

Chapter-V
Environment and Forests
Department

CHAPTER - V:

ENVIRONMENT AND FORESTS DEPARTMENT

5.1 Administration

The State of Assam comprising of 33 civil districts including three hill districts is endowed with rich forest resources. The State has also been identified as one of the 18 biodiversity hotspots in the world. Out of the total geographical area of 78,438 sq. km., the recorded forest cover of Assam is 26,832 sq. km (34 *per cent*). Revenues in the Forest Divisions are mainly derived from sale proceeds of forest produce through auction, negotiations and permit of allotment. Collection of royalty from minor minerals, licence fee from sawmills and timber depots also form part of forest revenue apart from fees, fines, *etc.*, imposed under various Acts/ Rules.

The Principal Chief Conservator of Forests and Head of Forest Force (PCCF and HoFF), Assam is in overall charge of the Department who is assisted by two Principal Chief Conservators of Forests (PCCF), 13 Additional Principal Chief Conservators of Forests (APCCF), 11 Chief Conservators of Forests (CCF) and 10 Conservators of Forests (CF). In addition, there were 55 Forest Divisions¹⁰² each headed by a Divisional Forest Officers (DFOs) and 57 Deputy Conservator of Forests (DCF) are working in various capacities like Research, Education, Working Plan wings, *etc.* The Divisions were further divided into ranges and beats for ensuring effective control and supervision of the forests of the State.

The mandate of the Forest Department is to manage the Forest, Forest produces and Wildlife of the State of Assam. The principal act, regulation and rules which govern the functioning of Department of Environment and Forests are the Assam Forest Regulation, 1891; Assam Sale of Forest Produce, Coupes and *Mahals* Rules, 1977; Forest (Conservation) Act, 1980; Assam Minor Minerals Concession Rules, 2013; and Rules and notifications/ orders issued thereunder, from time to time.

5.2 Results of Audit

Test check of records of 23 units relating to the Environment and Forest Department during 2018-19 noticed deficiencies in 122 cases as shown in **Table 5.1**.

Table 5.1: Results of Audit

Sl. No.	Category	Number of cases	Amount (₹ in crore)
1	Non/ Short realisation of royalty	1	0.89
2	Non levy of interest/ VAT	2	0.02
3	Non-realisation of MMDRR fund	3	0.30
4	Loss of Government revenue	3	0.44
5	Other irregularities ¹⁰³	113	0.71
Total		122	2.36

¹⁰² Under the Forest Department, there were 33 Territorial Forest Divisions, eight Wildlife Forest Divisions and 14 Social Forestry Divisions.

¹⁰³ Irregular or excess expenditure, non-deduction/realisation of labour cess, *etc.*

5.3 Compliance audit of “Forest Department covering Afforestation, Social forestry, Wildlife and Bio-diversity”

5.3.1: Introduction

Forests are an integral part of the natural environment and are crucial for the maintenance of the ecological balance which is necessary for human life. The National Forest Policy, 1988 was framed to increase area under forest and tree cover of the country by need-based and time-bound program of afforestation. The Policy aimed at maintaining environmental stability and restoring the ecological balance through conservation, upgradation and increase in forest cover. In line with the National Forest Policy, 1988, GoA adopted Assam State Forest Policy, 2004 with a goal to maintain and enrich the existing forest cover and the open forest would be restored back to dense forest.

Assam has a geographical area of 78,438 sq. km, of which 28,327 sq. km (36.11 per cent) is under forest cover¹⁰⁴ as reported in the Indian State Forest Report (ISFR), 2019.

The trend of forest cover based on density¹⁰⁵ for the period from 2011 to 2019 as per Indian State Forest Reports (ISFRs) prepared biannually is shown in **Table 5.2:**

Table-5.2:-Trends of forest cover based on density in Assam

(in sq.km.)					
Types of forest	2011	2013	2015	2017	2019
Very Dense Forest	1444	1444	1441	2797	2795
Moderately Dense Forest	11404	11345	11268	10192	10279
Open Forest	14825	14882	14914	15116	15253
Total	27673	27671	27623	28105	28327

However, as per information furnished by the Department of Environment & Forest, GoA, recorded¹⁰⁶ Forest Area (RFA) in the State is 26,832 sq. km., of which 17,864 sq. km. is Reserved Forest¹⁰⁷ (66.58 per cent) and 8,968 sq. km. is Unclassed Forest¹⁰⁸ (33.42 per cent) which needs to be reconciled with the data of ISFRs.

5.3.1.1: Financial Management

The expenditure incurred on various activities of forestry and wildlife sector in Assam during 2015-20 are shown in **Table 5.3:**

Table 5.3:-Trend of expenditure on Afforestation, Wildlife and Bio-diversity during 2015-20

(₹ in crore)							
Area/ Year		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Afforestation:							
State CAMPA ¹⁰⁹	APOs	-	30.00	70.00	45.84	-	145.84
	Actuals	11.33	22.85	33.36	37.14	32.02	136.70

¹⁰⁴ All lands more than 1 ha in area with a tree canopy density of more than 10 per cent irrespective of ownership and legal status including Dense, moderate and open forest.

¹⁰⁵ Three canopy density classes viz. Very Dense Forest with a canopy density more than 70 per cent, Moderately Dense Forest with a canopy density between 40-70 per cent and Open Forest with a canopy density between 10- 40 per cent.

¹⁰⁶ Forest area recorded as forests in Government records.

¹⁰⁷ Area constituted under the provision of Union or State Forest Acts having full degree of protection.

¹⁰⁸ Area recorded as forest but not included in reserve or protected forest category.

¹⁰⁹ Amount involved in APO and release for State CAMPA are same.

Area/ Year		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Social Forestry	BEs	2.00	-	2.00	3.00	3.50	10.50
	Actuals	2.76	2.16	7.99	0.01	0.94	13.86
Scheduled Caste Component Plan	BEs	-	4.00	2.00	2.50	2.50	11.00
	Actuals	-	3.87	1.88	-	-	5.75
Tribal Area Sub-Plan	BEs	0.70	1.40	1.50	1.20	1.20	6.00
	Actuals	-	1.13	1.44	-	-	2.57
Wildlife:							
Tiger Project	APOs Submitted	37.22	50.61	46.58	47.27	38.84	220.52
	APOs Approved	17.14	29.97	40.81	33.13	36.09	157.14
	Actuals	11.79	24.50	14.49	24.08	27.76	102.62
Integrated Development of Wild Life Habitats	APOs Submitted	4.44	8.32	8.66	10.08	13.77	45.27
	APOs Approved	2.54	-	4.01	3.87	4.52	14.94
	Actuals	-	1.45	0.20	4.00	-	5.65
Bio-diversity:							
Assam Project on Forest and Bio-diversity Conservation (APFBC) (External Aided Project)	BEs	-	220.00	218.12	52.37	43.25	533.74
	Actuals	-	100.00	52.00	-	-	152.00
Assam State Bio-diversity Board	BEs	0.50	0.50	0.50	0.64	2.72	4.86
	Actuals	0.30	0.50	0.34	0.16	0.17	1.47

Source: VLC data and information as furnished by the Department.

5.3.1.2: Audit Objective

Audit objective was to ascertain whether:

- measures taken for conservation, afforestation and preservation of forest lands were as planned and complied with the extant provisions of Acts, Rules, Government Orders and various Court judgments in this regard;
- funds provided were sufficient and utilised for the intended purposes; and
- monitoring mechanisms for overseeing the implementation of different schemes/ programs were adequate and effective.

5.3.1.3: Audit Criteria

Audit was carried out based on the following criteria:

- Indian Forest Act, 1927, The Forest (Conservation) Act, 1980 as amended in 1988 and Rules made thereunder;
- The Assam Forest Regulation, 1891 (amended) and the Assam State Forest Policy, 2004;
- The Wildlife (Protection) Act, 1972 (amended);
- The Environment (Protection) Act, 1986 and Rules made thereunder;
- The Biological Diversity Act, 2002;

- Orders, instructions, various schemes¹¹⁰ guidelines, standards issued by Government of India/ Assam as well as Hon'ble Courts from time to time.

5.3.1.4 Audit Methodology and Scope

The Environment & Forests Department (DoE&F), GoA has been allocated responsibilities for different environment conservation activities to certain specific wings like Wildlife (Wildlife and protection matter), Planning & Development (Planning, Research and Development), *etc.* within the Department.

The audit was carried out between November 2020 to March 2021 covering the period 2015-2020. Records of the PCCF (CAMPA), PCCF (Bio-diversity), PCCF (Wildlife) and nine implementing units¹¹¹ were examined.

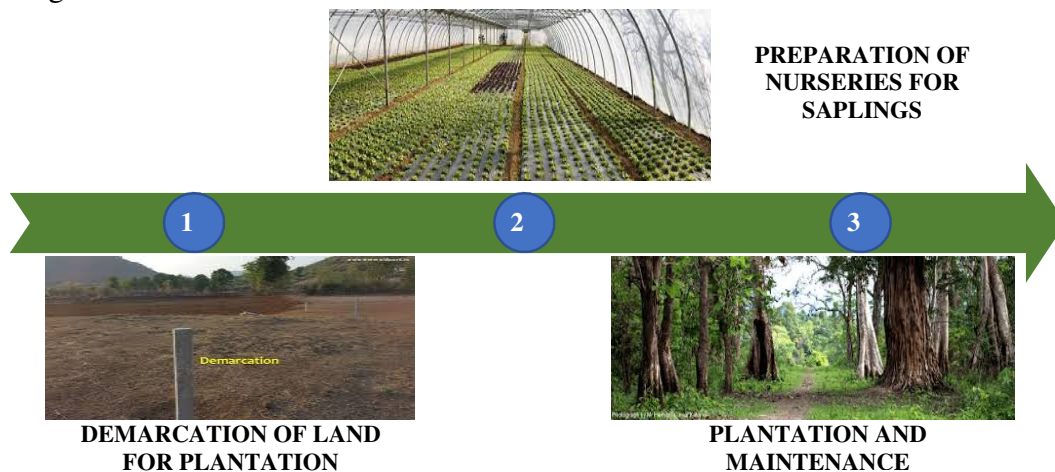
AUDIT FINDINGS:

5.3.2 Afforestation and Social Forestry

The International Panel on Climate Change (IPCC) Guidelines define afforestation as 'the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources.'

The total forest cover of the State has increased by 221. 51 sq. km. during 2017-19 as reported in the ISFR. The increase was mainly attributable to initiatives of the DoE&F, GoA towards implementation of schemes under CAMPA, APFBC and Social Forestry in the State.

Afforestation activities mainly involve three major stages as depicted through the block diagram below:



¹¹⁰ Intensification of Management; Forest Conservation & Development; R.D.F.; Monitoring and Evaluation; Forest Inventory; Management Plan; Operation of Forest Produce; Forest Research; Training of Staff; Strengthening of Wildlife Organisation; Other Wildlife areas; Protected areas; Management of State Zoo; Integrated Forest Protection (75:25); Rhino Conservation; Project Tiger; Social Forestry General (SFG); Tribal Sub-Plan (TSP); Scheduled Caste Component Plan (SCCP).

¹¹¹ Director Kaziranga National Park, DFOs, Eastern Assam Wildlife Division, Guwahati Wildlife Division, Nagaon (Territorial) Division, Kamrup (Territorial) East Division, Kamrup (Territorial) West Division, Nagaon Social Forestry Division, Guwahati Social Forestry Division and Golaghat Social Forestry Division.

Despite the best efforts of the DoE&F, GoA, audit noticed certain deficiencies which, if rectified, could further help the State to achieve the targets in a more efficient and cost-effective manner. The audit observations are discussed in the succeeding paragraphs.

5.3.2.1 Demarcation of land for Plantation

(I) Absence of Working Plan

Working plan is the main instrument of forest department for scientific management of forests and bio-diversity resources of a forest Division which is prepared/ revised every ten years by the State and finally approved by Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC, GoI). The MoEF&CC, GoI adopted (March 2014) the National Working Plan (NWP) Code, 2014¹¹² (grid based systematic sampling) compiling the following, among the other, criteria of sustainable management:

- 1 Forest area by type and successional stage relative to land area,
- 2 Protected forest area by type, successional stage and protection category relative to the total forest area,
- 3 The degree of fragmentation of forest types,
- 4 The rate of conversion of forest cover (by type) to other uses,
- 5 Area and percentage of forests affected by anthropogenic and natural disturbance,
- 6 Complexity and heterogeneity of forest structure,
- 7 Numbers of forest-dependent species,
- 8 Conservation status of forest-dependent species.

Audit noticed that the Department engaged M/s IORA (May 2016) to rectify, update and prepare working plans of 21 Divisions¹¹³ in line with WP Code, 2014 with a contract value of ₹12.59 crore. The work was to be finished within six months of the award of contract. As per information made available to audit, on completion of WPs of 21 Divisions, the DoE&F, GoA forwarded (by August 2019) the WPs to the MoEF&CC, GoI for approval. In February 2021, MoEF&CC, GoI approved one WP in respect of Sonitpur East Division and other 20 WPs were returned due to non-observance of the criteria¹¹⁴ as specified in the NWP Code, 2014 mentioned *ibid*.

Thus, despite engagement of a vendor for rectifying and updating the data of forest Divisions as per the requirements of NWP Code, 2014 and payment of ₹3.00 crore to the vendor, the Department failed to monitor the WPs submitted by the vendor. As a result, the DoE&F, GoA could not get approval of 20 WPs even though five years have lapsed since engagement of vendor for preparation of WP. Further, it was informed (July 2021) by the Department that out of 20 pending WPs, eight WPs were resubmitted

¹¹² Superseding Working Plan Code, 2004 (stratified random sampling based)

¹¹³ Out of 33 divisions i.e. excluding 11 divisions under council area and Majuli division (newly created).

¹¹⁴ 1) Status of regeneration was not specified; (2) Areas of RF includes Protected Forest Areas which needs to be clarify; (3) needs verification of rampant encroachment of forest areas; (4) working circles of the growing stock needs to be prescribed, *etc*.

by the Department for approval while 12 WPs are yet to be submitted by the vendor and the action taken by the Department for delay in submission of WPs was not on record. In absence of approved WPs, the works carried out through APOs could not ensure the requirements of activities in line with the WPs. This also hindered measurement of achievements of DoE&F, GoA *vis-à-vis* approved need-based plantation document in the prescribed area (*i.e.* scientific document approved by the competent authority).

In reply, the Department stated (February 2022) that all efforts are underway to get approval of at least nine WPs within financial year 2021-22. Further, Department stated that four working plans have been granted (January 2022) conditional approval by the State Level Consultation Committee, however, documents in support of conditional approval was not furnished. Present status of approval of GoI in respect of the 20 WPs is awaited. Further, no reply was furnished in respect of action taken against the vendor for non-adherence to the timelines mentioned in the contract and lack of monitoring on the part of the Department.

(II) Irregular allotment of forest land

As per handbook of guidelines for effective and transparent implementation of the provisions of Forest (Conservation) Act, 1980, no work/activity can be taken up in the forest land before issue of order for its diversion for the non-forest purpose unless and to the extent permitted in the Forest Conservation (Rules) or guidelines issued there under¹¹⁵.

In Nagaon SF Division, it was noticed that the Division carried out a 25 ha block plantation under CAMPA fund in Kumoi Hills under Tetelia Bogora RF and completed by March 2019 at an expenditure of ₹31.25 lakh. Audit noticed that while the plantation work under CAMPA was in progress, the Assam Plantation Crops Development Corporation Limited (APCDCL), a fully owned subsidiary of Government of Assam, informed about the occupation of approx. 15 ha of land allotted to APCDCL, to the Nagaon SF Division. In view of the objection raised by the APCDCL, audit observed the following:

- Tetelia Bogora was notified as Reserve Forest covering an area of 1806.50 ha in September 1967¹¹⁶.
- The Circle Officer, Mayang Revenue Circle, Morigaon district stated that the whole Kumoi Pahar was identified as revenue land in the records of Revenue Department. Scrutiny of documents showed that Kumoi Hills, a part of Tetelia Bogora RF was allotted¹¹⁷ by the Revenue Department to APCDCL, for Rubber Plantation, which commenced from 1998-99. This suggests that the status of land was not changed in the records of Revenue & Disaster Management in line

¹¹⁵ As per F. No. 5-2/2017- FC dated 28.03.2019 of Ministry of Environment, forests and Climate Change (FC Division), GoI

¹¹⁶ Vide notification No. FOR/Sect/543/65/31 dated 28.09.1967

¹¹⁷ Vide No. MRS.43/98/34 dated 06.12.1997 of DC, Morigaon

with the Government Notification (September 1967), leading to allotment of the Reserve Forest land to APDCL on lease.

- Against the application made by the APCDCL, the SF Nagaon Division requested¹¹⁸ the Deputy Commissioner, Morigaon (July 2018) for joint verification of the area as it was a forest land as per Government Notification, however, further correspondence regarding the joint verification was not available on file.

It is evident from above, that forest land was irregularly allotted to APDCL by the Revenue and Disaster Management Department. Further, after declaration of the area as Reserve Forest in September 1967, the Forest Department did not make any efforts to get the land records updated.

In the exit Conference, the Department stated that more than 80 *per cent* plantation has already been completed. However, no joint verification of the land was undertaken and also the present status of the said land was not intimated to audit.

The State Government needs to fix responsibility of the officials concerned for allotment of forest land for non-forest purposes.

5.3.2.2 Nurseries for production of seedlings

(I) As defined by the MoEF&CC, GoI, a nursery provides caring beds where seeds germinate, plants take roots, and grows into a sapling which are then transplanted at suitable sites. In Assam, between 2015 and 2020, altogether 93 nurseries were created¹¹⁹ and 121 nurseries were maintained¹²⁰ under CAMPA, APFBC and Social Forestry wing.

The Guidelines on State CAMPA, 2009 and Section 18 of the Compensatory Afforestation Fund Act, 2016 provides that the SLSC shall (i) scrutinise and approve the annual plan of operation (APO) of State CAMPA; (ii) monitor the utilisation of fund (iii) ensure inter-departmental co-ordination *etc.*

The Assam State Level Steering Committee (SLSC) of CAMPA headed by Chief Secretary, GoA was constituted¹²¹ in August 2009. The SLSC recommended the following measures for creation and maintenance of nurseries in their meetings¹²² held between May 2015 and November 2017:

- CAMPA nurseries in Assam should produce at least three crore quality seedlings annually (11 September 2015) to be increased to 10 crore by 2017-18 to meet the demand (09 November 2017);

¹¹⁸ On receipt of land documents from the APCDCL

¹¹⁹ During 2015-20, 21 nurseries under CAMPA, 41 under Social Forestry and 31 under APFBC were created.

¹²⁰ During 2015-20, 75 nurseries under CAMPA and 46 under Social Forestry were maintained.

¹²¹ Notification FRM.91/2006/Pt/165 dated 14.08.2009

¹²² Five meetings of SLSC held on 13.05.2015 (4th meeting); 11.09.2015 (5th meeting); 19.11.2015 (6th meeting); 01.06.2017 (7th meeting) and 09.11.2017 (8th meeting)

- State CAMPA should produce more seedlings of Agarwood and Som and effort should be made to produce qualitative seedlings to meet the demand (11 September 2015);
- three hectare nurseries under State CAMPA should be developed as Resource Centres to serve as a platform for exchange of knowledge and technology with the people (11 September 2015);
- Creation of new nurseries should be linked with the requirement of the plantations and demand of seedlings among the public (01 June 2017);

In the light of the recommendations of the SLSC, year wise creation, maintenance, and expenditure in respect of nurseries under CAMPA fund are shown in **Table 5.4**.

Table 5.4:-Nurseries under CAMPA for 2015-20

Activities	Year	1.5 ha	3 ha	Amount (₹ in lakh)
		(in number)		
Maintenance of Nursery	2015-2016	50	25	782.97
	2016-2017	49	24	666.52
	2017-2018	46	22	869.44
	2018-2019	42	23	916.33
	2019-2020	49	20	538.75
Total				3,774.01
Creation of Nursery	2015-2016	-	-	-
	2016-2017	10	2	141.52
	2017-2018			149.78
	2018-2019	7	2	216.45
	2019-2020	-	-	-
Total				507.75

Table 5.4 showed that during 2015-20, the Department created 21 nurseries at a cost of ₹ 5.07 crore and maintained 69 to 75 nurseries by incurring expenditure of ₹ 37.74 crore.

(II) Discontinuation of nurseries

As per Rule 5(3) of Compensatory Afforestation Fund Rules, 2018, not more than 20 *per cent* of the net present value deposited in the State Fund shall be utilised for strengthening the forest and wildlife related infrastructure, upgradation and maintenance¹²³ of modern nurseries. In June 2019, the CEO, CAMPA instructed¹²⁴ all the Circles to strictly follow the Rules *ibid*.

Audit also observed that in June 2017 itself, the State level Steering Committee (SLSC) had directed to link the creation of nurseries with the requirement of the plantations. However, no such analysis was done by the State CAMPA before creation and maintenance of nurseries.

A perusal of records shows that during the period 2015-2020, out of 97 nurseries (76 nurseries were created prior to 2015-16 and 21 nurseries were created during 2016-19), the Department discontinued maintenance of 28 nurseries from December 2019

¹²³ Includes procurements of seeds, polypots (2 lakh for 1.5 ha land), soil and preparation of beds for polypots.

¹²⁴ Letter No.FG.27/CAMPA/Nursery/Vol-III dated 21.06.2019.

onwards, which involves six newly created nurseries¹²⁵ (₹1.27 crore was spent for creation) to restrict the maintenance cost within the prescribed limit as specified in Rule 5(3) of Compensatory Afforestation Fund Rules, 2018. Audit further noticed that the extent of funds utilised in creation of these nurseries were not considered while deciding to discontinue of maintenance of these nurseries which resulted in avoidable investment on creation of six nurseries and indicated unplanned execution of infrastructure creation, upgradation and maintenance of existing nurseries.

As per approved norms, the annual capacity of raising of seedlings per nursery of 1.5 ha and 3.0 ha were 2,21,000 and 4,25,000 respectively. The CEO, CAMPA stated that (January 2020), the capacity of annual production of seedlings in 69 nurseries¹²⁶ were 99,47,000¹²⁷. Audit noticed that as per plantation target of CAMPA, the requirement of seedlings during 2015-20 ranged from 26.00 lakh to 91.31 lakh. This indicates seedlings produced in the CAMPA nurseries were sufficient as per planting target. During the period from 2015-16 to 2019-20, seedlings produced vis-a-vis requirement under CAMPA are shown in **Table 5.5**:

Table 5.5:-Target and production of seedlings under CAMPA nurseries for 2015-20

Year	Nurseries under CAMPA					Targeted Plantation under CAMPA		Excess production of seedlings (No. in lakh)	Excess Maintenance cost towards nursery (₹ in lakh)
	Number of		Total area (in ha)	Expenditure towards production of seedlings (₹ in lakh)	Seedlings (No. in lakh)	Area (in ha)	Seedlings required (No. in lakh)		
	1.5 ha	3.0 ha							
2015-16	50.00	25.00	150.00	782.97	200.00	1,265.00	31.63	168.37	659.16
2016-17	49.00	24.00	145.50	808.04	194.00	3,652.27	91.31	102.69	427.73
2017-18	56.00	24.00	156.00	1,019.22	208.00	1,161.50	29.04	178.96	876.93
2018-19	49.00	25.00	148.50	1,132.78	198.00	1,040.00	26.00	172.00	984.03
2019-20	49.00	20.00	133.50	538.75	89.00	2,602.59	65.06	23.94	144.89
Total				4,281.76	889.00		243.04	645.96	3,092.74

It is clear from above that under CAMPA, excess production of seedlings during 2015-20 ranged from 23.94 lakh to 178.96 lakh over the targeted plantation. Audit has analysed that the Department failed to utilise even two crore or less seedlings produced 2015-16 onwards.

Therefore, maintenance of nurseries in excess of requirement was not necessitated and the Department could have avoided maintenance cost of ₹ 30.93 crore. It was incumbent upon the Department to take a conscious decision to continue the closed nurseries from other sources of fund to fruitfully utilise the expenditure made towards creation of nurseries.

¹²⁵ **Creation in 2016-17**-(1) Nartap 1.5 ha (Kamrup East Division), (2) Bihmari 1.5 ha (Sonitpur East Division), (3) Lonkajan 1.5 ha (Nagaon South Division), (4) Tinsukia wildlife division 1.5 ha
Creation in 2018-19-(5) Deushri 1.5 ha (Chirang Division), (6) Resource Centre 3 ha (SF Division, Guwahati)

¹²⁶ In the list of continued nurseries, one nursery was not included, the reasons of which was not recorded.

¹²⁷ The basis of calculation was norms fixed by State CAMPA.

In reply, the Department stated (February 2022) that 28 nurseries were discontinued as per direction of the SLSC (August 2019). The Department further added that seedlings produced in excess of requirement was considered in SLSC meeting held in April 2021 and it was decided that:

- 20 per cent of seedlings will be reserved for free distribution
- remaining 80 per cent will be kept for sale, preference will be given to the contractors hired for raising plantation under APFBC project
- provisions must be kept for distribution of seedlings free of cost to the Government organisations.

In exit conference (February 2022), the Department stated that though six newly created nurseries were discontinued, the infrastructure of the same will be used for other purposes like Biodiversity Park, plantation, etc.

5.3.2.3 Production vis-à-vis distribution of seedlings

Creation of nurseries are intended for fulfilling the need of the departmental plantation as well as distribution to the public.

Test check of records of the five sampled Divisions involving 18 nurseries revealed that during 2019-20, a total of 32.04 lakh seedlings were in stock (including production in 2019-20), of which 7.69 lakh seedlings were distributed while 0.81 lakh seedlings were damaged. The percentage of seedlings distributed and utilised for departmental plantations was 25 per cent only of the available stock after deducting the damages while the remaining 75 per cent seedlings remained in stock.

Seedlings in stocks are most suitable for immediate plantation and there is every possibility that these seedlings may eventually get overaged with passage of time leading to wastage of funds involved in their production.

In reply, the Department stated (February 2022), that in three nurseries under Golaghat Division, a total of 2,87,789 nos of seedlings of 2019-20 created lying un-disposed (March 2020), were not matured enough and rest were retained for distribution in the subsequent years. As such, there was no excess production of seedlings during 2015-20.

However, the departmental reply remained silent about utilisation of the undisposed 20.66 lakh seedlings lying in other 15 nurseries apart from Golaghat SF Division.

5.3.2.4 Creation of 3.0 ha Nursery cum Resource Centre

The SLSC approved (11 September 2015) five years' APOs (2014-15 to 2018-19) involving an estimated expenditure of ₹ 128.04 crore which included creation¹²⁸ of three Nursery cum Resource Centres (03 ha) at an estimated cost of ₹ 1.32 crore, to serve as a platform for exchange of knowledge and technology with the people.

¹²⁸ Which involves site selection, fencing, preparation of standard bed for seedlings etc.

Accordingly, the State CAMPA released ₹ 118.55 lakh between November 2016 to July 2017 to three Divisions¹²⁹ for creation of three new Nursery cum Resource Centres. While two Divisions (Guwahati SF and Parbatjhora Divisions) carried out the works between January 2017 to February 2018, the DFO, Bongaigaon SF Division returned¹³⁰ the fund due to non-availability of suitable land.

Audit noticed that the Guwahati SF Division selected a site for creation of Nursery cum Resource Centre (3.0 Ha) at Naitar where there was no pre-existing 3.0 Ha nursery. The creation of Nursery cum Resource Centre (3.0 ha) at Naitar commenced in February 2017 and ₹11.29 lakh was spent. In March 2017¹³¹, the Additional PCCF instructed to shift the Resource Centre from Naitar to the existing nursery at Agsia under Guwahati SF, Division, as Naitar was a flood prone area. The instruction of Addl. PCCF's relating to shifting of nursery cum resource centre from Naitar to Agsia could not be implemented till March 2021 due to non-allocation of fund by the State CAMPA, resulting in wasteful expenditure of ₹11.29 lakh.

In reply, the Department stated (February 2022) that the nursery cum Resource Centre was raised on two different parts at Agsia and Naitar and having a distance of 44 KM between two places. The available stock of seedlings at Naitar has been distributed to local public/ organisations and the nursery was closed after incurring an expenditure of ₹ 11.29 lakh. Therefore, the expenditure of ₹ 11,29,060/- was not wasteful.

The reply of the Department is suggestive of the fact that the intended objective of creation of the resource centre for serving as a platform for exchange of knowledge and technology with the people was not met.

5.3.2.5 Avoidable procurement of seedlings

The SLSC which is responsible for ensuring inter-departmental co-ordination for CAMPA activities has recommended (September 2015) to produce quality Agarwood and Som seedlings in their nurseries.

Audit noticed that in 2017-18, the Social Forestry wing of the DoE&F, GoA under three schemes¹³² had procured¹³³ 7.60 lakh *Agar* and *Chandan* seedlings for 13 SF Divisions at an estimated cost of ₹ 1.52 crore (₹ 20 per seedling). On scrutiny of records of three selected Divisions¹³⁴ (out of 13 SF Divisions), audit noticed that 1,75,468 seedlings¹³⁵ were procured from private nurseries¹³⁶ at a cost of ₹ 35.09 lakh and

¹²⁹ (1) Bongaigaon (T) Division → ₹ 45.16 lakh, (2) Guwahati SF Division → ₹ 28.23 lakh and (3) Parbatjhora (T) Division → ₹ 45.16 lakh.

¹³⁰ Bongaigaon (T) Division returned ₹ 45.16 lakh as instructed by the APCCF, CAMPA due to non-availability of suitable land.

¹³¹ 24 March 2017

¹³² Social Forestry General (SFG), Tribal Sub Plan (TSP) and Schedule Caste Component Plan (SCCP)

¹³³ The SLSC directed (September 2015) to produce more *Agar* and *Chandan* seedlings instead of which the Social Forestry wing included fund for procurement of seedlings in the APO.

¹³⁴ Guwahati, Golaghat and Nagaon SF Divisions

¹³⁵ Quantity of *Agar* and *Chandan* seedlings procured by (i) Guwahati SF: 58568, (ii) Nagaon SF: 58450 and (iii) Golaghat SF: 58450

¹³⁶ Six out of eight private nurseries were active as per information furnished by the Commissioner of Taxes, Assam.

distributed to the public. These three Divisions had produced seedlings including *Agar and Chandan* species in their existing nurseries as per the Department's norm for production of seedlings of ₹ 5.68 per seedling¹³⁷. Further, as discussed in paragraph 5.3.2.2 (II), the Department had a balance of 178.96 lakh seedlings at the end of 2017-18 after utilising the available seedlings for the targeted plantation in existing CAMPA nurseries.

Thus, due to lack of intra-departmental co-ordination between State CAMPA and Social Forestry wing of the Department, an avoidable expenditure of ₹ 1.52 crore towards procurement of seedlings from private nurseries was incurred.

In reply, the Department stated (February 2022), that due to non-availability of sufficient quantity of *Agar* seedlings in existing CAMPA nurseries, *Agar* seedlings were procured (2017-18) from private nurseries for public distribution.

The reply is not based on facts as the Department had 178.96 lakh seedlings available with them to spare and in view of the SLSC directions (September 2015), the thrust of the Department was to produce quality *Agarwood* seedlings in the CAMPA nurseries.

5.3.2.6 Expenditure in deviation of sanction order

In February 2017¹³⁸, the Addl. PCCF, Social Forestry sanctioned ₹11.35 lakh to Guwahati SF Division for creation of one 1.5 ha nursery at City Plantation range under Tribal Sub Plan (TSP) scheme. The DFO, Guwahati SF Division submitted (April 2017) Utilisation Certificate (UC) for ₹ 11.35 lakh towards creation of nursery to the higher authority.

Scrutiny of records revealed that the Division with an amount of ₹ 1.35 lakh, partially completed seven items out of 21 sanctioned items required for creation of nursery and with the remaining ₹ 10 lakh, procured (March 2017) 50,000 *Agar* seedlings in deviation to the sanctioned items¹³⁹ required for creation of nursery. There is no scope for procurement of seedlings as per norms for creation of nursery. Thus, the expenditure of ₹ 10.00 lakh involved in procurement of *Agar* seedlings resulted in violation of sanction order as well as non-creation of 1.5 ha nursery under TSP.

In reply, the Department stated (February 2022), that under exigent circumstance 50,000 *Agar* Seedlings were procured by Guwahati SF Division for distribution to public. Reply is not tenable as only 9,000 *Agar* Seedlings were distributed till March 2018 and also the reply is silent about the incorrect submission of UC of ₹ 11.35 lakh.

¹³⁷ As per norms for 2016-17 issued by the PCCF & HoFF, Assam production cost of 2,00,000 seedlings (polypot) in each 1.5 ha was ₹11,35,000 (i.e. cost of one seedling is ₹ 5.68)

¹³⁸ No.FDG.1/TSP/2016-17 dated 27.02.2017

¹³⁹ (1) Site selection, survey, demarcation, jungle cutting, etc., (2) Fencing (3) Making of standard bed (4) Procurement of seeds, cow-dung Manure, insecticide/ pesticide (6) Sowing/dibbing of seeds (7) Soil preparation, (8) Procurement and application of manure (9) Preparation of beds (10) Watering to beds (12) Shifting of polypot seedling (13) Providing temporary shade (14) Construction of Camp hut (15) Installation of one/tube well (16) Procurement of tools, implements, signboard, Camp hut accessories, etc., (17) Construction of inspection path and approach road (18) Protection work (19) Awareness & monitoring & evaluation works.

5.3.3 Plantations

Plantation is one of the most vital steps towards afforestation after nurseries. As per the ISFR, a complete extent of tree resources covered with tree patches is often termed as 'Forest & Tree Cover'. As per the Assam State Action Plan on Climatic Change, the target set for plantation under the Green India Mission (GiM)/ CAMPA and APFBC fund for the period 2015-2020 was 10,000 ha.

5.3.3.1 Non-completion of a project under *Nagar Van-Udyan Yojana* despite receipt of central share

MoEF&CC, GoI, formulated (August 2015) a scheme "*Nagar Van-Udyan Yojana-Ek kadam hariyali ki or*" i.e. to create at least one City Forest in each city for providing wholesome healthy living environment and contributing to growth of smart, clean, green, sustainable and healthy city. As per the guidelines, the GoI and State Government would provide one-time financial support for development and non-recurring expenditure to the agency in the ratio of 80:20. In March 2016, PCCF, CAMPA directed the DFO, Guwahati SF Division to implement *Nagar Van-Udyan Yojana* at Agyathuri RF, Guwahati with an estimated cost of ₹ 54 lakh (Central share of ₹ 43.20 lakh) for creation of 27 ha City Forest.

The State CAMPA had received central share of ₹43.20 lakh¹⁴⁰ in two instalments from National CAMPA Advisory Council (NCAC), however, the State CAMPA released ₹ 32.40 lakh¹⁴¹ to the Guwahati Division for implementation of the scheme. After partial¹⁴² completion of the project work with the allocated fund, the Division requested (28 February 2018) the State CAMPA for release of remaining central share of ₹ 21.60 lakh. However, the fund was not released till March 2021 to the Division though the GoI has released its share in September 2018. Audit also noticed that most vital part of the project such as creation of nursery, plantation of plants *etc.* were partially completed due to non-release of fund. Audit further noticed that there was excess expenditure of ₹ 2.50 lakh against the prescribed norms and the Department also started Departmental Proceedings against the then DFO for such excess expenditure.

Thus, delay in utilisation of fund by the State CAMPA despite receipt of fund from GoI led to non-completion of City Forest even after lapse of three years from release of central share. Further, with the passage of time, degradation in the assets partially created cannot be ruled out.

In reply, the Department accepted (February 2022) audit observation by stating that the remaining work of the *Nagar Van Udyan Yojana* shall be completed after the Departmental Proceeding is over and on receipt of balance amount to achieve the objectives of the Scheme.

¹⁴⁰ ₹ 21.60 lakh in March 2016 & ₹ 21.60 lakh in September 2018.

¹⁴¹ ₹ 11.00 lakh, ₹ 10.60 lakh & ₹ 10.80 lakh in March 2016, November 2016 & January 2017 respectively.

¹⁴² Out of 21 items of work, seven were completed in full, 10 were partially completed and four were not commenced at all.

5.3.3.2 Faulty site selection for Artificial Regeneration of 100 ha Plantation led to wastage of ₹36.89 lakh

The DoE&F, GoA approved (November 2016) a plantation of 100 ha under Artificial Regeneration (AR) scheme of CAMPA at Majuli. The DFO, Golaghat SF Division requested the Deputy Commissioner (DC), Majuli District to identify the viability of plantation in the identified area¹⁴³. The DC, Majuli informed (February 2017) that two plots were available for plantation, one at Masua Chapori (NC) (120 ha) and another at Maduri Chapori (NC) (100 ha). It was also informed that immediate plantation may be commenced at Maduri Chapori, Salmara where a compensatory plantation of 250 ha was satisfactorily raised in 2005-06. While the land at Masua Chapori, Kamalabari is under encroachment and not readily available for plantation. In this regard, audit noticed as follows

- The DFO initiated (March 2017) 100 Ha plantation at Masua Chapori and incurred an expenditure of ₹ 36.89 lakh towards creation and maintenance activities despite the prior knowledge of encroachment on the said plot of land. The plantation was created between March 2017 and July 2018.
- In June 2017, the DC, Majuli imposed ban (September 2017) on cultivation, farming, *etc.* and enforced Section 144 of CrPC at Masua Chapori based on information of encroachment as reported by the DFO, Golaghat SF Division.

The continuation of plantation activities in Masua Chapori till October 2017 even though there was frequent biotic pressure¹⁴⁴ like cattle grazing, cultivation, *etc.* resulted in survival of plantation being only 10 *per cent* against the desired 100 *per cent*. Thus, wrong selection of plantation site by the DFO, Golaghat SF Division despite prior information about encroachment resulted in wastage of ₹36.89 lakh.

The DoE&F, GoA needs to investigate the reasons for faulty selection of the site by the DFO instead of selecting available clear site for the plantation as proposed by the DC, Majuli.

In reply, the Department stated (February 2022), that feasibility report for the plantation was not made, and the plantation was damaged due to high biotic pressure and unprecedented floods in 2017 and 2018.

5.3.3.3 Deviation from approved site-specific plantation area

The monies received for site-specific scheme can be used as approved by the GoI. Scrutiny of records revealed that during 2014-15, the DFO, Nagaon (T) has diverted the site for creation of a 50 ha site-specific plantation from Litumari¹⁴⁵ Reserve Forest to Doboka Reserve Forest without prior approval of the GoI. During 2014-19, the Division has incurred an expenditure of ₹15.04 lakh towards creation and maintenance

¹⁴³ (1) Jamud Chuk Gaon, (2) Masua Chapori (NC), (3) Moyongiya Chapori (NC), (4) Tikirai Chapori (NC), and (5) Maduri Chapori (NC).

¹⁴⁴ The NWP 2014 (Clause 110) defines biotic pressure as the sources of degradation due to various factors like grazing, browsing, fire, lopping, girdling, illicit felling, mining, *etc.*

¹⁴⁵ Selected by the GoI.

of the plantation at Doboka Reserve Forest. The physical verification (12 May 2018) of plantation site by the DFO revealed that a few saplings aged two years were available in 20 ha area only despite expenditure incurred on maintenance of the whole 50 ha of plantation. The DFO had also raised doubts on proper utilisation of fund and accordingly explanation was called for from the concerned Range Officer. However, no action taken report was made available to audit though called for.

From the above, it is clear that site-specific plantation area was deviated without approval of the GoI besides short coverage of plantation area.

In reply, the Department stated (February 2022) that this plantation was done to meet up the urgency of plantation work as the monsoon season was supposed to be over and there was no suitable area in Lutumari RF. Further, the Department directed DFO to take appropriate action against the concerned Range Officer. Further action taken report is awaited as of February 2022.

5.3.3.4 Creation of two numbers of 5 ha Block Plantation

As per the revised norms for plantations and nurseries issued¹⁴⁶ by the PCCF & HoFF, the plantation shall be done within the same year of advance works¹⁴⁷. During 2017-18, GoA approved 12 plantation area (each of 5 ha block plantation) in nine SF Divisions and released ₹1.12 crore (₹ 9.37 lakh for each block plantation¹⁴⁸) for advance work under two schemes viz., TSP and SFG.

During audit, it was noticed that in two Divisions (viz. Nagaon and Golaghat SF Divisions), the advance works in three¹⁴⁹ 5 ha block plantations¹⁵⁰ was completed in March 2018 with an expenditure of ₹28.12 lakh. However, plantation work was not done till February 2021 due to non-receipt of required fund¹⁵¹.

Thus, due to non-release of fund by the GoA, the plantation works could not be completed as per the extant guidelines which led to idle expenditure of ₹28.12 lakh on advance works.

In reply, the Department stated (February 2022) that out of two 5 ha block plantation of Golaghat SF Division, one was approved for creation of plantation, however, plantation could not be done due to lack of bidders. Further, in Nagaon SF Division, the creation of plantation was carried out by using seedlings from the existing nurseries and the survival percentage was more than 90 per cent.

However, Department is yet to produce records to audit in support of communication made with the Government in connection with release of funds.

¹⁴⁶ 29.07.2017

¹⁴⁷ advance works includes (i) Survey & demarcation; (ii) Jungle clearing & Slash disposal; (iii) Fencing; (iv) Lining & Stacking; (v) Making Inspection Paths and (vi) Site nursery for vacancy filling.

¹⁴⁸ Advance work of 5 ha block plantation during 2017-18

¹⁴⁹ 5 Ha Block Plantation @ ₹. 9,37,200 each towards advance work of one Planation under Nagaon SF (under SFG) and two Planations under Golaghat SF (one under TSP and another under SFG)

¹⁵⁰ under two schemes

¹⁵¹ projecting requirement of fund of ₹1.61 lakh per year for each 5 ha block plantation

Recommendations

- *The Department may ensure timely preparation of working plans following the existing guidelines/ norms and get them approved for effective implementation.*
- *The Department may take immediate measures to demarcate forest land in consultation with the Revenue Department to prevent encroachment and make forest land free from encroachers.*
- *The Department may assess the actual requirement of seedlings including demand of seedlings, fix the viability period of seedlings for planting, etc. and ensure intra-departmental coordination for utilisation of saplings/seedlings produced in State owned nurseries.*
- *The Department may ensure long-term planning in terms of creation and maintenance of nurseries and to coordinate the release of fund towards plantations with the calendar of plantation activities and the actual requirement of native seedlings before production of the same.*
- *The Department may fix the responsibility against the non-adherence of comments/ recommendations of concerned authorities.*

5.3.4 Wildlife in Assam

The Protected Area Network (3925-sq. km. area) constitute about five *per cent* of the State's geographical area in Assam which includes five National Parks¹⁵² (NP), 20 Wildlife Sanctuaries¹⁵³ (WLS) (including two newly proposed) and two biosphere reserves namely Dibru-Saikhowa and Manas.

5.3.4.1 Deficiencies in planning

The Guide¹⁵⁴ to management planning highlights that annual plan of operations (APO) should flow from the schedule of operations incorporated in the management plans which are prepared for the long term.

Audit observed that the NP and WLS had prepared APOs on year-to-year basis instead of a rolling long-term management plan for the period 2015-20. In absence of long-term management plan, the authorities could not achieve long term activities like grassland management, habitat management, anti-poaching and protection works *etc.* some of which are discussed in the succeeding paragraphs.

¹⁵² **National Parks of Assam**→(1) Kaziranga National Park, (2) Manas National Park, (3) Dibru - Saikhowa National Park, (4) Nameri National Park (5) Rajiv Gandhi Orang National Park

¹⁵³ 1) Garampani; (2) Laokhowa; (3) Bornadi; (4) Chakrasila; (5) Burachapori; (6) Panidehing; (7) Hollongapar Gibbon; (8) Pabitora; (9) Sonai Rupai; (10) Bherjan - Borajan - Padumoni; (11) East K. Anglong; (12) Nambor; (13) Marat Longri; (14) Nambor - Doigrung; (15) Amchang; (16) Dehing Patkai; (17) Borail; (18) Deepar Beel; (19) Bordoibam Bilmukh Bird (Proposed); (20) North K. Anglong (Proposed)

¹⁵⁴ Issued by the Wildlife Institute India, Dehradun

The Kaziranga National Park was declared¹⁵⁵ as Tiger Reserve (KTR) by the GoA in August 2007, with a core area of 482 sq.km. and a buffer area of 548 sq. km. totalling 1030 sq. km. Again, in December 2007¹⁵⁶, GoA notified KTR as Critical Tiger Reserve with an area of 625.58 sq.km.¹⁵⁷ including some other neighbouring wildlife zones having frequent movements of tigers. A tripartite Memorandum of Understanding (MoU) signed between NTCA, GoA and Field Director, KTR for efficient fund flows to ensure effective Tiger conservation stipulates following terms and conditions:

- i. *The Tiger Conservation Plan (TCP) as required under Section 38V of the Wildlife (Protection) Act, 1972, as amended in 2006, shall be prepared for the Tiger Reserve for which funding support is being sought from the First Party, as per the prescribed guidelines within six months from the date of the signing of this MOU.*
- ii. *The core or critical tiger habitat and the buffer or peripheral area shall be delineated and notified as required under the Wildlife (Protection) Act, 1972, as amended in 2006 within six months from the date of the signing of this MOU.*
- iii. *The staff vacancies shall be filled up by the Second Party for ensuring effective implementation and field protection, after fixing area norms vis-à-vis the topography within six months from the date of the signing of this MOU.*

Audit noticed that GoA submitted (April 2013) TCP with an estimated budget of ₹16,123.95 crore for ten years (2015-25) incorporating core area of Tiger Reserve as 429.93 sq. km. for ten years (2015-25) to the National Tiger Conservation Authority (NTCA) for approval. However, NTCA could not approve (till February 2021) the TCP mainly due to non-reconciliation of core area in the notifications issued by the GoA and proposed TCP. Instead of TCP, an amount of ₹86.89 crore was approved against proposal of ₹124.27 crore in the APOs under CSS-Project Tiger for the period 2015-20. However, an amount of ₹ 56.05 crore was released from GoI and GoA to KTR. Thus, non-finalisation of TCP resulted in non-receipt of requisite fund towards fulfilment of following management goals as emphasised in the proposed TCP:

- to protect Kaziranga and make it poaching free in a long term perspective;
- to secure, improve and extend the habitat of Kaziranga;
- to establish and maintain around Kaziranga a connected network of buffers, corridors, satellite cores, conservation reserves and tiger reserves in landscape mode;
- to promote and cultivate habits in the landscape which minimise human-animal interface;

¹⁵⁵ Notification No.FRW-6/2007/23 dated 03.08.2007

¹⁵⁶ Notification No.F.R.W.2/2007/17 dated 20.12.2007

¹⁵⁷ Kaziranga National Park: 430 sq. km. **plus** 1st Addition; 43.79 sq. km. **plus** 6th Addition: 37.60 sq. km. **plus** LAOKHOWA WLS: 70.13 sq. km. **plus** BURACHAPORI WLS: 44.06 sq. km.

- to provide green growth opportunities for the people living within the landscape; and
- to promote and cultivate sustainable and environment friendly value systems in the landscape and mitigate climate change impacts in long term with little or no pollution/ waste generation.

In reply, the Department stated (February 2022), that revised draft TCP with maps and Appendices will be submitted shortly to the NTCA for final approval.

5.3.4.2 Annual Plans of Operations vis-à-vis fund management

The projection of requirement of funds in the APOs vis-à-vis actual release of funds under CSS during 2015-20 was test checked in respect of Pobitora WS and KTR and findings are discussed below:

(i) **Pobitora WS:** Against the APO (CSS- Integrated development of wildlife habitats for national parks and wildlife sanctuary in Assam) of ₹154.85 lakh (Central share of 90 *per cent plus* State share of 10 *per cent*) prepared by the park authorities for 2016-20, an amount of ₹67.49 lakh had been allocated to it through GoI and GoA and thus the overall percentage of fund released worked out to 44 *per cent* of total demand, the reasons of short release was mainly due to delay in release of funds by GoA.

(ii) **Kaziranga Tiger Reserve:** Since declaration of KTR in 2007, the NTCA has provided financial assistance for protection and development of KTR under Project Tiger through GoA (details in **Appendix- XXXIII**).

Audit observed that GoI has released ₹ 50.95 crore (65 *per cent*) out of approved amount of ₹ 78.79 crore and GoA has released ₹ 5.11 crore (63 *per cent*) out of ₹ 8.11 crore. Altogether, KTR had received 64 *per cent* of the required fund for protection and development of KTR. The short release of funds by the GoI is mainly attributed to delay in release of fund to KTR by GoA. Analysis of item-wise utilisation of funds during 2019-2020 showed that the KTR authority could attempt 207 activities (out of 260 approved items of work in APO), of which 169 activities could not be fully completed due to shortage of funds.

Thus, the lesser allocation of funds had compelled the wildlife managers to scale down the activities envisaged in the original APOs.

In reply, the Department stated (February 2022) that lesser coverage of activities planned in APOs at Pobitora and Kaziranga was due to short and delayed release of funds from GoA.

5.3.4.3 Pobitora Wildlife Sanctuary

Pobitora WLS¹⁵⁸ with an area of 38.81 sq. km., is situated in the flood plains of River Brahmaputra in the district of Morigaon and harbours world's highest density of

¹⁵⁸ Vide GoA Notification No. FRS.19/87/152 dated 17.03.1998.

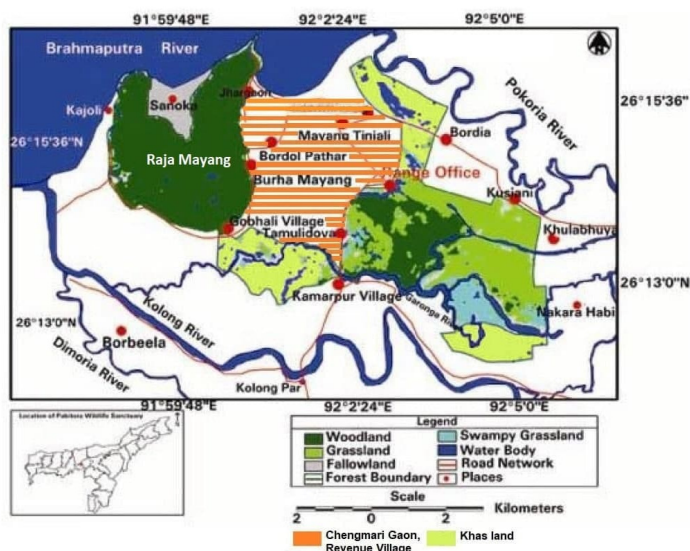
rhinoceros with around 103 rhinos. Pobitora WLS is also a habitat for Leopard, Leopard cat, Fishing cat, Jungle cat, Feral Buffalo, Wild pigs, Chinese pangolins, *etc.* Besides WL, it is also famous zone for Birds with 375 species (46 families) of both migratory and resident birds recorded till March 2021. Also, 27 species of reptiles and nine species of amphibians have been recorded in the region. Audit findings on demarcation of boundary of Pobitora WLS are discussed below:

During 2019-20, five out of 17 or about one third rhinos reportedly died due to infighting, which may be attributable to space crunch.

The Pobitora Wildlife Sanctuary is defined as one land unit comprising of (i) Pobitora RF (15.85 sq. km.); (ii) Khas land¹⁵⁹ (10.98 sq. km.) and (iii) Raja Mayang Hill RF (11.98 sq. km.). The Pobitora RF and Raja Mayang Hill RF is connected through Khas land and Changmari Revenue Village. The DFO, Guwahati Wildlife Division requested (September 2019) the Deputy Commissioner, Morigaon to stop collecting land revenue from the local villagers and to hand over the Khas land to the Pobitora WL authority. However, till March 2021, no action was taken up by the Revenue authorities to hand over the Khas land to the Wildlife Division. This disconnected Pobitora RF from Raja Mayang Hill RF which is obstructing movements of wildlife animals within the areas allocated/declared as wildlife sanctuary. Further, Rhino populations are also not able to make optimum use of the transit corridor towards Raja Mayang Hill RF as Khas land and Changmari Revenue Village falls between Pobitora RF and Raja Mayang Hill RF.

The GoA and the WLS needs to settle the khas land measuring 10.98 sq. km. between the revenue and forest authority for effective use of notified areas of the sanctuary to create more space for free movements of the animals.

In reply, the Department stated (February 2022) that the PCCF, Wildlife and Chief Wildlife Warden, Assam requested the Addl. Chief Secretary, Environment & Forest Dept. GoA for taking necessary action to hand over the Khas lands to the Forest Department.



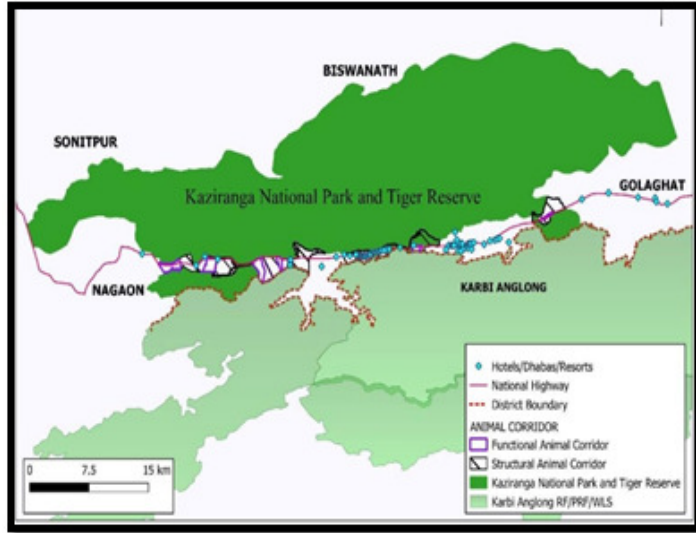
¹⁵⁹ Waste land or estate over which no person has acquired the right of a proprietor

5.3.4.4 KAZIRANGA TIGER RESERVE

The natural ecosystems of KTR consists of several communities of plants and animals and significant natural habitat for *in-situ* conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science and Biodiversity Conservation.

Automated animal sensors in KTR

In Kaziranga, the grassland of the Brahmaputra flood plains and the adjoining hill forests of Karbi Anglong form a single unit. The combination of the grassland plains and the adjoining hills, divided by National Highway 37, are important because the Brahmaputra River flowing on the north side of the wildlife habitat inundates the grassland plains during each monsoon forcing the animals to take shelter in the adjoining hills. In order to facilitate free movement of the animals to and from the adjoining hills, the park management has designated animal corridors in specific paths which are frequented by the animals for movement as indicated in the map.



Source: Committee for Delineation of Corridors, Govt. of Assam

It was observed that the National Green Tribunal (NGT) directed the GoA for implementation of short term (on 5 February 2015) and long-term (on 22 April 2015) measures as under:

(A) **Short-term Measures:** fixation of sensor operated automatic barriers at the animal corridors- i.e. the points where as per survey already done the animals cross the highway to reach other side of the forest area (05 February 2015) and

(B) **Long-term measures:** construction of flyover, under passes, tunnels for facilitating the wildlife movement across the Kaziranga during normal time as well as in critical conditions like floods. The GoA should prepare Detailed Project Report (DPR) in respect of long-term measures and submit to NGT within three months.

Audit collected information as well as test checked records related to implementation of short-term and long-term measures taken by the GoA and observed as under:

- The Director, KNP awarded (23-09-2016) the works relating to installation of an automatic operation and control system consisting of Animal Sensors and other requisite equipment and software at Malini camp (Kanchanjuri Animal Corridor on the NH-37) to M/s Divisys India Pvt. Ltd (lowest bidder) at a cost of ₹1.84 crore, to be completed within five months from the date of agreement.

The animal sensor at Malini Camp though made operational but was discontinued due to non-installation of two additional thermal cameras as directed (July 2018) by Hon'ble NGT.

- The primary requirement of an automated Animal Sensors is continuous power supply so that the surveillance of animals crossing the NH-37 to control the traffic on NH-37, which was not ensured by the Department.
- Further, GoA awarded (9 January 2019) contract for installation of automated animal sensors at six animal corridors other than Malini Camp to M/s. Brihaspathi Technologies Pvt. Ltd. at total cost of ₹ 15.98 crore to be completed within March 2021. Audit noticed that none of the animal sensors were made operational till completion of audit.
- During 2016-20, a total of 58 animals were run over by speeding vehicles on NH-37 adjacent to KTR.
- As regards long-term measures, GoA issued (October 2016) work order to M/s Wadia Techno Engineering Services Ltd. through the Chief Engineer, PWD (NH Works), Assam for “Consultancy Services for Feasibility Study and preparation of DPR for Implementation of Wildlife friendly measures proposed on KNP stretch of the NH-37” at an estimated amount of ₹3.78 crore. The consultant M/s Wadia Techno-Engineering Services Ltd., Mumbai has submitted (August 2017) the Draft Feasibility Report. However, the status of DPR has not been made available to audit (January 2021).

Thus, even after six years of the NGT's instruction, GoA failed to operationalise automated animal sensors in any of the animal corridors after an expenditure of ₹6.12 crore. Further, Government is yet to implement the long-term measures.

In reply, the Department stated (February 2022) that the failure of the pilot project at Malini Camp can be attributed to two major factors, one being the power supply and the other maintenance. The reply is not tenable as the continuous power supply is the primary requirement of the project.

Further, the Department stated that installation of equipment in respect of six camps was carried out till April 2021. However, the Department's reply remained silent about the operational status in respect of installed Automated animal sensors at the six camps.

Recommendations

- *The Department may ensure timely approval of Tiger Conservation Plan and Management Plan for each of Protected Area Network of Assam and preparations of APOs in synergy with the items of works envisaged in the plan.*
- *The Government may consider timely allocation of funds to wildlife Divisions in consonance with consolidated APOs for smooth management of wildlife activities.*
- *The Government may consider immediate implementation of long-term measures as per NGT's instruction considering the animals' safety while crossing National Highway.*

5.3.5 Biodiversity

The term 'biodiversity' is used to refer to all aspects of variability in the living world, including diversity within and between individuals, populations, species, communities and ecosystems. The human civilisation depends directly or indirectly upon this biodiversity for their basic needs of survival - food, fodder, fuel, fibre, fertiliser, timber, liquor, rubber, leather, medicines and several raw materials. This diversity is the condition for the long-term sustainability of the environment, continuity of life on earth and the maintenance of its integrity.

The growing concern for environmental degradation and depletion of biological diversity world-wide led to the establishment and adoption of the Convention on Biological Diversity (CBD) in 1992. This Convention recognised the sovereign rights of the States over their biological resources. With this objective, the GoI enacted the Biological Diversity Act, 2002 in October 2003. The Act provides for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of commercial use of biological resources and associated traditional knowledge.

The Act was to be implemented through three functional bodies, viz., the National Biodiversity Authority (NBA) established in 2003 at the National level, State Biodiversity Boards (SBBs) at State level and Biodiversity Management Committees (BMCs) at the level of local communities. Audit findings are discussed in the succeeding paragraphs.

5.3.5.1 Assam State Biodiversity Board (ASBB)

GoA established the Assam State Biodiversity Board (ASBB) on 29 September 2010 after a lapse of more than eight years from the enactment of Central Act. The GoA has declared¹⁶⁰ Majuli district as Biodiversity Heritage Sites¹⁶¹ and notified¹⁶² 14 Endangered/ threatened species in the State. Audit observed that the ASBB was lacking in fulfilment of the following activities:

- All BMC¹⁶³ are required to prepare and submit duly signed People's Biodiversity Register (PBR)¹⁶⁴. Audit noticed that out of 2,549 BMC in Assam, 304 BMC (11.92 per cent) has prepared PBR as on March 2020.

¹⁶⁰ MoEF, GoI declared vide notification No. FRW57/2005/Vol.-II/14 dated 29 March 2017.

¹⁶¹ Under Section- 37 of Biological Diversity Act, 2002 and Rule 24(1) of the Assam Biodiversity Rules 2010, the State Government upon recommendation of the Assam State Biodiversity Board from time to time may notify in Official Gazette areas of biodiversity importance as Biodiversity Heritage Sites (BHS). At present 'Majuli' has been notified by the State Government as the first Biodiversity Heritage Site of Assam on 26 May 2017.

¹⁶² MoEF&CC, GoI notified vide notification No. S.O. 3846(E) dated 2 August 2018.

¹⁶³ BMC shall have seven persons nominated by the local body of whom not less than one third shall be women. The Chairperson of BMC shall be elected from amongst the members of the Committee.

¹⁶⁴ The register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them. PBR is not simply a register with names of species and their distribution in a given area but it is a comprehensive data base recording peoples' traditional knowledge and insight of the status, uses, history, ongoing changes and forces driving these changes on the biological diversity resources of their own localities. Further, it helps equitable sharing of benefits arising out of commercial utilisation of biodiversity resources and knowledge on their uses.

- The database on biodiversity resources in the State had not been prepared by the State Biodiversity Board till March 2020.

In reply, the Department stated (February 2022) that all the 2,549 BMCs of Assam have completed preparation of PBR by March 2020. Therefore, the database on biodiversity resources in the state stood prepared by the State Biodiversity Board by March 2020. However, audit noticed that during ASBB meeting held in August 2020 it is stated that duly signed hardcopies in respect of 2245 out of 2549 PBRs yet to be submitted to the ASBB.

5.3.5.2 Assam Project on Forest and Biodiversity Conservation (APFBC)

The Assam Project on Forest and Biodiversity Conservation (APFBC) is co-funded by the French Development Agency – Agence Française de Développement (AFD) and the GoA. The first phase of the project commenced in February 2012 and ended in May 2019. The goal of the project was to restore forest ecosystems, in collaboration with the forest dependent communities, to enhance their livelihoods and ensure conservation and sustainable use of biodiversity.

It was observed that the APFBC carried out two types of plantation activities, one - through forest department and the other through Joint Forest Management Committee (JFMCs). The departmental plantation consists of 13,182 ha of land (2,090 ha of assisted natural regeneration, 1,315 ha of Sal regeneration, 4,697 ha of mixed hardwood, 4,380 ha of non-timber forest product and 700 ha of block plantations) along with 31 nurseries with a special focus on indigenous fruit-bearing tree species. The departmental plantations (13,182 ha) were made over four years in 31 Divisions across nine circles. The audit findings in three test check Divisions are discussed in the succeeding paragraphs:

Audit scrutiny of records of three¹⁶⁵ Divisions revealed that 865 ha, 745 ha and 557 ha plantation were carried out in Kamrup West Division, Nagaon and Kamrup East Division respectively. During April 2017 to June 2017, as per the direction of the Chief Conservator of Forest, the respective CF/ DFOs had carried out inspection and reported the following findings on APFBC:

- In Kamrup West Division, out of total 33 plantations sites, 15 sites (45.45 *per cent*) had survival rate of seedlings of less than 30 *per cent* (details in **Appendix-XXXIV**)
- In Nagaon Division, out of 32 plantation sites, 27 plantations sites (84.37 *per cent*) had survival rate of seedlings of less than 30 *per cent* (details in **Appendix-XXXV**).
- In Kamrup East Division, out of 29 plantations, two plantations namely Mixed Hard Wood plantation of 60 ha and Sal Regeneration of 50 ha were not done at all. Further, out of 27 plantation sites, 9 plantation sites (33.33 *per cent*)

¹⁶⁵ Kamrup West, Kamrup East and Nagaon Territorial.

had survival rate of seedlings of less than 30 *per cent* (details in **Appendix-XXXVI**).

Thus, out of 94 plantations sites in three Divisions, 51 sites (54.25 *per cent*) had survival percentage of seedlings of less than or equal to 30 *per cent*¹⁶⁶, which is considered as poor plantation. This led to non-achievement of objective of APFBC.

In reply, the Department stated (February 2022) that in future, sufficient care will be taken at the time of selecting proper site for taking up new plantation and timely release of fund for creation and maintenance plantation will be done as per plantation calendar. Therefore, fact remains that there was poor survival of plantation and no plan to upgrade the existing plantations were made.

5.3.5.3 Shortfall / overlapping in plantation

The Central Empowered Committee (CEC) constituted by the Hon'ble Supreme Court of India (April 2008) in its Supplementary Report regarding calculation of Net Present Value (NPV) payable on use of forest land of different types for non-forest purposes mentioned that the Forest Survey of India, has since last two decades been undertaking forest cover mapping of the country biennially using satellite data which can be used to ascertain for an area, with the help of its coordinates, its forest type as per the Champion & Seth classification as well as its forest density.

In Assam, the SLSC decided (in April 2011) that before any area was taken up for afforestation, its coordinates in terms of latitude and longitude were to be recorded and the existing condition of the area was to be documented in terms of photography/videography as well as on satellite imageries.

In compliance to the above orders, geo-coordinates were recorded against the plantations raised during the period 2015-2020 under CAMPA, APFBC and Social Forestry. However, out of 268 plantations under CAMPA the geo-coordinates of 84 plantations were recorded in full¹⁶⁷ and out of 147 plantations under APFBC only one was recorded in full. This was despite the fact that the geo-coordinates of plantations under both the schemes were being marked and maintained by the same forest Divisions of the DoEF, GoA.

Out of 85 complete recorded coordinates, audit test checked 19 coordinates with help of Google Earth and observed that in five plots, there was shortfall in actual plantation area and in three plots showed plantations areas are greater than the allotted area. Further, analysis of geo-coordinates of nineteen plantations with the help of the North Eastern Space Application Centre (NESAC), Shillong, showed overlapping of areas of eight plantations. (Details in **Appendix-XXXVII**).

Thus, non-detection of overlapping and shortfall/excess coverage of plantation area by the department indicates non-compliance of specific directions of the CEC and the

¹⁶⁶ As per Third Party Monitoring & Evaluation report (approved by SLSC of CAMPA) the Plantations with survival percentage of 60% or more is Excellent, less than 60% but more than 30% is good and plantation with survival percentage less than 30 % is poor.

¹⁶⁷ minimum eight coordinates for four corners of a plot is essential

SLSC. Further, such overlapping/ short coverage of plantation area than the allotted area also points towards diversion of allocated funds to the tune of ₹ 95.00 lakh, which needs to be investigated by the Department.

In reply, the Department stated (February 2022) that there is no such overlapping in plantation area. Further in exit conference (February 2022), the Department also stated that geo-coordinates which were physically verified by the concerned DFOs will be provided to audit shortly. However, further reply is awaited.

Recommendations

- *The Department may ensure the completion of People's Bio-diversity Register (PBR) and the bio-diversity database within a specific time period for smooth exploration of bio resources of Assam.*
- *The Department may immediately investigate the overlapping of plantations and take appropriate action on the matter.*

5.3.5 Conclusion

The compliance audit of three distinct activities of the E&F Department of GoA revealed a number of areas needing closer monitoring to pave the way for further improvement, which if properly attended to, will enable optimum utilisation of manpower and resources leading to fulfilment of objectives of the Department.

Afforestation: Even after lapse of seven years of NWP coming into being, none of the Divisions except one had a WP approved by the GoI leading to all activities in these Divisions being carried out on purely *ad-hoc* basis. Afforestation initiatives were hindered due to failure of the departmental authorities to protect land from encroachments, non-demarcation of forest lands, doubtful declaration on creation of plantations, absence of co-ordination between the DoE&F and the revenue authorities. Outcome of creation of nurseries could not be optimised due to mismatch between the actual requirement of species and those raised in the nurseries, deficiencies in management of nurseries like non-allotment of funds, irregular site/species selection, exorbitantly high rates for purchase of seedlings despite availability of same seedlings in departmental nurseries. There was shortfall of 33.88 *per cent* in achievement of targets for the period 2015-2020 for overall plantation in the State.

Wildlife: The Department did not put in place a long-term perspective plan required for the effective conservation of wildlife and instead prepared sub-optimal annual plans. There was dearth of funds for management of wildlife as the GoA could get about 64 *per cent* of the funds budgeted in the APOs which impacted effective management negatively. Wildlife territories faced constraints like non-reconciliation of total area in KTR while there was land dispute in Pobitora.

Bio-diversity: On a positive note, the GoA has notified Majuli district as Bio-diversity Heritage Site as well as 14 Endangered/threatened species in the State. However, the State was yet to have a list of bio-diversity resources as of March 2020 while almost 90 *per cent* of the BMCs did not have a PBR. In more than 50 *per cent* of plantations

carried out under Indo-French collaborative project, the survival rate was less than 30 *per cent* which is termed as poor. Analysis of geo-coordinates in case of plantations revealed cases of short coverage and overlapping between plantations.