

Evaluation study of Forestry
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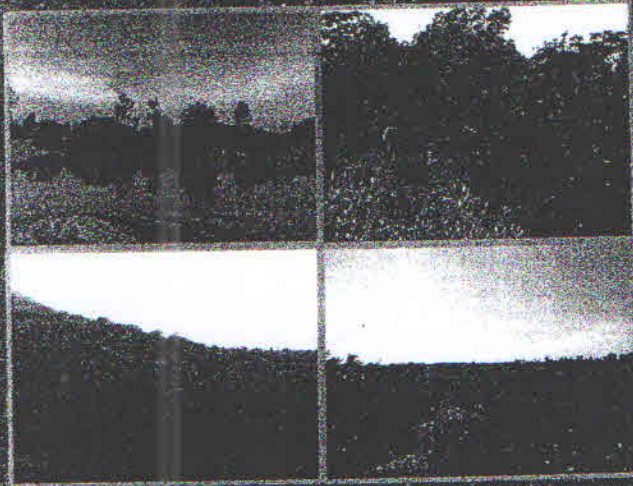
Report - CANPA

Submitted to

The Chief Conservator of Forests Evaluation

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HYDERABAD KARNATAKA CENTRE FOR ADVANCE LEARNING GULBARG

EXECUTIVE BRIEF

The following is the brief account of the evaluation report pertaining to the Unit-IV comprising of Bangalore, Chamarajanagara and Mysore circles. Broadly two types of activities have been implemented under CAMPA scheme

- i) Afforestation activities to compensate the forest area and
- ii) Site specific activities to conserve forest and improve habitats.

The summary of the circle wise evaluation work undertaken is given below

1. BANGALORE CIRCLE

1.1 Bangalore Rural Territorial Division

Different types of afforestation activities like Advance work, raising of plantation, maintenance of I, II year and old plantations in state/ Reserve forest/ evicted forest land. As a part of Evaluation work sample plots were selected in Advance works (25 Ha), Raising of plantation (25 ha), Maintenance activities (220 ha). The average survival rate is found to be 80% in all types of afforestation activities. Honge, Bevu, Simarouba, Seemethangadi, Nilagiri, Thapasi, Bamboo, Nerale are the chief species planted. In Hosahalli plantation, only Nilagiri plants have been raised.

The evaluation team has found that though the plantation journals are maintained in majority of the cases, the required information like rainfall data, plantation map etc.. have not posted up in the journals.

In general, other works like-SMC works (Gully checks, De-silting of Tanks), Elephant depredation camps, Anti-poaching camps, Fire protection and cleaning of fire lines, CPT, EPT, Salt licking, Development and maintenance of road network in protected areas, Elephant-human conflict mitigation measures are satisfactory.

The Infrastructure development activities such as construction of new building repair of old building and procurement of equipments have been done as per the need to achieve the objectives.

1.2 Bangalore Urban Territorial Division

Constructions of new buildings, Maintenance of existing buildings have been undertaken as the major infrastructure development activity. The buildings are occupied and are being used. The equipments procured such as Digital copier, GPS, Digital Camera, Desk top, Laptops and Vehicles (Two wheelers and four wheelers) were issued to the user and are found to be in working condition. However, it is noticed that a proper inventory maintenance system is lacking which is essential to monitor/ manage the procured assets.

1.3 Bannerughatta National Park Division

Chief works undertaken in Bannerughatta NP, soil and water conservation works such as desilting of Tanks, Gully checks were undertaken. The implementation of the work was found to be satisfactory. The interventions are helpful in enhancing the water availability to wildlife.

Since Maintenance of drains along the roads has not been undertaken roads are damaged during rainy season.

1.4 Chikkaballapura Territorial Division

The Evaluation was done in sample plots by selecting four plots in Advance works (30 Ha), Raising of plantation (14 Ha) and Maintenance activities (83 Ha). The average survival rate is 79% among all types of afforestation activities. Honge, Bevu, Simarouba, Seemethangadi, Nilagiri, Thapasi, Bamboo, Nerale etc are the chief species which are planted. In Kannamangala of Sidlaghatta only Nilagiri plants are grown as it is suitable to the area.

The evaluation team has found that though the plantation journals are maintained in majority of the cases, the required information like rainfall data, plantation map were not mentioned.

In general, the other works in protected areas such as Fire protection and cleaning of fire lines, CPT, Development and maintenance of road network and buildings quality are found to be satisfactory.

1.5 Kolar Territorial Division

The Advance works (50 Ha), Raising of plantation (2.39 Ha) and Maintenance activities (25 Ha) were taken up in the division. The average survival rate is 93% among all types of afforestation activities. Chief species planted are like Honge, Bevu, Simarouba, Seemethangadi, Nilagiri, Bamboo, Nerale etc. In Kashipura of Mulabagal range, the sandal regeneration activity taken up under estate management concept is performing well with good survival percentage.

The Evaluation team has found that the plantation journals are maintained and in majority of the cases, the required information like rainfall data, plantation map are not posted up in the journals.

1.6 Ramanagar Territorial Division

The average survival rate is 76% among all types of afforestation activities such as Advance works (75 Ha), Raising of plantation (25 Ha) and Maintenance activities (50 Ha). Mainly the species like Honge, Bevu, Simarouba, Seemethangadi, Nilagiri, Thapasi, Bamboo, and Nerale etc planted. The Evaluation team has found that the plantation journals are maintained and in majority of the cases, the required information like rainfall data, plantation map are not posted in the journal.

The program proposed and approved in Chilandavadi SF in evicted area is not executed.

In general, the other works like Fire protection and cleaning of fire lines. CPT, EPT, Elephant depredation camps, anti-poaching camps was found to be effective.

Constructions of staff quarters are found to be satisfactory in respect of the quality and usefulness. However, the two new staff quarters constructed in Kanakapura range is yet to be occupied.

2. CHAMARAJA NAGAR CIRCLE

2.1 BRT (Chamarajanagara Wildlife Division)

The other works such as Soil and water conservation focusing mainly on Desilting of tanks, Construction of check dams, Fire protection and cleaning of fire lines. CPT, EPT, Elephant depredation camps, Anti-poaching camps and procurement of equipments were undertaken. All the activities have implemented activities are found to be satisfactory.

2.2 Cauvery wild life Division

Mainly the activities such as Fire protection and cleaning of fire lines. CPT, EPT, Elephant depredation camps, anti-poaching camps, soil and water conservation especially Tank de-silting, Gully checks works carried out are found to be satisfactory in respect of quality and quantity of work.

2.3 Kollegal Territorial Division

The Evaluation was conducted in sample plots selected in four plots where Advance works (25 Ha) and maintenance activities (65 Ha) were carried out. Survival rate ranges from 17% to 91% in all types of afforestation activities with an average survival rate is 57%. Honge, Bevu, Thega, Hunise, Seemethangadi, Nilagiri, Bamboo, Nerale etc, are chief species planted. The survival percentage is poor comparing to other divisions because the region is dry and the rain fall is below 600 mm. In addition, the elephants destroy the plantation once they come across any new plantation in the area. For instance, at Bendekobe forest of MM Hills, the survival rate is very poor (17%). Sandal regeneration program proposed under Advance work in Somanathapura was shifted to Cowdahally of Ramapura range. The plantation is performing well in all aspects and it is found that the survival rate is 91% with a height growth of 2 meters.

The Evaluation team found that the plantation journals are maintained and in majority of the cases, the required information like rainfall data, plantation map are not mentioned.

In general, the other works such as Development and maintenance of road network in protected areas. SMC works, Fire protection and Cleaning of fire lines. EPT, Maintenance of equipments is found satisfactory.

3. MYSORE CIRCLE

3.1 Mysore Territorial Division

The Evaluation was conducted in sample plots selected in Five plantations where Advance works (74.95 Ha), raising (25 Ha) and maintenance activities (20Ha) were undertaken. The survival rate ranges from 49% to 80% in all types of afforestation activities. The average survival rate is 64%. Honge, Bevu, Teak, Hunise, Seemethangadi, Simarouba, Kamara, Aala, Seethaphala etc. are the chief species which were planted.

The Evaluation team has found that the plantation journals are maintained and in majority of the cases, the required information like rainfall data, plantation map were not posted up.

In the case of Green Urban Area (GUA) the relevant documents were not produced by the concerned during the evaluation.

In general, the other works such as Fire protection lines, EPT, CPT works carried out and found to be satisfactory. The equipments like GPS, Digital camera and vehicles are being used by the user for the project purpose.

3.2 Hunsur Territorial Division

The Evaluation conducted in sample plots selected in two plantations done in Advance works (50 Ha) and raising (12 Ha). The average survival rate is 80% in all types of afforestation activities. Mainly the species like Honge, Hunise, Nelli, Ala, etc, are planted.

The Evaluation team has found that though the plantation journals are maintained the required information like rainfall data, plantation map were not posted in majority of the cases.

In general, the other works such as Fire protection lines works were carried out was found to be satisfactory. The desk top computers are being used by the staff for the project purpose.

3.3 Mandya Territorial Division

The Evaluation was conducted in sample plots selected in four plantations where were taken up. The average survival rate is 76% in all types of afforestation activities such as Advance works (30 Ha) and raising (42Ha) and maintenance of plantation (20 Ha) works. Mainly the species like Honge, Geru, Hunise, Nerale, Simarouba, Honne, Nelli, Kamara etc, are planted.

The Evaluation team has found that the plantation journals are maintained and in majority of the cases, the required information like rainfall data, plantation map not posted up.

In the case of Honnabetta the relevant documents were not produced during the evaluation.

In general, the other works such as Fire protection lines works, EPT, CPT, and Solar fencing works carried out are found to be satisfactory in terms of quality and quantity of work. The computer desk tops are being used by the user for the project purpose.

3.4 Mysore Wildlife Division

One sample plot of 25 hectares (Advance work) in Reserve Forest area was selected for evaluation. The average survival rate of the plantation is 68%. The species like Honge, Bamboo, Hunise, Nerale, Simarouba, Honne, Nelli, Kamara etc are planted.

The other works like SMC works, construction of check dams, erecting of Solar fencing, providing saltlicks and elephant depredation camps were evaluated and it was found to be good in terms of quality and quantity.

In most of the plantations, the specified standard norms particularly parameters like espacement and density of plants not followed in all the models. In majority of the cases in order to achieve the target of number of seedling planted in a particular plot number of seedlings has been planted in areas where soil is suitable. The surfaces with hard rocks were not planted. This method of planting has increased the density of seedlings in suitable soils affecting the growth. It is noted that the plantations are raised without disturbing the native species. This facilitates the natural regeneration. Whereas in encroached and evicted land the espacement and the density of plants are maintained.

The survival rate is high in raised plantation i.e. 83% against the weighted average of 78%; In advance work the average is 81% against weighted average of 83% and in case of maintenance, the survival rate is 74.55% in Mysore circle.

All other works have been carried out as per the specification/quantity and are supportive for the protection and development of Forest.

The overall performance of Plantation and site specific (other works) are furnished in Table 1 and 2.

Table 1: Weighted average survival in the plantation circle wise

Sl No	Circle	Total extent of plantation (Ha)	No. of Plantation sampled	Area of the sampled plantation (Ha)	Sampling intensity by No of works evaluated	Weighted Average survival
1	Bangalore	4552.61	21	1093.29		76%
2	Channarayana	832.84	3	65.00		59%
3	Mysore	2787.10	10	316.95		77%
	Total	8172.55	34	1475.24		

Table 2: Evaluation results of other works

Sl. No.	Circle	Division	No of works	Good	Satisfactory	Not verifiable
1	Bangalore	Bangalore Rural	21	21		
		Bangalore Urban	3	3		
		Bannerughatta NP	7	7		
		Chikkaballapura	6	6		
		Kolar	15	15		
		Ramanagara	10	10		
2	Chamarajanagara	Kollegal	9	9		
		BRT	7	7		
		Cauvery WL	10	10		
3	Mysore	Hunsur	3	3		
		Mysore	6	6		
		Mysore WL	1	1		
		Mandya	15	15		
		Bandipur	1	1		
		Total	114	114		

State Average :
No. of works evaluated - 114
100 % of the plantations are Good
However, a new building constructed in Ramanagara Division is not occupied

SUMMARY OF FINDINGS

1. a) Afforestation Activities:

The advance work has yielded good results in conservation of soil moisture, priming of pits for plantation. This has resulted in good growth and better survival rate compared to the non-treated area. *For Example in Channapatna & Makalli areas of Ramanagaram division, the plantation done in good soil condition without any SMC works, however the survival is accounted to a maximum of 54% to 74% and the plants are drying during the summer in area where advance work not taken up. But the plants raised in the areas of advance work the plants are healthy and will have more resistance.*

The works such as pitting/ trenching, CPT, percolation trenches, boundary consolidation etc. have been carried out systematically as per the site specifications. But in Bangalore rural, Kolar, Chikkaballapura, Ramanagaram and Kollegala SMC works were not taken up in the plantations.

b) Raising Plantations:

- The success rate of plantation in different models differs from each other. The plantation works carried out after advance work is found to be performing well with more than 70% survival and good natural regeneration.
- In many instances, the plantation works carried out without assessment of soil condition, and the performance of local & indigenous species suitable to the area. More than 90% of the area. The natural regeneration is predominant in more than 90% of the area on account of good protection and other operation measures.
- The plantation operations have not been carried out as per the plan due to various reasons like non availability of quantity of saplings and labour management.
- The average survival rate ranges from 17% to 46% in 2-3 years old plantation and 56% to 95% in new plantation undertaken in the 2011 to 2013 period.
- The documents are available for plantations such as APO, Estimation, plantation journal, FNB including supporting documents. But in few cases the plantation journal even though maintained has partially information. The lacuna found in the updating of information was due to non-verification by the higher authorities to follow up and take appropriate measures.
- Lack of continuous maintenance operation (for 2-3 Years period) like soil works, manuring, watch & ward are the major issues to ensure good survival and performance of plantation.
- The maintenance activities have significant contribution towards success of plantation. But in most of the plantation the continuation of maintenance works are missing. Hence, it is found that the survival percentage is below average.
- In most of the plantation biotic pressure is high, browsing of plants by wild animals and stray animals at the early stage is more. In addition, the elephants destroying & removing newly planted sapling at the early stage at Kollegal, Cauvery wildlife, Kanakapura and part of Bangalore circle.

c) SMC works:

The SMC works are carried out in isolation. The impact by individual small structure such as gully checks is minute. However the percolation trenches, tank desilting/ water hole and check dams are more effective in harvesting of rain water and also increasing the soil moisture and ground water table besides providing water to the wild animals.

d) Other individual works:

i) Infrastructure program:

The infrastructure program like construction of new buildings and maintenance of existing structures are essential. But the new staff quarters constructed should not be left over a long period, which may attract additional maintenance cost. The road formation has created mobility to the community who are living inside the forest areas of Chamarajanagara division and the road created has helped to commute freely to protect the forest.

The fire protection measures have controlled fire accidents, besides the same fire protection lines have continued in the subsequent years. Since the fire protection lines are seasonal and hence the works implemented could not be verified physically.

ii) Equipment & vehicles:

The equipment's and vehicles procured with respect to the needs have been used by the officials. It is observed that, there is no standard mechanism in place to maintain asset inventories/asset verification systems.

- II. a) The afforestation and other supportive activities carried out towards conservation, protection and regeneration of forest is fulfilled in spite of location specific constraints.
- b) The overall performance including survival is poor where the plantation works carried out in between Eucalyptus plantation.
- c) The Honge species planted in most of the plantation since the species is non brows able and required no maintenance cost.

Suggestions:

1. The advance work to be undertaken at least to one season before plantations.
2. A package of systematic works including boundary demarcation, suitable pitting/Trenching method, CPT, Percolation trenches to be undertaken as a package.
3. While planning for the advance work, the soil test and identification of suitable species would perform well in the area. The species such as Honge, Bevu, and Nelli etc. is strongly recommended to use heighted seedlings during the plantation.
4. The plantation activities are to be discouraged in the area/divisions where ever growth and survival rate accounted less than 50% due to low rainfall in the area, poor soil structure, more biotic pressures-especially the area wherever more wild animals are living.
5. Plantation activities planned in the evicted areas, a special attention is to be given to mobilize community participation to protect & develop the forest on joint forest management concept.
6. The sporadic construction of gully checks may not yield good results in terms soil and moisture conservation, instead Nala bunds and percolation tanks with higher impounding area to be encouraged.
7. Even though in most of the location, the Plantation journal being maintained but not fully updated according to the format. Hence, it is suggested to that the senior officers need to visit and verify the journals to ensure it is updated.