



**FINAL REPORT
ON
THIRD PARTY MONITORING OF WORKS
CARRIED OUT UNDER CAMPA BY GOA
FOREST DEPARTMENT DURING 2023-24**

**Executed by
Institute of Wood Science and Technology
(Indian Council of Forestry Research and Education)
18th cross, Malleswaram, Bengaluru- 560003,
Karnataka, India**



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Acknowledgment

The study was conducted as a part of the obligatory external evaluation in accordance with the CAMPA guidelines. We extend our gratitude to the Goa Forest Department for granting us the opportunity to assess the CAMPA-related initiatives implemented during the period of 2023-24.

We would like to express our special appreciation to the following officers for their invaluable support and guidance throughout the evaluation: Shri Kamal Datta, IFS, PCCF; Shri. K. Ramesh Kumar, IFS, APCCF; Shri. Praveen Kumar Raghav, IFS, CCF; Ms. Nabanita Ganguly, IFS, CF(C); Shri. Naveen Kumar, IFS, CF (WL&ET); Shri. Aditya Madanpotra, IFS, DCF(M&E)

We would like to extend our thanks to the DCFs, ACFs, and RFOs of all the Divisions for their unwavering support during the evaluation process and for providing the necessary information to the evaluating team. Special recognition goes to the RFOs and field staff who accompanied us to various sites, showcasing the diverse activities carried out within their respective jurisdictions.

We once again extend our sincere thanks to the forest department of Goa for providing us with all the possible support during the evaluation work.

Director
IWST,
Bangalore

INTRODUCTION

Evaluating the various activities carried out by the Goa Forest Department under CAMPA during 2023-24 was provided to the Institute of Wood Science and Technology (IWST), Bangalore, to conduct a third-party evaluation. The field assessment was conducted by a team consisting of a scientist, along with technical staff and project fellows, from January to May 2025. The team visited various Annual Plan of Operation (APO) activities and assessed the plantations established in different ranges under the North Goa Territorial Division and Wildlife and Ecotourism North Division. The final report detailing the work performed is included.

1. Evaluation Team

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Mr. Rahul Pradhan (Senior Project Fellow)

Mr. Siddareddy N (Junior Project Fellow)

2. Areas evaluated

North Goa Territorial Division	Kerim Range, Ponda Range, Collem Range, Volpoi Range, Pernem Range and Panaji Range
North Goa Wildlife and Ecotourism Division	Mollem Range, Madei Range, Bondla Range, and Campal Range
South Goa Territorial Division	Sanguem, Kurdi, Quepem, Pissone, and Canacona
South Goa Wildlife and Ecotourism Division	Netravali WL Range, and Cotigao WL Range
Research and Utilisation Division, Margao	Quepem Range, Usgao Range, Panaji Range, and Valpoi Range
Social Forestry, Parks and Gardens, Ponda	Ponda Range, Panaji Range, and Quepem Range
Soil Conservation Division, Ponda	Bhironda Range, Ponda Range, and Quepem Range
Goa Forest Development Corporation, Panaji	Morlem Range, Ponda Range, Quepem Range, and Canacona Range

3. Methodology

For the evaluation of CAMPA 2023-24 activities, field visits were carried out to evaluate the Compensatory Afforestation (CA) plantation and other APO activities carried out during

2023-24 under CAMPA. Quadrate method was used for the evaluation of plantations in different ranges, and 10% of the area was taken for making the quadrats. The survival of the species was recorded and the performance of the field recorded.

(i) **Evaluation of Plantations:** The total area of the plantation, date of planting, and details of saplings with their botanical names were noted from the plantation journals maintained for the respective site. 20% of the area was taken for calculating the survival percentage of the plants by having a quadrat size of 33 metre x 33 metres i.e., 0.1 Ha. The number of plants surviving in each plot was recorded. The survival percentage of the site was calculated as given below:

$$\text{a) Survival percentage per quadrat} = \left(\frac{\text{Total number of plants in the quadrat}}{\text{total nos. of plants planted}} \right) \times 100$$

$$\text{b) Survival percentage in a plot} : \frac{\text{Sum of survival percentage of all the quadrats}}{\text{total nos. of quadrats}}$$

The aided natural regeneration plots were also evaluated using the above-mentioned method.

(ii) **Verification of Annual Plan of Operations (APO):** The details of APO activities carried out in the Forest Ranges were obtained from the concerned range officer. The activities carried out or executed were physically verified by the team members and status of the APO was noted down. Seedlings produced were verified with the register and from the stocks maintained in the nurseries.

EXECUTIVE SUMMARY

The evaluation of forest activities was conducted from January to May, 2025, focusing on the initiatives undertaken across various forest ranges under the North Goa Territorial Forest Divisions, North Goa Wildlife and Tourism Divisions of Goa, South Goa Territorial Division, South Goa Wildlife and Ecotourism Division, Research and Utilisation Division, Margao, Social Forestry, Parks and Gardens, Ponda, Soil Conservation Division, Ponda, and Goa Forest Development Corporation, Panaji. The primary objective was to assess the implementation and effectiveness of the Annual Plan of Operations (APOs) and the Compensatory Afforestation (CA) and Assisted Natural Regeneration (ANR) plantations established in the 2023-24 fiscal year under the Compensatory Afforestation Management and Planning Authority (CAMPA).

Field visits were carried out to evaluate the survival percentage of plantations and to physically verify the completion of various APO activities. The assessment process involved:

- Visiting different forest locations for on-ground evaluation.
- Reviewing plantation journals for documentation accuracy.
- Conducting quadrat surveys to determine survival percentages.
- Measuring the height and diameter of seedlings to monitor growth progress.
- Inspecting repair and maintenance work in forest buildings.
- Examining the installation and upkeep of protective fencing.
- Evaluating the desilting and restoration of water structures.
- Assessing the maintenance of grass plots and older plantations.
- Reviewed photos, documented proceedings of all events, training programs, and the bird festival organized by the Forest Department to assess implementation and participation.

The findings from this evaluation will provide critical insights into the effectiveness of the ongoing forestry initiatives and facilitate data-driven recommendations for improving conservation and afforestation efforts within the region.

I. EVALUATION OF PLANTATION PERFORMANCE AND APO IMPLEMENTATION IN NORTH GOA TERRITORIAL DIVISION

In January, systematic field assessments were conducted across four forest ranges, Collem, Valpoi, Ponda, Keri, and Pernem within the North Goa Territorial Division. The objective was to evaluate the growth performance of plantations and assess the execution of Annual Plan of Operations (APOs). Field observations focused on plantation health, survival rates, species composition, and adherence to prescribed silvicultural practices. Additionally, the implementation status of APO activities was reviewed to ensure compliance with planned forestry interventions.

Table -1 Compensatory Afforestation (CA) plantations in North Goa Territorial Division

Name of the Forest Range	Area
Keri Range	46 Ha
Ponda Range	55 Ha
Collem Range	58 Ha
Valpoi Range	215 Ha
Pernem Range	26 Ha
Total	400 Ha

Table -2 Annual Plan of Operations in North Goa Territorial Division

Name of the Range	Nature of APO activities	Quantity/ Area
Keri Range	Maintenance of 1-year-old mixed species plantation	21 Ha
	Maintenance of 2-year-old mixed species plantation	15 Ha
	Management of biodiversity and biological resources	
	Creation of nature trail	1 Nos.
	Forest protection	
Ponda Range	Deployment of Fire tracker	-
	Maintenance of 1-year-old mixed species plantation	16 Ha
	Maintenance of 4-year-old mixed species plantation	5 Ha
	Forest protection	

	Providing protective fencing for CA Plantation	2438 Rmt and 65.806 Ha
	Nursery Management and seeding raising	
	Raising of seedling	2,50,000 Nos.
	Management of biodiversity and biological resources	
	Creation of Water body	2 Nos.
	Construction and maintenance of residential and official building for frontline staff	
	Repair of office, labour sheds, quarters and water tanks	-
Collem Range	Maintenance of 2-year-old mixed species plantation	60 Ha
	Maintenance of 3-year-old mixed species plantation	23 Ha
	Maintenance of 4-year-old mixed species plantation	12 Ha
	Maintenance of 5-year-old mixed species plantation	2 Ha
	Maintenance of 10-year-old mixed species plantation	10 Ha
	Nursery Management and seeding raising	
	Maintenance of seedlings	1,75,000 Nos.
	Raising of seedlings	2,50,000 Nos.
	Management of biodiversity and biological resources	
	Clearance of Nature trail	1 R/km
	Construction of Water retaining structures	8 Nos.
	Construction and maintenance of residential and official building for frontline staff	
	Repair of maintaining of forest quarters	-
	Forest protection	
	Providing protective fencing for CA Plantation	4015 Rmts
	Working of Pipelines	1 Nos.
	Repairing of Store room	1 Nos.
Valpoi Range	Maintenance of 1-year-old mixed species plantation	165 Ha
	Maintenance of 3-year-old mixed species plantation	20 Ha
	Forest protection	
	Providing Protective Chain link fencing in plantations	7644 Rmts
	Supply of cement concrete fencing	2420 Nos.
	Construction and maintenance of residential and official building for frontline staff	
	Repair of maintaining of forest quarters	
Pernem Range	Maintenance of 1-year-old mixed species plantation	15 Ha
	Forest protection	
	Providing Protective Chain link fencing in plantations	26 Ha

Note: * Rmt- Running metre

1. KERI RANGE

A total of 46 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Keri range. The specific locations and detailed attributes of the plantation sites are provided below.

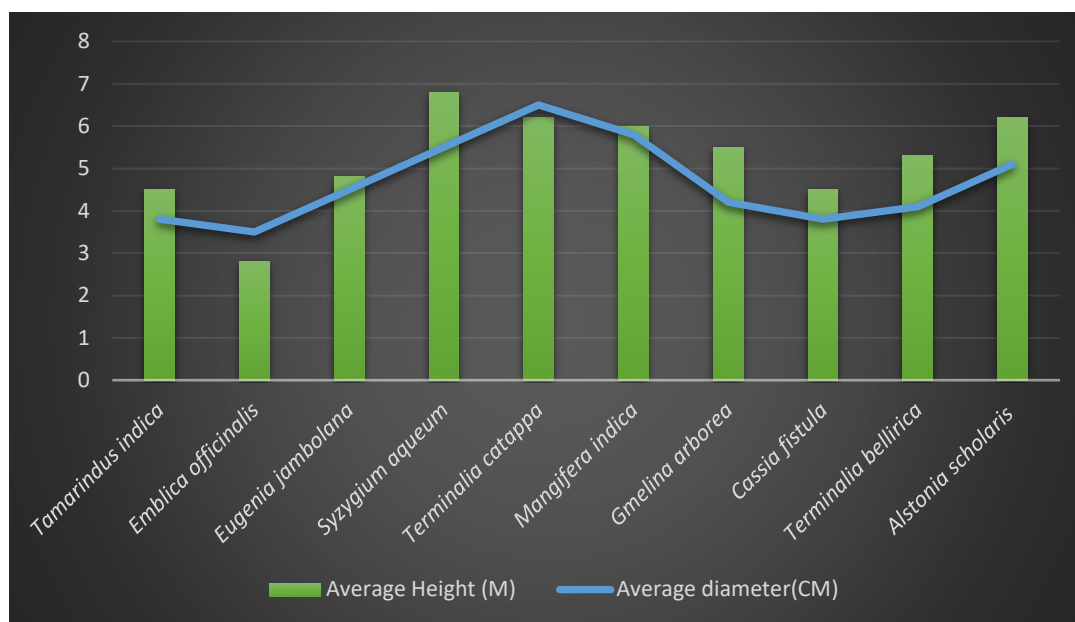
Table -3 Details of CA plantations established in Keri Range

Sl. No	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	CA plantation at Morlem village, Part-II (I)	8 Ha	80	Planted and performing well.
2.	CA plantation at Morlem village, Part-II (II)	4 Ha	85	Planted and performing well.
3.	CA plantation at Morlem village, Part-II (III)	8 Ha	78	Planted and performing well.
4.	CA plantation at Morlem village, Part-III (I)	8 Ha	75	Planted and performing well
5.	CA plantation at Morlem village, Part-III (II)	8 Ha	80	Planted and performing well
6.	CA plantation at Morlem village, Part-III (III)	5 Ha	82	Planted and performing well.
7.	CA plantation at Morlem village, Part-III (III)	5 Ha	86	Planted and performing well

Observations

A total of 46 Ha is planted in the Keri range under CAMPA 2023-24. Fruit bearing and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the good growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 75 to 86% and the overall survival percentage in this range was 80.85%.

Figure -1 Growth of 10 major species planted in Keri Range



Information about other CAMPA activities as per APO and their details

Table-4 Details of APOs carried out in Keri Range

Sl. No	Name of the work	Quantity	Remarks
1.	Maintenance of 1-year-old CA Plantation under Sy. No. 56/0 at Morlem Plantation Part III-I Spacement 4.05mx4.05m for 6 Ha	6 Ha	Carried out and maintained well
2.	Maintenance of 1-year-old CA Plantation under Sy. No. 56/0 at Morlem Plantation Part II Spacement 4.05mx4.05m for 7 Ha	7 Ha	Carried out and maintained well
3.	Maintenance of 1-year-old CA Plantation under Sy. No. 56/0 at Morlem Plantation Part III-(A) Spacement 4.05mx4.05m for 4 Ha	4 Ha	Carried out and maintained well
4.	Maintenance of 1-year-old CA Plantation under Sy. No. 56/0 at Morlem Plantation Part II-(A) Spacement 4.05mx4.05m for 4 Ha	4 Ha	Carried out and maintained well
5.	Maintenance of 2-year-old CA Plantation with protective fencing under Sy. No. 56/0 at Morlem Village for 5 Ha	5 Ha	Carried out and maintained well
6.	Maintenance of 2-year-old CA Plantation with protective fencing under Sy. No. 56/0 at Morlem Village for 5 Ha	5 Ha	Carried out and maintained well

7.	Maintenance of 2-year-old CA Plantation with protective fencing under Sy. No. 56/0 at Morlem Village for 5 Ha	5 Ha	Carried out and maintained well
8.	Fire Watcher for January, February, March in Govt. Forest Area at Ponsuli Beat.	-	Done
9.	Fire Watcher for January, February, March in Govt. Forest Area at Shirolu Beat.	-	Done
10.	Fire Watcher for January, February, March in Govt. Forest Area at Morlem Beat.	-	Done
11.	Fire Watcher for December in Govt. Forest Area at Ponsuli Beat alongwith highway.	-	Done
12.	Creation of Nature Trail 1.00 kms at Ponsuli Village in Sy. No. 102	-	Maintained well



CA plantation at Morlem village, Part-III



Quadrat survey for survival assessment at CA plantation Morlem



Nature trail at Ponsuli



Bhedas seedling well grown at Morlem Beat



CA plantation at Morlem village, Part-II



Well grown Oval seedling in Morlem Beat plantation

2. PONDA RANGE

A total of 55 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Ponda range. The specific locations and detailed attributes of the plantation sites are provided below.

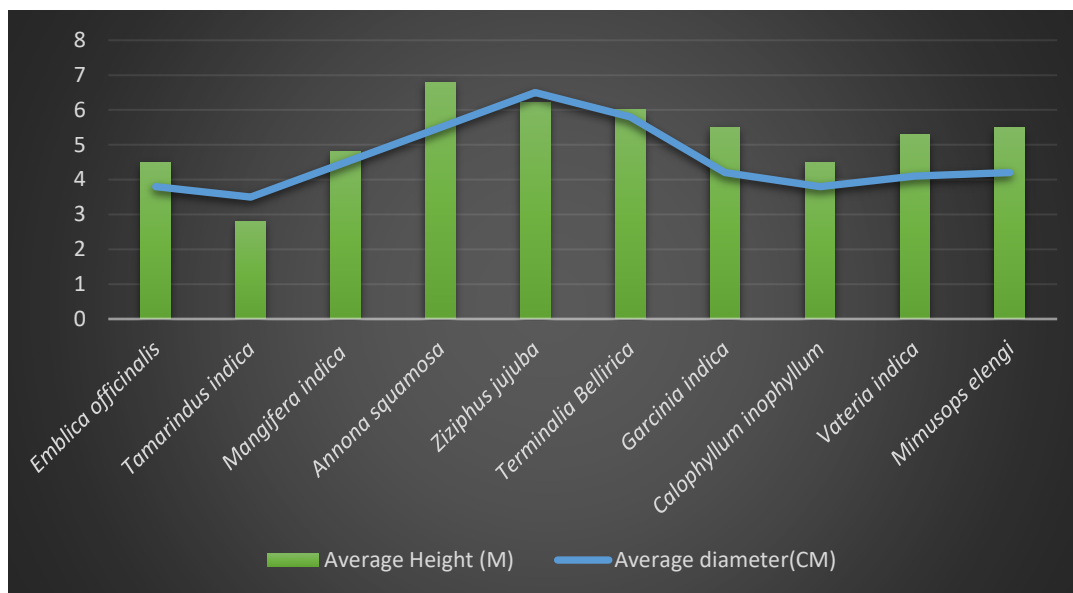
Table -5 Details of CA plantations established in Ponda Range

Sl. No.	Location of the planation	Area	Survival %	Remarks (100% enumeration undertaken)
1.	CA Plantation at Curti Part-I	7.5 Ha	76	Carried out and in good condition
2.	CA Plantation at Curti Part-II	7.5 Ha	78	Carried out and in good condition
3.	CA Plantation at Candepar Part-I	5 Ha	81	Carried out and in good condition
4.	CA Plantation at Candepar Part-II	5 Ha	75	Carried out and in good condition
5.	CA Plantation at Ganjem Part-I	5 Ha	76	Carried out and in good condition
6.	CA Plantation at Ganjem Part-II	5 Ha	79	Carried out and in good condition
7.	CA Plantation at Borim Part-I	5 Ha	88	Carried out and in good condition
8.	CA Plantation at Borim Part-II	5 Ha	85	Carried out and in good condition
9.	CA Plantation at Conquirem Part-I	5 Ha	80	Carried out and in good condition
10.	CA Plantation at Conquirem Part-II	5 Ha	82	Carried out and in good condition

Observations

A total of 55 Ha is planted in the Ponda range under CAMPA 2023-24. All plantations had mixed fruit trees and were performing well. About 20 different species of fruit bearing and wildlife-important plants were planted. The survival percentage varied from 75-88% and the average survival percentage in this range was 80%. The growth of plantation was affected due to several factors like viz. invasion of weeds, inhibition of initial growth of young seedlings by leaf litters from surrounding trees and additionally the plantation faced grazing challenges from wild animals and domestic animals belonging to local community.

Figure -2 Growth of ten major species planted in Ponda Range



Information about other CAMPA activities as per APO and their details

Table-6 Details of APOs carried out in Ponda Range

Sl. No.	Name of the work	Quantity	Remarks
1.	4-year maintenance of 3-year-old CA Plantation with Protective Fencing at Shiroda	5 Ha	Carried out
2.	Raising of Seedlings of endemic species (Fruit bearing) in 5 x 8 size polybags for CA Plantation at Tisk Usgao Nursery (Part - I)	50000 Nos.	Carried out
3.	Raising of Seedlings of endemic species (Fruit bearing) in 5 x 8 size polybags for CA Plantation at Tisk Usgao Nursery (Part - II)	50000 Nos.	Carried out
4.	Raising of Seedlings of endemic species (Fruit bearing) in 5 x 8 size polybags for CA Plantation at Tisk Usgao Nursery (Part - III)	50000 Nos.	Carried out
5.	Raising of Seedlings of endemic species (Fruit bearing) in 5 x 8 size polybags for CA Plantation at Tisk Usgao Nursery (Part - IV)	50000 Nos.	Carried out
6.	Raising of Polybags seedlings of fruit bearing and flowering endemic species in 5 x 8 size polybags for Public Distribution at Tisk Usgao Nursery.	50000 Nos.	Carried out
7.	Creation of Water body of dimension (10.00 m x 16.00 m under Sy. No. 603 of Shiroda village Ponda Taluka	1 Nos.	Carried out
8.	Creation of Water body of dimension (16.00 m x 18.00 m) under Sy. NO. 9 of Pilliem village of Ponda Taluka (Estimate No. 55)	1 Nos.	Carried out

9.	1st yr maintenance of CA Plantation raised in yr 2022-23 in Sy. No. 44 of Nirankal village, Shiroda Round for 8.00 Hac (Part - I)	8 Ha	Carried out
10.	1st yr maintenance of CA Plantation raised in yr 2022-23 in Sy. No. 44 of Nirankal village, Shiroda Round for 8.00 Hac (Part - II)	8 Ha	Carried out
11.	Work of fencing with Barbed wire using wooden Poles for the CA Plantation raised in 30 Ha area in Usgao Round of Ponda Range.	30 Ha	Carried out
12.	Work of daily wages for the fencing with Barbed wire using wooden poles for the CA Plantation raised in 25 Ha area in Ponda Round of Ponda Range.	25 Ha	Carried out
13.	Work of fencing with barbed wire using wooden Poles for the CA Plantation raised in 10 Ha area at Borim in Ponda Round of Ponda Range.	10 Ha	Carried out
14.	Protection of the CA Plantation 7 yrs old 0.806 Ha from forest fires in Sy. No. 159 of Panchawadi village in Shiroda Round of Ponda Range.	0.806 Ha	Carried out
15.	Deployment of Daily Wages Labourers for carrying fencing for the protection of plantation in RF Sy No. 244 of Usgao Village for the length of 380 RMT in Usgao round of Ponda Range.	380 Rmt.	Carried out
16.	Work of carrying link fencing with RCC poles by deploying skilled labourers for the protection of Nursery plantation raised in Sy No. 244 of Usgao Village for the length of 1300 Rmt. in Ponda Range.	1300 Rmt	Carried out
17.	Work of carrying Chain link fencing with RCC poles by deploying skilled labourers for the protection of the plantation in reserved forest Sy No. 252 of Usgao Village for the length of 368 Rmt. In Ponda Range.	368 Rmt	Carried out
18.	Work of daily wages for the fencing for the protection of Plantation in reserved Forest Sy No.244 of Usgao Village for length of 390 RMT. In Ponda Range.	390 Rmt	Carried out
19.	Repairs to manglore tile roofing and water tank of A type PPA PPA 1/3 at Forest Colony of North Goa Division, Ponda Range	-	Carried out
20.	Repairs to Mangalore tile roofing of A type PPA 1/1 at Forest Colony of North Goa Division Ponda	-	Carried out
21.	Repairs to Usgao Nursery Office of Ponda Range North Goa Division.	-	Carried out
22.	Repairs to Water Tank doors, windows, electrical work, and minor Sanitary items of A type PPA 3A of Forest Colony at Noth Goa Division, Ponda.	-	Carried out
23.	Repairs to Water Tank doors, windows, electrical work and minor Sanitary items of A type PPA 4A of Forest Colony at North Goa Division, Ponda.	-	Carried out

24.	Repairs to Water Tank doors, windows, electrical work and minor sanitary items of A type PPA 5A of Forest Colony at North Goa Division, Ponda.	-	Carried out
25.	Repairs to Water Tank doors, asbestos cement sheet roofing, and providing false ceiling of B type PPB 5 at Forest Colony at North Goa Division, Ponda.	-	Carried out
26.	Repairs to Mangalore tile roofing water tank and providing false ceiling of A type PPA 2/2 at Forest Colony at North Goa Division, Ponda.	-	Carried out
27.	Providing excavation and laterite masonry work for the Labour shed in Usgao Nursery of North Goa Division, Ponda Range.	-	Carried out
28.	Providing work of plastering, Painting steel, and roofing sheet to the labour shed in Usgao Nursery, North Goa Division, Ponda Range.	-	Carried out



**Survival assessment of CA Plantation
Conquirem**



CA plantation at Ganjem beat



**Work of fencing with Barbed wire using
wooden Poles at Ganjem**



**Jack seedling well grown at Shiroda Beat,
mixed native species plantation**



Seedlings raised at Usgao Nursery



**Excavation and laterite masonry work of
Labour shed in Usgao Nursery**

3. COLLEM RANGE

A total of 58 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Collem range. The specific locations and detailed attributes of the plantation sites are provided below.

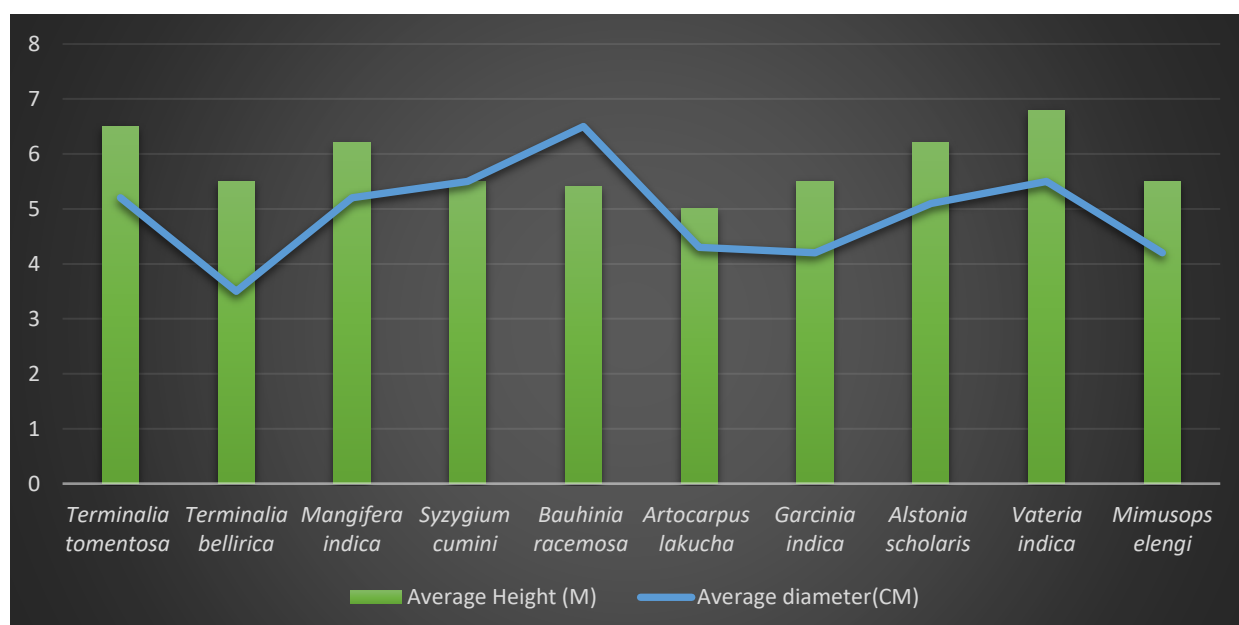
Table-7 Details of CA Plantations established in Collem Range

Sl. No.	Location of the planation	Area	Survival %	Remarks (100% enumeration undertaken)
1.	Aglote Beat	18 Ha.	73%	Maintained and good in condition
2.	Sacorda Beat	30 Ha	82%	Maintained and good in condition
3.	Mollem (North) Beat	10 Ha.	80%	Maintained and good in condition

Observations

A total of 58 Ha areas of the plantations were under maintenance in the range and it is dominated by fruit-producing trees that were well maintained. The survival percentage varied from 73 to 82%. About 36 different species were planted in the plantations. The average survival percentage in this range was 78.33%

Figure-3 Growth of ten major species planted in Collem Range



Information about other CAMPA activities as per APO and their details

Table Nos.8 Details of APOs carried out in Collem Range

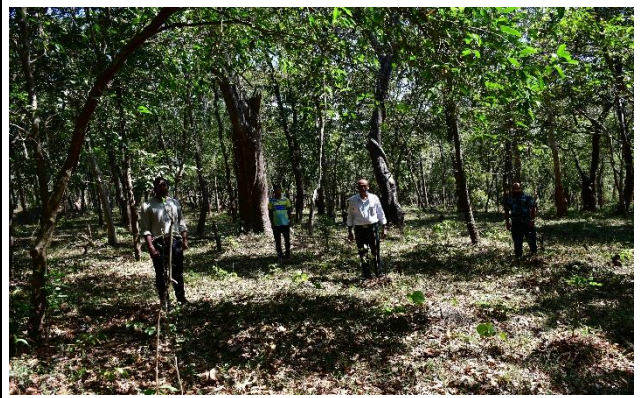
Sl. No	Name of the work	Quantity	Remarks
1.	Maintenance of 2-year-old CA plantation, Sy. No. 15 at Sangod village	5 Ha.	Maintained well
2.	Maintenance of 2-year-old CA plantation, Sy. No. 48 at Costi village	5 Ha.	Maintained well
3.	Maintenance of 2-year-old CA plantation, Sy. No. 11 at Dongarwada, Sacorda village	5 Ha.	Maintained well
4.	Maintenance of 2-year-old CA plantation, Sy. No. 27 at Sangod village	5 Ha.	Maintained well
5.	Maintenance of 2-year-old CA plantation (P-II), Sy. No. 27 at Sangod village	5 Ha.	Maintained well
6.	Maintenance of 2-year-old CA plantation, Sy. No. 17 at Bindimol, Kalay village.	5 Ha.	Maintained well
7.	Maintenance of 2-year-old CA plantation, Sy. No. 11 at Satpal, Sacorda village	5 Ha.	Maintained well
8.	Maintenance of 2-year-old CA plantation, Sy. No. 13 at Aglote village	5 Ha.	Maintained well
9.	Maintenance of 2-year-old CA plantation (P-II), Sy. No. 34 at Zamblimol, Collem village	5 Ha.	Maintained well
10.	Maintenance of 2-year-old CA plantation (P-I), Sy. No. 34 at Zamblimol, Collem village	5 Ha.	Maintained well
11.	Maintenance of 2-year-old CA plantation, Sy. No. 13 at Kasargal Aglote village.	5 Ha.	Maintained well
12.	Maintenance of 2-year-old CA plantation, Sy. No. 13 at Kasargal Aglote village.	5 Ha.	Maintained well
13.	Maintenance of 3-year-old CA plantation, Sy. No. 11 at Satpal Sacorda village.	5 Ha.	Maintained well
14.	Maintenance of 3-year-old CA plantation, Sy. No. 93 at Talsai Dharbandora.	5 Ha.	Maintained well
15.	Maintenance of 3-year-old CA Canes plantation, Sy. No. 23 at Shivdem Dharbandora village	5 Ha.	Maintained well
16.	Maintenance of 3-year-old CA plantation, Sy. No. 15 at Sangod village	5 Ha.	Maintained well
17.	Maintenance of 3-year-old CA plantation, Sy. No. 13 at Kasargal Aglote village	3 Ha.	Maintained well
18.	Maintenance of 4-year-old CA plantation, Sy. No. 34 at Zamblimol, Collem	5.5 Ha.	Maintained well
19.	Maintenance of 4-year-old CA plantation, Sy. No. 16 of Mollem village.	6.5 Ha.	Maintained well
20.	Maintenance of 5-year-old CA plantation, Sy. No. 69 at Aglote village	2 Ha.	Maintained well

21.	Maintenance of 10-year-old CA plantation, Sy. No. 8 at Matoshem Shigao	10 Ha.	Maintained well
22.	Construction of water retaining sunken pond/ water holes within Collem Range at Talsai, Sacorda, Costi, Mollem (S) and Mollem (N)	5 Nos.	Maintained well
23.	Providing protective chain link fencing for 365 R/mtrs. At CA plantation Aglote.	365 R/mtrs.	Maintained well
24.	Repairing and Maintenance of painting work of 'A' type quarter at Forest Colony Collem "A1"	-	Maintained well
25.	Repairing and Maintenance of painting work of 'A' type quarter at Forest Colony Collem "A2"	-	Maintained well
26.	Repairing and Maintenance of painting work of 'A' type quarter at Forest Colony Collem "A3"	-	Maintained well
27.	Painting, Repair of fall ceiling and maintenance and repair of "C" type quarter at Forest Colony, Collem	-	Maintained well
28.	Creation of Nature trail	1 RKm	Maintained well
29.	Construction of 02 -of water retaining Sunken Ponds/ water hole	2 Nos.	Maintained well
30.	Creation of water body of dimension 10.00m x 16.00 m	-	Maintained well
31.	Work of pipeline (water) for irrigation system (waterway) of Dharbandora Nursery.	-	Maintained well
32.	Providing doors and windows for existing store room in Dharbandora Nursery	-	Maintained well
33.	Providing laterite masonry plastering and painting to existing store room in Dharbandora Nursery.	-	Maintained well
34.	Raising of 50000 -Mix polybags seedlings 5''x 8'' size	50000 Nos.	Maintained well
35.	Raising of 50000 -Mix polybags seedlings 5''x 8'' size	50000 Nos.	Maintained well
36.	Raising of 50000 -Mix polybags seedlings 5''x 8'' size	50000 Nos.	Maintained well
37.	Raising of 50000 -Mix polybags seedlings 5''x 8'' size	50000 Nos.	Maintained well
38.	Raising of 50000 -Mix polybags seedlings 5''x 8'' size	50000 Nos.	Maintained well
39.	Maintenance of 1-year-old 50000 -mix polybags seedlings 5 x 8 size	50000 Nos.	Maintained well
40.	Maintenance of old 50000 -mix polybags seedlings 5 x 8 size	50000 Nos.	Maintained well
41.	Maintenance of old 75000 -mix polybags seedlings 5 x 8 size	75000 Nos.	Maintained well
42.	Providing protective chain link fencing for 333 R/mts estern side of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well

43.	Providing protective chain link fencing for 333 R/mts Northern side near to Jamba land Nature trail of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well
44.	Providing protective chain link fencing for 333 R/mts Northern side of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well
45.	Providing protective chain link fencing for 331 R/mts at Check dam side of Bio Diversity Park, Mollem.	331 R/mtrs.	Maintained well
46.	Providing protective chain link fencing for 330 R/mts at Zipline side of Bio Diversity Park, Mollem.	330 R/mtrs.	Maintained well
47.	Providing protective chain link fencing for 333 R/mts Amphi Amphitheater side of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well
48.	Providing protective chain link fencing for 330 R/mts at Rashi Van side of Bio Diversity Park, Mollem.	330 R/mtrs.	Maintained well
49.	Providing protective chain link fencing for 331 R/mts at adventure side of Bio Diversity Park, Mollem.	331 R/mtrs.	Maintained well
50.	Providing protective chain link fencing for 333 R/mts Burma bridge side of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well
51.	Providing protective chain link fencing for 330 R/mts at Southern side of Bio Diversity Park, Mollem.	330 R/mtrs.	Maintained well
52.	Providing protective chain link fencing for 333 R/mts at South side near Main Gate of Bio Diversity Park, Mollem.	333 R/mtrs.	Maintained well



CA Plantation at Sacorda Beat



Quadrates selection for survival assessment of plantations at Aglote



Forest officials briefing about the plantation and seedling casualties due to grazing by wild animals at Costi Village



Evaluation team visits Dharbandora Nursery



Physical verification of doors and windows for existing store room in Dharbandora Nursery



Water retaining structure at Sacorda

4. VALPOI RANGE

A total of 215 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Valpoi range. The specific locations and detailed attributes of the plantation sites are provided below.

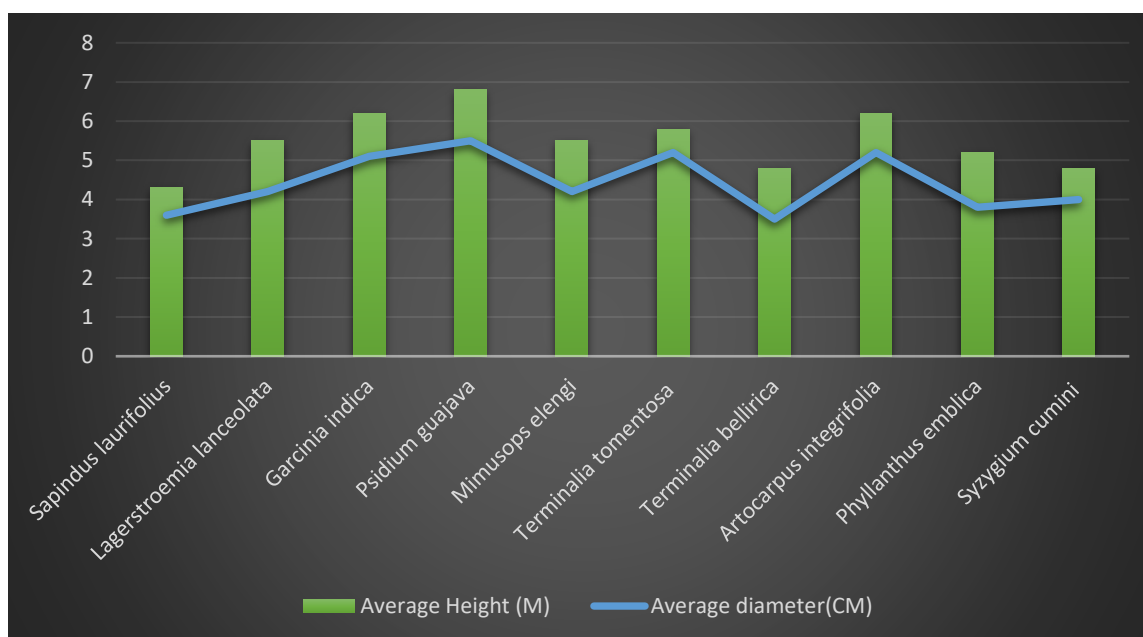
Table-9 Details of CA plantations established in Valpoi Range

Sl. No.	Location of the plantation	Area	Survival %	Remarks (100% enumeration undertaken)
1	CA Zarme Beat	80 Ha.	85	Completed and good in condition
2	CA Cumarkhand Beat	120 Ha	78	Completed and good in condition
3	CA Bhuipal Beat	15 Ha.	68	Completed and good in condition

Observations

A total of 215 Ha is planted in the Valpoi range under CAMPA 2023-24. About 34 different species including fruit-bearing trees were planted in Zarme, Cumarkhand and Bhuipal. All the plantations were performing well and the survival percentage in different plantations varied from 58 to 85%, with an average survival percentage of 77% in the range.

Figure-4 Growth of ten major species planted in Valpoi Range

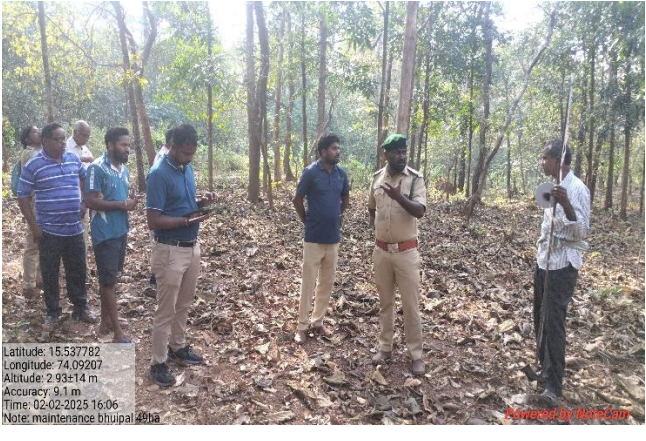


Information about other CAMPA activities as per APO and their details

Table-10 Details of APOs carried out in Valpoi Range

Sl. No	Name of the work	Quantity	Remarks
1	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Melauli Sy. No.16	8 Ha	Maintained well
2	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Nagvem SY.No.9	7 Ha	Maintained well
3	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Nagvem SY.No.9	8 Ha	Maintained well
4	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Nagvem SY.No.9	8 Ha	Maintained well
5	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Cumarkhand Sy.No.34 and 9	4 Ha	Maintained well
6	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Cumarkhand Sy.No.34 and 9	8 Ha	Maintained well
7	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Cumarkhand Sy.No.34 and 9	8 Ha	Maintained well
8	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Cumarkhand Sy.No.34 and 9	9 Ha	Maintained well
9	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Naneli Sy. No.3	6 Ha	Maintained well
10	Maintenance of 1-year-old plantation forestry and Fruit bearing plantation Naneli Sy. No.3	5 Ha	Maintained well
11	Maintenance of 1-year-old ANR Plantation Ansolem Sy. No.8	5 Ha	Maintained well
12	Maintenance of 1-year-old ANR Plantation Ustem Sy. No.32/0	5 Ha	Maintained well
13	Maintenance of 1-year-old CA plantation Bhuipal-I Sy.No.9	8 Ha	Maintained well
14	Maintenance of 1-year-old CA plantation Bhuipal-II Sy.No.9	8 Ha	Maintained well
15	Maintenance of 1-year-old CA plantation Bhuipal-III Sy.No.9	8 Ha	Maintained well
16	Maintenance of 1-year-old CA plantation Bhuipal-IV Sy.No.9	8 Ha	Maintained well
17	Maintenance of 1-year-old CA plantation Bhuipal-V Sy.No.9	8 Ha	Maintained well
18	Maintenance of 1-year-old CA plantation Bhuipal Cumarkhand Sy.No.9 and 32 Sy.No.9	9 Ha	Maintained well
19	Maintenance of 1-year-old CA plantation Melauli-I Sy. No.16	8 Ha	Maintained well

20	Maintenance of 1-year-old CA plantation Melauli-II Sy. No.16	8 Ha	Maintained well
21	Maintenance of 1-year-old CA plantation Melauli-III Sy. No.16	7 Ha	Maintained well
22	Maintenance of 1-year-old CA plantation Malpan-I Sy. No.16	6 Ha	Maintained well
23	Maintenance of 1-year-old CA plantation Malpan-II Sy. No.16	6 Ha	Maintained well
24	Maintenance of 3-year-old CA plantation Nagvem-I Sy. No.8/1	5 Ha	Maintained well
25	Maintenance of 3-year-old CA plantation Nagvem-II Sy. No.8/1	5 Ha	Maintained well
26	Maintenance of 3-year-old CA plantation Nagvem-I Sy. No.8/1	5 Ha	Maintained well
27	Maintenance of 3-year-old CA plantation Malpan Phase-I Sy. No.18 (P) and 24 (P)	5 Ha	Maintained well
28	Maintenance of 3-year-old CA plantation Malpan Phase-II Sy. No.18 (P) and 24 (P)	5 Ha	Maintained well
29	Supply of Chainlink for plantation along roadside	400 Ha	Carried out
30	Supply of cement concrete fencing poles for chainlink fencing along roadside	2420 Nos.	Carried out
31	Repair of B type quarter for roofing work	1 Nos.	Carried out

	
Physical verification of repair of B type quarter	CA plantation at Cumarkhand Beat
	
Quadrat survey at CA Zarme Beat	Maintenance of 1-year-old CA plantation Bhuipal
	
Well grown Dhoo Sapling in CA plantation, Bhuipal	Concrete fencing poles for chain-link fencing along roadside

5. PERNEM RANGE

A total of 26 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPAs) program for the year 2023–24 in the Pernem range. The specific locations and detailed attributes of the plantation sites are provided below.

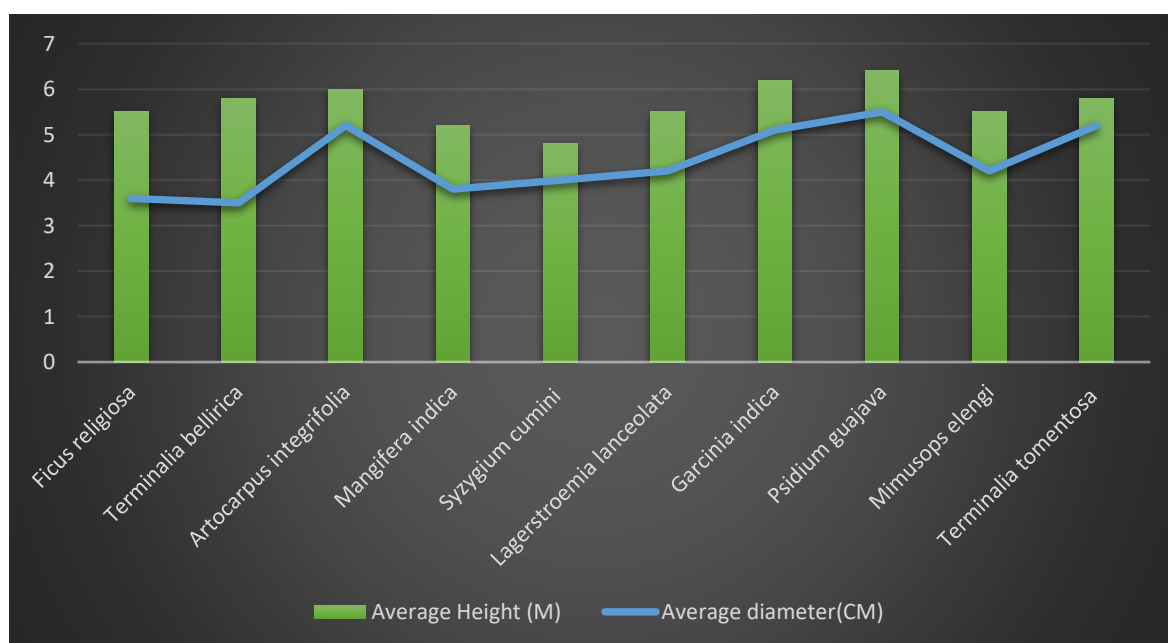
Table-11 Details of CA plantations established in Pernem Range

Sl. No.	Location of the plantation	Area	Survival %	Remarks (100% enumeration undertaken)
1.	CA plantation, Chandel Part-I	7 Ha	86	Carried out and in good condition
2.	CA plantation, Chandel Part-II	7 Ha	78	Carried out and in good condition
3.	CA plantation, Chandel Part-III	7 Ha	80	Carried out and in good condition
4.	CA plantation, Chandel Part-IV	5 Ha	82	Carried out and in good condition

Observations

A total of 26 Ha is planted in the Pernem range under CAMPAs 2023-24. About 18 different species, including fruit-bearing trees were planted in Chandel. All the plantations were performing well, and the survival percentage varied from 78 to 86%, with an average survival percentage of 81.5%

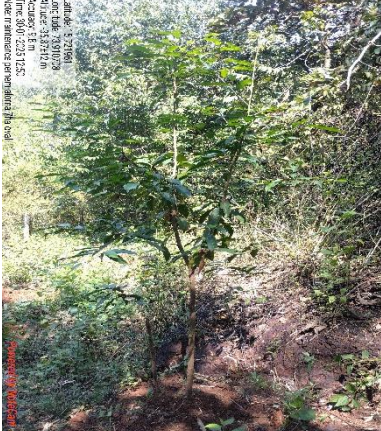
Figure-5 Growth of ten major species planted in Pernem Range



Information about other CAMPA activities as per APO and their details

Table-12 Details of APOs carried out in Pernem Range

Sl. Nos.	Name of the work	Quantity	Remarks
1.	Maintenance of 1-year-old CA Plantation at Alorna	7 Ha	Carried out
2.	Maintenance of 1-year-old ANR Plantation at Alorna	4 Ha	Carried out
3.	Maintenance of 1-year-old ANR Plantation at Alorna	4 Ha	Carried out
4.	Chain Link Fencing using R.C.C Poles at 3.5mtrs intervals for 7 Ha C.A. Plantation at Chandel Beat Part 1	7 Ha	Carried out
5.	Chain Link Fencing using R.C.C Poles at 3.5mtrs intervals for 7 Ha C.A. Plantation at Chandel Beat Part 2	7 Ha	Carried out
6.	Chain Link Fencing using R.C.C Poles at 3.5mtrs intervals for 7 Ha C.A. Plantation at Chandel Beat Part 3	7 Ha	Carried out
7.	Chain Link Fencing using R.C.C Poles at 3.5mtrs intervals for 5 Ha C.A. Plantation at Chandel Beat Part 4	5 Ha	Carried out
8.	Celebration of Vanamohatsava by Panchyat Schools in the jurisdiction of Pernem Range	-	Carried out

 Latitude: 15.738614 Longitude: 73.883197 Elevation: 87.35±11 m Accuracy: 6.4 m Time: 30-01-2025 11:27 Note: permen on 26ha Powered by NoteCam	 Latitude: 15.72187 Longitude: 73.910926 Elevation: 53.92±6 m Accuracy: 3.9 m Time: 30-01-2025 13:03 Note: maintenance permen on 26ha Powered by NoteCam
Survey for survival assessment at CA plantation, Chandel Part-II	Maintenance of 1-year-old ANR Plantation at Alorna
 Latitude: 15.738614 Longitude: 73.883197 Elevation: 87.35±11 m Accuracy: 6.4 m Time: 30-01-2025 11:27 Note: permen on 26ha	 Latitude: 15.72187 Longitude: 73.910926 Elevation: 53.92±6 m Accuracy: 3.9 m Time: 30-01-2025 13:03 Note: maintenance permen on 26ha
Guava seedling well grown at ANR plantation, Alorna	Oval seedling at CA plantation, Chandel
	
Maintenance of 1-year-old ANR Plantation at Alorna	Bhirand sapling growing well at CA Plantation at Alorna

II. FIELD OBSERVATIONS IN NORTH GOA WILDLIFE AND ECOTOURISM DIVISION

In the North Goa Wildlife and Ecotourism Division, major activities carried out under CAMPA during the years 2023-24 were in Bhagwan Mahavir National Park and Wildlife Sanctuary (Mollem), Madhei Wildlife Sanctuary, Bondla Wildlife Sanctuary and Campal Wildlife Range. No plantation activities were carried out in this Division.

Table-13 Assisted Natural Regeneration plantations in North Goa Wildlife and Ecotourism Division

Name of the Range	Area
Bhagwan Mahavir National Park and Wildlife Sanctuary (Mollem) Range	15 Ha
Madei Range	15 Ha
Total	30 Ha

Information about APO activities under CAMPA 2023-24 in North Goa Wildlife and Ecotourism Division

Table-14 Details of APOs carried out in North Goa Wildlife and Ecotourism Division

Name of the Range	Nature of APO activities	Quantity
Bhagwan Mahavir National Park and Wildlife Sanctuary (Mollem)	Maintenance of 1-year-old enrichment plot	3 Ha
	Maintenance of 1-year-old ANR plantation	10 Ha
	Nursery Management and seed raising	
	Raising of seedlings	20000 Nos.
	Forest protection	
	Repair and maintenance of forest roads	
	Creation and maintenance of fire lines	55.5 Km
	Wildlife and habitat improvement	
	Creation of nature trail	1 km
	Creation of water retention structures	2 Nos.
	Desilting and Maintenance of natural waterhole	19 Nos.
	Construction and maintenance of residential and official buildings for frontline staff	
	Construction of Patrolling station	1 Nos.
	Refurbishment and upgradation of protection camp	

	Repair of roofing of A-type quarter	
Madhei Wildlife Sanctuary	Maintenance 1-year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees	10 Ha
	Nursery Management and seeding raising	
	Raising of seedlings	20000 Nos.
	Forest protection	
	Repair of existing forest patrolling route	9 RKm
	Maintenance of Fire lines	67.5 Km
	Soil and moisture conservation work in the forest	
	Creation of water retention structure	2 Nos.
	Maintenance/Desilting of natural water hole	47 Nos.
	Hume pipe culverts	2 Nos.
	Construction and maintenance of residential and official buildings for frontline staff	
	Construction of patrolling camp	1 Nos.
	Maintenance of forest quarter	2 Nos.
	Construction of Borewell (Drilling)	1 Nos.
	Wildlife and habitat improvement	
	Creation and restoration of grass land	3 Ha
	Creation of Nature trail	2 RKm
Bondla Wildlife Range	Forest Protection	
	Deployment of Fire watcher	-
	Creation and Maintenance of fire lines at Bondla Wildlife Sanctuary	-
	Wildlife and habitat improvement	
	Desilting and maintenance of Natural waterholes	10 Nos.
	Work of raising of seedlings in polybags of size 5x8 at Bondla WLS.	20000 Nos.
	Creation of Grass plot at Bondla WLS	-
	Construction and maintenance of residential and official buildings for frontline staff	
	Construction of water retention tank (Artificial Pond) near Crocodile Pond of Usgao beat of Bondla WLS.	1 Nos.
	Repairing and Extension of Electrification of RFO Quarter at Bondla WLS.	1 Nos.
	Construction of service road from Pheasant enclosure to sloth bear enclosure to Tiger enclosure and from pump house to new Guar enclosure at Bondla Zoo.	-
Campal Wildlife Range	Nursery Management and seed raising	
	Raising of Nursery for public distribution	40,000 Nos.
	Raising of Mangrove seedlings at Dr. Salim Ali Bird Sanctuary, Chorao.	15,000 Nos.
	Wildlife and habitat improvement	
	Maintenance of Mud Flats.	1 No.

	Creation of Nature trail with Signage and benches at Carambolim Lake.	1 No.
	Construction and maintenance of residential and official building for frontline staff	
	Photography competition held at Xavier College, Mapusa.	-
	Repairing of OBM (outboard motor) and other works of Pintail boat.	1 No.
	Extension of Footway of floating Jetty at Dr. Salim Ali Bird Sanctuary, Chorao.	1 No.

1. BHAGWAN MAHAVIR NATIONAL PARK AND WILDLIFE SANCTUARY, MOLLEM

The total area of plantation under CAMPA 2023-24 in Mollem Wildlife Sanctuary was 15 Ha and the major locations of the plantation area and its survival details are given below.

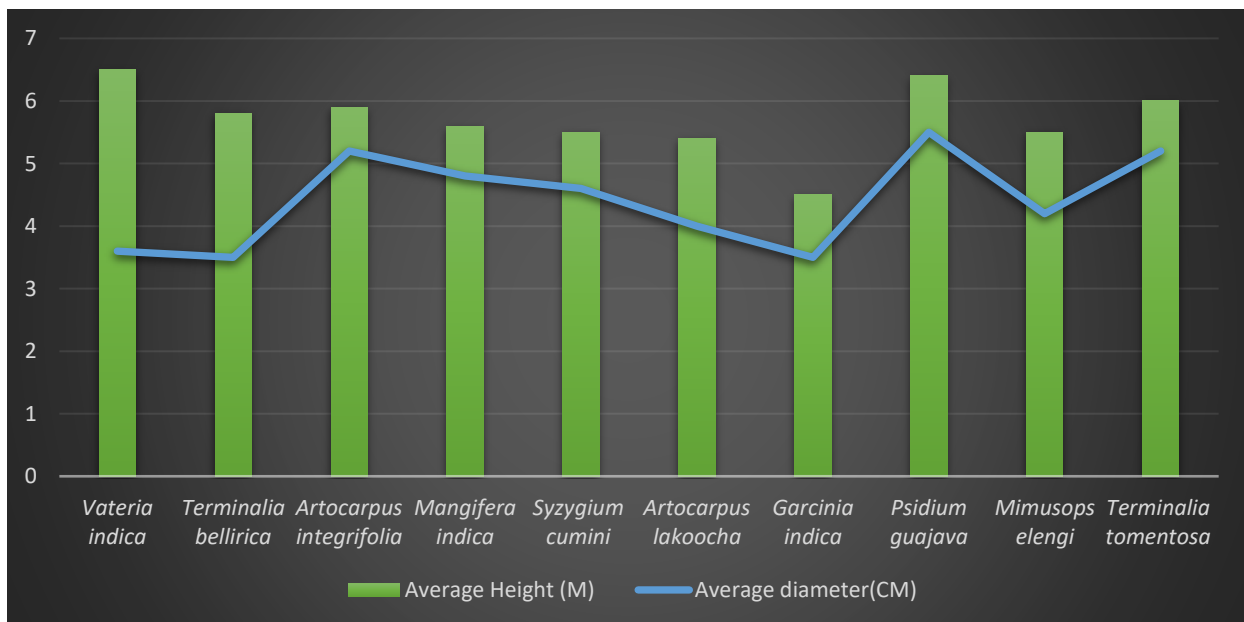
Table -15 Details of ANR Plantation in Mollem Wildlife Sanctuary

Locations of the plantations	Area	Survival %	Remarks (100% enumeration undertaken)
ANR plantation at Surla-I beat	5 Ha	72%	Carried out and maintained properly
ANR plantation at Nadran beat	5 Ha	75%	Carried out and maintained properly
ANR plantation at Mollem beat	5 Ha	70%	Carried out and maintained properly

Observations

A total of 15 Ha is planted in the Mollem WL range under CAMPA 2023-24. Fruit bearing and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding is required. The survival percentage varied from 70 to 75% and the overall survival percentage in this range was 72.3%.

Figure-6 Growth of ten major species planted in Mollem Wildlife Sanctuary



Information about other CAMPA activities as per APO and their details

Table-16 Details of APOs carried out in Mollem Wildlife Sanctuary

Sl. No.	Name of the work	Quantity	Remarks
1.	Plantation of fruit bearing trees at Nandran Beat Mollem Round 1st Year Maintenance	5 Ha	Carried out
2.	Plantation of fruit bearing trees at shigao Beat kalay Round 1st Year Maintenance	5 Ha	Carried out
3.	Maintenance of 1-year-old enrichment plot at Nandran and Surla-I Beat of Mollem Round	1 Ha	Carried out
4.	Maintenance of 1-year-old enrichment plot at Surla-II Beat of Mollem Round	0.5 Ha	Carried out
5.	Maintenance of 1-year-old enrichment plot at Collm-I Beat of Collem Round	0.5 Ha	Carried out
6.	Maintenance of 1-year-old enrichment plot at Dongurilm and Kalay Beat of Mollem Round	1 Ha	Carried out
7.	Raising of nursery of mixed fruit bearing seedlings at Collem Beat of Collem Round	20000 Nos.	Carried out
8.	Creation of nature trail a talde of Surla-I Beat of Mollem Round	1 Km	Carried out
9.	Creation of water retention structure at Nandran beat of Mollem Round	1 Nos.	Carried out
10.	Creation of water retention structure at Collem-I beat of Collem Round	1Nos.	Carried out
11.	Maintenance of artificial waterhole at Mollem beat of Mollem Round	1Nos.	Carried out
12.	Maintenance of artificial waterhole at Mollem beat of Mollem Round	1 Nos.	Carried out
13.	Desilting and Maintenance of Natural waterhole at Kalay Beat of Kalay round	1 Nos.	Carried out
14.	Desilting and Maintenance of Natural waterhole at Karemol Beat of Kalay round	1 Nos.	Carried out
15.	Desilting and Maintenance of Natural waterhole at Mauliguem Beat of Kalay round	1 Nos.	Carried out
16.	Maintenance of artificial waterhole at Nandran beat of Mollem Round	1 Nos.	Carried out
17.	Maintenance of artificial waterhole at Nandran beat (Vasant bandara) of Mollem Round	1 Nos.	Carried out
18.	Maintenance of artificial waterhole at Nandran beat of Mollem Round	1 Nos.	Carried out
19.	Maintenance of artificial waterhole at Nandran beat of Mollem Round	1 Nos.	Carried out
20.	Maintenance of artificial waterhole at Nandran beat of Mollem Round	1 Nos.	Carried out
21.	Maintenance of artificial waterhole at Nandran beat (campside road) of Mollem Round	1 Nos.	Carried out

22.	Maintenance of artificial waterhole at Nandran beat of Mollem Round	1 Nos.	Carried out
23.	Maintenance of Natural waterhole at Dongurlim beat of Kalay Round	1 Nos.	Carried out
24.	Maintenance of Natural waterhole at Surla-II beat of Mollem Round	1 Nos.	Carried out
25.	Maintenance of Natural waterhole at Mollem beat of Mollem Round	1 Nos.	Carried out
26.	Maintenance of Natural waterhole at Collem-I beat of Collem Round	1 Nos.	Carried out
27.	Maintenance of Natural waterhole at Caranzol-II beat of Caranzol Round	1 Nos.	Carried out
28.	Maintenance of Natural waterhole at Caranzo-II beat of Caranzol Round	1 Nos.	Carried out
29.	Maintenance of Natural waterhole at Caranzo-II beat of Caranzol Round	1 Nos.	Carried out
30.	Maintenance of fireline from Mestwada to Karemol at Surla-I Beat of Mollem Round	8 Km	Carried out
31.	Maintenance of fireline from Mollem to Anmod alonh Highway NH4 at Nandran Beat of Mollem Round	23.4 Km	Carried out
32.	Creation and maintenance of fireline 4.50 km at Surla-I Beat of Mollem round	4.5 Km	Carried out
33.	Creation and maintenance of fireline 3.80 km at Surla-II Beat of Mollem round	3.80 Km	Carried out
34.	Creation and maintenance of fireline 3.80 km at Mollem Beat of Mollem round	3.80 Km	Carried out
35.	Maintenance of fireline 06 km at Collem-II Beat of Collem Round	6 Km	Carried out
36.	Maintenance of fireline 03 km at Collem-I Beat of Collem Round	3 Km	Carried out
37.	Maintenance of fireline 03 km at Caranzol-II Beat of Caranzol Round	3 Km	Carried out
38.	Refurbishment and upgradation of protection camp cum information centre in Bhagwan Mahavir National Park	-	Carried out
39.	Construction of patrolling camp at Dongurlim beat of Kalay round	-	Carried out
40.	Renovation of existing A-type 2 quarter at Mollem wildlife sanctuary	-	Carried out
41.	Renovation of existing A-type 1 quarter at Mollem wildlife sanctuary	-	Carried out
42.	Maintenance of forest road from chainage 0 to 1 of Collem round	-	Carried out
43.	Repair and maintenance of forest road from chainage 10 to 11 of Sonaulim north Beat of Caranzol Round	-	Carried out
44.	Repair and maintenance of forest road along with trenches and repair and maintenance of pipe culvert from from change 08 to 09 of Sonaulim north beat of Caranzol Round	-	Carried out

	
Creation of water retention structure at Collem-I	ANR plantation at Nadran beat
	
Well raised mix-fruit seedlings in Mollem nursery	Construction of patrolling camp at Dongurlim beat
	
Casualty of Tamarind seedling at ANR plantation, Mollem beat	ANR plantation at Surla-I beat

2. MADHEI WILDLIFE SANCTUARY

The total area of plantation under CAMPA 2023-24 in Madhei Wildlife Sanctuary was 10 Ha and the major locations of the plantation area and its survival details are given below.

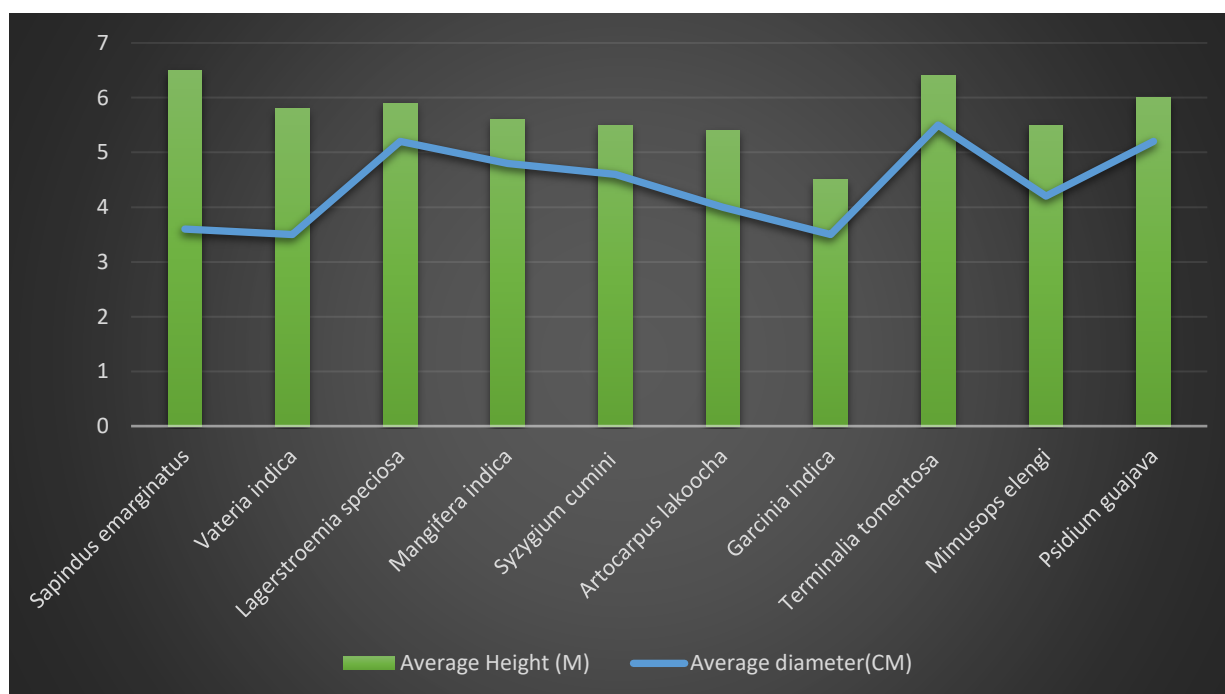
Table-17 Detail of ANR Plantation in Madhei Wildlife Sanctuary

Locations of the plantations	Area	Survival %	Remarks (100% enumeration undertaken)
ANR plantation at Codal beat	5 Ha	72	Carried out and maintained properly
ANR plantation at Gululem beat	5 Ha	76	Carried out and maintained properly
ANR plantation at Assodem beat	5 Ha	75	Carried out and maintained properly

Observations

A total of 15 Ha is ANR plantation is carried out in Madhei WL Sanctuary. Fruit bearing and indigenous plants have been carefully selected as planting stocks in the locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings, proper weeding is required. The survival percentage varied from 72 to 76% and the overall survival percentage in this range was 74.3%.

Figure-7 Growth of ten major species planted in Madhei Wildlife Sanctuary



Information about other CAMPA activities as per APO and their details

Table-18 Details of APOs carried out in Madhei Wildlife Sanctuary

Sl. No.	Name of the work	Quantity	Remarks
1	Maintenance 1-year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees at Ivrem beat in Charaundem Round (Part I) of MWLS	5 Ha	Carried out
2	Maintenance 1-year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees at Surla beat in Charaundem Round (Part II) of MWLS	5 Ha	Carried out
3	Raising of seedlings in 5"X8" size polybags for plantation public distribution at Codal Nursery in Codal Round of MWLS	20,000 Nos.	Carried out
4	Creation and restoration of grassland at Surla beat of Charaundem Round (Part-II) in Madei Wildlife Sanctuary.	2 Ha	Carried out
5	Maintenance/Desilting of natural water hole at Landslide area in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
6	Maintenance/Desilting of natural water hole at Amte Devasthan in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
7	Maintenance/Desilting of natural water hole at Landslide area in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
8	Maintenance/Desilting of natural water hole at Siddhichi Kon in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
9	Maintenance/Desilting of natural water hole at Landslide area in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
10	Maintenance/Desilting of natural water hole at Amte Devasthan in Satrem beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
11	Maintenance/Desilting of natural water hole at Amakadla Panyar in Codal beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
12	Maintenance/Desilting of natural water hole at Bhatacha Gharakde in Codal beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
13	Maintenance/Desilting of natural water hole at Chidambar cave in Codal beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out

14	Maintenance/Desilting of natural water hole at Biptachi tali in Codal beat of Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
15	Maintenance/Desilting of natural water hole at Vainguinim beat of Codal round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
16	Maintenance/Desilting of natural water hole at Codval beat of Codal round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
17	Maintenance/Desilting of natural water hole at Codval beat of Codal round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
18	Maintenance/Desilting of natural water hole at Assodem Teak Plantation in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
19	Maintenance/Desilting of natural water hole at Assodem Bhallan in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
20	Maintenance/Desilting of natural water hole at Gawanem Cashew plantation in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
21	Maintenance/Desilting of natural water hole at Soliyachi Tali in Caranzol I beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
22	Maintenance/Desilting of natural water hole at Thakechi tali in Caranzol I beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
23	Maintenance/Desilting of natural water hole at Vaigan Haral Tali in Caranzol I beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
24	Maintenance/Desilting of natural water hole at Potyan in Caranzol I beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
25	Maintenance/Desilting of natural water hole at Satonachi Tali in Caranzol III beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
26	Maintenance/Desilting of natural water hole at Amachi Tali in Caranzol III beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
27	Maintenance/Desilting of natural water hole at Bandirwada in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
28	Maintenance/Desilting of natural water hole at Bandirwada II in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
29	Maintenance/Desilting of natural water hole at Poshyani in Pendra beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out

30	Maintenance/Desilting of natural water hole at Poshyani in Pendra beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
31	Maintenance/Desilting of natural water hole at Sateli in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
32	Maintenance/Desilting of natural water hole at Kanasgaal Area in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
33	Maintenance/Desilting of natural water hole in Ivrem beat (Jalko Kono) of Charaundem round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
34	Maintenance/Desilting of natural water hole at Golauli in Ivrem beat of Charaundem round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
35	Maintenance/Desilting of natural water hole at Charaundem (Pansoda) in Ivrem beat of Charaundem round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
36	Maintenance/Desilting of natural water hole at Dhangarwada Golauli in Ivrem beat of Charaundem round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
37	Maintenance/Desilting of natural water hole at Kumlichon Hono in Surla beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
38	Maintenance/Desilting of natural water hole at Kumlichon Hono upper site in Gululem beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
39	Maintenance/Desilting of natural water hole at Pansachi Rai in Gululem beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
40	Maintenance/Desilting of natural water hole at Kumlichon Hono in Gululem beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
41	Maintenance/Desilting of natural water hole at Chafrir Pound in Gululem beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
42	Maintenance/Desilting of natural water hole at Chafrir in Gululem beat of Charaundem round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
43	Creation of Grass grassland at Satrem beat in Codal Round (Part – I) in Madei Wildlife Sanctuary.	2 Ha	Carried out
44	Creation of Grass grassland at Derodem beat in Codal Round (Part – I) in Madei Wildlife Sanctuary.	1Ha	Carried out
45	Creation of water retention structure like water hole at Satrem beat in Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out

46	Creation of water retention structure like water hole at Codal beat in Codal round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
47	Maintenance/Desilting of Artificial water hole at Gawanem Sadyar in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
48	Maintenance/Desilting of Artificial water hole at Gawanem Sadyar (1) in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
49	Maintenance/Desilting of Natural water hole at Gawanem in Assodem beat of Caranzol round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
50	Maintenance/Desilting of Nature water hole at Kajaredhaat (3) in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
51	Maintenance/Desilting of Nature water hole at Kajaredhaat (2) in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
52	Maintenance/Desilting of Nature water hole at Kajaredhaat (1) in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
53	Maintenance/Desilting of Natural water hole at Kanasgaal in Caranzol IV beat of Caranzol round (Part-II) in Madei Wildlife Sanctuary.	1 No.	Carried out
54	Construction of patrolling camp at Ivrem beat in Charaundem round (Part-I) in Madei Wildlife Sanctuary.	1 No.	Carried out
55	Repair and maintenance of Forest Roads in protected area from Teak Plantation to Derodem beat Boundary at Satrem beat in Madei Wildlife Sanctuary.	1 Rkm	Carried out
56	Repair and maintenance of Forest Roads in protected area from Derodem Village to Vainguinim Village at Derodem and Vainguinim beat in Madei Wildlife Sanctuary.	3 Rkm	Carried out
57	Creation of Forest Roads in protected area from Chidambar Junction to Signem gate at Codal beat in Madei Wildlife Sanctuary.	2 Rkm	Carried out
58	Maintenance of Forest Roads in protected area from Satrem Village to Dhangarwada at Satrem beat in Madei Wildlife Sanctuary.	2 Rkm	Carried out
59	Maintenance of Forest Roads in protected area from Rivem Wildlife Sanctuary Border to Protection camp at Ivrem beat in Madei Wildlife Sanctuary.	1 Rkm	Carried out
60	2 -Hume pipe culvert (with three pipes of 500 dia) of Forest road in protected area from Chidambar to Bat cave at Codal beat in Madei Wildlife Sanctuary.	2 Nos.	Carried out
61	Creation of Nature trail with signage and benches from Vainguinim to Vainguinim waterfall in Vainguinim beat in Madei Wildlife Sanctuary.	1 Rkm	Carried out

62	Creation of Nature trail with signage and benches from Tarichi Kon to Zadani in Nanoda beat in Madei Wildlife Sanctuary.	1 RKm	Carried out
63	Repair and maintenance of Forest Roads in protected area form Vagheri Gate to Vagheri Watch tower at Pali beat in Madei Wildlife Sanctuary	5 RKm	Carried out
64	Repair and maintenance of Forest Roads in protected area from Protection camp to Surla Boundary at Ivrem beat in Madei Wildlife Sanctuary.	5 RKm	Carried out
65	Repair and maintenance of Forest Roads in protected area from Surla Tailyar to Kumyacho Hono at Surla beat in MWLS	1 RKm	Carried out
66	Maintenance of Fire lines 2km from Pali check to Jambalikade check post at Ivrem Beat in Charaundem Round in MWLS	2 Km	Carried out
67	Maintenance of Fire lines 5km from Masundane to Junegava at Ivrem Beat in Charaundem Round in MWLS	5 Km	Carried out
68	Maintenance of Fire lines 10km from Murkundi to Ustem Bandara at Caranzol IV Beat in Caranzol Round part - II in MWLS	10 Km	Carried out
69	Maintenance of Fire lines 4km at Codval Beat in Codal Round part - II in MWLS	4 Km	Carried out
70	Maintenance of Fire lines 3km at Nanoda Beat in Codal Round part - II in MWLS	3 Km	Carried out
71	Maintenance of Fire lines 10km from Dhangarmol to Khadvacho at Derodem Beat in Codal Round part - I in MWLS	10 Km	Carried out
72	Maintenance of Fire lines 8km from Vondar to Sakhaleswar at Codal Beat in Codal Round part - I in MWLS	8 Km	Carried out
73	Maintenance of Fire lines 6km from Satrem Village to Parwad trail at Satrem Beat in Codal Round part - I in MWLS	6 Km	Carried out
74	Maintenance of Fire lines 10km from Ambeli to Gawanem at Assodem Beat in Caranzol Round part - I in MWLS	10 Km	Carried out
75	Maintenance of Fire lines 9.5km from Delta to Parwad at Surla Beat in Charaundem Round part - II in MWLS	9.5 Km	Carried out
76	Construction of Borewell (Drilling) at Pali Check post, Pali Beat in Charaundem Round in MWLS	1 No.	Carried out
77	Repair and Maintenance of B type Quarter at Nagargao in Codal Round in Madei Wildlife Sanctuary	1 No.	Carried out
78	Repair and Maintenance of A type (3 units) Quarter at Codal in Codal Round in Madei Wildlife Sanctuary	1 No.	Carried out

 Latitude: 15.554045 Longitude: 74.15763 Elevation: 42.45±6 m Accuracy: 12.0 m Time: 25-01-2025 14:42 Note: madei maintenance type quarter codal Powered by NoteCam	 Latitude: 15.469915 Longitude: 74.181425 Elevation: 75.77±3 m Accuracy: 3.8 m Time: 26-01-2025 10:41 Note: madei assodem gavane desilting water pond Powered by NoteCam
Repair and Maintenance of A type (3 units) Quarter at Codal	Maintenance/Desilting of natural water hole at Assodem
 Latitude: 15.621688 Longitude: 74.180577 Elevation: 157.08±9 m Accuracy: 3.0 m Time: 26-01-2025 13:34 Note: madei taravm apc Powered by NoteCam	 Latitude: 15.615153 Longitude: 74.108228 Elevation: 282.59±3 m Accuracy: 3.0 m Time: 26-01-2025 14:59 Note: madei charaundem Sha anukudo Powered by NoteCam
Construction of patrolling camp at Ivrem beat	ANR plantation at Gululem beat
 Latitude: 15°35'5" Longitude: 74°13'40" Elevation: 113.64±18 m Accuracy: 4.2 m Time: 25-01-2025 23:35 Powered by NoteCam	 Latitude: 15°37'57" Longitude: 74°12'54" Elevation: 424.22±4 m Accuracy: 1.6 m Time: 25-01-2025 12:23 Note: satrem beat Powered by NoteCam
Creation of Nature trail at Vainguinim	Creation of Grass land at Satrem beat

3. BONDLA WILDLIFE SANCTUARY

Under the Annual Plan of Operations (APO), multiple ecological and infrastructural interventions were executed at Bondla Wildlife Sanctuary to enhance habitat quality and biodiversity conservation. It included fire prevention, desilting of natural and artificial waterholes, and construction of water retention tanks. Afforestation efforts involved seedling propagation and grass plot creation. Infrastructure development included electrification repairs and service road construction, enhancing ecological sustainability and sanctuary management. The details are given below.

Table-19 Details of APOs carried out in Bondla Wildlife Sanctuary

Sl. No.	Name of the work	Quantity	Remarks
1	Deployment of Fire watcher at Bondla Wildlife Sanctuary	-	Carried out
2	Desilting and Maintenance of Natural Waterholes at Bondla Wildlife Sanctuary.	5 Nos.	Carried out
3	Desilting of waterholes at Deer Safari of Usgao beat of Bondla Wildlife Sanctuary.	1 Nos.	Carried out
4	Desilting of waterholes at Deer Safari of Usgao beat of Bondla Wildlife Sanctuary. (Artificial Waterholes)	1 Nos.	Carried out
5	Desilting of waterholes of Dharbandoda beat (Grassplot) of Bondla Wildlife Sanctuary.	1 Nos.	Carried out
6	Desilting of waterholes near Dormitory of Usgao beat of Bondla Wildlife Sanctuary.	1 Nos.	Carried out
7	Desilting of waterholes of Dharbandoda beat (Haddimol) of Bondla Wildlife Sanctuary.	1 Nos.	Carried out
8	Work of raising seedlings in polybags of size 5x8 at Bondla WLS.	20000 Nos.	Carried out
9	Creation of Grass plot at Bondla WLS	-	Carried out
10	Construction of water retention tank (Artificial Pond) near Dormitory of Usgao beat of Bondla WLS.	1 Nos.	Carried out
11	Construction of water retention tank (Artificial Pond) near Crocodile Pond of Usgao beat of Bondla WLS.	1 Nos.	Carried out
12	Repairing and Extension of Electrification of RFO Quarter at Bondla WLS.	-	Carried out
13	Deployment of fire watchers at Bondla WLS	6 Nos.	Carried out
14	Creation and Maintenance of fire lines at Bondla Wildlife Sanctuary	-	Carried out
15	Construction of service road from Pheasant enclosure to sloth bear enclosure to Tiger enclosure and from pump house to new Guar enclosure at Bondla Zoo.	-	Carried out



Desilting of waterholes of Dharbandoda beat



Raising of seedlings in polybags



Creation of Grass plot at Bondla



Repairing and Extension of Electrification of RFO Quarter



Construction of service road in Bondla zoo



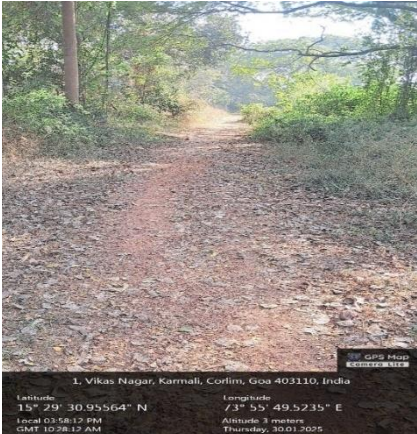
Desilting of waterholes at Deer safari of Usgao beat

4. CAMPAL WILDLIFE RANGE

Under the Annual Plan of Operations (APO), multiple ecological and infrastructural interventions were executed at Campal Wildlife Range to enhance habitat quality and biodiversity conservation. It included raising of seedlings, maintenance of mud flats, nature trails and marine infrastructure development like repair of jetty and pintail boat. The details are given below.

Table-20 Details of APOs carried out in Campal Wildlife Range

Sl. No.	Name of the work	Quantity	Remarks
1.	Maintenance of Mud Flats.	10 Nos.	Carried out
2.	Raising of seedlings in Nursery for public distribution in 5" X 8" polythene bag.	20,000 Nos	Carried out
3.	Photography competition held at Xavier College, Mapusa.	-	Carried out
4.	Repairing of OBM (out boat motor) and other works of Pintail boat.	-	Carried out
5.	Creation of Nature trail with Signage's and benches at Carambolim Lake.	-	Carried out
6.	Extension of Footway of floating Jetty at Dr. Salim Ali Bird Sanctuary, Chorao.	-	Carried out
7.	Raising of Mangrove seedlings at Dr. Salim Ali Bird Sanctuary, Chorao.	15,000 Nos.	Carried out

 Latitude: 15.511408 Longitude: 73.862194 Elevation: -6.65±12 m Accuracy: 12.3 m Time: 29-01-2025 16:53 Note: mud flood maintenance. Powered by HotsCam	 Latitude: 15.511915 Longitude: 73.868611 Elevation: 12.29±1 m Accuracy: 5.1 m Time: 29-01-2025 15:44 Note: beach mud flood control Powered by HotsCam
Maintenance of Mud flats in Chorao	Extension of Footway of floating Jetty in Chorao
 Latitude: 15.49514 Longitude: 73.87076 Elevation: 5.5±2 m Accuracy: 5.9 m Time: 29-01-2025 15:27 Note: seedling, Chorao Powered by HotsCam	
Raising of Mangrove seedlings, Chorao	Repairing of OBM of Pintail boat
 1, Vikas Nagar, Karmali, Corlim, Goa 403110, India Latitude: 15° 29' 30.95564" N Longitude: 73° 55' 49.5235" E Local 03:58:12 PM Altitude 3 meters GMT 10:28:12 AM Thursday, 30.01.2025	
Creation of Nature trail at Carambolim Lake	Signage's at Carambolim Lake

III. EVALUATION OF PLANTATION PERFORMANCE AND APO IMPLEMENTATION IN SOUTH GOA TERRITORIAL DIVISION

In April, systematic field assessments were conducted across four forest ranges, Cancona, Pissone, Kurdi, Quepem, and Sanguem, within the South Goa Territorial Division. The objective was to evaluate the growth performance of plantations and assess the execution of the Annual Plan of Operations (APOs). Field observations focused on plantation health, survival rates, species composition, and adherence to prescribed silvicultural practices. Additionally, the implementation status of APO activities was reviewed to ensure compliance with planned forestry interventions.

Table -21 Compensatory Afforestation (CA) plantations in South Goa Territorial Division

Name of the Forest Range	Area
Pissonem Range	70 Ha
Total	70 Ha

Table -22: Annual Plan of Operations in South Goa Territorial Division

Name of the Range	Nature of APO activities	Quantity/ Area
Cancona Range	Maintenance of 1-year-old mixed-species plantation	90 Ha
	Maintenance of 2-year-old mixed-species plantation	25 Ha
	Maintenance of 3-year-old mixed-species plantation	25 Ha
	Maintenance of 6-year-old mixed-species plantation	5 Ha
	Maintenance of 9-year-old mixed-species plantation	8.93 Ha
	Maintenance of 10-year-old mixed-species plantation	15 Ha
	Management of biodiversity and biological resources	
	Creation of nature trail	1 Nos.
	Development of grassland	5 Ha
	Construction of Water bodies	2 Nos.
	Forest protection	
	Maintenance and creation of fire lines	20 Km
Pissonem Range	Maintenance of 1-year-old mixed species plantation	16 Ha
	Maintenance of 4-year-old mixed species plantation	5 Ha

	Forest protection	
	Providing protective fencing for CA Plantation	2438 Rmt and 65.806 Ha
	Nursery Management and seeding raising	
	Raising of seedling	2,50,000 Nos.
	Management of biodiversity and biological resources	
	Creation of Water body	2 Nos.
	Construction and maintenance of residential and official building for frontline staff	
	Repair of office, labour sheds, quarters and water tanks	-
Kurdi Range	Maintenance of plantation at Portem	05 Ha
	Maintenance of plantation at Portem	10 ha
	Maintenance of plantation at Columba	02 ha
	Maintenance of plantation at Curpem	01 Ha
	Maintenance of plantation at Vichundrem	03 Ha
	Maintenance of plantation at Vichundrem	05 Ha
	Maintenance of plantation at Vichundrem	05 Ha
	Maintenance of plantation at Colomba	05 Ha
Quepem Range	Maintenance of plantation at Rivona.	15 Ha
	Maintenance of plantation at Rivona.	10 Ha
	Maintenance of plantation at Plantation at Rivona.	18 Ha
	Maintenance of plantation at Molcarnem.	12 Ha
	Maintenance of plantation at Rivona.	10 Ha
	Maintenance of plantation at Molcarnem.	15 Ha
	Maintenance of plantation at Rivona.	14 Ha
	Maintenance of plantation at Rivona.	2 Ha
	Maintenance of plantation at at Molcarnem.	15 Ha
	Maintenance of plantation at at Rivona.	10 Ha
	Nursery Management and seeding raising	
	Maintenance of old seedlings at Condimol Nursery.	100000 Nos.
	Maintenance of old seedlings at Condimol Nursery.	50000 Nos.
	Raising of seedlings in 5'x8' polybags of local fruit bearing species for CA plantation.	50000 Nos.
	Raising of seedlings in 5'x8' polybags of indigenous timber and other species for CA plantation.	50000 Nos.
	Forest protection	
	Creation of Firelines	30 Rkm
	Management of biodiversity and biological resources	
	Construction of water Retention Structure	3 Nos.

Sanguem Range	Construction and maintenance of residential and official buildings for frontline staff	
	Repair and maintenance of forest quarters	3 Nos.
	Maintenance of 1-year-old CA plantation	5Ha
	Maintenance of 2-year-old CA plantation	10 Ha
	Maintenance of 3-year-old CA Plantation	9.2 Ha
	Maintenance of 7-year-old CA Plantation.	2Ha
	Maintenance of 1-year-old ANR plantation	10 Ha.
	Maintenance of 2-year-old ANR plantation	15 Ha
	Management of biodiversity and biological resources	
	Construction of Water Pond	2 Nos.

1. CANCONA RANGE

A total of 163.93 hectares of plantation has been maintained under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Cancona range. The specific locations and detailed attributes of the plantation sites are provided below.

Table -23 Details of plantations maintained in Cancona Range

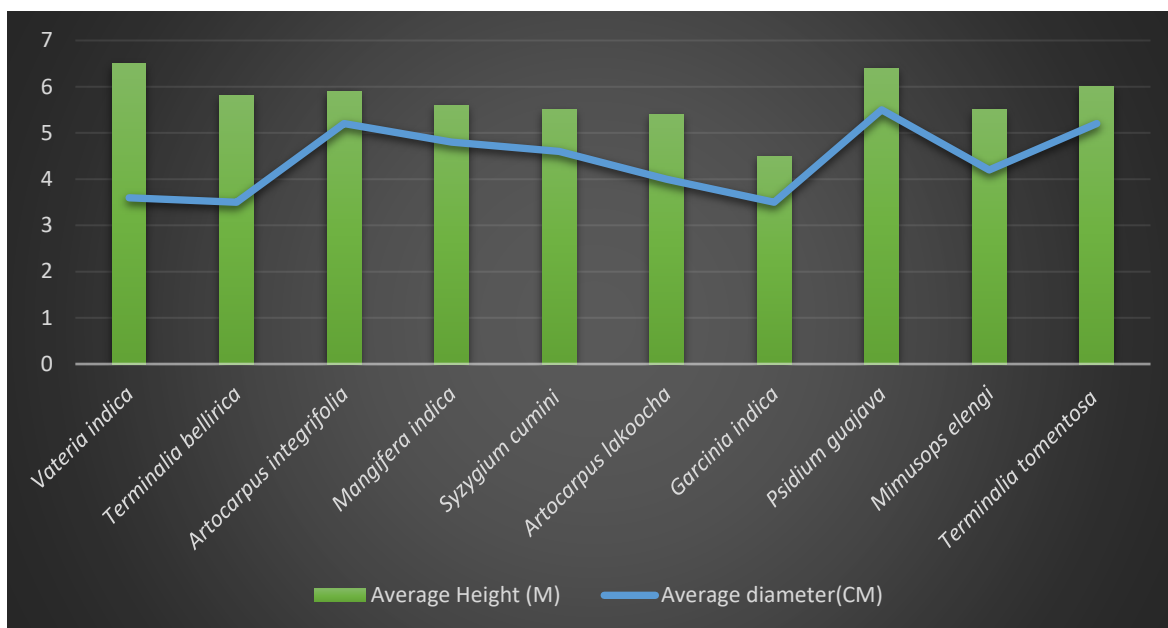
Sl. No.	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	Maintenance of a 1-year-old plantation at Ambadafond	20 Ha	80	Maintained well.
2.	Maintenance of a 1-year-old plantation at Ambadafond	25 Ha	85	Maintained well.
3.	Maintenance of a 1-year-old plantation at Chapoli	5 Ha	78	Maintained well.
4.	Maintenance of a 2-year-old plantation at Amona	4 Ha	75	Maintained well.
5.	Maintenance of a 2-year-old plantation at Amona	11 Ha	80	Maintained well.
6.	Maintenance of a 3-year-old plantation at Monem	2.5 Ha	82	Maintained well.
7.	Maintenance of a 3-year-old cane, bamboo, and mixed species plantation at Loliem	7.5 Ha	86	Maintained well.
8.	Maintenance of a 3-year-old cane and bamboo plantation at Ambadafond	12 Ha	81	Maintained well.
9.	Maintenance of a 3-year-old plantation at Monem	3 Ha	80	Maintained well.
10.	Maintenance of a 6-year-old plantation at Kindalkatta	5 Ha	73	Maintained well.
11.	Maintenance of a 9-year-old plantation at Amona	8.93 Ha	70	Maintained well.
12.	Maintenance of a 10-year-old plantation at Amona	15 Ha	72	Maintained well.
13.	Maintenance of a 10-year-old ANR plantation at Amona	5 Ha	78	Maintained well.

14.	Maintenance of a 1-year-old ANR plantation at Amona	8.5 Ha	75	Maintained well.
15.	Maintenance of a 1-year-old ANR plantation at Monem	6.5 Ha	80	Maintained well.
16.	Maintenance of a 1-year-old plantation at Monem	15 Ha	82	Maintained well.
17.	Maintenance of a 2-year-old ANR plantation at Monem	10 Ha	81	Maintained well.

Observations

A total of 163.93 Ha is planted in the Cancona range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 70 to 86% and the overall survival percentage in this range was 78.70%.

Figure-8 Growth of ten major species planted in Cancona range



Information about other CAMPA activities as per APO and their details

Table-24 Details of APOs carried out in Cancona Range

Sl. No	Name of the work	Quantity	Remarks
1.	Maintenance of Mixed Fruit bearing species. Plantation 1 yr-old.	20 Ha	Carried out and maintained well
2.	Maintenance of Mixed Fruit bearing species. Plantation 1 yr-old.	25 Ha	Carried out and maintained well
3.	Maintenance of Mixed Fruit bearing species. Plantation 1 yr-old.	5 Ha	Carried out and maintained well
4.	Maintenance of Native species plantation 2-yr-old.	4 Ha	Carried out and maintained well
5.	Maintenance of Native species plantation 2-yr-old.	11 Ha	Carried out and maintained well
6.	Maintenance of Mixed native species. Plantation 3 yr. old.	2.5 Ha	Carried out and maintained well
7.	Maintenance of canes and bamboo and Mixed species. Plantation 3 yr. old.	7.5 Ha.	Carried out and maintained well
8.	Maintenance of canes and bamboo Plantation 3 yr. old.	12 Ha	Maintained well
9.	Maintenance of native species. Plantation 3 -yr-old.	3 Ha	Maintained well
10.	Maintenance of mixed native species. Plantation 6 -yr-old.	5Ha	Maintained well
11.	Maintenance of mixed native species. Plantation 9 -yr-old.	8.93 Ha	Maintained well
12.	Maintenance of mixed native species. Plantation 10 -yr-old.	15 Ha	Maintained well
13.	Maintenance of mixed native species. Plantation 10 -yr-old.	5 Ha	Maintained well
14.	Maintenance of ANR Plantation 1-yr.-old.	8.5 Ha	Maintained well
15.	Maintenance of ANR Plantation 1-yr.-old.	6.5Ha	Maintained well
16.	Maintenance of ANR Plantation 1-yr.-old.	15 Ha	Maintained well
17.	Maintenance of ANR Plantation 2-yr-old.	10 Ha	Maintained well
18.	Raising of seedlings for CA Plantations	75,000 Nos.	Maintained well
19.	Raising of seedlings for CA Plantation	25,000 Nos.	Maintained well

20.	Maintenance of seedlings for public distribution	25,000 Nos.	Maintained well
21.	Raising of seedlings for CA Plantation	10,750 Nos.	Carried out and maintained well
22.	Maintenance of 1-yr-old stock seedling for CA plantation.	75,000 Nos.	Maintained well
23.	Maintenance and creation of Firelines Kindalkatta beat.	2 Km	Maintained well
24.	Maintenance and creation of Firelines Monem beat.	4 Km	Maintained well
25.	Maintenance and creation of Firelines Avem beat.	4 Km	Maintained well
26.	Maintenance and creation of Firelines Tirwal beat.	5 Km	Maintained well
27.	Maintenance and creation of Firelines Sheller beat	5 Km	Maintained well
28.	Maintenance and creation of Firelines along cashew Plantation Tirwal beat	302-man days	Maintained well
29.	Maintenance and creation of Firelines along cashew Plantation Loliem beat	151-man days	Maintained well
30.	Maintenance and creation of Firelines along cashew Plantation Amona beat	302-man days	Maintained well
31.	Maintenance and creation of Firelines along cashew Plantation Sheller beat	453-man days	Maintained well
32.	Maintenance and creation of Firelines along cashew Plantation Chapoli beat	453-man days	Maintained well
33.	Construction of Water bodies, Sy. No. 229, Loliem	1 No.	Carried out
34.	Construction of Water bodies,	1 No.	Carried out
35.	Development of Grass Land at Kalshi Sy. No. 8	5 Ha.	Carried out
36.	Creation of Nature Trail Sy. No. 302 Loliem	2 Km	Carried out

 Latitude: 14.986705 Longitude: 74.130844 Elevation: 89.1548 m Accuracy: 5.4 m Time: 18-04-2025 12:06 Note: maintenance 6.5 amona, canacona	 Latitude: 15.004858 Longitude: 74.093954 Altitude: -58.0172 m Accuracy: 8.2 m Time: 18-04-2025 11:18 Note: ozrem nursery, canacona
Maintenance of ANR Plantation at Amona	Seedlings raising in nursery at Ozrem
 Latitude: 14.909666 Longitude: 74.085478 Elevation: 15.6749 m Accuracy: 4.8 m Time: 18-04-2025 16:37 Note: nature trail, pollem beat, canacona	 Latitude: 14.936339 Longitude: 74.114727 Elevation: 23.74112 m Accuracy: 7.0 m Time: 18-04-2025 15:57 Note: water pond loliem, canacona
Creation of Nature trail at Pollem beat	Construction of water pond at Loliem beat
 Latitude: 14.986705 Longitude: 74.130844 Elevation: 89.1548 m Accuracy: 5.4 m Time: 18-04-2025 12:06 Note: maintenance 6.5 amona, canacona	 Latitude: 14.986705 Longitude: 74.130844 Elevation: 89.1548 m Accuracy: 5.4 m Time: 18-04-2025 12:06 Note: maintenance 6.5 amona, canacona
Maintenance of mango seedling at ANR plantation, Cancona beat	ANR plantation at Amona beat

2. PISSONEM RANGE

A total of 70 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Pissonem range. The specific locations and detailed attributes of the plantation sites are provided below.

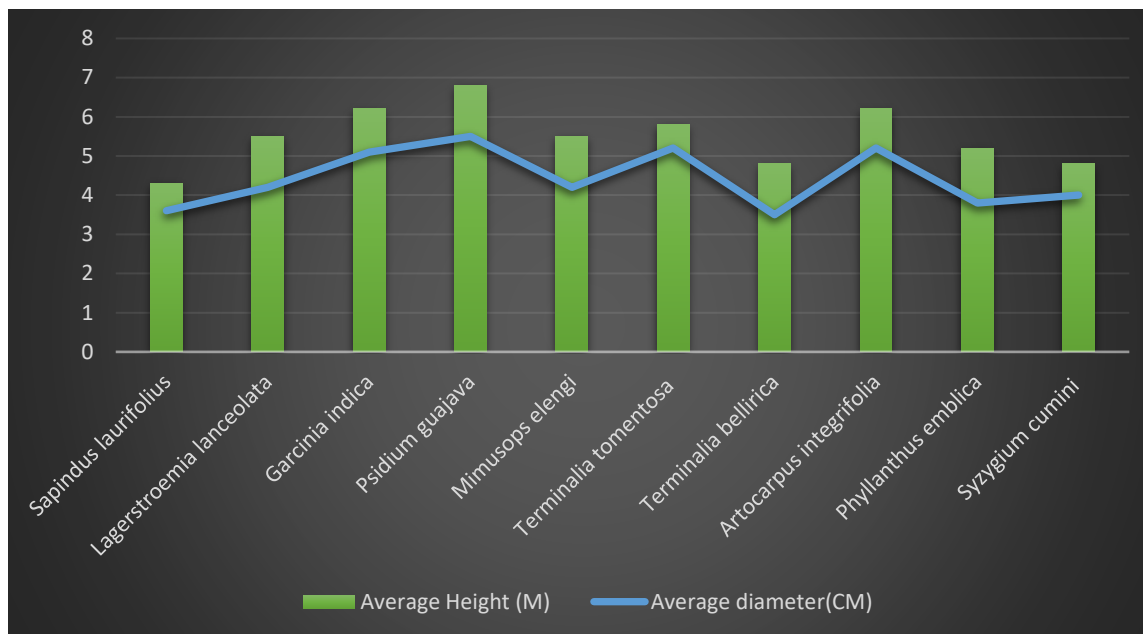
Table -25 Details of plantations maintained in Pissonem Range

Sl. No.	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1	CA Plantation at Padi village	15 ha	80	Planted and performing well.
2	CA Plantation at Tiloi village	8 ha	85	Planted and performing well.
3	CA Plantation at Barcem village	7ha	78	Planted and performing well.
4	CA Plantation at Quedem village	10ha	76	Planted and performing well.
5	CA Plantation at Cordem village	7ha	80	Planted and performing well.
6	CA Plantation at Canacona village	10ha	82	Planted and performing well.
7	CA Plantation at Cola village	9 ha	84	Planted and performing well.
8	CA Plantation at Padi village	4 ha	82	Planted and performing well.

Observations

A total of 70 Ha is planted in the Pissonem range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 76 to 85% and the overall survival percentage in this range was 80.87%.

Figure-9 Growth of ten major species planted in Pissonem Range



Information about other CAMPA activities as per APO and their details

Table-26 Details of APOs carried out in Pissonem Range

Sl. No	Name of the work	Quantity	Remarks
1.	Maintenance of 2-year-old 2021-22 CA plantation in Sy.No.39/0 of Tiloi village phase-II	05 Ha	Maintained well.
2.	Maintenance of 2-year-old 2021-22 CA plantation in Sy.No.39/0 of Tiloi village.	10 Ha	Maintained well.
3.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.12/0 of Padi village	02 Ha	Maintained well.
4.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.16/0 of Padi village	01 Ha	Maintained well.
5.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.114/0 of Barcem village	03 Ha	Maintained well.

6.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.23/0 of Barcem village	05 Ha	Maintained well.
7.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.402 of Cola village	05 Ha	Maintained well.
8.	Maintenance of 3-year-old 2020-21 CA plantation in Sy.No.402 of Cola village (Phase-II),	05 Ha	Maintained well.
9.	Maintenance of 1--year-old 2022-23 Assisted Natural Regeneration (ANR) plantation in Sy.No.44/0 of Gokuldem village	10 ha	Maintained well.
10.	Maintenance of 2-year-old 2021-22 Assisted Natural Regeneration (ANR) plantation in Sy.No.1/0 of Padi village	20 Ha	Maintained well.
11.	Maintenance of 4-year-old 2019-20 CA plantation in Sy.No.12/0 of Padi village	20 Ha	Maintained well.
12.	Maintenance of 2-year-old 2021-22 Assisted Natural Regeneration (ANR) plantation in Sy.No.44/0 of Gokuldem village.	10 Ha	Maintained well.
13.	Creation of Firelines in Sy. No. 114 and 23 of Barcem village	07 kms	Carried out
14.	Creation of Firelines in Sy. No. 39/0 of Tiloi village	07 kms	Carried out
15.	Creation of Firelines in Sy. No. 100, 103 and 110 of Canacona village	06 kms	Carried out
16.	Work of Protective fencing for 04 ha plantation under Sy. No. 32/0 of Padi village (Phase I)	-	Carried out
17.	Work of Protective fencing for 04 ha plantation under Sy. No. 32/0 of Padi village (Phase II)	-	Carried out
18.	Work of Protective fencing for 07 ha plantation under Sy. No. 24/0 of Cordem village (Phase II)	-	Carried out
19.	Work of Protective fencing for 07 ha plantation under Sy. No. 24/0 of Cordem village (Phase I)	-	Carried out
20.	Work of Protective fencing for 10 ha plantation under Sy. No. 100 of Canacona village (Phase I)	-	Carried out

21.	Work of Protective fencing for 10 ha plantation under Sy. No. 100 of Canacona village (Phase II)	-	Carried out
22.	Work of Protective fencing for 08 ha plantation under Sy. No. 39/0 of Tiloi village (Phase II)	-	Carried out
23.	Work of Protective fencing for 08 ha plantation under Sy. No. 39/0 of Tiloi village (Phase I)	-	Carried out
24.	Protection of forest and wild life by engaging trekkers.	-	Carried out
25.	Deployment of Firewatchers in Govt. Forest areas under jurisdiction of Pissoneem Range.	-	Carried out

 Latitude: 15.088916 Longitude: 74.031435 Elevation: 28.61±12 m Accuracy: 5.0 m Time: 20-04-2025 11:50 Note: ca 15ha, padi, pissonem	 Latitude: 15.108899 Longitude: 74.030055 Altitude: 10.3±12 m Accuracy: 9.2 m Time: 20-04-2025 11:11 Note: ca 7ha, quedem, pissonem
Raising of CA Plantation at Padi beat	Raising of CA Plantation at Quedem beat
	 Latitude: 15.060833 Longitude: 74.027679 Altitude: 26.92±11 m Accuracy: 10.2 m Time: 19-04-2025 13:20 Note: ca 7ha, barcem, pissonem
Maintenance of ANR plantation at Padi beat	Raising of CA Plantation at Barcem beat
	 Latitude: 15.040159 Longitude: 74.024182 Elevation: 12.08±21 m Accuracy: 7.2 m Time: 19-04-2025 12:17 Note: ca 10ha guilem, pissonem
Maintenance of Dhoop seedling at ANR plantation, Padi beat	Quadrat survey at Gulem beat

3. KURDI RANGE

A total of 36 hectares of plantation has been maintained under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Kurdi range. The specific locations and detailed attributes of the plantation sites are provided below.

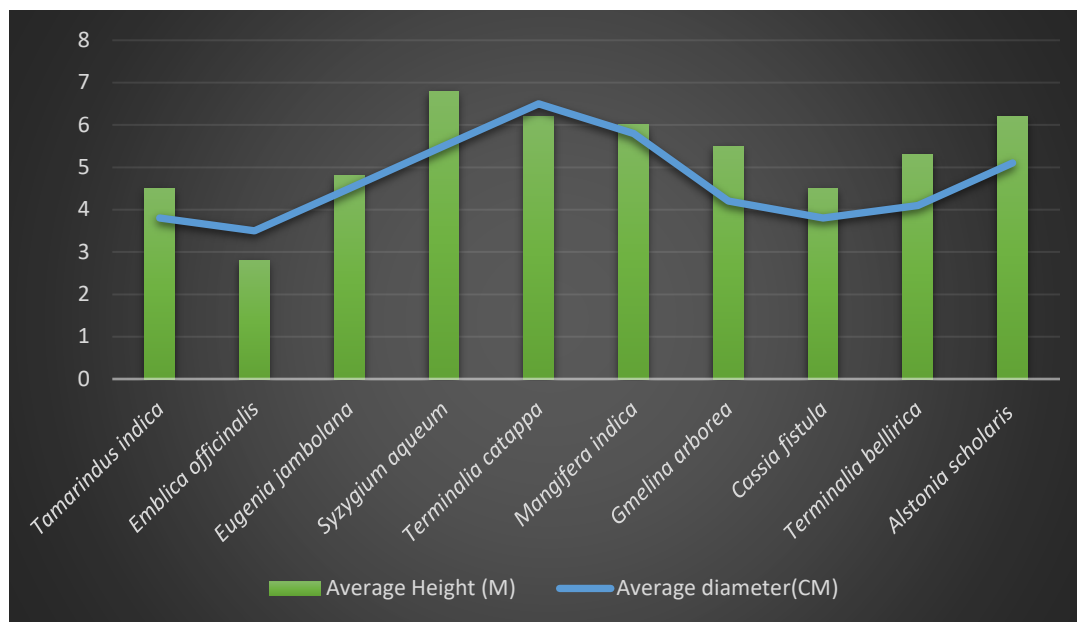
Table -27 Details of plantations maintained in Kurdi Range

Sl. No.	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	Maintenance of plantation at Portem	5 Ha	76	Planted and performing well.
2.	Maintenance of plantation at Portem	10 ha	78	Planted and performing well.
3.	Maintenance of plantation at Columba	2 ha	74	Planted and performing well.
4.	Maintenance of plantation at Curpem	1 Ha	76	Planted and performing well.
5.	Maintenance of plantation at Vichundrem	3 Ha	80	Planted and performing well.
6.	Maintenance of plantation at Vichundrem	5 Ha	81	Planted and performing well.
7.	Maintenance of plantation at Vichundrem	5 Ha	70	Planted and performing well.
8.	Maintenance of plantation at Colomba	5 Ha	72	Planted and performing well.

Observations

A total of 36 Ha is planted in the Kurdi range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 72 to 81% and the overall survival percentage in this range was 75.87%.

Figure -10 Growth of 10 major species planted in Kurdi Range



Information about other CAMPA activities as per APO and their details

Table-28 Details of APOs carried out in Kurdi Range

Sl. No.	Name of the work	Quantity	Remarks
1.	Maintenance of 2 nd -year-old CA plantation	5 Ha	Maintained well.
2.	Maintenance of 3 rd -year-old CA plantation barren hill rocky area	10 ha	Maintained well.
3.	Maintenance of 5 th -year-old Degraded Hill Afforestation by Planting mixed species saplings.	2 ha	Maintained well.
4.	Maintenance of 9 th -year-old CA plantation.	1 Ha	Maintained well.
5.	Maintenance of 9 th -year-old CA Plantation	3 Ha	Maintained well.
6.	Maintenance of 2 nd year ANR gap planting of native species	5 Ha	Maintained well.
7.	Maintenance of 1 st year Aided natural regeneration with gap planting of mixed native species and fruit bearing species at Vichundrem	5 Ha	Maintained well.
8.	Maintenance of 1 st year Aided natural regeneration with gap planting of mixed native species and fruit bearing species at Colomba.	5 Ha	Maintained well.

 Latitude: 15.100863 Longitude: 74.207024 Altitude: 10.7410 m Accuracy: 7.0 m Time: 23-04-2023 11:16 Note: 9th year maintenance of the Anjanandam beat.	
Maintenance of ANR Plantation at Columba beat	Maintenance of ANR Plantation at Portem beat
 Latitude: 15.101567 Longitude: 74.206528 Elevation: 73.0517 m Accuracy: 7.2 m Time: 23-04-2023 11:11 Note: 21:22 maintenance of the Anjanandam beat.	
Maintenance of ANR plantation at Vinchurdem beat	Maintenance of ANR plantation at Curpem beat
 Latitude: 15.091033 Longitude: 74.191091 Elevation: 84.4818 m Accuracy: 10.0 m Time: 23-04-2023 09:55 Note: 10th year maintenance of the Anjanandam beat.	
Maintenance of Karanj seedling at ANR plantation, Vinchurdem beat	Maintenance of ANR plantation at Vinchurdem beat

4. QUEPEM RANGE

A total of 121 hectares of plantation has been maintained under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Quepem range. The specific locations and detailed attributes of the plantation sites are provided below.

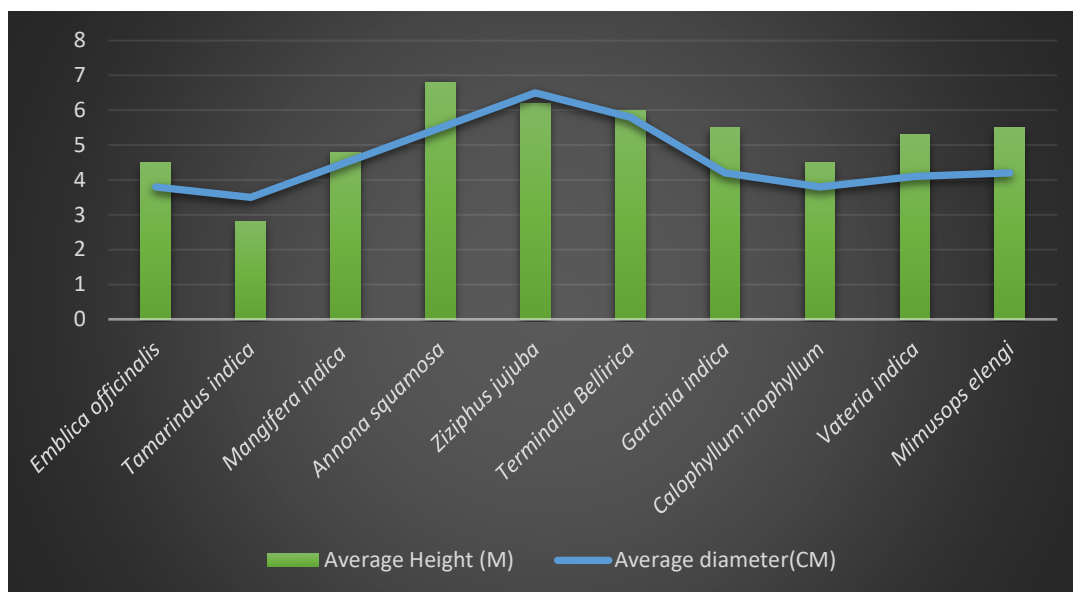
Table -29 Details of plantations maintained in Quepem Range

Sl. No	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	Maintenance of plantation at Rivona.	15 Ha	80	Maintained well.
2.	Maintenance of plantation at Rivona.	10 Ha	84	Maintained well.
3.	Maintenance of plantation at Plantation at Rivona.	18 Ha	78	Maintained well.
4.	Maintenance of plantation at Molcarnem.	12 Ha	76	Maintained well.
5.	Maintenance of plantation at Rivona.	10 Ha	80	Maintained well.
6.	Maintenance of plantation at Molcarnem.	15 Ha	82	Maintained well.
7.	Maintenance of plantation at Rivona.	14 Ha	75	Maintained well.
8.	Maintenance of plantation at Rivona.	2 Ha	82	Maintained well.
9.	Maintenance of plantation at at Molcarnem.	15 Ha	76	Maintained well.
10.	Maintenance of plantation at at Rivona.	10 Ha	81	Maintained well.

Observations

A total of 121 Ha is planted in the Quepem range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 75 to 84% and the overall survival percentage in this range was 79.40%.

Figure -11 Growth of ten major species planted in Quepem Range



Information about other CAMPA activities as per APO and their details

Table-30 Details of APOs carried out in Quepem Range

Sl. No.	Name of the work	Quantity	Remarks
1.	Maintenance of 1-year-old CA Plantation at Rivona.	15 Ha	Maintained well.
2.	Maintenance of 1-year-old CA Plantation at Rivona.	10 Ha	Maintained well.
3.	Maintenance of 2-year-old CA Plantation at Rivona.	18 Ha	Maintained well.
4.	Maintenance of 2-year-old CA Plantation at Molcarnem.	12 Ha	Maintained well.
5.	Maintenance of 2-year-old CA Plantation at Rivona.	10 Ha	Maintained well.
6.	Maintenance of 2-year-old ANR Plantation at Molcarnem.	15 Ha	Maintained well.
7.	Maintenance of 3-year-old CA Plantation at Rivona.	14 Ha	Maintained well.
8.	Maintenance of 3-year-old CA Plantation at Rivona.	2 Ha	Maintained well.

9.	Maintenance of 3-year-old ANR Plantation at Molcarnem.	15 Ha	Maintained well.
10.	Maintenance of 10-year-old CA Plantation at Rivona.	10 Ha	Maintained well.
11.	Maintenance of old seedlings at Condimol Nursery.	100000 Nos.	Maintained well.
12.	Maintenance of old seedlings at Condimol Nursery.	50000 Nos.	Maintained well.
13.	Raising of seedlings in 5'x8' polybags of local fruit bearing species for CA plantation.	50000 Nos.	Carried out
14.	Raising of 50000 Nos. seedlings in 5'x8' polybags of indigenous timber and other species for CA plantation.	50000 Nos.	Carried out
15.	Protection of Forest and Wildlife by engaging trekkers in Quepem Range in Rivona Round	400 M/days	Carried out
16.	Protection of Forest and Wildlife by engaging trekkers in Quepem Range in Balli Round	300 M/days	Carried out
17.	Protection of Forest and Wildlife by engaging trekkers in Quepem Range in Maina Round	400 M/days	Carried out
18.	Construction of water Hole at Nagvem	1No.	Carried out
19.	Construction of water Hole at Cavrem	1No.	Carried out
20.	Providing and fixing G I sheet for A 1 type Quarters at Balli Forest Colony.	1No.	Carried out
21.	Providing and fixing G I sheet for A 3 type Quarters at Balli Forest Colony.	1No.	Carried out
22.	Providing and fixing G I sheet for A 2 type Quarters at Balli Forest Colony.	1No.	Carried out
23.	Supply of Irrigation pumps, pipes and other accessories for Nursery.		Carried out
24.	Engagement of firewatchers in Govt. Forest in Maina Round.	300 M/days	Carried out
25.	Engagement of firewatchers in Govt. Forest in Balli Round.	300 M/days	Carried out
26.	Maintenance and creation of firelines/clearance along cashew plantation/deployment of fire prevention activities in Quepem Range	246 M/days	Carried out
27.	Engagement of firewatchers in Govt. Forest in Rivona Round.	300 M/days	Carried out
28.	Maintenance and creation of firelines/clearance along cashew	246 M/days	Carried out

	plantation/deployment of fire prevention activities in Quepem Range		
29.	Creation of Firelines in Govt. Forest at Bendurdem	5Rkm	Carried out
30.	Creation of Firelines in Govt. Forest at Sulcorna	5Rkm	Carried out
31.	Creation of Firelines in Govt. Forest at Pirla	5Rkm	Carried out
32.	Creation of Firelines in Govt. Forest at Adnem	5Rkm	Carried out
33.	Creation of Firelines in Govt. Forest at Sirvoi	5Rkm	Carried out
34.	Creation of Firelines in Govt. Forest at Molcarnem	5Rkm	Carried out
35.	Construction of water Retention Structure	1No.	Carried out

 Latitude: 15.159957 Longitude: 74.115141 Altitude: -11.15±5 m Accuracy: 4.1 m Time: 24-04-2025 12:35 Note: ca maintenance, zha, rivona, quepem	 Latitude: 15.152499 Longitude: 74.090991 Elevation: 92.28±6 m Accuracy: 4.8 m Time: 24-04-2025 12:01 Note: ca maintenance 10ha, keri beat, quepem
Maintenance of CA Plantation at Rivona beat	Maintenance of CA Plantation at Keri beat
 Latitude: 15.21747 Longitude: 74.221507 Elevation: 55.59±22 m Accuracy: 6.0 m Time: 25-04-2025 10:43 Note: raising of seedling valkini nursery	 Latitude: 15.139872 Longitude: 74.023439 Altitude: -35.33±3 m Accuracy: 3.8 m Time: 24-04-2025 16:20 Note: 50000 maintenance, condimol nursery, quepem
Raising of seedlings at Valkini nursery	Raising of seedlings at Condimol nursery
 Latitude: 15.139872 Longitude: 74.023439 Altitude: -35.33±3 m Accuracy: 3.8 m Time: 24-04-2025 16:20 Note: 50000 maintenance, condimol nursery, quepem	
Maintenance of Oval seedling at ANR plantation, Keri beat	Maintenance of Peru seedling at ANR plantation, Molcarnem beat

5. SANGUEM RANGE

A total of 49.2 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Sanguem range. The specific locations and detailed attributes of the plantation sites are provided below.

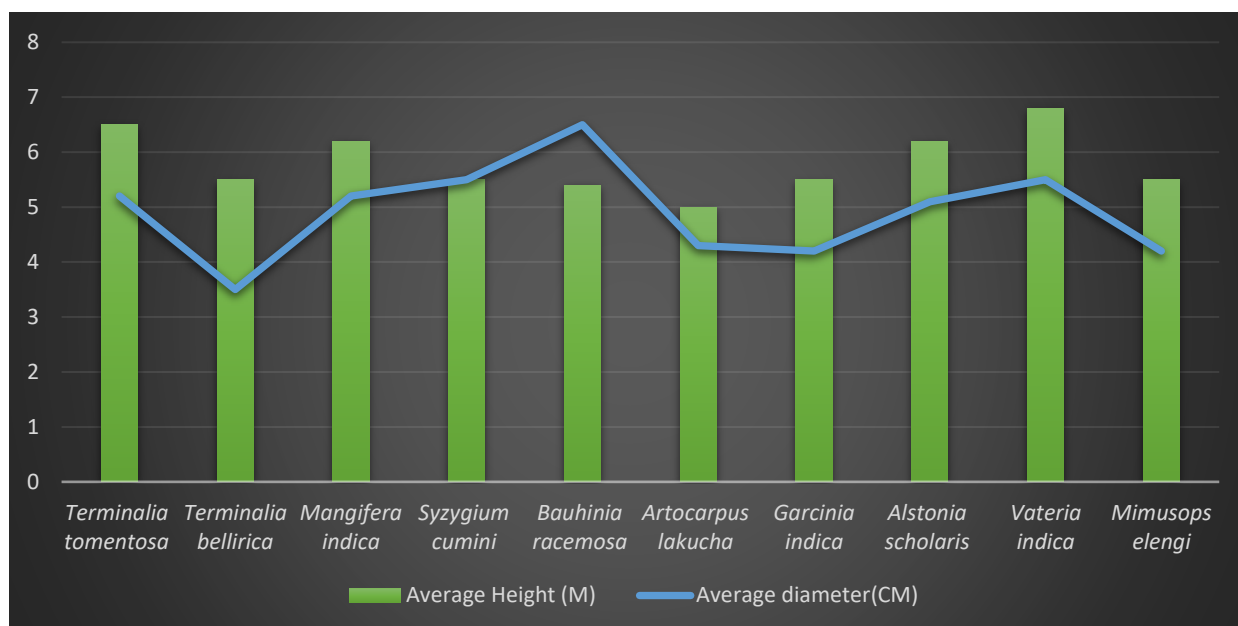
Table -31 Details of plantations maintained in Sanguem Range

Sl. No	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	Maintenance of plantation at Sanvordem	5Ha	78	Maintained well.
2.	Maintenance of plantation at Sanvordem	5Ha	74	Maintained well.
3.	Maintenance of plantation at Mugoli	5Ha	78	Maintained well.
4.	Maintenance of plantation at Sanvordem	2 Ha	76	Maintained well.
5.	Maintenance of plantation at Sanvordem	5.2 Ha	79	Maintained well.
6.	Maintenance of plantation at Sanvordem	2 Ha	72	Maintained well.
7.	Maintenance of plantation at Sanvordem	10 Ha	75	Maintained well.
8.	Maintenance of plantation at Mugoli and Saluli	15 Ha	76	Maintained well.

Observations

A total of 49.2 Ha is planted in the Sanguem range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 72 to 79% and the overall survival percentage in this range was 76%.

Figure-12 Growth of ten major species planted in Sanguem Range



Information about other CAMPA activities as per APO and their details

Table-32 Details of APOs carried out in Sanguem Range

Sl. No.	Name of the work	Quantity	Remarks
1.	Maintenance of 1-year-old CA plantation	5 Ha	Maintained well.
2.	Maintenance of 2-year-old CA plantation	5 Ha	Maintained well.
3.	Maintenance of 2-year-old CA plantation	5 Ha	Maintained well.
4.	Maintenance of 3-year-old CA Plantation at Rivona.	2 Ha	Maintained well.
5.	Maintenance of 3-year-old CA Plantation.	2 Ha	Maintained well.
6.	Maintenance of 3-year-old CA Plantation.	5.2 Ha	Maintained well.
7.	Maintenance of 7-year-old CA Plantation.	2 Ha	Maintained well.
8.	Maintenance of 1-year-old ANR plantation	10 Ha	Maintained well.
9.	Maintenance of 2-year-old ANR plantation	15 Ha	Maintained well.
10.	Construction of Water Pond at Sanvordem	1No.	Carried out
11.	Construction of Water Pond at Mugoli	1No.	Carried out

 Latitude: 15.287051 Longitude: 74.138616 Altitude: 25.9147 m Accuracy: 5.3 m Time: 26-04-2025 12:33 Note: maintenance anr sha and anr beat 01 Powered by Notepad	
Maintenance of CA Plantation at Sanvordem beat	Construction of water pond at Sanvordem beat
 Latitude: 15.217041 Longitude: 74.202922 Altitude: 23.5917 m Accuracy: 5.2 m Time: 26-04-2025 10:38 Note: maintenance anr sha and anr beat 01 Powered by Notepad	
Maintenance of CA Plantation at Mugoli beat	Maintenance of CA Plantation at Sanvordem beat
 Latitude: 15.257271 Longitude: 74.186571 Altitude: 23.7487 m Accuracy: 5.1 m Time: 26-04-2025 10:40 Note: maintenance anr sha and anr beat 01 Powered by Notepad	 Latitude: 15.257271 Longitude: 74.186571 Altitude: 23.7487 m Accuracy: 5.1 m Time: 26-04-2025 10:40 Note: maintenance anr sha and anr beat 01 Powered by Notepad
Maintenance of Mahagony seedling at ANR plantation, Sanvordem beat	Maintenance of Ghotting seedling at ANR plantation, Sanvordem beat

IV. FIELD OBSERVATIONS IN SOUTH GOA WILDLIFE AND ECOTOURISM DIVISION

In the South Goa Wildlife and Ecotourism Division, major activities carried out under CAMPA during the years 2023-24 were in Netravali Wildlife Sanctuary, Cotigao Wildlife Sanctuary.

Table-33 Assisted Natural Regeneration plantations in North Goa Wildlife and Ecotourism Division

Name of the Range	Area
Netravali Wildlife Sanctuary	10 Ha
Cotigao Wildlife Sanctuary	10 Ha
Total	20 Ha

Information about APO activities under CAMPA 2023-24 in South Goa Wildlife and Ecotourism Division

Table-34 Details of APOs carried out in North Goa Wildlife and Ecotourism Division

Name of the Range	Nature of APO activities	Quantity
Netravali Wildlife Sanctuary	Maintenance of 1-year-old enrichment plot	15 Ha
	Maintenance of 2-year-old ANR plantation	20 Ha
	Maintenance of 3-year-old ANR plantation	17 Ha
	Nursery Management and seeding raising	
	Maintenance of seedlings	25000 Nos.
	Raising of seedlings	10000 Nos.
	Forest protection	
	Repairment and maintenance of forest roads	
	Creation and maintenance of fire lines	92.8 Km
	Wildlife and habitat improvement	
	Raising of grass plot	3 Ha
	Creation of nature trail	1 km
	Creation of water pond	4 Nos.
	Desilting and Maintenance of Natural waterhole	30 Nos.
	Creation of salt licks	30 Nos.
	Construction of water check dam	11 Nos.
	Construction and maintenance of residential and official building for frontline staff	

	Construction of Protection camp	1 Nos.
	Drilling of borewell	2 Nos.
	Repair of roofing of A-type quarter	
	Construction of watch tower	
Cotigao Wildlife Sanctuary	Maintenance One -year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees	20 Ha
	Maintenance Two -year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees	15 Ha
	Maintenance Three -year-old Assisted Nature Regeneration and Gap Planting with Fruits bearing trees	15 Ha
	Nursery Management and seeding raising	
	Raising of seedlings	10000 Nos.
	Maintenance of seedlings	25000 Nos.
	Forest protection	
	Repair of existing forest patrolling route	8.5 RKm
	Maintenance of Fire lines	44.1 Km
	Soil and moisture conservation work in the forest	
	Creation of water retention structure	2 Nos.
	Maintenance/Desilting of nature water hole	23 Nos.
	Creation of gabion structures	6 Nos.
	Construction and maintenance of residential and official building for frontline staff	
	Construction of washroom	1 Nos.
	Construction of watch tower	1 Nos.
	Construction of Protection camp	1 Nos.
	Construction of Borewell (Drilling)	3 Nos.
	Wildlife and habitat improvement	
	Creation and restoration of grass land	4 Ha
	Creation of salt licks	20 Nos.
	Construction of nature trail	1 Km

1. NETRAVALI WILDLIFE SANCTUARY

A total of 10 hectares of plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Netravali WL range. The specific locations and detailed attributes of the plantation sites are provided below.

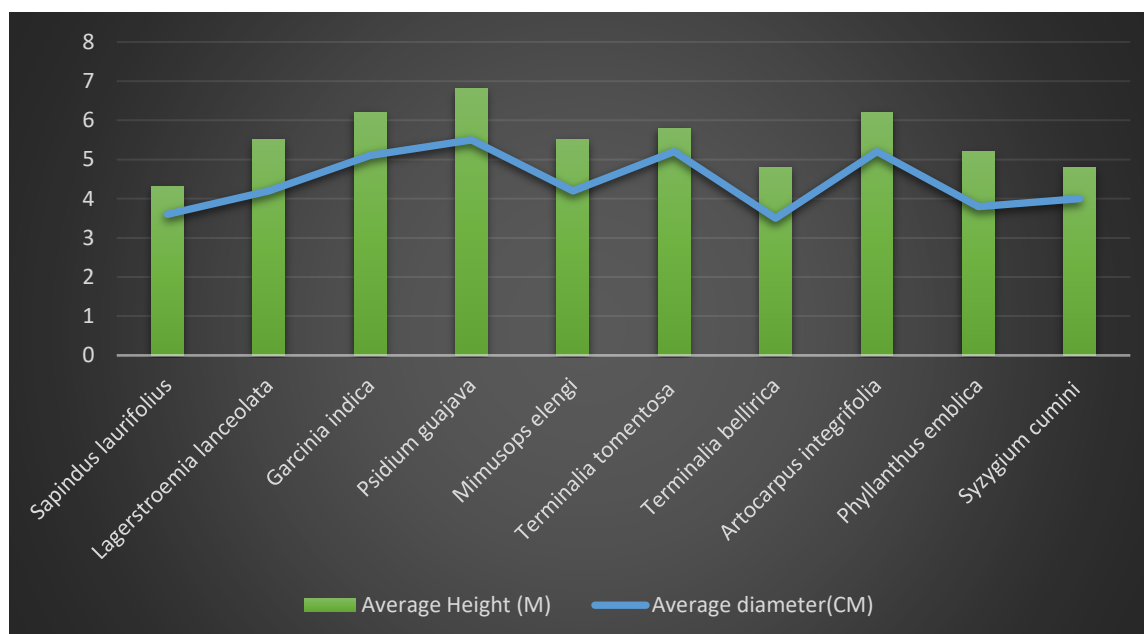
Table -35 Details of plantations established in Netravali WL Range

Sl. No	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	ANR plantation at Salaulim	10 ha	78	Planted and performing well.

Observations

A total of 10 Ha is planted in the Netravali WL range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the good growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage in this range was 78%.

Figure-13 Growth of ten major species planted in Netravali WL Range



Information about other CAMPA activities as per APO and their details

Table-36 Details of APOs carried out in Netravali WL Range

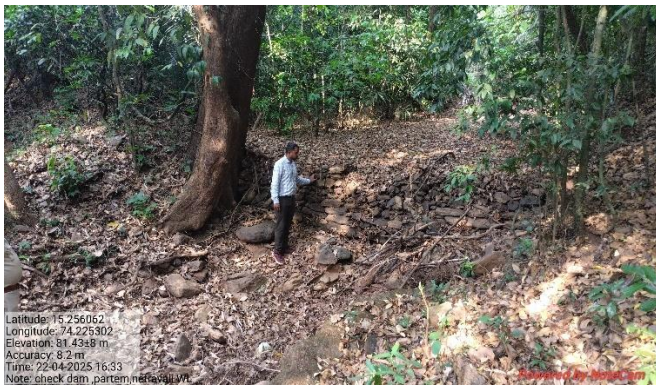
Sl. No.	Name of the work	Quantity	Remarks
1.	1 st yr maintenance of Aided Natural Regeneration plantation at Zamgal Netravali	10 Ha	Maintained well.
2.	2 nd yr maintenance of aided natural regeneration plantation at Zambhukhadp Netravali	10 Ha	Maintained well.
3.	Maintenance of 1-year-old mix plantation in degraded area at Salaulim Beat	5 Ha	Maintained well.
4.	Maintenance of 2-year-old mix plantation mining open dump and pit are at Velpem Bhati Beat	5 Ha	Maintained well.
5.	Maintenance of 2-year-old mix plantation with Vetiver and guinea grass on mining open pit area at Potrem Beat	5 Ha	Maintained well.
6.	Maintenance of 3-year-old mix species plantation at Salaulim Beat Patiem Round	4 Ha	Maintained well.
7.	Maintenance of Two -year-old mix plantation on mining dump and open pit area at Potrem Beat	10 Ha	Maintained well.
8.	Maintenance of 3-year-old mix species plantation at Shigonem Beat 3.00 Ha Bhati Round	3 Ha	Maintained well.
9.	Maintenance of Three -year-old mix plantation on degraded land at Bandawada Beat (4x4) espacement	10 Ha	Maintained well.
10.	Maintenance of one year. old seedlings in 6''X10'' Polybags at Mattoni Netravali Nursery	25000 Nos.	Maintained well.
11.	Raising Nursery for CA Plantation seedlings in 6'' X 10'' Polybags at Mattoni Netravali Nursery	10,000 Nos.	Maintained well.
12.	Raising of Grass plot for wildlife Habitat improvement at Valshe, Maida Beat	1 No.	Carried out
13.	Raising of vetiver and Guinea grass plot for mining area habitat improvement at Tudov mine 1.00 Ha	1 No.	Carried out

14.	Raising of Grass plot for wildlife Habitat improvement at Savari in Netravali Beat 1.00 Ha	1 Ha	Carried out
15.	Raising of Grass plot for wildlife Habitat improvement at Killey Bhati Beat 1.00 Ha	1 Ha	Carried out
16.	Construction of water pond at Mangal Beat	1 No.	Carried out
17.	Construction of water pond at Potrem Beat	1 No.	Carried out
18.	Construction of water pond at Maida Beat	1 No.	Carried out
19.	Construction of water pond at Netravali Beat	1 No.	Carried out
20.	Renovation of 02 nos. A type quarters at Forest colony, Dabal in NWL.	1 No.	Carried out
21.	Maintenance/Desilting of Water hole behind Juna check post in Patiem Beat	1 No.	Carried out
22.	Maintenance/Desilting of Water hole at Mahadevachi Rai water hole -I Potrem Beat (Todou)	1 No.	Carried out
23.	Maintenance/Desilting of Water hole at Potrem Beat, Chichegal, Mahadevachi rai -II	1 No.	Carried out
24.	Maintenance/Desilting of Water hole at Mahadevachi rai –water hole III Potrem Beat (Todou)	1 No.	Carried out
25.	Maintenance/Desilting of Water hole at Potrem Beat, Mahadevachi rai – water hole IV (Todou)	1 No.	Carried out
26.	Maintenance/Desilting of Water hole at Kajur, Mangal Beat.	1 No.	Carried out
27.	Maintenance/Desilting of Water hole at Maida Beat (Dongor vhal).	1 No.	Carried out
28.	Maintenance/Desilting of Water hole at Maida Beat (Jalmi vhal).	1 No.	Carried out
29.	Maintenance/Desilting of water hole at near at Ragadavhal at Maida Beat	1 No.	Carried out
30.	Maintenance/Desilting of Water hole at Shigonem Beat (Near Shigonem Grass Plot).	1 No.	Carried out
31.	Maintenance/Desilting of Water hole at Shigonem Beat (Barkale val).	1 No.	Carried out
32.	Maintenance/Desilting of Water hole at Bhati Beat (Taulim).	1 No.	Carried out

33.	Maintenance/Desilting of Water hole at Mangal Beat (Paikdev Temple).	1 No.	Carried out
34.	Maintenance/Desilting of Water hole at Bhati Beat (at Suryagal).	1 No.	Carried out
35.	Maintenance/Desilting of Water hole at Bhati Beat (Near Devrai, Suryagal).	1 No.	Carried out
36.	Maintenance/Desilting of Water hole at Mangal Beat (Chowgule farm)	1 No.	Carried out
37.	Maintenance/Desilting of Water hole at Bhati Beat near Babal Tari mine, Bhati beat	1 No.	Carried out
38.	Maintenance/Desilting of Water at Pali I Bandawada Beat	1 No.	Carried out
39.	Maintenance/Desilting of Water at Karke, Bandawada Beat	1 No.	Carried out
40.	Maintenance/Desilting of Water hole at Mattoni near Gaur Pond in Netravali Beat.	1 No.	Carried out
41.	Maintenance/Desilting of Water hole at Sambhar in Netravali Beat.	1 No.	Carried out
42.	Maintenance/Desilting of Water hole at Jamli Udok in Netravali Beat.	1 No.	Carried out
43.	Maintenance/Desilting of Water hole at Jarmal in Netravali Beat.	1 No.	Carried out
44.	Maintenance/Desilting of Water hole at Kundal Way Pali Bandawada Beat	1 No.	Carried out
45.	Maintenance/Desilting of Water hole at Patiem Beat, (Mattar- I)	1 No.	Carried out
46.	Maintenance/Desilting of Water hole at Patiem Beat, (Akshal I)	1 No.	Carried out
47.	Maintenance/Desilting of Water hole at Paikrai Patiem Beat	1 No.	Carried out
48.	Maintenance/Desilting of Water hole at Patiem Beat, (Kanka Devi)	1 No.	Carried out
49.	Maintenance/Desilting of Water hole at Patiem Beat, (Akshal II)	1 No.	Carried out
50.	Maintenance/Desilting of Water hole at Maida Beat (MadiyaVhal Dongar).	1 No.	Carried out
51.	Fire watchers/Firefighters in Netravali Wildlife Sanctuary	1 No.	Carried out
52.	Fire watchers/Firefighters in Netravali Wildlife Sanctuary	1 No.	Carried out
53.	Construction of Gabion Check dam-I in Saibaba Vhal in Bhati Beat	7.50 m	Carried out
54.	Construction of Gabion Check dam-II in Saibaba vhal in Bhati Beat	7.50 m	Carried out

55.	Construction of Gabion Check dam-III in Saibaba vhal in Bhati Beat	7.50 m	Carried out
56.	Construction of Gabion Check dam-IV in Saibaba vhal in Bhati Beat	7.50 m	Carried out
57.	Construction of Gabion Check dam-I in Nane Vhal in Patiem Beat	7.50 m	Carried out
58.	Construction of Gabion Check dam-II in Nane Vhal in Patiem Beat	7.50 m	Carried out
59.	Construction of Gabion Check dam-I Bankola in Mangal Beat	7.50 m	Carried out
60.	Construction of Gabion Check dam-II Bankola in Mangal Beat	7.50 m	Carried out
61.	Construction of Gabion Check dam-III Bankola in Mangal Beat	7.50 m	Carried out
62.	Construction of Gabion Check dam-IV Bankola in Mangal Beat	7.50 m	Carried out
63.	Fire Lines at Dapodem, Salaulim Beat in N.W.L.S.	5 km	Carried out
64.	Fire Lines at Patiem Beat in N.W.L.S.	5 km	Carried out
65.	Fire Lines from Bonkavhal Potrem to Tudov grass plot Potrem Beat	15 km	Carried out
66.	Fire Lines at Tudov, Potrem Beat (9km) in N.W.L.S.	9 km	Carried out
67.	Fire Lines from Madhyagal to Kazremol, Cumari Beat in N.W.L.S.	5 km	Carried out
68.	Fire Lines from Vitanamol to Teak plantation Villiana Maida Beat in N.W.L. S	6 km	Carried out
69.	Fire Lines from Gawakiwada to Shigonem Beat (15km) in N.W.L. S	15 km	Carried out
70.	Fire Lines from Vagped Bati to Talauli Bhati Beat (10km) in N.W.L. S	10 km	Carried out
71.	Fire Lines at Bandwada Beat (6.5 km) in N.W.L.S.	6.5 km	Carried out
72.	Fire Lines at Paatan Accacia Netravali Beat in N.W.L.S.	5 km	Carried out
73.	Fire Lines at Nasa Temple Verlem Beat in N.W.L.S.	4 km	Carried out
74.	Fire Lines at Talaulim Dongor, Bhati Beat in N.W.L.S.	7.3 km	Carried out
75.	Engagement of fire watchers in NWLS		Carried out

76.	Maintenance of Nature Trail from Old Vaddem to Kavlo vhal, Shigonem Beat (4km)	4 km	Carried out
77.	Creation of Salt licks at Netravali Round, Patiem Round and Bhati Round	30 Nos.	Carried out
78.	Drilling of Borewell near Zamgal plantation Bandwada Beat in NWLS	1 No.	Carried out
79.	Drilling of Borewell at Bhati Beat in NWLS	1 No.	Carried out
80.	Capacity building for frontline staff at Netravali Eco-Tourism Complex in NWLS	1 No.	Carried out
81.	Watering for Assisted Natural Regeneration plantation at Salaulim in Salaulim Beat of Patiem Round	10 Ha	Carried out
82.	Construction of Gabion check dam at Mattarvhal in Patiem Beat	5 m	Carried out
83.	Construction of Protection Camp in Sy.No.107 of Neturli village, Bandawada Beat	1 No.	Carried out
84.	Construction of Watch tower in Survey no. 9 of Tudov Village Potrem Beat	1 No.	Carried out



Construction of Gabion check dam at Partem beat



Construction of Gabion check dam at Netravali beat



Maintenance of ANR Plantation at Bhati beat



Construction of Protection camp at Netravali beat



Construction of watch tower at Portem beat



Renovation of A type quarters

2.COTIGAO WILDLIFE SANCTUARY

A total of 10 hectares of ANR plantation has been established under the Compensatory Afforestation Management and Planning Authority (CAMPA) program for the year 2023–24 in the Cotigao WL range. The specific locations and detailed attributes of the plantation sites are provided below.

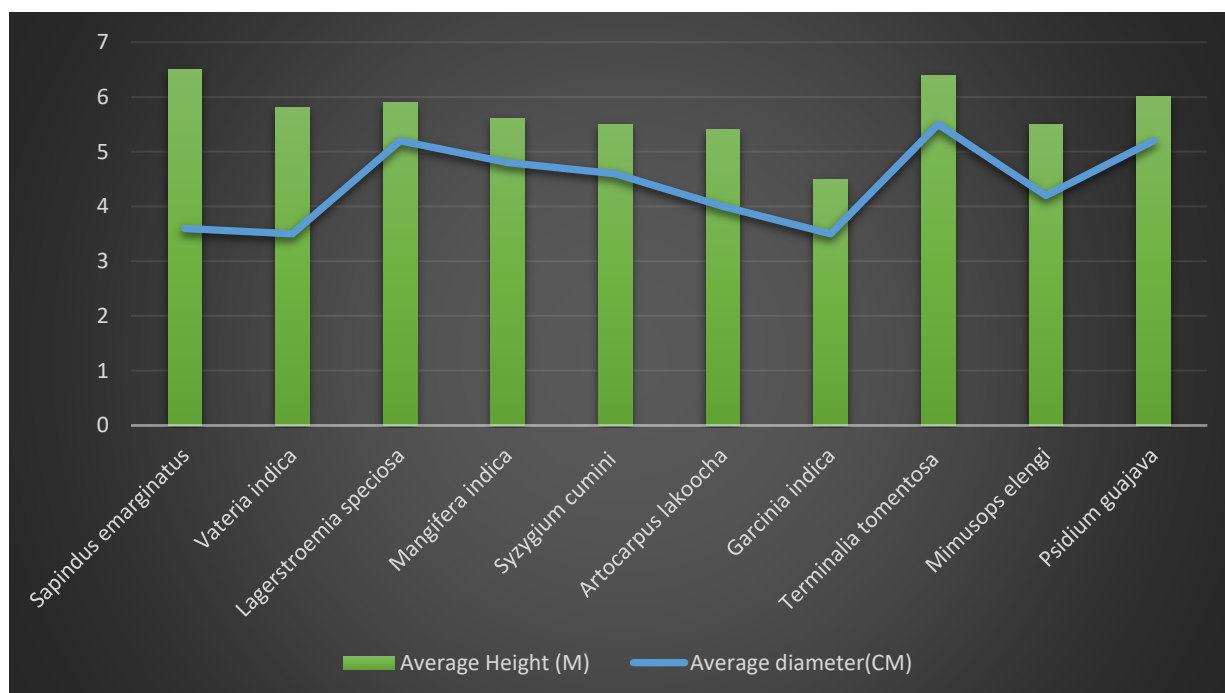
Table -37 Details of plantations maintained in Cotigao WL Range

Sl. No.	Location of the plantations	Area	Survival (%)	Remarks (100% enumeration undertaken)
1.	ANR Plantation at Bholvar Endrem beat	5 Ha	75	Maintained well.
2.	ANR Plantation at Mashigal Edda	5 Ha	78	Maintained well.

Observations

A total of 10 Ha is planted in the Cotigao WL range under CAMPA 2023-24. Fruit bearing, canes, bamboos and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the proper growth of seedlings proper weeding, watering and leaf litter disposal is required. The survival percentage varied from 75 to 78% and the overall survival percentage in this range was 76.50%.

Figure-14 Growth of ten major species planted in Cotigao Wildlife Sanctuary



Information about other CAMPA activities as per APO and their details

Table-38 Details of APOs carried out in Cotigao WL Range

Sl. No.	Name of the work	Quantity	Remarks
1.	Creation of Grass plot at Udyamate -Bela Tirwal beat	1 Ha	Maintained well.
2.	Creation of Grass plot at Kumaramol-Tirwal beat	1 Ha	Maintained well.
3.	Creation of Grass plot at Taleshet Zambolim beat	1 Ha	Maintained well.
4.	Creation of Grass plot at Belimol Endrem beat	1 Ha	Maintained well.
5.	Maintenance of 1 -year-old. CA Plantation at Khalchi-Tirwal beat	5 Ha	Maintained well.
6.	Maintenance of 2-Year-Old CA plantation at Bhatfond-Tirwal	3 Ha	Maintained well.
7.	Maintenance of 2-Year-Old CA plantation at Fondsolem-Tirwal	7 Ha	Maintained well.
8.	Maintenance of 3-Year-Old CA plantation at Khargal-Tirwal	7 Ha	Maintained well.
9.	Maintenance of 3-Year-Old CA plantation at Kosmakade Kuske beat	3 Ha	Maintained well.
10.	Maintenance of 3-Year-Old CA plantation at Nanye holi Edda beat	3 Ha	Maintained well.
11.	Maintenance of 1-year-old ANR and Gap Plantation at Kumramol Endrem beat	5 Ha	Maintained well.
12.	Maintenance of 1-year-old ANR and Gap Plantation at Zambolim beat	5 Ha	Maintained well.
13.	Maintenance of 2-year-old ANR plantation at Kadamaddi Nadke beat	5 Ha	Carried out
14.	Maintenance of 1-year-old ANR and Gap Plantation at Edda patrolling camp Endrem beat	5 Ha	Carried out
15.	Raising ANR and Gap Plantation at Bhollyar Endrem beat	5 Ha	Carried out
16.	Raising of ANR and gap planting with fruit bearing species at Mashigal Edda beat	5 Ha	Carried out
17.	Maintenance of Seedlings in 6x10 polybags for CA plantation at Edda Patrolling Camp	25000 Nos.	Carried out
18.	Raising of New Nursery of 10000 seedlings in 6"X10" polybags at Edda patrolling camp	10000 Nos.	Carried out
19.	Clearing fire line from Sidhapann Fondsolem to Khargal in tirwal beat CWLS(1km)	1 km	Carried out
20.	Clearing fire line from Hedumol to Tirwal village in Tirwal beat(3km)	3 km	Carried out

21.	Clearing fire line from Bela Udyamate to Bitke in Tirwal beat(1km)	1 km	Carried out
22.	Clearing fire line in Belalake in Tirwal beat(1km)	1 km	Carried out
23.	Clearing fire line from Shishevol to Khargal in Tirwal beat	1 km	Carried out
24.	Clearing fire line from Astragal to Endrem in Bhutpal beat	5 km	Carried out
25.	Clearing fire line around 2.5 ha mixed plantation work at Bhutpal beat	1.5 km	Carried out
26.	Clearing fire line from Vasant Bandhara to Gawal zamboli	7 km	Carried out
27.	Clearing fire line around plantation at Zamboli beat	5 km	Carried out
28.	Clearing fire line from old wada Edda to Ambyakade-Edda, Edda Beat	1 km	Carried out
29.	Clearing fire line from Zamshet-Edda to Ambyakade- Tale-Edda, Edda beat	1 km	Carried out
30.	Clearing fire line from Borimol -Kuske to Paika fator Kuske Edda Beat	1 km	Carried out
31.	Clearing fire line from Edda Primary school to Golimol Kuske in Edda Beat	2 km	Carried out
32.	Clearing fire line from Kumramol to Undramaddi and from Kumramol to Devlapanto, Endrem beat	4 km	Carried out
33.	Clearing fire line from Pimplamol teak plantation to Golikade, Edda beat	1.6 km	Carried out
34.	Clearing fire line in Teak plantation, Tirwal beat	4 km	Carried out
35.	Clearing fire line around 2.5 ha mixed plantation at Tirwal Beat	1.5 km	Carried out
36.	Clearing fire line along cycle trail at the Eco-tourism complex a Hatipaul in CWLS	3 km	Carried out
37.	Organizing of Awareness programme on mitigation of human wildlife conflict at CWLS Dt 30/08/23	1 No.	Carried out
38.	Organizing nature Awareness camp for school students, local villages and panchayat members at Cotigao Wildlife Sanctuary on occasion of 72 nd Wildlife Week celebration	1 No.	Carried out
39.	Desilting of water hole and repairs to seasonal Bandhara at Kasarawati Edda beat CWLS	1 No.	Carried out
40.	Desilting of water hole and repairs to seasonal Bandhara at Ambyakade -I Edda beat CWLS	1 No.	Carried out
41.	Desilting of water hole and repairs to seasonal Bandhara at Ambyakade -II Edda beat CWLS	1 No.	Carried out

42.	Desilting of water hole and repairs to seasonal Bandhara at Tree top in Bhutpal beat CWLS	1 No.	Carried out
43.	Desilting of water hole and repairs to seasonal Bandhara at Fatargal in Bhutpal beat CWLS	1 No.	Carried out
44.	Desilting of water hole and repairs to seasonal Bandhara at Wagatikhuti in Bhutpal beat CWLS	1 No.	Carried out
45.	Desilting of water hole and repairs to seasonal Bandhara Dukrakond in Tirwal beat beat CWLS	1 No.	Carried out
46.	Desilting of water hole and repairs to seasonal Bandhara Vodlighati in Tirwal beat CWLS	1 No.	Carried out
47.	Desilting of water hole and repairs to seasonal Bandhara Khalchi tirwal in Tirwal beat CWLS	1 No.	Carried out
48.	Desilting of water hole and repairs to seasonal Bandhara Fondsorem in Tirwal beat CWLS	1 No.	Carried out
49.	Desilting of water hole and repairs to seasonal Bandhara Khargal -II in Tirwal beat CWLS	1 No.	Carried out
50.	Desilting of water hole and repairs to seasonal Bandhara Perimol in Zambolim beat CWLS	1 No.	Carried out
51.	Desilting of water hole and repairs to seasonal Bandhara Devlamol in Zambolim beat CWLS	1 No.	Carried out
52.	Desilting of water hole and repairs to seasonal Bandhara Ambyaudak -I Nadke beat CWLS	1 No.	Carried out
53.	Desilting of water hole and repairs to seasonal Bandhara Ambyaudak -II Nadke beat CWLS	1 No.	Carried out
54.	Desilting of water hole and repairs to seasonal Bandhara Dhantali -I in Endrem beat CWLS	1 No.	Carried out
55.	Desilting of water hole and repairs to seasonal Bandhara Dhantali -II in Endrem beat CWLS	1 No.	Carried out
56.	Desilting of water hole and repairs to seasonal Bandhara at Wagafond Endrem beat CWLS	1 No.	Carried out
57.	Desilting of water hole and repairs to seasonal Bandhara at Barga, Nadke beat CWLS	1 No.	Carried out
58.	Desilting of water hole and repairs to seasonal Bandhara at Kegdi- Tali Nadke beat CWLS	1 No.	Carried out
59.	Desilting of water hole and repairs to seasonal Bandhara at Bondke- Chakut Nadke beat CWLS	1 No.	Carried out
60.	Workshop on M-stripes application for field staff at Eco-Tourism complex, Hatipaul CWLS	1 No.	Carried out
61.	Organizing of village level nature awareness camp on preventive measures for human conflict at E-T Complex CWLS	1 No.	Carried out

62.	Repairs and Maintenance of existing road from Endrem junction to Tulshimol bhutpal Beat	1.5 km	Carried out
63.	Repairs and maintenance of existing road from Udyamate to Bela check gates, Tirwal Beat	0.8 m	Carried out
64.	Repairs and maintenance of existing road from Bhutpal to Endrem, Bhutpal beat	4 km	Carried out
65.	Renovation of Shisheval staff Quarter in Tirwal beat	1 No.	Carried out
66.	Construction of wash room at Existing staff room at Eco-Tourism complex	1 No.	Carried out
67.	Construction of water pond at Tulshimol in Bhutpal beat	1 No.	Carried out
68.	Construction of water pond at bhutpal in Bhutpal beat	1 No.	Carried out
69.	Repairs and maintenance of Existing Road from Dhantali to Morfondamol, Endrem Beat (2.200 km)	1 No.	Carried out
70.	Construction of gabion structure check dam at Kasarawati Edda 1 st	7 m	Carried out
71.	Construction of gabion structure check dam at Kasarawati Edda 2 nd	7 m	Carried out
72.	Construction of gabion structure check dam at Kasarawati Edda 3 rd	6 m	Carried out
73.	Construction of gabion structure check dam at Kasarawati Edda 4 th	6 m	Carried out
74.	Construction of gabion structure check dam at Kasarawati Edda 5 th	7 m	Carried out
75.	Construction of gabion structure check dam at Kasarawati Edda 6 th	4 m	Carried out
76.	Creation of nature trail from Nadke Junction to Wagafond endrem beat	1 Km	Carried out
77.	Creation of salt licks at North and south sec round in CWLS	20 nos.	Carried out
78.	Clearing of fireline periphery of grassplot at Zhamboli beat	1.59 m	Carried out
79.	Desilting of waterhole and repairs to seasonal Bandhara at Dhantali junction Endrem beat	1 No.	Carried out
80.	Construction of water hole in Endrem beat CWLS	1 No.	Carried out
81.	Drilling of Borewell at Bela Tirwal and Astragal	2 Nos.	Carried out
82.	Drilling of Borewell at Eco-Tourism Complex	1 No.	Carried out
83.	Construction of Protection camp at Dhantali junction at Endrem beat	1 No.	Carried out

84.	Construction of watch tower in Endrem Beat	1 No.	Carried out
85.	Organizing of capacity building programme on forest fire management and human animal conflict at WLS on the occasion of World Wildlife Day	1 No.	Carried out
86.	Supply of kits for the capacity building programme on forest fire management and human animal conflict at CWLS	-	Carried out
87.	Organizing of capacity building training programme on WL conservation and utilization of Mstripes application for staff, labourers, and villagers on the eve of the International Day of Forest	1 No.	Carried out
88.	Supply of kit for the capacity building programme for villagers' staff, Rescuers on WL conservation, Utilization on Mstripes application on the International Day of Forest	-	Carried out

 Latitude: 74.993406 Longitude: 74.199127 Elevation: 107.45±9 m Accuracy: 7.3 m Time: 21-04-2025 16:58 Note: anr, endrem, polio, maintenance	 Latitude: 14.953513 Longitude: 74.152633 Elevation: 82.05±10 m Accuracy: 7.5 m Time: 21-04-2025 11:15 Note: borewell, bella, cotigao wl
ANR plantation at Endrem beat	Installation of borewell at Bella beat
 Latitude: 14.954459 Longitude: 74.185456 Elevation: 119.06±11 m Accuracy: 10.9 m Time: 21-04-2025 10:40 Note: water pond, tulsimol, cotigao wl	 Latitude: 14.983996 Longitude: 74.10641 Elevation: 61.05±4 m Accuracy: 5.2 m Time: 22-04-2025 10:21 Note: hautipaul nursery, polio
Construction of water pond at Tulsimol beat	Raising of seedlings at Hautipaul nursery
	 Latitude: 14.971796 Longitude: 74.163977 Elevation: 60.5±17 m Accuracy: 6.7 m Time: 21-04-2025 10:27 Note: water pond, bhuipal, cotigao wl
Construction of watch tower at Endrem beat	Construction of water pond at Bhuipal beat

V. FIELD OBSERVATIONS IN THE RESEARCH AND UTILISATION DIVISION, MARGAO

In the Research and Utilisation Division, Margao, major activities carried out under CAMPA during the years 2023-24 were in Quepem. The majority of the raising of nursery plants organizing training courses, and maintenance of plantations activities were carried out in this Division.

Information about APO activities under CAMPA 2023-24 in Research and Utilisation Division, Margao

Table No. 39 Details of APOs carried out in Research and Utilisation Division, Margao

Name of the Range	Nature of APO activities	Quantity/ Area
Research South Quepem	Nursery management	
	Raising of seedlings in 5"x8" size oxo - bidegradable bags at Valkini Nursery, Sanguem	50000 Nos.
	Raising of seedlings in 5"x8" size oxo - bidegradable bags at Valkini Nursery, Sanguem	50000 Nos.



Raising of seedlings at Valkini nursery



Raising of seedlings at Valkini nursery

VI. FIELD OBSERVATIONS IN SOCIAL FORESTRY, PARKS AND GARDENS, PONDA

In Social Forestry, Parks and Gardens, Ponda, major activities carried out under CAMPA during the year 2023-24 were in Quepem, Ponda, Usgao, and Panji. Major activities related to nursery and plantation maintenance were carried out in this Division.

Information about APO activities under CAMPA 2023-24 in Social Forestry, Parks and Gardens, Ponda

Table No. 40 Details of APOs carried out in Social Forestry, Parks and Gardens, Ponda

Name of the Range	Nature of APO activities	Quantity/ Area	Remarks (100% enumeration undertaken)
Ponda Range	Maintenance of Old Avenue Plantations		
	Maintenance of roadside plantation from MIBK to Mudder	2 R/Km	Done and maintained well
	Maintenance of roadside plantation from Khandepar to Opa.	2 R/Km	Done and maintained well
	Maintenance of roadside plantation from Dhavali bypass to Farmagudi	2 R/Km	Done and maintained well
	Nursery Management and seed raising		
	Raising of 5"x8" polybags seedlings of fruit bearing plants species at Dhavali Nursery	20000 Nos.	Done and maintained well
	Raising of 5"x8" polybags seedlings of mixed forestry and Flowering plants species at Dhavali Nursery	20000 Nos.	Done and maintained well
	1st Year maintenance of 5"x8" Polybags seedlings at Modern Nursery Dhavali	20000 Nos.	Done and maintained well
	Management of Biological Diversity and Biological Resources		

	Maintenance and creation of fire lines at Arla Keri Community Plantation	3 R/Km	Done and maintained well
	Capacity Building and Training, Publicity and Awareness Creation, etc.		
	Organizing field trips of School students from Ponda and Usgao on the occasion of Wildlife Week Celebration 2023 (Transportation and Refreshment)	-	Done
Usgao Range	Management of Biological Diversity and Biological Resources		
	Creation of Fire lines for Protection of the Communal Plantation under Usagao Range	3 R/km	Done
	Maintenance of Old Avenue Plantations		
	Maintenance of 2nd year old road side plantation along the road from Pirna road (Year 2021-22) (20% Causality Replacement)	2 R/km	Done and maintained well
	Nursery Management and seed raising		
	Raising 5"x8" polybags Fruit Bearing/ Forest Tree seedlings at Pal Usgao Nursery (Year 2023-24)	25000 Nos.	Done and maintained well
	Raising 5"x8" polybags seedlings at Pal Usgao Nursery (Year 2023-24)	25000 Nos.	Done and maintained well
	Maintenance of 1-year-old 5"x8" polybag seedlings at Pal Usgao Nursery	10000 Nos.	Done and maintained well
	Construction of Polyhouse at Pal Usgao Nursery	1 No.	Done and maintained well
	Erection of Shade net house at Pal Usgao Nursery	1 No.	Done and maintained well
Quepem Range	Nursery Management and seed raising		
	Raising of polybags seedlings at Quepem Nursery (Forestry Species)	25000 Nos.	Done and maintained well
	Raising of 5"x8" size polybags seedlings at Quepem Nursery	25000 Nos.	Done and maintained well
	Maintenance of 5''x 8'' size Polybags seedlings at Quepem Nursery	10000 Nos.	Done and maintained well
	Management of Biological Diversity and Biological Resources		

	Maintenance of Fire line creation at Fatorpa Cotto 1987-88 plantation and Fatorpa Cotto 1990-91 Plantation	3 R/km	Done and maintained well
	Capacity Building and Training, Publicity and Awareness Creation etc.		
	Wildlife Week Celebration 2023- Refreshment	-	Done
	Wildlife Week Celebration 2023- Transportation	-	Done
Panaji Range	Nursery Management and seeding raising		
	Raising of fruit bearing seedlings in 5"x8" size polythene bags at Joggers Park Altinho	10000 Nos.	Done
	Maintenance of 5"x8" polybags seedlings at Dr. Ambedkar Park, Panaji (Year 2022-23)	10000 Nos.	Done
	Capacity Building and Training, Publicity and Awareness Creation etc.		
	Vanamahotsava 2023 Programme at Raj Bhavan Cabo.	-	Done
	Organizing field trips of School students on occasion of Wildlife Week celebration 2023 (Refreshments)	-	Done
	Organizing field trips of School students on occasion of Forestry Day on 21st March 2024	-	Done



Raising of polybags seedlings at Quepem Nursery



Raising 5'x 8' polybags Fruit Bearing/ Forest Tree seedlings at Pal Usgao



Wildlife week celebration, 2023



Organizing field trips of School students from Ponda & Usgao on Occasion of Wildlife Week Celebration 2023



Construction of Polyhouse at Pal Usgao Nursery



Creation of Fire lines under Usgao Range

VII. FIELD OBSERVATIONS IN THE SOIL CONSERVATION DIVISION, PONDA

In the Soil Conservation Division, Ponda, major activities carried out under CAMPA during the year 2023-24 were in Ponda, Bhironda, and Quepem. Majorly raising of nursery, and maintenance of plantation activities were carried out in this Division.

Information about APO activities under CAMP in the Soil Conservation Division, Ponda

Table No. 41 Details of APOs carried out in Soil Conservation Division, Ponda

Name of the Range	Nature of APO activities	Quantity/ Area	Remarks (100% enumeration undertaken)
Ponda, Dhavali	Protection of plantations and Forest		
	Raising of cane plantations at Ganjem	10 Ha	Done
	Maintenance of 2 years old Canes plantation at Ganjem.	5 Ha	Done
	Nursery Management and seedling raising		
	Raising of 5"x8" polybag seedling Canes and Bamboos nursery at Davali-Ponda	10000 Nos.	Done and maintained well
	Maintenance of 5"x8" polybag seedling nursery at Dhavali Ponda. (Bamboos, Forestry and Landscaping)	43000 Nos.	Done and maintained well
	Raising of 5"x8" polybag seedling Canes nursery at Ganjem	10000 Nos.	Done and maintained well
	Maintenance of canes nursery at Ganjem.	11158 Nos.	Done and maintained well
	Management of Biological Diversity and Biological Resources		
	Provision of soil conservation and water/ moisture retention measures for plantation raised in the year 2023-24 at Ganjem Ponda	10 Ha	Done

	Improvement of pathway to residential quarters at Dhavali Ponda.	-	Done
Bhironda Range	Nursery Management and seed raising		
	Raising of canes and Bamboo plantation at Ambeli	10.00 Ha	Done
	Protection of plantations and forests		
	Maintenance of 2-year-old cane plantation at Ponsule 5.00Ha	5 Ha	Done
	Maintenance of 3-year-old cane plantation at Gawane Part I	5 Ha	Done
	Maintenance of 3-year-old cane plantation at Gawane Part II	5 Ha	Done
	Maintenance of 3-year-old cane plantation at Gawane Part III	5 Ha	Done
	Maintenance of 2-year-old cane plantation at Shel Melauli	2.5 Ha	Done
	Management of Biological Diversity and Biological Resources		
	Improvement of flooring and painting for godown at Bhironda under Campa	1 No.	Done
	Providing fabricated shed structure to the nursery stock at Bhironda Nursery under CAMPA	1 No.	Done
	Construction of working shade for labours at Bhironda under CAMPA	1 No.	Done
Quepem Range	Maintenance of mix seedlings nursery at Mugoli	20250 Nos.	Done
	Maintenance of 3-year-old plantation at Mannem	5 Ha	Done
	Maintenance of 2-year-old plantation at Mannem	5 Ha	Done

 Latitude: 15.48748 Longitude: 74.1349 Elevation: 21.25110 m Accuracy: 6.4 m Time: 27-04-2025 14:59 Note: fabrication, bhironda, soil conservation	 Latitude: 15.458611 Longitude: 74.181659 Elevation: 92.919 m Accuracy: 8.6 m Time: 27-04-2025 15:53 Note: gawne part 1 canes plantation, bhironda, soil conservation
Fabricated shed structure to the nursery stock at Bhironda Nursery	Raising of canes plantation at Gawne beat
 Latitude: 15.15823 Longitude: 74.08993 Elevation: 49.8599 m Accuracy: 4.5 m Time: 27-04-2025 11:26 Note: canes nursery, Ganjapenna, soil conservation	
Raising of canes nursery at Ganjem	Maintenance of old canes plantation at Ganjem
 Latitude: 14.993822 Longitude: 74.157569 Elevation: 37.781100 m Accuracy: 13.0 m Time: 04-25-2025 12:32 Note: Mannem Canacona (part 2)	 Latitude: 14.993469 Longitude: 74.158958 Elevation: 50.251100 m Accuracy: 9.2 m Time: 04-25-2025 12:41 Note: Mannem Canacona (part 2)
Maintenance of old canes plantation at Mannem	Maintenance of old canes plantation at Mannem

VIII. FIELD OBSERVATIONS IN THE GOA FOREST DEVELOPMENT CORPORATION (GFDC), PANAJI

In Goa Forest Development Corporation (GFDC), Panaji, major activities carried out under CAMPA during the year 2023-24 were maintenance of 200 Ha of ANR plantations, maintenance and creation of fire line.

Table Nos. 42 Details of ANR plantations in Goa Forest Development Corporation (GFDC), Panaji

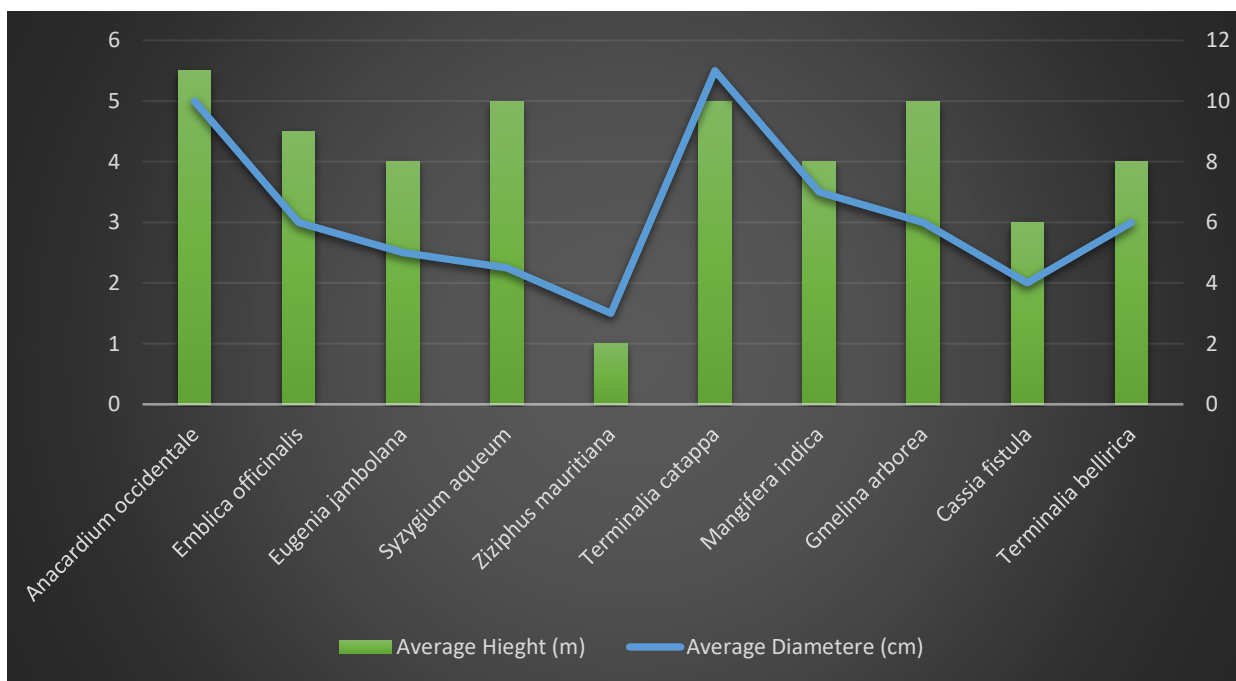
Name of the Range	Location of ANR Plantation	Area	Survival (%)	Remarks (100% enumeration undertaken)
Ponda	Curti C. No. 15	5 Ha	78	Carried out
	Odkarwada Bl. No.1&2	5 Ha	72	Carried out
	Nirankal	5 Ha	76	Carried out
	Gagridevamol	2 Ha	74	Carried out
	Khandepar Nandan	2 Ha	75	Carried out
	Ganjam	10 Ha	77	Carried out
	Kasaulim	8 Ha	69	Carried out
	Panchawadi Bl. No. 5	9 Ha	75	Carried out
	Gurkhe	4 Ha	70	Carried out
Morlem	Nanoda	10 Ha	74	Carried out
	Bhuipal	10 Ha	75	Carried out
	Mopa-I	10 Ha	72	Carried out
	Mopa-II	10 Ha	76	Carried out
Canacona	Gaondongrim B.No 5(A)	10 Ha	78	Carried out
	Agonda	10 Ha	68	Carried out
	Hedumoll	10 Ha	75	Carried out
	Paddi Kanibag	10 Ha	79	Carried out
	Coltorem	5 Ha	74	Carried out
	Bhatpal (A)	5 Ha	75	Carried out
	Gaondongrim B. No 6 (B)	5 Ha	72	Carried out
Quepem	Fatorpa B.No.5 (71-72)	5 Ha	72	Carried out
	Miana C.No. 1, B.No.1 to 4 (73-74)	5 Ha	74	Carried out
	Maina C.No. 11D (74-75)	5 Ha	76	Carried out
	Vaghdongri Curdi (74-75)	5 Ha	70	Carried out
	Vichundrem C.No.19 (76-77)	5 Ha	75	Carried out

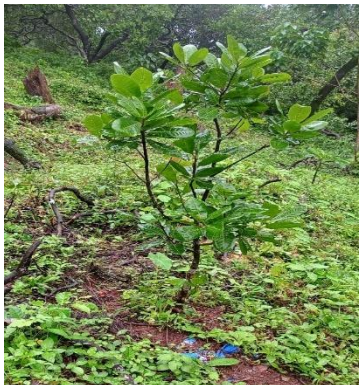
	Vichundrem C.No. A (78-79)	5 Ha	73	Carried out
	Valkinimol (78-79)	5 Ha	74	Carried out
	Vagona B.No.1 &2 (74-75)	10 Ha	76	Carried out
	Cariamol Tariamol Condir (71-72)	10 Ha	78	Carried out

Observations

A total of 200 Ha ANR plantationis maintained in Ponda, Morlem, Canacona and Quepem under the Goa Forest Development Corporation (GFDC). Fruit bearing and indigenous plants have been carefully selected as planting stocks in all locations. About 20 different species of fruit bearing and wildlife important plants have been planted. For the good growth of seedlings proper weeding is required. The survival percentage varied from 68 to 79% and the overall survival percentage was found in Ponda (70%), Morlem(74.25%), Canacona(74.42%), and Quepem (74.22%)

Figure -15 Growth of ten major species planted in GFDC Ranges



	
Maintenance of ANR plantation at Agonda beat	Cashew seedlings at ANR plantation Mopa, Ponda
	
Cashew seedlings at ANR plantation Colotrem, Ponda	Cashew seedlings at ANR plantation Vinchudrem, Ponda
	
Cashew seedlings at ANR plantation Nanoda, Ponda	Cashew seedlings at ANR plantation Nirankal, Ponda

Overall survival percentage in different ranges under CAMPA 2023-24

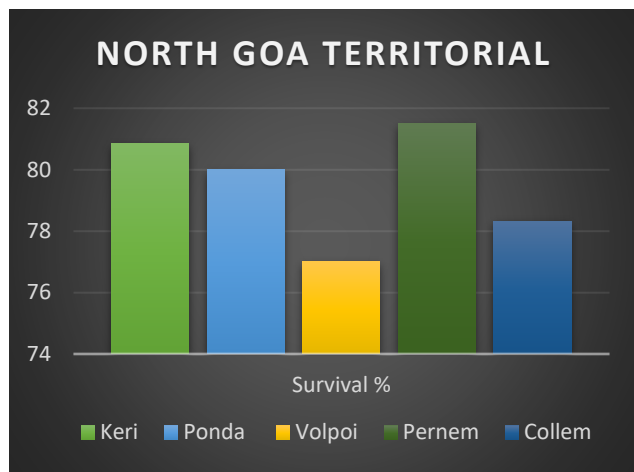


Figure16: Bar graph illustrating the survival percentage of species across different forest ranges under North Goa Territorial ranges

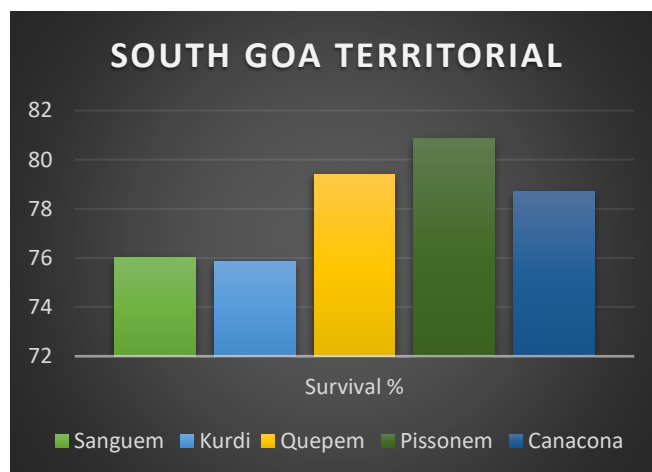


Figure 17: Bar graph illustrating the survival percentage of species across different forest ranges under South Goa Territorial ranges

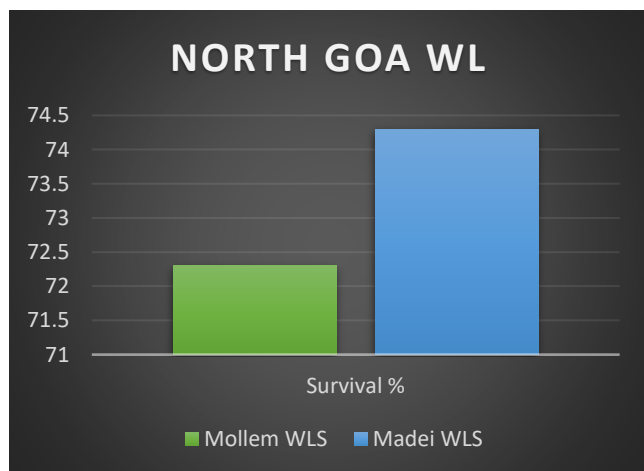


Figure 18: Bar graph illustrating the survival percentage of species across different forest ranges under North Goa Wildlife ranges

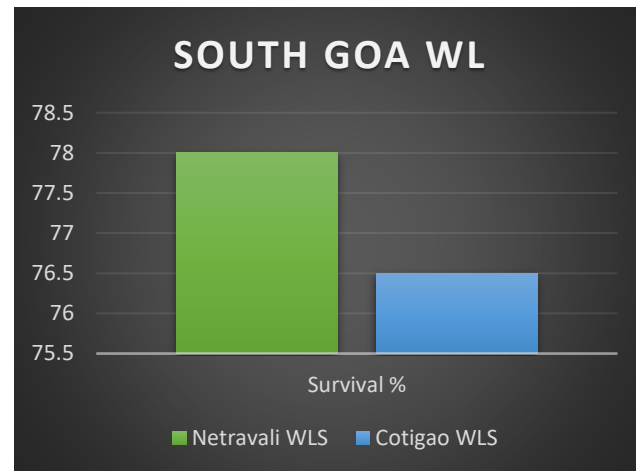


Figure19: Bar graph illustrating the survival percentage of species across different forest ranges under South Goa Wildlife ranges

Summary

In the fiscal year 2023-24, significant efforts were undertaken across various divisions of Goa to enhance forest cover and biodiversity through extensive plantation activities under the Compensatory Afforestation (CAMPA) and Net Present Value (NPV) schemes.

In the South Goa Territorial Division, 150 hectares of plantations were raised. The survival rate of these plantations ranged from 75.87% to 80.87%, with an average survival rate of 78.16%.

In the South Goa Wildlife & Ecotourism Division, 30 hectares of plantations were established in Netravali and Cotigao. The survival rate of plants in this division varied from 76.5% to 78%, resulting in an average survival rate of 77.25%.

The North Goa Territorial Division saw the establishment of plantations over 231 hectares under CAMPA 2023-24. The survival rate of these plants ranged from 77% to 81.5%, with an average survival rate of 79.53%.

In the North Goa Wildlife & Ecotourism Division, 20 hectares of plantations were raised in Bhagwan Mahavir National Park and Wildlife Sanctuary, Mollem, and Madei Wildlife Sanctuary. The survival rate of plants in this division varied from 72.3% to 74.3%, with an average survival rate of 73.3%.

The Goa Forest Development Corporation (GFDC), Panaji, maintained plantations of over 200 hectares in the Ponda, Morlem, Canacona, and Quepem ranges. The survival rate of these plantations ranged from 74% to 74.42%, with an average survival rate of 74.22%.

The plantations primarily featured native multipurpose trees, including fruit-bearing and timber species, designed to support local fauna and forest-dependent communities while enhancing biodiversity conservation. Despite challenges such as wildlife damage from animals like wild boar, porcupine, bison, and deer, the trees generally exhibited robust growth.

Operational planning under Annual Plans of Operations (APOs) tailored to the specific needs of each forest range facilitated the successful execution of seedling raising, plantation establishment, and maintenance activities. NPV activities encompassed natural regeneration promotion, eco-tourism trail creation, fire prevention measures, forest boundary demarcation, chain link protection, and soil moisture conservation through infrastructure like check dams and water ponds.

Structures such as water holes, protection camps, and solar electrification were strategically deployed to enhance forest protection and management efficacy. All activities under the CA and NPV components were diligently executed in adherence to approved APOs, ensuring effective maintenance and sustainable forest management practices.

This comprehensive effort underscores Goa's commitment to biodiversity conservation, sustainable forestry practices, and community engagement through strategic afforestation initiatives under CAMPA 2023-24.

Recommendations

- It is recommended that intensive soil working and weeding operations be carried out during the first three years post-plantation establishment. These are critical for improving the survival and growth rates of seedlings by minimizing interspecific competition and enhancing soil aeration and moisture retention.
- Plantations established in ecologically fragile areas such as mining sites and severely degraded lands should receive maintenance support for a minimum duration of five years. Prolonged post-plantation care is essential to facilitate the successful regeneration of native species under suboptimal site conditions.
- Future plantation programmes should continue prioritizing indigenous tree species that support local wildlife and meet the subsistence needs of forest-dependent communities. Species selection should be site-specific and guided by forest type classification to promote biodiversity conservation and ecological stability.
- Roadside plantations, particularly along highways and arterial roads, should be expanded with appropriate protective infrastructure such as tree guards or fencing. These linear green corridors serve ecological, aesthetic, and environmental functions, including carbon sequestration and dust suppression.
- The strategic deployment of communication infrastructure, including networking towers within forest divisions and field stations, should be scaled up. Enhanced connectivity will improve real-time monitoring, emergency response, and enforcement operations, supporting the objectives of e-governance in forestry.
- Existing chain-link fencing should be maintained, and the establishment of additional trenches and barriers should be considered to mitigate wildlife intrusion into plantation zones. This is vital for safeguarding regenerating areas from herbivory and trampling, particularly in forests, agricultural interfaces, and wildlife corridors.
- Capacity-building programmes should be institutionalized for nursery personnel, with a focus on the use of certified, high-quality germplasm and scientifically validated seed-handling protocols.
- Provision of adequate irrigation, especially during the first year post-planting, is crucial to meet the physiological water requirements of seedlings. Monthly watering schedules must be institutionalized, particularly in areas with extended dry seasons, to maximize early-stage plant survival and growth.
- Regular training and knowledge upgradation for both nursery and field staff should be conducted through collaborative efforts with forestry research institutions. Continuous professional development is necessary to keep pace with evolving silvicultural techniques, climate-resilient plantation models, and site-specific restoration approaches.

At a Glance

