sup>th</sup> Year / 8<sup>th</sup> Year / Conditional Plantations works – Total area treated is 7006.377 ha. The year wise area selected for evaluation are as under –

FYO – 14 sites, 186.296 ha.

SYO – 18 sites, 295.650 ha.

5<sup>th</sup> Year – 12 sites, 147.690 ha.





8<sup>th</sup> Year – 34 sites, 561.700 ha.

Conditional Works – 25 sites, 262.429 ha.

The details of site selected for evaluation and its distribution is given in Table No. 1.4 of Chapter – I of the report.





## 2.4 Methodology of Evaluation:

- Preparation and standardization of evaluation form.
- Collecting advance information from the field officers of the Forest Department.
- Visiting the plantation sites and geo-mapping of the area.
- Verification of plantation journals, nursery registers, treatment maps, measurement books and ground truth verification.
- 3% of the treated area was located in pockets for counting survival of plants, health of the plants, height of plants and girth of plants till the 5<sup>th</sup> and 8<sup>th</sup> year plantations.
- Listing names of the plants artificially planted.
- Record change in vegetation due to protection in the plantation area in comparison to the control plot outside the plantation area.
- Verification of the information prepared by the field staff, if required.
- List out inspection of plantations by various forest officers.
- Discuss with the field staff regarding the difficulties faced by them in implementation of the CAMPA programme.
- The contents of the evaluation form are proposed to be analyzed through the customized Application Software.
- First draft of the evaluation will be discussed with the APCCF, CAMPA and finalized after his remarks / suggestions.
- The final draft will be submitted in 5 hard copies.
- Site photographs have been taken for verification.
- The evaluation shall also take into consideration the evaluation code of Maharashtra Forest Department for inferences or conclusion.



## **CHAPTER – III**

### **LEGAL STATUS OF CA LANDS**

#### **3.1 Guidelines for declaring non-forest lands as Forests:**

Guideline No. 8.4(ii) of the GoI, MoEF envisages non-forest lands identified for CA should be declared as Protected Forest (now Reserved Forest) to ensure their safety from biological interference. Out of the 103 CA sites evaluated on 1453.765 ha. forest and non-forest land, 82 sites equivalent to 1124.975 ha. have been treated on forest lands and 21 sites equivalent to 328.790 ha. have been treated on non-forest land transferred by Revenue Department to Forest Department. Hence, legal status of non-forest land treated for CA is being focused.

#### **3.2 Non-forest lands declaring into forests:**

The CAMPA in Maharashtra State has so far treated 7016.377 ha. forest and non-forest land for CA. It can be inferred from the breakup of 103 sites evaluated so far that CA has been carried out on 77.15 ha. forest land and 22.85 ha. non-forest land.

**Table No. 3.1 Status of Declaring non-forest CA lands as Forests**

Sr. No.	Forest Circle	Forest Division	Forest Beat	Area (ha.)	Status of declaring Forest
1.	Amravati	Amravati	Vishroli	2.530	No Change
2.	Yavatmal	Washim	Shirputi	24.420	Sec. 4 Notification
3.	Thane	Alibag	Choul	21.260	No Change
<b>Total FYO</b>				<b>48.210</b>	
4.	Amravati	Buldhana	Deulgaon Sakarsha	6.490	Sec. 20 Notification
5.	Amravati	Buldhana	Deulgaon Sakarsha	27.260	Sec. 20 Notification
6.	Amravati	Akola	Loni	9.670	Sec. 4 Notification
7.	Yavatmal	Pusad	Mudana	3.000	Unclassed Forest
8.	Yavatmal	Pusad	Piranji	25.000	Sec. 4 Notification
9.	Yavatmal	Yavatmal	Mozar	40.850	Sec. 4 Notification
10.	Pune	Junnar	Malthan	11.470	Sec. 4 Notification
11.	Thane	Dahanu	Pochade	7.000	Protected Forest
<b>Total SYO</b>				<b>130.740</b>	
12.	Amravati	Amravati	Survey	24.500	Sec. 20 Notification
13.	Thane	Dahanu	Kardal	10.000	No Change
14.	Kolhapur	Kolhapur	Kandalgaon	25.880	Sec. 4 Notification
15.	Kolhapur	Kolhapur	Manwad	14.660	No Change
<b>Total 5<sup>th</sup> Year</b>				<b>75.040</b>	
16.	Amravati	Amravati	Pardi	12.300	Sec. 20 Notification
17.	Amravati	Akola	Sawarkhed	8.730	Sec. 20 Notification
18.	Yavatmal	Yavatmal	Kalamb	3.000	Sec. 20 Notification
19.	Kolhapur	Satara	Kaledhon	4.970	Sec. 4 Notification



20.	Kolhapur	Kolhapur	Shembawane	28.500	Sec. 4 Notification
21.	Kolhapur	Kolhapur	Pendakhale	17.300	No Change
<b>Total 8<sup>th</sup> Year</b>				<b>74.800</b>	
<b>Grand Total 21 Sites</b>				<b>328.790</b>	

All the conditional plantation works have been done on forest land. Out of the 21 sites, process of declaring the non-forest land as forest is completed in 16 sites and there is no change in the status of land in 5 sites.