



Jamu



Budhadarak



Aamla



Akanabindhi



Golamaricha



# Highlights of ODISHA FORESTRY SECTOR 2023

**Principal Chief Conservator of Forests & Head of Forest Force, Odisha**  
Aranya Bhawan, Chandrasekharpur  
Bhubaneswar - 751 023



MPKC, Patrapada



**HIGHLIGHTS OF  
ODISHA FORESTRY SECTOR  
2023**

**PRINCIPAL CHIEF CONSERVATOR OF FORESTS &  
HEAD OF FOREST FORCE, ODISHA**

ARANYA BHAWAN, CHANDRASEKHARPUR  
BHUBANESWAR - 751 023



*Ekamravana, Bindusagar*



ନବୀନ ପଟ୍ଟନାୟକ  
ମୁଖ୍ୟମନ୍ତ୍ରୀ, ଓଡ଼ିଶା



ଲୋକସେବା ଭବନ  
ଭୁବନେଶ୍ୱର

## ବିଶ୍ୱ ବନ ଦିବସ ୨୦୨୩ ଉପଲକ୍ଷେ ମାନ୍ୟବର ମୁଖ୍ୟମନ୍ତ୍ରୀଙ୍କ ବାର୍ତ୍ତା

‘ବିଶ୍ୱ ବନ ଦିବସ’ ଅବସରରେ ରାଜ୍ୟବାସୀଙ୍କୁ ମୋର ଶୁଭେଚ୍ଛା ।

ପ୍ରତ୍ୟେକ ବର୍ଷ ମାର୍ଚ୍ଚ ୨୧ ତାରିଖ ଦିନଟିକୁ ‘ବିଶ୍ୱ ବନ ଦିବସ’ ରୂପେ ଆନ୍ତର୍ଜାତୀୟ ପାଳନ କରିଆସୁଛୁ ।

୨୦୨୩ ବିଶ୍ୱ ବନ ଦିବସ ବିଷୟବସ୍ତୁ ହେଉଛି ‘ଜଙ୍ଗଲ ଓ ସ୍ୱାସ୍ଥ୍ୟ’ ।

ଜଙ୍ଗଲ ଦୃଶ୍ୟ ଓ ଅଦୃଶ୍ୟ ଭାବରେ ଅବିରତ ଆମର ସେବା କରିଆସୁଛି । ଦୃଶ୍ୟମାନ ଭାବରେ ଖାଦ୍ୟ, ଇନ୍ଦ୍ରିୟ, ଔଷଧ ଇତ୍ୟାଦି ସହିତ ଦୈନନ୍ଦିନ ଜୀବନରେ ପ୍ରତ୍ୟେକ ମୁହୂର୍ତ୍ତର ଆବଶ୍ୟକତାକୁ ଜଙ୍ଗଲ ପୂରଣ କରୁଛି । ଜଙ୍ଗଲ ପରିବେଶ ପ୍ରଦୂଷଣକୁ କମ କରିବା ସଙ୍ଗେ ସଙ୍ଗେ ବାୟୁମଣ୍ଡଳରେ ଅମ୍ଳଜାନର ସ୍ତରକୁ ବୃଦ୍ଧି କରେ ଏବଂ ନିକଟରେ ବାସ କରୁଥିବା ମନୁଷ୍ୟମାନଙ୍କର ସ୍ୱାସ୍ଥ୍ୟର ଉନ୍ନତିରେ ସହାୟକ ହୋଇଥାଏ । ଜଙ୍ଗଲ ଅଦୃଶ୍ୟ ଭାବରେ ଆମର ଜଳ ସମ୍ରାଧି କରୁଅଛି, ବାୟୁକୁ ଶୁଦ୍ଧ କରୁଛି ଏବଂ ଜଳବାୟୁ ପରିବର୍ତ୍ତନରୁ ରକ୍ଷା କରୁଅଛି । ଜଙ୍ଗଲର ଏହି ସେବାଗୁଡ଼ିକୁ ଚିରନ୍ତନ ଭାବେ ପାଇବା ନିମନ୍ତେ ଆମକୁ ଜଙ୍ଗଲର ଯଥୋଚିତ ବ୍ୟବହାର ସହିତ ଏହାର ଅବିଷୟକୁ ରୋକିବା ଆମର ପ୍ରଥମ କର୍ତ୍ତବ୍ୟ ହେବା ଉଚିତ୍ ।

ଏହା ଆନନ୍ଦର ବିଷୟ ଯେ ସରକାରଙ୍କ ପ୍ରୟାସ ସହିତ ଲୋକମାନଙ୍କର ଏବଂ ବିଶେଷକରି ବନସ୍ତରଣ ସମିତି ମାନଙ୍କର ଉତ୍ସର୍ଗାକୃତ ସହଯୋଗ ପାଇ ବିଗତ ଦଶ ବର୍ଷ ମଧ୍ୟରେ ଆମ ରାଜ୍ୟରେ ଜଙ୍ଗଲ ଆଚ୍ଛାଦିତ ଅଞ୍ଚଳରେ ୩୨୫୩ ବର୍ଗ କିଲୋମିଟର ବୃଦ୍ଧି ଘଟିଛି । ଏଥିନିମନ୍ତେ ମୁଁ ବନ ସ୍ତରଣ ସମିତି ତଥା ନିକଟବର୍ତ୍ତୀ ଗ୍ରାମବାସୀ ଏବଂ ଜଙ୍ଗଲ ବିଭାଗକୁ ସାଧୁବାଦ ଜଣାଉଛି । ମୁଁ ଅତ୍ୟନ୍ତ ଖୁସି ଯେ ବିଗତ ଦୁଇ ବର୍ଷ ମଧ୍ୟରେ ଆମ ରାଜ୍ୟରେ ହେକ୍ଟାଲବଣ ଆଚ୍ଛାଦିତ ଅଞ୍ଚଳ ୮ ବର୍ଗ କିଲୋମିଟର ବୃଦ୍ଧି ପାଇଛି ଏବଂ ଏହି ଅଭିବୃଦ୍ଧିରେ ଓଡ଼ିଶା ସାରା ଦେଶରେ ପ୍ରଥମ ସ୍ଥାନ ଲାଭ କରିଛି । ଏଥିପାଇଁ ସମସ୍ତଙ୍କୁ ମଧ୍ୟ ସାଧୁବାଦ ଜଣାଉଛି ।

ଆଗାମୀ ଦିନରେ ଜଙ୍ଗଲ ଅଭିବୃଦ୍ଧି ପାଇଁ ସରକାରଙ୍କର ବିଭିନ୍ନ ଯୋଜନାରେ ମୁଁ ରାଜ୍ୟବାସୀଙ୍କର ସହଯୋଗ କାମନା କରୁଛି ।

ନବୀନ ପଟ୍ଟନାୟକ  
(ନବୀନ ପଟ୍ଟନାୟକ)

ତୁରନ୍ତ : କାର୍ଯ୍ୟାଳୟ : 0674-2531100, 2531500, 2535100 (ଫାକ୍)

ବାସଭବନ : 0674-2591099, 2590299, 2590833 (ଫାକ୍)

e-mail : cmo@nic.in | twitter : twitter.com/CMO\_Odisha | Facebook : facebook.com/CMO.Odisha



*Silvi Garden, Bhawanipatna*



ଭୁବନେଶ୍ୱର

### ପ୍ରଦିପ କୁମାର ଅମାତ

ମନ୍ତ୍ରୀ

ଜଙ୍ଗଲ, ପରିବେଶ ଓ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ,  
ପଞ୍ଚାୟତିରାଜ ଓ ପାନୀୟ ଜଳ  
ସୁରକ୍ଷା ଓ ଲୋକସମ୍ପର୍କ  
ଓଡ଼ିଶା

## ବାର୍ତ୍ତା

ପ୍ରତ୍ୟେକ ବର୍ଷ ମାର୍ଚ୍ଚ ୨୧ ତାରିଖ ଦିନଟିକୁ ‘ବିଶ୍ୱ ବନ ଦିବସ’ ରୂପେ ଆମେ ପାଳନ କରିଥାଉ । ଚଳିତ ‘ବିଶ୍ୱ ବନ ଦିବସ’ ପାଇଁ ଚୟନ କରାଯାଇଥିବା ବିଷୟବସ୍ତୁ ହେଉଛି ‘ଜଙ୍ଗଲ ଓ ସ୍ୱାସ୍ଥ୍ୟ’ । ଏହି ସନ୍ଦେଶଟିକୁ ସାର୍ବଜନୀନ କରି କାର୍ଯ୍ୟକ୍ଷମ କରିବା ଏହି ଦିବସ ପାଳନର ମୁଖ୍ୟ ଉଦ୍ଦେଶ୍ୟ ।

ଭବିଷ୍ୟତ ପାଇଁ ଜଙ୍ଗଲଜାତ ଦ୍ରବ୍ୟର ସ୍ଥାୟୀ ଉତ୍ପାଦନ, ବାଣିଜ୍ୟ ଓ ବ୍ୟବହାର ଉପରେ ରାଜ୍ୟ ସରକାର ସର୍ବଦା ଗୁରୁତ୍ୱ ଦେଇଆସୁଛନ୍ତି । ଚିରନ୍ତନ ଏବଂ ପୋଷଣୀୟ ଜଙ୍ଗଲ ପରିଚାଳନା ପାଇଁ ବନ ବିଭାଗ ଉଜ୍ଜ୍ୱଳ ଜଙ୍ଗଲର ପୁନରୁଦ୍ଧାର, ଜୈବବିବିଧତା ଓ ଜଙ୍ଗଲର ସୁରକ୍ଷା, ନୂତନ ଜଙ୍ଗଲର ସୃଷ୍ଟି ଆଦି ବିଭିନ୍ନ ଯୋଜନାମାନ କାର୍ଯ୍ୟକାରୀ କରୁଅଛି । ଏହି ଯୋଜନାଗୁଡ଼ିକୁ ଲୋକାଭିମୁଖୀ କରିବା ପାଇଁ ବନ ସୁରକ୍ଷା ସମିତିମାନଙ୍କର ଗଠନ ଏବଂ ବିଭିନ୍ନ କାର୍ଯ୍ୟର ଦାୟିତ୍ୱ ବହନ ପାଇଁ ସଶକ୍ତିକରଣ କାର୍ଯ୍ୟକ୍ରମ ଉପରେ ପ୍ରାଧାନ୍ୟ ଦିଆଯାଉଛି । ଜଙ୍ଗଲ ପରିବେଶର ପ୍ରଦୂଷଣକୁ କମ କରିବାରେ ସାହାଯ୍ୟ କରେ ଏବଂ ବାୟୁମଣ୍ଡଳରେ ଅମ୍ଳଜାନର ସ୍ତରକୁ ବୃଦ୍ଧି କରେ ଏବଂ ଏହାର ପରିପାର୍ଶ୍ୱରେ ବାସ କରୁଥିବା ମନୁଷ୍ୟମାନଙ୍କର ସ୍ୱାସ୍ଥ୍ୟର ଉନ୍ନତି କରିବାରେ ସାହାଯ୍ୟ କରେ । ସ୍ଥାନୀୟ ଲୋକଙ୍କର ଜୀବିକା ନିର୍ବାହ ପାଇଁ ଓଡ଼ିଶା ବନାଞ୍ଚଳ ଉନ୍ନୟନ ସଂସ୍ଥା, ଆମ ଜଙ୍ଗଲ ଯୋଜନା, କାମ୍ପା ଏବଂ ଅନ୍ୟାନ୍ୟ ଯୋଜନା ମାଧ୍ୟମରେ ଚାରାମାନ ଉତ୍ପନ୍ନ ଓ ରୋପଣ, ବାଉଁଶ ଜଙ୍ଗଲ ଅମଳ ଓ ଅନ୍ୟାନ୍ୟ ରୋଜଗାରକ୍ଷମ କାର୍ଯ୍ୟକ୍ରମରେ ବନ ସୁରକ୍ଷା ସମିତିମାନଙ୍କୁ ସାମିଲ କରାଯାଉଅଛି ।

ସର୍ବୋପରି ଜନସମାଜର ସାମଗ୍ରିକ ସ୍ୱାସ୍ଥ୍ୟ ନିମନ୍ତେ ଜଙ୍ଗଲର ସୁରକ୍ଷା ସହିତ ପରିବେଶ ଅବକ୍ଷୟ ଓ ପ୍ରଦୂଷଣର ମାତ୍ରା ହ୍ରାସ କରିବା ନିମନ୍ତେ ରାଜ୍ୟବାସୀଙ୍କୁ ମୋର ନିବେଦନ ।

*(Handwritten signature)*  
(ପ୍ରଦିପ କୁମାର ଅମାତ)



*Elephant Rakesh at Kapilash*





Kharavel Bhawan, Bhubaneswar-751001  
E-Mail: fsec.or@nic.in /  
forestenv2016@gmail.com  
Tel : 91 674 2536822

**Dr. Mona Sharma, IAS**  
Additional Chief Secretary  
Forest, Environment and  
Climate Change Department  
Govt. of Odisha

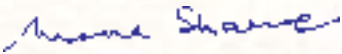
## Message

The International Day of Forests will be celebrated on 21st March, 2023 with the theme - "Forests and Health". The aim of observing this day is to raise awareness among the people regarding importance of forests in improving the health of flora and fauna as well as health of the common people. Presence of forests significantly reduces the pollution and enhances the percentage of oxygen in the atmosphere thereby improving the health of the people. This year our focus is to carry out massive afforestation, so that quality of the environment goes up and the health of the people improves.

It is a matter of great pleasure that the Forest and Tree cover in the State of Odisha has been increasing continuously in the last few decades. As per the Forest Survey of India Reports 2019 and 2021, our State has gained 893 Sq Kms of Forest and Tree Cover. This has been possible because of large scale plantation activities and active involvement of community in the protection of forests.

A comprehensive report "Highlights of Odisha Forestry Sector 2023" has been published by the State Forest Department. This incorporates the major achievements in the field of afforestation, forest conservation, wildlife management and various schemes for sustainable forest management.

I am sure this report is going to be very useful for the forest administrators, field functionaries and the general public.

  
(Dr. Mona Sharma)



**Debidutta Biswal, IFS**  
Principal Chief Conservator of Forests  
& Head of Forest Force, Odisha



**State Forest Headquarters, Odisha**  
**Office of the Principal Chief Conservator of Forests**

Aranya Bhawan, Bhubaneswar-751023

E-Mail: pccfodisha@gmail.com

Phone: 0674-2300853

Fax: 0674-2300049

## **FOREWORD**

The International Day of Forests is celebrated every year since 2012 as per the United Nations declaration. This year the International Day of Forests is being celebrated on 21st March with the theme -"Forests and Health".

Forests are extremely benevolent to the mankind. We get large number of tangible and intangible benefits from the forests. We are dependent on the forests for timber, firewood, medicinal plants and many other non-timber forest produce which are primary source of sustenance for the poor people who live in and around the forests. Forests help prevent soil erosion and have recreational values. Forests also help in pollution control and climate change mitigation. Therefore it is needless to say that Forests and Health are inter-related.

A comparison of Forest Survey of India Report 2021 and 2019, shows that Odisha has recorded the third highest forest cover increase (increase of 537 Sq. Km.) and second largest increase in tree outside forest in the country (increase of 356 Sq. Km.). The total Forests and Tree Cover of the State is 36.70%, as compared to 24.62% for the whole Country. During this period, Odisha has also recorded an increase of 8 Sq. Km. in Mangrove Cover which is the highest in Country. This has been possible due to forest protection by field staff, large scale plantation programmes and effective participation of the Vana Samrakshan Samitees at the grass-root level.

I am delighted to note that the State Forest Department has published a comprehensive annual report titled "Highlights of Odisha Forestry Sector, 2023". This report focuses on important activities undertaken for afforestation and sustainable forest management. It also includes vital forest statistics and salient features of the works carried out in different wings of the Forest Department.

I am confident that this report will be of immense help to administrators, researchers, forestry personnel and the public. My sincere thanks to all the officers of Forest Headquarters for their untiring efforts in preparing this informative report.

(Debidutta Biswal)

## CONTENTS

Sl. No.	Subject	Page No.
1.	Odisha Forest	1-5
2.	Organization of Forest, Environment & Climate Change Department	6-7
3.	State Budget in Forestry Sector	8
4.	Working Plan	9-11
5.	Forest Protection and Management	12-16
6.	Afforestation & Programme Expenditure Schemes	17-37
7.	Joint Forest Management Programme	38-39
8.	Wildlife Management	40-67
9.	Diversion of Forest Land	68-70
10.	Development of Eco-tourism	71-77
11.	Forest Research	78-86
12.	Training, Recruitment and Awards	87-92
13.	State Medicinal Plants Board, Odisha	93-94
14.	State Compensatory Afforestation Fund Management & Planning Authority (CAMPA) – Odisha	95-99
15.	Odisha Forestry Sector Development Society (OFSDS)	100-131
16.	Forest Information Technology and Geomatics Centre (FITGC)	132-143
17.	Kendu Leaves Organization, Odisha	144-148
18.	Chilika Development Authority	149-156
19.	Regional Plant Resource Centre	157-162
20.	Observation of Important Days	163-170
21.	Forest Head Quarters, Odisha	171-172





## ODISHA FOREST

### 1.1. Background of Forests in Odisha

The State of Odisha located between the parallels of 17°49'N and 22.34'N latitudes and meridians of 81.27'E and 87.29'E longitudes is surrounded by the adjacent states of West Bengal to the north-east, Jharkhand to the north, Chhattisgarh to the west and north-west, Telangana to the south-west and Andhra Pradesh to the south. Covering an area of 155,707 square kilometer (4.87% of the total geographical area of the country), the state can physiographically be divided into four regions, viz, Northern Plateau, Eastern Ghats, Central Table Land and Coastal Plains. It has a coast line of about 480 kilometres stretched across the Bay of Bengal on its east, from Balasore to Ganjam with virgin beaches interspersed with a number of river mouths and deltas supporting coastal vegetation including mangroves and associated wild fauna.

The average annual rainfall varies from about 1,200 mm to about 1,600 mm and the average annual temperature ranges from 25°C - 28°C. The state is drained by a number of important rivers, which includes Mahanadi, Brahmani and Baitarani. The state has 30 districts, among which 12 are tribal districts. As per the 2011 census, Odisha has a population of 41.97 million accounting for 3.47% percent of India's population. Rural and urban populations respectively constitute 83.32% and 16.68%, whereas total tribal population in the state is 22.85%. The population density of the state is 270 per square kilometre, which is lower than the national average. The 20th Livestock census 2019 has reported a total livestock population of 61.01 million in the state.

Odisha's forests are well stocked, diverse, multi-storied and dense. As per the Champion & Seth Classification of Forest Types (1968), the forests in Odisha belong to four Forest type Groups which are further divided into 19 Forest Types. Two National Parks and 19 Wildlife Sanctuaries constitute the protected area net work of the state covering 5.19% of its Geographical area.

### 1.2. Forest Area

Total Geographical Area	1, 55,707 Sq Km
Recorded Forest Area (RFA)	61,204 Sq Km
Forest Cover within Recorded Forest Area (Green Wash)	32,686 Sq Km
Forest Cover outside Recorded Forest Area (Green Wash)	19,470 Sq Km
Forest Cover Area	52,156 Sq Km
Tree Cover (Outside Forest Area)	5,004 Sq Km
Total Forest & Tree Cover	57,160 Sq Km
Percentage of Forest Area (Recorded) to Geographical Area	39.31 %
Percentage of Forest Cover Area to Geographical Area	33.50 %
Percentage of Tree Cover Area to Geographical Area	3.21 %
Percentage of Forest & Tree Cover to Geographical Area	36.71 %

### 1.3. Forest and Tree Cover in Odisha

Based on Satellite imagery, the forest and tree cover of the State is being assessed and published every two years by the Forest Survey of India, Government of India since 1997. The Recorded Forest Area (RFA) of the state is 61,204.17 square kilometer which is 39.31% of Geographical Area. The Reserved Forests (36,049 square kilometer), Protected Forests (25,133 square kilometer) and Unclassed Forests (22 square kilometer) are 58.90%, 40.75% and 0.35% of the RFA in the state respectively.

As per the 2021 assessment by the Forest Survey of India, the forest cover in the State is 52,156 square kilometre i.e. 33.50% of its geographical area, while tree cover of the State is 5,004 square kilometre i.e. 3.21% of geographical area. The state has gained 537 square kilometres area of forest cover which is the third highest in the country and 356 square kilometres of tree cover second highest in the country within a period of 2 years i.e. from 2019 to 2021. So, the total forest and tree cover in the state has increased by 893 square kilometres during the period from 2019 to 2021. The total forest and tree cover area of forest constitutes 36.71% of the total Geographical Area of the state.

The Forest cover of the state has been categorized as Very Dense (7213 square kilometer), Moderately Dense (20,995 square kilometer), Open forest (23,948 square kilometer) and scrub (4,924 square kilometers). Shorearobusta i.e. Sal is the major tree species in Odisha forests & all its associates are found profusely.

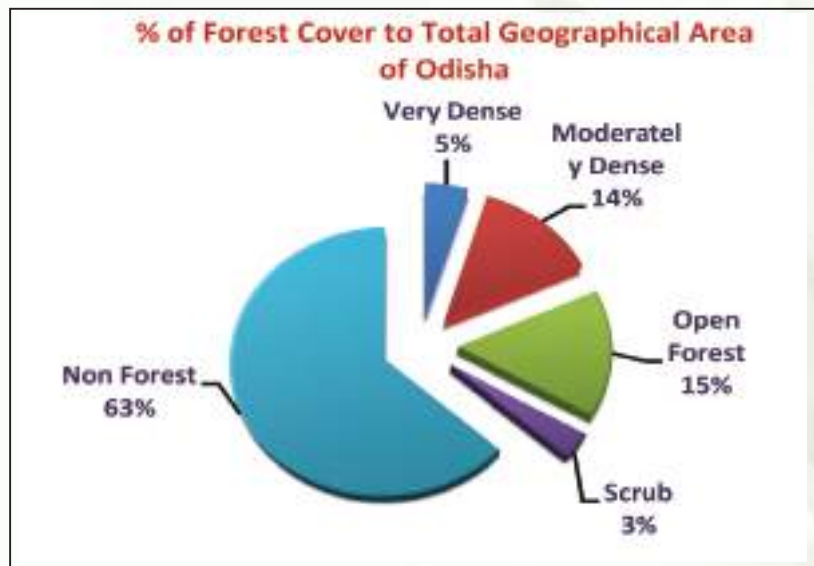
The forest cover of the State in 12 assessment years is as under:

(Area in Sq. Km)

India State of Forest Report	Very Dense Forest (VDF)	Dense Forest (DF)	Moderately Dense Forest (MDF)	Open Forest (OF)	Total	Scrub	Tree Cover	Mangrove
2021	7213	-	20995	23948	52156	4924	5004	259
2019	6970	-	21552	23097	51619	4327	4648	251
2017	6967	-	21370	23008	51345	4306	3993	243
2015	6985	-	21470	22005	50460	4499	3986	231
2013	7042	-	21298	22007	50347	4424	4013	213
2011	7060	-	21366	20477	48903	4734	4301	222
2009	7073	-	21394	20388	48855	4852	4435	221
2005	538	-	27656	20180	48374	4743	4589	203
2003	288	-	27882	20196	48366	-	-	207
2001	-	27972	-	20866	48838	5782	-	211
1999	-	26288	-	20745	47033	5489	-	215
1997	-	26312	-	20629	46941	5461	-	211

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- ❖ The State has gained more than 5215 square kilometre area of forest cover since 1997.
- ❖ Forest Cover in the State has increased by 537 square kilometre (with a net increase of 243 square kilometers in Very Dense Forest and 851 square kilometres in Open Forest and decrease of 557 square kilometers in Moderately Dense Forest), by 597 square kilometres of Scrub area and by 356 square kilometres of Tree Cover as compared to the previous assessment (2019).
- ❖ Massive plantation activities and concerted conservation efforts coupled with peoples' participation in protection of forests has led to increase in forest cover over the years.
- ❖ The digitized boundary of Recorded Forest Area (RFA) from the State covers 42,430 square kilometers and the forest cover inside the RFA is 32,686 square kilometers (77.04 % of forest cover inside RFA) covering 5649 square kilometers in VDF and 14,636 square kilometers in MDF and 12,401 square kilometers in OF.
- ❖ The forest cover outside the RFA is 19,470 square kilometers covering 1564 square kilometers in VDF and 6,359 square kilometers in MDF and 11,547 square kilometers in OF.
- ❖ As per the assessment of 2021, the total Forest Cover (52,156 square kilometers) includes area of Mangrove vegetation i .e. 259 square kilometers representing a major ecosystem with net increase by 8 square kilometers over the 2019 assessment, which is the highest increase in the country.



*Mangrove Plantation at Hetamundia PRF*



*Nipania Mangrove Plantation*



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

### Forest Cover inside and outside RFA (Area in Sq. Km)

Forest Cover inside the RFA				Forest Cover outside the RFA				Grand Total
VDF	MDF	OF	Total	VDF	MDF	OF	Total	
5,649	14,636	12,401	32,686	1,564	6,359	11,547	19,470	<b>52,156</b>
17.28%	44.78%	37.94%		8.03%	32.66%	59.31%		

- Extent of Trees Outside Forest (TOF) is estimated as sum of forest cover outside RFA and tree resources outside forests i.e. 19,470 sq km + 5004 sq km = 24,474 sq km which is 42.82 % of Forest and Tree cover of the State and 15.72 % of the total Geographical area of the state. It is assessed that Odisha is having the second largest in respect of extent of TOF in the country.

### Forest Cover inside and outside RFA in Tribal Districts of Odisha (Area in Sq. Km)

No. of Tribal Districts	Geographical Area	RFA in Digitized Boundary	Forest Cover inside RFA				Forest Cover outside RFA				Net Change over 2019 Assessment
			VDF	MDF	OF	Total	VDF	MDF	OF	Total	
12	86,091	24,685	3,925	8,690	7,114	19,729	1,394	5,148	8,290	14,832	
Change over 2019 Assessment						-231				461	230

### Mangrove Cover Assessment 2021 (Area in Sq. Km)

District wise Mangrove Cover	Very Dense Forest (VDF)	Moderately Dense Forest (MDF)	Open Forest (OF)	Total	Change over the assessment 2019
Balasore	0	1.00	4.40	5.40	0.33
Bhadrak	0	8.76	26.11	34.87	0.00
Jagasinghpur	0	1.01	7.32	8.33	0.27
Kendrapada	80.43	83.54	45.28	209.25	7.76
Puri	0	0	1.13	1.13	-0.02
<b>Total</b>	<b>80.43</b>	<b>94.31</b>	<b>84.24</b>	<b>258.98</b>	<b>8.34</b>

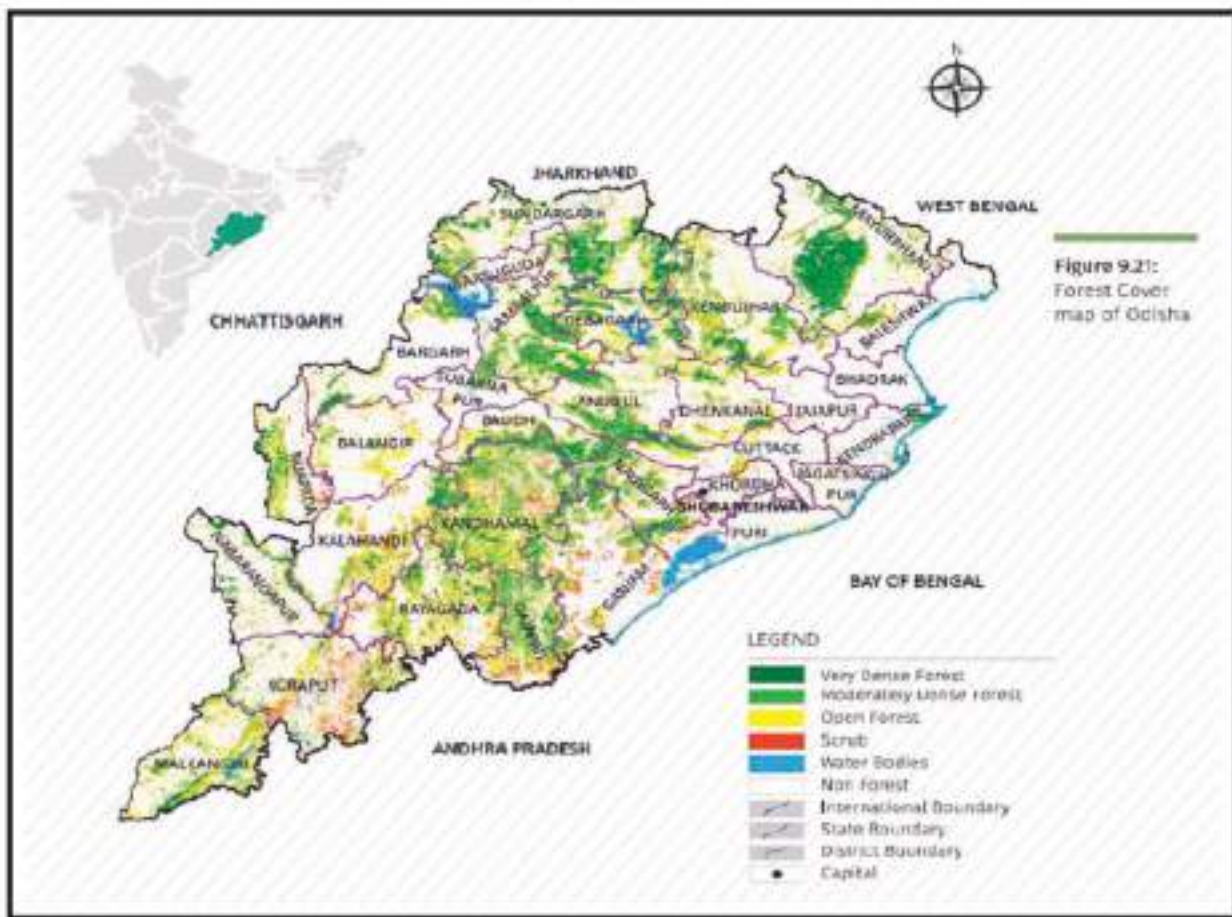




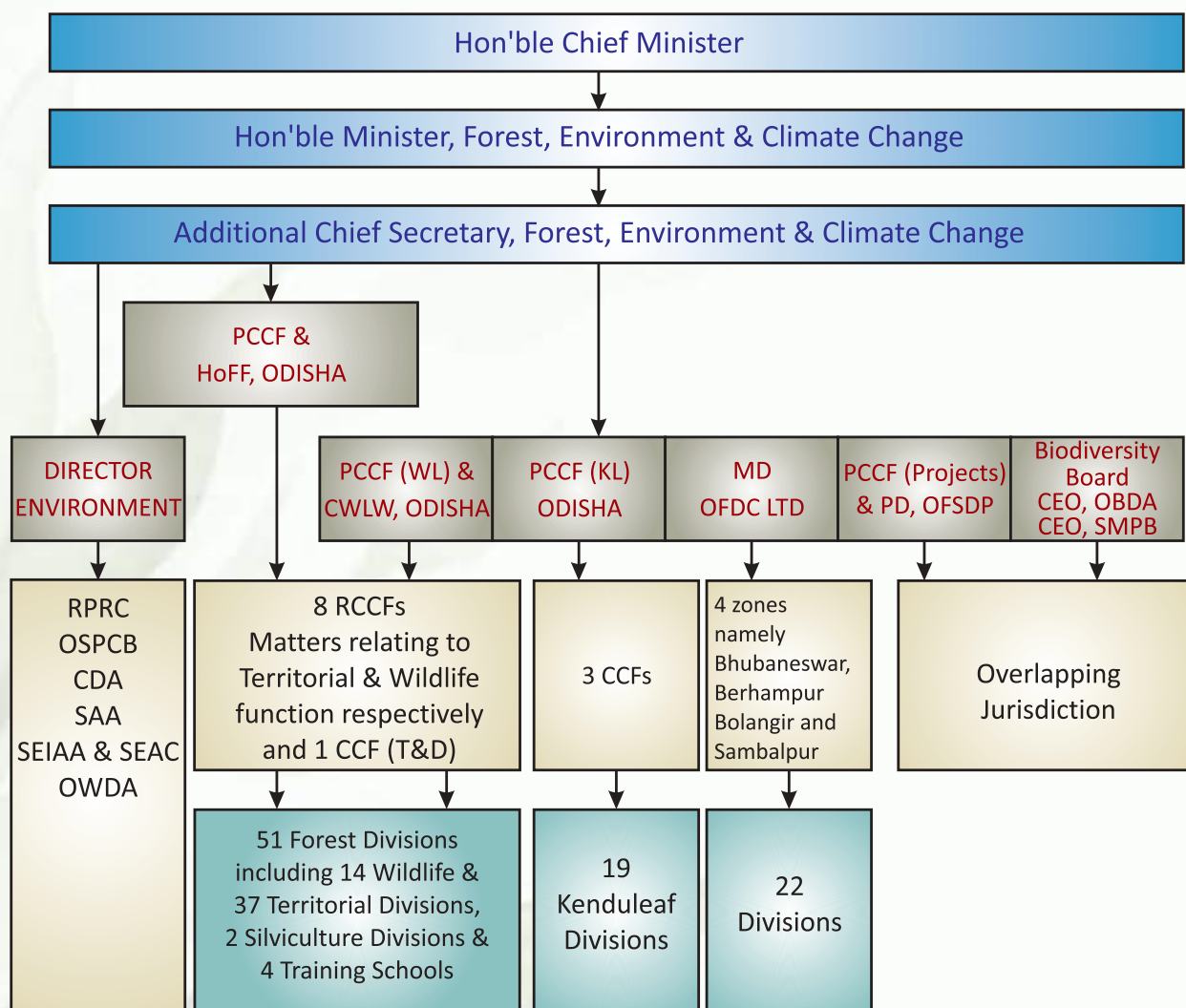
### 1.4. Growing Stock

Growing Stock in RFA	276.78 million cum
Growing Stock in Tree Outside Forest	106.87 million cum
Bamboo Bearing Area	1.12 million hectare
Total number of culms	3973 millions
Total equivalent green weight	23.716 million tonnes
Total Carbon Stock of Forest	444.83 million tonnes

### 1.5. Map of Forest Cover of Odisha



## ORGANIZATION OF FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT



- ❖ The Forest Department is headed by the Principal Chief Conservator of Forests (PCCF) & Head of Forest Force (HoFF). Broadly, the field organization of Territorial and Wildlife wings of Forest Department is as follows.

Wing	Circles	Divisions	Ranges	Sections	Beats
Territorial	8	37	223	827	3082
Wildlife	Overlapping	14	70	241	699
Kenduleaf	3	19	149	615	
Training & Development	1	2			
Working Plan		8			

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- ❖ Principal Chief Conservator of Forests (Wildlife) being the Chief Wildlife Warden under provisions of Wildlife Protection Act, 1972 looks after Wildlife Management in the State.
- ❖ The Kendu Leaf Organization is headed by Principal Chief Conservator of Forests (KL).
- ❖ Odisha Forestry Sector Development Project is headed by Principal Chief Conservator of Forests (Projects) & Project Director.
- ❖ The Odisha Forest Development Corporation is headed by Managing Director.
- ❖ Besides the above, there is a sub-wing in the name of Training & Development supervised by Chief Conservator of Forests (Training & Development), Cuttack under the control of PCCF, Odisha. This sub-wing is entrusted with the responsibility of Forestry Research & Training for the forest personnel. The training infrastructure includes Ranger's training college at Angul and three training schools at Champua, G. Udaygiri and Bhubaneswar for the training of Foresters and Forest Guards. Further, there are eight Working Plan Divisions in the State entrusted with the responsibility of preparation of Forest Working Plans of various divisions.



## STATE BUDGET IN FORESTRY SECTOR

### 3.1. Budget from various Sources

The Budget detail from various sources for Forestry Sector during the Financial Year 2022-23 is given below:

Sl. No.	Source
1	Administrative Expenditure (Non-Plan)
2	Programme Expenditure (Plan)
3	Compensatory Afforestation Fund Management and Planning Authority (CAMPA) (Plan since 2019-20)
<b>Funds Received under Extra Budgetary Source</b>	
4	Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)
5	Odisha Environment Management Fund (OEMF)
6	District Mineral Fund (DMF)
7	Odisha Mineral Bearing Areas Development Corporation (OMBADC)
8	National Rural Livelihood Mission (NRLM)
9	CSR from Corporate Sectors like OMC, Railways, MCL, OPGC etc.

### 3.2. Budget Provision in last 15 years

The Budget provision in Forestry Sector under Plan & Non- Plan head during the last thirteen years is summarized below:

Year	Figures (Rs. in lakh)		
	Non-Plan	Plan	Total
2008-09	35038.23	21001.23	56039.46
2009-10	37817.76	21609.18	59426.94
2010-11	37069.38	24204.25	61273.63
2011-12	38309.00	28648.51	66957.51
2012-13	27952.84	36873.23	64826.07
2013-14	25791.51	39351.00	65142.51
2014-15	30722.16	25885.74	56607.90
2015-16	23040.88	20378.77	43419.65
2016-17	24637.81	18093.32	42731.13
	Non- Plan / Programme Expenditure Adminstrative Expenditure		
2017-18	30600.01	10057.75	40657.76
2018-19	30599.90	21989.24	52589.14
2019-20	32304.36	93963.00	125589.79
2020-21	32115.70	128670.50	160232.2
2021-22	32168.78	21059	53227.78
2022-23	35755.00	31322.83	67077.83

## WORKING PLAN

### 4.1. Working Plans

The forests in the state are managed under the prescriptions of a Working Plan/ Scheme prepared on the basis of sustainable forest management and recognized innovative silviculture practices. The Working Plans are being approved by the authority as designated by the Ministry of Environment, Forests & Climate Change, Government of India.

Working Plan is generally revised every 10 years.

- ❖ For involvement and benefit of local stakeholders micro-plans are to be prepared within the ambit of working plan prescriptions for JFM areas and eco-development plan are to be prepared for eco-sensitive forest areas adjoining the notified protected areas.
- ❖ The micro-plan of jointly managed forests is prepared by the members of the JFMC through participating Rural Appraisal (PRA) with the technical assistance of forest staffs of the territorial division as per MoU for sharing the responsibilities of implementation and equitable sharing of usufructs among stakeholders within the broad prescriptions and Working Plan.
- ❖ Micro-plan preparation should be incorporated in the JFM Overlapping Working Circle.
- ❖ The forest area of the state is being managed under fifty one (51) number of Forest and Wildlife (WL) Divisions; out of which seven (7) Wildlife Divisions namely Chandaka WL, Sunabeda WL, Satkosia WL, Mahanadi WL, Hirakud WL, Simlipal Tiger Reserve (North) and Simlipal Tiger Reserve (South) having only protected area are managed under approved Wild Life Management Plans. The Forest area of remaining seven Wildlife Divisions namely, Bamra WL, Rajnagar WL, Puri WL, Chilika WL, Balasore WL, Bhadrak WL and Keonjhar WL partly having protected area are managed under Wild Life Management Plans for protection of forest areas and outside protected area managed under Working Plans. Thus, altogether 44 Forest Divisions including part of 7 Wildlife Divisions are covered under Working Plans for scientific management of Forests.
- ❖ **Status of approval of Working Plans**

Sl.	Status of Working Plan	No.	Name of the Division
1.	Approved Working Plan	37	Angul, Athamallik, Baragarh, Chilika WL, Puri WL, Baripada, Keonjhar WL, Subarnapur, Khordha, Bonai, Jeypore, Deogarh, Rourkela, Dhenkanal, Sundargarh, Nabarangpur, Gh. South, Gh. North, Berhampur, Bamra WL T Boudh, Cuttack, Jharsuguda, Rayagada, Karanjia, Rairangpur, Baliguda, Phulbani, Kalahandi North, Kalahandi

			South, Nayagarh, Malkangiri, Keonjhar (T), Rairakhol, Sambalpur, Bolangir & City Forest)
2.	Draft Revised Working Plan submitted but not approved by the MoEF & CC, GoI (Compliance report on the objections raised by the Ministry is yet to be submitted by the DFOs	05	Bhadrak WL, Khariar, Rahnagar (WL), Koraput & Athagarh
3.	Working Plan not submitted	02	Parlakhemundi & Balasore (WL)

## 4.2. Forest Working

### 4.2.1. Working of Coupes

Number of divisions where timber & bamboo coupes are due for working by OFDC Ltd with the no. of coupes worked out, no. of units worked out, no. of trees felled and no. of Divisions where sal leaf collection has been executed by the respective Divisions for last five years is given as follows:

Year	2018-19	2019-20	2020-21	2021-22	2022-23
	Timber				
No. of divisions where timber operation taken up	25	29	26	25	Under Progress
No. of coupes worked out	93	129	119	111	Under Progress
No. of units worked out	55107	55397	54687	50834	Under Progress
No. of trees felled	22580	21089	21578	19055	Under Progress
	Bamboo				
No. of divisions where bamboo operation taken up	14	18	21	21	Under Progress
	Sal Leaf				
No. of Divisions where sal leaf collection has been made	15	15	15	15	Under Progress



#### 4.2.2. Rate of Royalty

Rate of royalty for different forest produce such as Timber, Firewood, Pole, Casuarina firewood Bamboo, Sal leaf etc for last five years is given as below:

Rate of Royalty (in Rs.)					
Year	2018-19	2019-20	2020-21	2021-22	2022-23
Timber (per unit)	1803/-	1929/-	2006/-	2086/-	2166/-
Irregular Lots (per cft.)	274/-	293/-	305/-	317/-	329
Poles					
Sal Pole (per pc.)	55/-	55/-	60/-	60/-	60/-
Teak Pole (per pc.)	48/-	48/-	50/-	50/-	50/-
Other Pole (per pc.)	32/-	32/-	35/-	35/-	35/-
Fire wood					
Sal & Non-Sal (per stack)	397/-	Rs.397/-	405/-	405/-	405/-
Casuarina (per Qtl.)	155/-	Rs.155/-	155/-	155/-	155/-
Bamboo					
Industrial Bamboo	255/-	255/-	255/-	255/-	255/-
Commercial Bamboo	Salia=1/-	Salia=1/-	Salia=1/-	Salia=1/-	Salia=1/-
(per Piece)	Daba=2.50	Daba=2.50	Daba=2.50	Daba=2.50	Daba=2.50
Sal Leaf (per Qtl.)	86/-	Royalty waived out	Royalty waived out	Royalty waived out	Royalty waived out



*Boudh Forest Division OEMF Nursery*



## FOREST PROTECTION AND MANAGEMENT

### 5.1. Initiatives taken for Protection of Forest in the State

❖ The detail picture of the Forest Protection Units in the State is reflected below.

Number of Units	Forest Divisions	Wildlife Divisions	Total
	37	14	51
Number of Ranges	223	60	283
Number of Sections	827	190	1017
Number of Beats	3082	601	3683

The different programmes / activities undertaken by Forest Department during last 5 years for protection of forest from illicit felling/ smuggling by forest mafias which are as follows:

- ❖ The forest management units in the field comprise of 51 Divisions (37 Territorial Divisions + 14 Wildlife Divisions), 283 Ranges (223 Territorial Ranges + 60 Wildlife Ranges), 1017 Sections (827 Territorial Sections + 190 Wildlife Sections) and 3683 Beats (3082 Territorial Beats + 601 Wildlife Beats).
- ❖ Each Division, Range, Section and Beat is manned by the Divisional Forest Officer, Forest Ranger, Forester and Forest Guard respectively.
- ❖ In total, 56 Forest Check Gates are functioning under 16 Forest Divisions for checking of vehicles and prevention of smuggling of forest produce on transit.
- ❖ In total, 274 Forest Protection Squads having 10 local youths in each squad with 227 numbers of vehicles have been deployed at range level of 37 Territorial Divisions. Similarly, 604 Anti-poaching squads having 3896 personnel have been engaged with 221 hired vehicles for protection of wildlife in the state.
- ❖ 65 Fire Protection Squads with 15 numbers of vehicles have been constituted under Centrally Sponsored Scheme involving 650 numbers of local youths respectively for forest fire protection activities in 37 Territorial Divisions of the State during 2022-23.
- ❖ 213 Fire Protection Squads have been constituted under State CAMPA APO 2022-23 involving 2130 numbers of local youths @ 1 Squad per Range (each squad of 10 persons) and @ one hired vehicle for each squad in 37 Territorial Divisions of the State for forest fire prevention and control activities.
- ❖ 121 Fire Protection Squads have been deployed involving 845 local youths with 55 hired vehicles for fire prevention activities in 12 wildlife divisions by the Wildlife Organisation of the state.



- ❖ During the year 2022-23 under State CAMPA APO 2022-23, 19500 Km of forest Fire Line have been maintained for prevention of forest fire in different Forest Divisions of the State.
- ❖ During the year 2022-23 under Centrally Sponsored Scheme : Forest Fire Prevention and Management 13,162 Kilometere of forest Fire Line have been created in shape of maintenance of compartment lines, Forest Boundary lines and other fire lines for prevention of forest fire in different Forest Divisions of the State.
- ❖ Up to now 16,128 numbers of Vana Surakshya Samities have been formed in the State, wherein 20,10,880 numbers of families of 15,350 villages are involved and they have been assigned with 13,85,623 hectares of forest area for its protection and usufruct benefit.
- ❖ 594 numbers of Eco-Development Committees have been formed in the proximity of protected area to protect forest & wildlife with active involvement of local community.
- ❖ 590 numbers of VHF stations and 880 numbers of walky-Talky are in operation in the State for strengthening communication network to be used for monitoring protection activities.
- ❖ The details of forest offence cases detected & booked with timber and vehicles seized in different forest divisions during last 5 years are furnished below:

Year	Offences Detected	Offenders involved (nos.)	Timber seized Quantity (in Cum)	Vehicles Seized (Nos.)
2017-18	66493	60353	7952	530
2018-19	63105	47130	5397	411
2019-20	59460	41310	3673	358
2020-21	55412	50740	6185	558
2021-22	41598	35286	7586	248

## 5.2. Rewards to Informers and Forest Officials

- ❖ Rewards are being given to informers, staff, Public etc as per "Reward for detection of Forest Offence Rules, 2004" to encourage them to cooperate in forest protection activities. During 2022-23 an amount of Rs.16,78,520/- has been deposited in the Bank Accounts by different Divisional Forest Officers towards Reward amount to the informers.
- ❖ In addition to this, for protection of Berbera and Dhuanali forests from the claws of forest mafia 25 number of Forest Guards and 04 number of Foresters have been recruited especially to assist the Odisha Special Striking Force in the State.

## 5.3. Online Timber Transit Permit System (OTTPS)

As per Government policy on ease of doing business Online Timber Transit Permit System (OTTPS) has been developed to facilitate applicants (Citizen or Institutions) to apply for transit

permit for tenant timber from private holding land through online. An individual / applicant will apply through the internet facility available with Mobiles / Desktop/ Jana Seva Kendra in the website [www.ttpermitodisha.in](http://www.ttpermitodisha.in). Applicant can easily apply for timber transit permit from any place and track his application status at any point of time. The User Guidelines / Manual for applying application through online system in details is available at the 1st webpage of the said website. To implement a transformational Action Point for 5T Governance, the timeline for issue of timber transit permit is fixed to 42 days for disposal through Online Timber Transit Permit System (OTTPS) which was earlier 172 days. All the provisions such as, Joint Verification, Registration of Property Hammer Mark, Submission of tree enumeration list, issuance of T.T. Permit etc are streamlined through this online application system.

#### 5.4. Forest Fire Prevention and Management

The number of cases of forest fire that took place during the last three years and the current year in the state is given below:

Year	No. of fire incidences	No. of Fire point responded	Forest area affected (in Ha.)
2021	56,606	45011	28329.05
2022	28,755	26348	8414.55
20223 (till 05.03.2023)	12,085	11070	3710.65

The Forest, Environment & Climate Change Department, Government of Odisha have taken the following remedial and preventive measures to control forest fire and to save forest resources including wild animals.

- Information Technology intervention using Odisha Forest Management System (OFMS) –
  1. Receiving of fire alerts from Forest Survey of India (FSI).
  2. Processing of Data in OFMS system and alerts sent directly to mobile up to the level of beat forest guards for immediate response in their jurisdiction.
  3. Offline navigation to fire alert points, data collection with geo tagged pictures and action taken are uploaded using OFMS mobile application.
  4. Centralized data sync from mobile to OFMS server for proper reporting of fire alerts status throughout the state.
- District Level Committee – In each district of the State a District level Committee has been formed under the chairmanship of concerned District Collector to facilitate inter-departmental cooperation for effective prevention and management of forest fires.
- Annual District Action Plan is put in place well in advance in order to mitigate the deficiency of funds under emergency situations from other schemes / sources of the District Administration to combat forest fire.

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- The Standard Operating Procedure (S.O.P.) for prevention and control of forest fire in the State has been prepared and circulated in vernacular language to field officials for taking up effective measures for prevention & control of forest fire.
- Creation and maintenance of fire lines on annual basis.
- Deployment of Fire Fighting Squads with hired vehicles and logistic support in all identified fire vulnerable sites of the State.
- Incentives are given to the Vana Surakhya Samities for their active participation in combating the forest fire in coordination with the forest department personnel.
- Supply of modern equipment like leaf litter blowers and other fire fighting gadgets to Fire Fighting Squads for effective prevention and control of forest fire.
- Registering of Mobile numbers of all field staff starting from Forest Guards to the Divisional Forest Officer for receiving the fire alerts directly from Forest Survey of India. Control Rooms have been made functional both at State Forest Headquarters and Divisional Headquarters for monitoring of forest fire incidences. Control room at forest headquarters is dedicated with Toll Free Number **1800-3457-158** for use by public on 24x7 basis.
- Training & capacity building programmes are being regularly organized at different levels for field staff directly involved in combating the forest fire.
- Awareness campaign through distribution of leaflet, brochure, folk dance, road side play etc. and also through SHG groups are being organized to sensitize the forest fringe villagers on prevention of forest fire.

The Orissa Forest Act 1972 Section 27(3) and the Orissa Forest (Fire Protection) Rules, 1979 are in force to take up appropriate punitive measures against the culprits involved in causing forest fires.

The State Government have received financial assistance from Government of India through Centrally Sponsored Scheme under Forest Fire Prevention & Management programme in 60:40 basis (i.e. 60% Central Share & 40% State Share). The details are given below:

Sl.No.	Year	Name of the Scheme	Funds allotted (Rs. in Lakh)
1	2017-18	FPM under CSS (60:40) basis	280.00
2	2018-19	FPM under CSS (60:40) basis	467.39
3	2018-19	TSP Component of FPM under CSS (60:40) basis	83.99
4	2018-19	SCSP Component of FPM under CSS (60:40) basis	124.61
5	2019-20	FPM under CSS (60:40) basis	661.36
6	2020-21	FPM under CSS (60:40) basis	866.59
7	2021-22	FPM under CSS (60:40) basis	754.81
8	2022-23	FPM under CSS (60:40) basis	1167.9104 (upto Feb., 2023)



*Fire squad*



*Mega bicycle rally on forest fire prevention, Jharsuguda*

## 5.5. Saw Mills

The following nine numbers of Saw Mills owned by OFDC Ltd are functioning in the State:

1. Khapuria Saw Mill in Cuttack District under City Forest Division.
2. OFDC Saw Mill at Nawarangpur under Nawarangpur Division.
3. OFDC Saw Mill at Umri in Koraput District under Jeypore Division.
4. Mathili Saw Mill in Malkangiri District under Malkangiri Division.
5. Remed Saw Mill in Sambalpur District under Sambalpur (South) Division.
6. OFDC Saw Mill at Raghunathpur in Ganjam District under Berhampur Division
7. Orissa Saw Mill in Sundargarh District under Rourkela Division.
8. OFDC Saw Mill, Kantabanji, Bolangir.
9. OFDC Saw Mill, Muniguda, Rayagada.

In accordance with the Order dated 05.10.2015 of Hon'ble Supreme Court of India in W.P.(C) No.202/1995, T.N. Godavarman Thirumulpad - Vrs - Union of India & another, a State Level Committee under the chairpersonship of the Principal Chief Conservator of Forests & HoFF, Odisha has been constituted vide Notification No.15644/F&E dated 18.07.2018 of the Forest & Environment Department. The State Level Committee is functioning as per the Guidelines for Establishment & Regulation of wood based industries in the State of Odisha issued by the Government of India, Ministry of Environment, Forest & Climate Change, Government of India in 2016 and its amendment 2017. The earlier Committee on rehabilitation, relocation and functioning constituted vide Notification No.13891/F&E, dt.30.07.2011 of Forest & Environment Department, Govt. of Odisha and the present State Level Committee have passed their decision to rehabilitate the eligible delicensed / closed saw mills of the State in various identified/ notified Industrial Estates of the State as per the provisions contained in Odisha Saw Mills and Saw Pits (Control) Act, 1991 and the Odisha Saw Mills and Saw Pits (Control) Amendment Act, 2010.

As of now, the status of private saw mills rehabilitated / functioning in the State are as follows:

- The Industries Department has notified 38 Industrial Estates in 26 Revenue Districts for rehabilitation of eligible Saw Mills.

154 nos. of private Saw mills are running in different Industrial Estate of the State.

## AFFORESTATION & PROGRAMME EXPENDITURE SCHEMES

### 6.1. Afforestation Activities

Year wise Afforestation activities taken up under different schemes from 2010-11 to 2022-23 in the State are given below.

Year Wise Afforestation Activities taken up under different schemes							
Year	AR in ha	ANR with Gap Pltn in ha	ANR without Gap Pltn in ha	Total in ha	Avenue Pltn in RKM	Seedlings planted in lakh	Seedlings distributed in lakh
2010-11	70842	60084	102519	233445	241	1086.10	128.34
2011-12	22950	10291	148946	182187	769	358.92	195.92
2012-13	18603	20230	68454	107287	3107	321.66	211.92
2013-14	24966	38023	40296	103285	4506	467.53	304.14
2014-15	24600	60253	114038	198891	4755	692.17	550.00
2015-16	16576	98540	241975	357091	4607	487.98	460.96
2016-17	15322	127973	258121	401416	5838	497.75	376.57
2017-18	5776.17	20366.94	356221.26	382364.36	3234.50	166.86	145.14
2018-19	622.80	108747.28	133560.84	248531.92	3685.65	338.74	142.46
2019-20	13055.19	55303.12	71698	140056.31	3558	339.26	212.48
2020-21	12486.07	94837.10	0	107323.17	4164.70	392.47	465.77
2021-22	11225.30	99143.00	0	110368.30	4616.60	382.91	230.46
2022-23 (up to 31.01.23)	11,746.95	76,164.17	0	87,911.12	4007.20	348.78	194.98

#### 6.1.1. Increasing Green Cover in the State

The scheme was introduced in 2013-14 by subsuming 11 continuing plan schemes. A provision of Rs.10273.89 lakh has been made for the year 2022-23 for taking up different afforestation activities. Besides, other components implemented under this scheme during 2022-23 are: maintenance of Medicinal Plants at Patrapada, Ekamravana at Bindusagar and maintenance of other major components of "IGC".

##### 6.1.1.1. Medicinal Plants Knowledge Centre, Patrapada

Development of a Medicinal Plants Knowledge Centre at Patrapada has been initiated during 2008-09 to enhance the knowledge about medicinal plant species. So far, 314 species have been planted in 314 specified plots separately bounded by contour bunds to create zero run - off. A demonstration area has been developed where all 314 plant species are displayed at a landscaped site. Two numbers of eight seater battery operated vehicle has been kept for movement of visitors.



*Medicinal Plants Knowledge Centre, Patrapada*

A sum of Rs.155.00 lakh has been provided for development and maintenance of rare medicinal species and bamboo Setum in the centre during 2022-23.

### **6.1.1.2. Ekamra Van at Bindusagar**

Ekamra van with a garden of medicinal plants at Bindusagar has been developed under the Ekamra Garden Society since 2009-10. The objective for establishing this garden is not only to set up a site of tranquillity and harmony in an ambience of religious atmosphere but to create awareness on traditional herbal medicines among urbanites. It is an example of quality work by local stone carvers and stone masons drawing inspiration from the ancient structures.

Maintenance of Medicinal Garden, Nursery & publicity etc are being organized by displaying stalls, photo exhibition, herbal fair, flower show, arogya mela, telecast of documentary films for development of the heritage plantations, improvement and maintenance of Ekamra Van at west bank of Bindusagar in Bhubaneswar.



A total budget provision of Rs.50.00 lakh has been made for maintenance and further improvement of Ekamra van at Bindusagar in Bhubaneswar during the year 2022-23.

### **6.1.1.3. Casuarina Plantation**

Under this component, maintenance of 80 hectare of casuarina Plantations raised during 2019-20 has been taken up during 2022-23. However, as per supplementary budget provision, 122.78 ha has been made under this plantation scheme during 2022-23. For this purpose, a sum





of Rs.173.14 lakh has been allotted to the field functionaries during 2022-23 for planting 3.07 lakh seedlings.



*Casuarina Nursery, Rajnagar*



*Casuarina Plantation, Puri*

#### 6.1.1.4. Artificial Regeneration (AR / Block Plantation)

The condition of growing stock in the forests of the State is being consistently improved through this scheme by raising block plantations (@ 1600 plants/ha) with economically important species such as Rosewood, Sisso, Mahogany, Bija, Gambhar, Kasi, Tenra etc. in the suitable pockets of designated and notified forest areas. Sites having well to moderate soil depth and adequate soil moisture regime coming under Plantation Working Circle of the Working Plans and other suitable notified forest areas of the state are being treated under this scheme.

During 2022-23, 657.78 hectare plantation has been made under IGC scheme and maintenance works for previous plantations were also taken up as per supplementary budget provision, a target of 120 hectare has been provisioned for taking up plantations during 2023-24. For this purpose, Rs.38.76 lakh for pre-planting operations have been allotted for 1.92 lakhs seedlings to field functionaries during 2022-23.



*AR Plantation, Kantabhanji Range, Balangir*



*AR, Plantation, Nayagarh*

#### 6.1.1.5. Bald Hill Plantation

'The State of Odisha is having scrub forests of 4923.70 square kilometres, many of them are bald hills. Hence, the soil and moisture conservation measures and plantations are taken up after filling the pits with foreign soil.





*Bald Hill Plantation, Rourkela*



*Cuttack 2nd Year After casualty replacement - Mahavinayk CAMPA Bald Hill Plantation (2018-19)*

The scheme was started during 2009-10 by adopting special plantation techniques for restoration of green cover of bald hills in the districts of Cuttack, Jajpur, Ganjam, Koraput, Kalahandi, Khordha, Sundergarh, Mayurbhanj, Nuapada, Subarnapur, Bolangir, Rayagada, Gajapati and Nayagarh.

In the current year, Rs.113.88 lakh have been provided for pre-planting operations for taking up bald hill plantations over 100 hectare during 2023-24.

#### **6.1.1.6. Assisted Natural Regeneration with Gap Plantation**

During 2022-23, 3000 hectares of Assisted Natural Regeneration (ANR) with Gap Plantation @ 200 plants per hectare have been achieved. Also in 2022-23, Rs.100.27 lakh have been provided for the planting operations for during up 1000 ha of ANR with Gap plantation during 2023-24.



*ANR Plantation at Khorda Forest Division*



*ANR Plantation at Bargarh Forest Division*

#### **6.1.1.7. Urban Plantation**

This scheme was introduced during the year 2007-08 with an aim to create green pool in crowded urban areas. Initially the tall sapling plantation was taken up in and around Bhubaneswar City areas through OFDC Ltd, City Forest and Chandaka WL Division. From the year 2011-12 onwards almost all Urban Local Bodies through out the State were covered.







Urban Plantation 21-22 Odagaon, Nayagarh Forest Division



Urban Plantation at Kotakana, Cuttack Forest Division

Only maintenance works were taken up in all urban and peri-urban areas of the state so as to provide shade for the traffic as well as the pedestrians and to reduce the impact of noise pollution due to vehicular movement.

#### 6.1.1.8. Raising & maintenance of Seedlings for Plantation & Distribution during 2022-23

During this year, 21.71 lakh seedlings were distributed under IGC.



Distribution of Seedlings at Ghumsur South Forest Division



#### 6.1.1.9. 3rd Party Evaluation of IGC

As per decision of the Mission Monitoring Committee under the Scheme "IGC", internal Evaluation and Audit are being conducted from time to time by the Monitoring & Evaluation cell established in the office of the PCCF & HoFF, Odisha as well as by Audit Team of Accountant General, Odisha. During 2018-19, IIFM, Bhopal has been selected as third party agency to evaluate all plantations raised during the period from 2013-14 to 2016-17 under this scheme at the cost of Rs.76.00 lakh and the IIFM, Bhopal has submitted the evaluation report. Action is being taken to engage reputed agency for 3rd party evaluation from 2017-18 to 2021-22.



### 6.1.2. Green Mahanadi Mission (GMM)

Mahanadi is a lifeline of Odisha and in order to enhance water availability and to improve livelihood, the river Mahanadi needs to be protected and conserved for ensuring its perennial flow for benefit of the people of the state. In view of this, a new scheme namely "Green Mahanadi Mission" was launched during 2018-19 with an aim to create a Green belt in 1 km width on both sides of the river Mahanadi, Tel & IB on all available and suitable Forest Land, Revenue Forest Land, DLC Area and Private Land through massive participation of peoples' representatives and all stake holders. In order to spread the awareness amongst people towards the aim of the mission, wide publicity has been created through different awareness programmes, Mahanadi Seva Yatra, Pada Yatra by the people's representatives, stakeholders and general public etc.



*Plantation under GMM at Boud Forest Division*



*Plantation under GMM at City forest division*

Besides, three respective GMM committees have been constituted in the Block, District and State level for monitoring and reviewing the GMM activities undertaken by different line departments for successful implementation of the mission in the state. Preparatory activities of the mission, like identification of villages, selection of plantation sites, nursery sites, identification of Mahanadi Sevaks, mass motivation were taken up during 2017-18 in 16 districts covering 1303 villages under the jurisdiction of 20 Forest and Wildlife Divisions. The scheme is being implemented with the funding sources under State Plan. The scheme has been approved in the Expenditure Finance Committee (EFC) meeting from 2018-19 to 2022-23 and their maintenance up to 2025-26.

#### 6.1.2.1. Achievement during 2018-19

Rs.5948.34 lakh have been provided under the programme expenditure scheme "Green Mahanadi Mission (GMM)". Plantations over an area of 912.25 hectare of AR, 50 hectare of Casuarina, 40 hectare of Bald Hill, 4196 hectare ANR with Gap, 101 hectare of Bamboo, 562 RKM of Avenue Plantation with planting of 5.742 lakh saplings under the scheme of Urban Tree Plantation (UTP) and distribution of 10.80 lakh saplings have been successfully achieved under the mission during 2018-19.



**6.1.2.2. Achievement During 2019-20 (2nd phase)**

The scheme was implemented during 2nd phase with inclusion of 4 more rivers namely Brahmani, Baitarani, Rushikulya and Vanshadhara and left-over area of Mahanadi, Tel & IB at a total budget provision of Rs.5100 lakh. The component wise achievement is summarized below:



*Plantation under GMM at Kishan Nagar*

Plantations over a total area of 1035 hectare AR, 75 hectare Casuarina, 203 hectare Bald Hill, 4203 hectare ANR with Gap, 171 hectare Bamboo, 116 RKM Avenue with planting of 33.94 seedlings including 2.31 lakh seedlings under Urban Tree Plantation and distribution of 49.76

lakh seedlings have been successfully achieved along with maintenance of previous year’s plantations of 5299.55 hectare of different components under the mission.

**6.1.2.3. Achievement during 2020-21 & 2021-22**

Rs.3100.00 lakh have been provided under the programme expenditure scheme “Green Mahanadi Mission (GMM)”. Plantations over an area of 190 hectare of AR, 60 hectare of Casuarina, 700 hectare ANR with Gap with planting, 0.165 lakh saplings under the scheme of Urban Tree Plantation (UTP) and distribution of 23.34 lakh seedlings have been successfully achieved under the mission during 2020-21. Only maintenance work has been taken up during 2021-22.



*Mangrove Platation GMM*

576 hectare of AR, 424 hectare of Bald Hill, 3000 hectare of ANR Plantation, 2.89 lakh saplings under Urban Tree Plantation have been taken up and 5.48 lakh seedlings have been distributed among public. Rs. 2682 lakh have been allowed for above propose.

**6.1.2.4. Achievement during 2022-23**

There is a proposal of taking up 120 hectare AR plantation, 74 hectare casuarina plantation, 100 hectare Bald Hill plantation, 1000 hectare ANR with Gap plantation and 50 lakh seedlings for distribution for the financial year 2023-24.



### 6.1.3. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has been developed to reduce rural poverty through 100 days of guaranteed employment for each family per year. Using focus group methods, this scheme has been explored to provide rights' based social protection through guaranteed employment for Scheduled Castes, Scheduled Tribes and women in our State. The main objectives of this scheme are: (1) social protection (2) the creation of durable assets such as water security, afforestation activities, soil moisture conservation measures, land productivity etc. through the manual labourers. The components of this scheme implemented during 2022-23 are:

#### 6.1.3.1. Plantations under MGNREGS

During 2022-23, an area over 647.00 hectare of AR Plantations, 11860 hectare of ANR with Gap Plantations and 3912 RKM of Avenue Plantations have been achieved under MGNREGS by planting 43.55 lakh seedlings of different species. There is a proposal for taking up of 5000 hectare AR, 35000 hectare ANR with gap Plantation and 5000 RKM of Avenue plantation during the year 2023-24.



*ANR Plantation at Berhampur Division*



*Urban Tree Plantation at Boudh Division*

Avenue Plantation over 3912 RKM has been achieved by planting of 9.78 lakh seedlings.



*Avenue Plantation at Berhampur Division*



*Plantation at Rajoda, Nabarangpur Forest Division*





SMC Work Bargarh Division

### 6.1.3.2. Year wise Afforestation Programme under MGNREGS

The year wise afforestation programme taken up and the amount utilized under MGNREGS up to 2022-23 (up to 20.02.2023) is given below.

Year	Area afforested (in ha)	Avenue Plantation taken up (in RKM)	Water bodies created(in no.)	Amount utilized (Rs. in lakh)
2006-07	779	0	146	264.00
2007-08	2590	51	0	492.00
2008-09	233	14	0	842.00
2009-10	11219	112	0	1106.41
2010-11	9543	241	24	1849.69
2011-12	14021	746	26	2648.45
2012-13	15307	2477	32	3954.36
2013-14	38115	3506	6	8703.55
2014-15	198891	4755	108	30904.02
2015-16	28354	3340	0	9113.18
2016-17	17806	3714	0	8213.62
2017-18	14330	2477	0	7245.25
2018-19	15370	3114	0	8567.00
2019-20	7288	3280	0	9021.00
2020-21	28615	4061	0	29137.43
2021-22	25041	4557	0	30595.00
2022-23 (up to 20.02.2023)	12507	3912	65	14567.42

#### **6.1.4. Plantations through Odisha Mining Corporation Ltd. (OMC) under Corporate Social Responsibility (CSR)**

As per MoU signed between M/s. Odisha Mining Corporation Ltd represented through Managing Director and State Forest Department represented through Principal Chief Conservator of Forests, Odisha executed on 5th June, 2015, it was decided to undertake plantation of 10 lakh seedlings every year along with its maintenance under Corporate Social Responsibility (CSR) scheme in the mining affected districts of the State. The districts covered under this scheme are Keonjhar, Sundargarh, Angul, Jajpur, Kalahandi, Koraput, Rayagada and Cuttack.

During 2022-23, AR plantations over an area of 573 hectare by planting 9.17 lakh seedlings have been achieved and there is a target of 625 hectare AR Plantations for the year 2023-24. Districts like Malkangiri, Nabarangpur and Sambalpur will also be covered under OMC plantation during 2023-24.



*CSR Plantation, Kolabira VF*



*CSR Plantation, Kulihamal VF*

#### **6.1.5. Plantations under site specific Wildlife Management of CAMPA APO (SSWLMP)**

During 2022-23, AR plantations over an area of 36 hectare, ANR over 665 hectare has been achieved by planting 1.94 lakh seedlings.

#### **6.1.6. Plantations under OFSDP-II**

During 2022-23, AR plantation over an area of 293 hectare, ANR with gap plantation over 832 hectare by planting 4.51 lakh seedlings have been achieved under the project.

#### **6.1.7. State Forest Development Agency (SFDA) for implementation of Centrally Sponsored Schemes**

As per the Revised Operational Guidelines issued during 2009 by National Afforestation and Eco-development Board (NAEB), the State Forest Development Agency, Odisha was constituted on 17.06.2010 under the Societies Registration Act, 1860 with PCCF, Odisha as the Chairperson and CCF (PP&A) as the Member Secretary and Chief Executive. The aim of the constitution of this state level agency is to implement the centrally sponsored schemes in the participatory mode by a three-tier set-up, namely State Forest Development Agency (SFDA) at the State level, Forest Development Agencies (FDAs) at the forest division level, and Joint

Forest Management Committees (JFMCs) or Eco-development Committees (EDCs) at the village level. The SFDA is the federation of 46 FDA divisions of the state. The Chairpersons and Member-Secretaries of all FDAs of the State are members of SFDA, Odisha. No FDA has been formed in Chilika (WL), Sunabeda (WL), Mahanadi (WL), and STR (Baripada) divisions.

The SFDA is the implementing agency of two centrally sponsored schemes which are:

1. National Afforestation Programme(NAP)
2. National Mission for Green India(GIM)

#### **6.1.7.1. National Afforestation Programme (NAP)**

The National Afforestation Programme (NAP) is operated by the National Afforestation and Eco-Development Board (NAEB), Ministry of Environment and Forests as a Centrally Sponsored Scheme. The objective of the scheme is to increase and/or improve Forest and Tree Cover for rehabilitation of degraded forests and other areas in participatory forest management processes for sustainable development and management of forest resources focusing on improvement in livelihoods of the forest-fringe communities, especially the poor.

The components under the scheme are as follows:

##### **1. Planting /Regeneration:**

Aided Natural Regeneration (200 plants/ha), Artificial Regeneration (1100 plants/ ha), Pasture Development / Silvipasture (400 plants/ha), Bamboo Plantation (625 plants/ha), Planting of canes (625 plants/ha), Mixed Plantations of trees having MFP and medicinal value (1100 plants/ha) and Regeneration of perennial herbs and shrubs of medicinal value (2000 plants/ha).

##### **2. Other components:**

1. Strengthening of JFM: Constitution of JFMC (perJFMC) and Micro-planning (per JFMC), 2. Awareness Generation, 3. Microplanning, 4. Fencing, 5. Soil & Moisture Conservation, 6. Entry Point activities, 7. Training & Capacity Building, 8. Value Addition and Marketing of Forest Produce, 9. Concomitant Monitoring & Evaluation, 10. Overheads, 11. Treatment of Problem Lands and 12. Use of Improved Technology.

The scheme is implemented by a four-tier institutional set-up, namely State Forest Development Agency (SFDA) at the State level, Forest Development Agencies (FDAs) at the forest division level and range level involving Joint Forest Management Committees (VSSs/ EDCs) at the village level for carrying out plantation and ancillary activities. The scheme is being implemented on 60:40 of funding share between centre and state since 2015-16.

During the financial year 2021-22 the scheme was merged and subsumed under the National Mission of Green India Scheme (GIM).

In the 2021-22 financial year, an amount of Rs.1294.37 lakh was sanctioned for taking up maintenance of over 13776 hectare area of the last three years' plantations and the sanctioned amount revalidated during the financial year 2022-23 for utilisation for the same under APO 2022-23. The total outlay of APO 2022-23 for maintenance of 9241 hectares plantations is Rs. 3.57 crore.



*Plantation under NAP, Baripada Forest Division*



*Plantation under NAP, Malkangiri Forest Division*



*Plantation under NAP, Sundargarh Forest Division*

### 6.1.7.2. National Mission for Green India (GIM)

National Mission for Green India (GIM) is one of the eight Missions under the National Action Plan on Climate Change (NAPCC). The Broad objectives of the scheme are:

- to increase forest/tree cover to the extent of 5 million ha and improve the quality of another 5 million ha of forest / non-forestlands,
- to enhance carbon sequestration through increase of forest/tree cover along with provisioning services like fuel, fodder, timber & non-timber forest produces and





## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- to increase the forest-based livelihood income level of 3 million households.

The scheme is being implemented on funding share of 60:40 between centre and state since 2015-16.

As per the approved project of five years from 2015-16-2019-20, plantations over 2177.72 ha (including distribution of seedlings) have been taken up with providing alternative fuel energy to 2500 households in five identified landscapes covering 50 VSSs under five divisions. Under the 2<sup>nd</sup> project of five years started in 2018-19, plantations over 5537 hectare have been achieved with providing alternative fuel energy to 1200 households in the same five identified landscapes covering 81 VSSs. The third project which has been started during 2019-20, plantations over 4558.75 hectare, 1473.09 hectare and 495 hectare during 2020-21, 2021-22 and 2022-23 respectively have been achieved under different components and alternate fuel energy devices have been distributed to 2600 households in the selected landscapes covering 129 VSSs of fifteen divisions of the state. Similarly plantations over 2108 hectares have been achieved under the project started during 2021-22 under the 4th project.

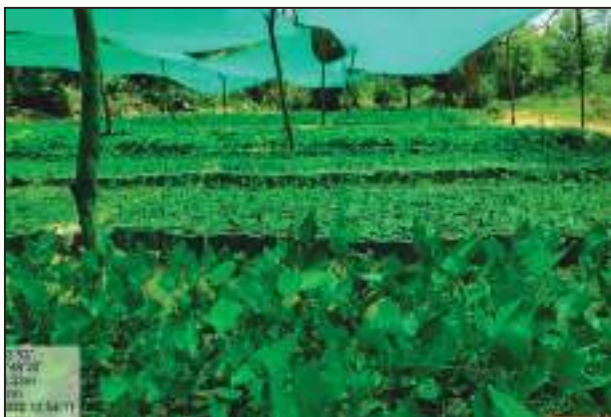
Advance work 2030 hectare, creation of 2603.34 hectare with 1st year maintenance over 1473.09 hectare and 2<sup>nd</sup> year maintenance of 4558.75 hectare and 3rd year maintenance of plantations over 5537 hectare have been taken up in the previously selected landscapes of fifteen divisions of the state under APO 2022-23. The sanctioned outlay for APO 2022-23 is Rs.35.83 crore for implementation of the scheme in the state.



*Avenue Plantation under GIM, Nayagarh Forest Division*



*ANR Plantation under GIM, Nayagarh Forest Division*



*GIM Nursery, Bargarh Forest Division*



*AR Plantation under GIM Kantabhanji Range, Bolangir*



### 6.1.8. Odisha Bamboo Development Agency (OBDA) – National Bamboo Mission (NBM) - CSS

Odisha Bamboo Development Agency (OBDA) is a State level Mission with an aim of development of Bamboo Sector in Odisha. The focus is on Bamboo resource generation by commercial cultivation of Bamboo, promoting Bamboo products through value addition as well as setting up of Bamboo based industries with recent advanced technology. The mission has special focus on adequate returns to farmers as well as promoting sustainable livelihood for tribal & rural poor people to engage in Bamboo sector with employment on women empowerment. It implements restructured National Bamboo Mission (NBM) a Centrally Sponsored Scheme with 60 % share of Central Govt. This programme is started in the year 2018-19. Following activities achieved so far as:

1. Establishment of 16 numbers of Bamboo Nurseries though out the State of Odisha including 3 numbers of Hi-Tech Nurseries, 6 numbers of Big Nurseries, 6 numbers of Small Nurseries and One Big Nursery under Private Sector.
2. Raising of 1348 hectare of Bamboo Plantations in farmers' land during last 4 years.

Year	Target (in ha)	Achievement (in ha)	No of Farmers
2019-20	233	53	97
2020-21	300	406	788
2021-22	500	496	649
2022-23	1000	393	397
<b>Total</b>	<b>2033</b>	<b>1348</b>	<b>1931</b>

3. Organized 19 numbers of Farmers Training programme in which 862 numbers of participants participated.
4. Organized an Artisans training programme where 37 numbers of beneficiaries participated.
5. Organized 4 numbers of District Level Workshops at Circle Level in which participated 418 numbers of participants.
6. Establishment of bamboo bazaar at Tellipali under Subarnapur Forest Division.
7. Establishment of Demonstration Plot by the Silviculturist, Bhubaneswar & Silviculturist Rayagada
8. 12 numbers of participants participated in 4 (three) Domestic Trade Fair.
9. 6 numbers of participants participated in 3 (three) National level Handicraft Festival at Phaltan, Akhuj of Maharashtra and Udipur of Rajasthan.
10. As per instruction of the Government of India, 4 numbers of Farmer Producer Organizations (FPOs) have been established at Betonai, Udala, Khunta & Kaptipada block of Mayurbhanj District to promote propagation and cultivation of bamboo which is being taken up by NAFED, Bhubaneswar.

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

11. Following activities are under progress by Director, Handicraft Department;
- a. Bamboo Treatment and Seasoning Plants (in No) - 2 nos
  - b. Processing units for value addition of Bamboo (In No) - 2 nos
  - c. Bamboo waste and primary processing Unit (In No) - 1 no
  - d. Handicrafts/Cottage Industry (In No) - 2 nos
  - e. Furniture Making Unit (In No) - 1 no
  - f. Incense stick making unit (In No) - 1 no
  - g. Common Facility Centre (In No) - 1 no
  - h. Bamboo Bazaar (In No). - 1 no



*Bamboo Plantation in Farmer's Land of Berhampur Forest Division*



*Hi-Tech Nursery, Sankhabhanga under Baripada Forest Division*



*Farmers' Awareness Campaign at Sanajogibandha, Deuli Range under Baripada Forest Division. Organised by Odisha Bamboo Development Agency.*



*Bamboo Artisans' training programme at Bilipada, Talabasta, Cuttack. Organised by Odisha Bamboo Development Agency.*

### 6.1.9. Nagar Van Yojana (NVY)

The Nagar Van Scheme was initiated by the Ministry of Environment Forests & Climate Change during the World Environment Day celebrations in June 2020 with a prime vision on enhancing forest quality and increasing tree cover for maximizing carbon stock as well as tackling the ill effects of urbanization. The implementation of the revamped 'Nagar Van' Scheme, from the Nagar Van Udyan Yojana (implemented during 2015) was revised with an aim to develop Nagar Vans/ Nagar Vatikas across the country in the next five years. Under the scheme, the Nagar Vans are to be created in each city primarily on Forest and Non Forest land within the limits of municipalities/ local urban bodies or in its vicinity located within 10km.

The prime objectives of the scheme are for:

- providing wholesome healthy living environment for the residents
- creating green space and aesthetic environment in an urban set up and
- contributing to growth of clean, green, healthy and sustainable cities.

The scheme is to be implemented with a renewed focus on people's participation in collaboration mode involving Forest and other Departments of the State, NGOs, Industries, Corporate bodies, Civil Societies etc.

One time development and non-recurring grant to the implementing divisions/ agencies (FDAs) for creation of an area of Nagar Van/ Nagar Vatika to a maximum extent of Rs. 2.0 Crores for 50 ha. (@ 4.0 lakhs/ha.) is provided by the Ministry. The balance cost is met by the agency from other funding sources.



*Kadalimunda Nagarvan layout, Bolangir Forest Division*



*Creation of Waterbody of Radius 70 metre, Bolangir Forest Division*

As a part of Azadi ka Amrit Mahotsav coinciding with Vana Mahotsav, the live streaming of 75 plantation sites in the country including ceremonial plantation activities in 7 selected sites of 7 divisions (namely Cuttack, Khordha, Ganjam, Bolangir, Baripada, Sambalpur and Sundergarh) was organized on 9th July, 2022 involving various stake-holders, general public, school children's eminent personalities and elected representatives. via VC link and other social media platforms.

The Government of India has approved 40 projects (29 Nagar Vans with extent of area more than 10 ha. / 11 Nagar Vatikas area less than 10 ha.) to be implemented in 26 Forest Development Agency Divisions falling under 20 districts. The Government of India has sanctioned a onetime grant amounting to Rs. 2905.95 lakhs and released an amount of Rs. 2034.19 lakhs as 1st installment for implementation of these projects under Nagar Van Yojana in the state during the Financial Year 2021-22 & 2022-23.



*Azadi Ka Amrut Mahotsav Celebration Nagar Van, Bolangir Division*

#### **6.1.10. School Nursery Yojana (SNY)**

The Ministry of Environment Forest & Climate Change has introduced the Scheme School Nursery Yojana for a period of five years from 2020-21 to 2024-25 in order to sensitize young students towards protecting our environment and ecology.

Aim & objectives of the Scheme:

The School Nursery Yojana (SNY) aims to provide an environment for the school students to understand and appreciate the significance of plants in maintaining and sustaining the natural ecosystem. The underlying principle of the scheme is the concept of planting and growing seedlings.

The primary objective is to generate consciousness about plants and environment and promote plantation activity through involvement of students.

Students from class VI - VIII may be engaged for participation towards the raising of seedlings for plantation.

The Ministry has approved 50 School nurseries to be created in 12 FDA divisions falling under the jurisdiction of 13 districts of the state at a total cost of Rs. 47.00 lakh and released Rs. 32.90 lakh as the first installment for implementation of the scheme during the Financial Year 2022-23.

#### **6.1.11. Forest Fire Prevention and Management (FPM)**

The scheme is being implemented with a fund sharing pattern of 60:40 between centre and state. The broad objectives of the scheme are to minimize forest fire incidence with optimal use of modern technology such as Remote sensing, GPS, GIS etc and assist in restoring productivity of forests in affected areas and institutionalize the partnership with forest fringe communities for forest protection for achieving the larger goal of maintaining environmental stability.





*Fire control*

The components of the scheme include creation of fire line, maintenance of fire line, construction of watch towers, engagement of fire watches, assistance to Joint Forest Management Committees, construction of water storage structure, setting up of fire fighting cells, procurement of firefighting equipment, fire mapping & preparation of fire management plan, training & awareness control & management, strengthening infrastructure for forest protection. During 2022-23, a total outlay of Rs.769.15 lakh has been received for taking up above activities.

## **6.2. Programme Expenditure Schemes**

### **6.2.1. Intensive Protection of Critically Endangered Areas**

The scheme was introduced in the State Plan Budget since 2008-09 with an aim to strengthen the protection measures of forests against organized mafias & timber smugglers and illicit removal of timbers and other forest produce.

Critically vulnerable belts of forests have been identified in 37 Forest Divisions where forest protection measures have been beefed up with the deployment of a squad in each belt. A vulnerable forest belt normally comprises of 3 contiguous Beats for detecting organized gangs of forest offenders / timber mafias / poachers. Each squad consists of 10 local youth engaged on daily wage basis and stationed at strategic locations of each vulnerable belt throughout the year for effective protection work. These squads not only carry out regular patrolling and monitoring the identified forest belts for surveillance on potential offenders operating in the area, but also act as a striking force to aid in search, seizure & raid operations. During the year 2022-23, an amount of Rs.500.00 lakh has been provided for engaging 47 squads in 37 territorial forest divisions of the state.

### **6.2.2. Training Programme**

An outlay of Rs.249.60 lakh has been provided during the year 2022-23 for taking up the following activities under the Programme Expenditure Scheme "Training Programme".

#### **6.2.2.1. Human Resources Development Programme**

The Forest staff need to be oriented and trained both in technology and forest extension aspects. Imparting training to initial recruits is very vital. To augment the efficiency & skill of forest personnel, updating their knowledge on emerging and new topics on all aspects of

forestry, forest management and forest research is essential. Presently, there are 4 Training Institutes i.e. Foresters' Training School, Ghatikia, Bhubaneswar, Odisha Forest Ranger's College, Angul, Nicholson Forester Training School, Champua and Forester Training School, G. Udayagiri where training programmes are being conducted regularly. During the current year, various training programmes have been carried out in these institutes. The infrastructure of the forest training institutes of the state needs to be further developed so as to make them well equipped for conducting training programmes smoothly. The Department also organizes Annual Forest Sports Meet for forest personnel at zonal & state level and select the best one for participation at National Level. During 2023 the National Forest sports meet has been organised at Panchkula, Haryana.

#### **6.2.2.2. Policy Analysis & Strategic Planning Unit (PASPU)**

The Policy Analysis & Strategic Planning Unit (PASPU) has been established with an aim to serve as a nodal point of convergence of programmes as per the National Forest Policy/ Vision Document of different sectors impacting forests & related livelihood activities and to undertake publicity works like broadcasting of the weekly radio programme "BANANI" & "Banadarshan" programme in Doordarshan T.V.

#### **6.2.3. Forest Research**

Silviculture research on tree improvement, nursery and plantation techniques and plant ecological studies is an integral part of forestry and deserves top priority in the Forest Conservation & Development agenda. The scheme supports special research programmes based on the following themes-

- i) Tree breeding /improvement activities of commercially important trees and important indigenous species including NTFPs,
- ii) Standardization of nursery & establishment techniques of medicinal plants and NTFP species,
- iii) Sustainable harvest techniques for NTFPs and medicinal plants,
- iv) Propagation of improved varieties of Bamboo and Canes,
- v) Development of agro-forestry models indifferent agro-climatic zones,
- vi) Applications of bio-fertilizer and
- vii) Development of seed production areas for major species.

The aim is to conduct Silviculture research on tree improvement, nursery and plantation techniques and plant ecological studies as per approved quinquennial Research Programme. A total outlay of Rs.35.00 lakh has been provisioned during 2022-23.

#### **6.2.4. Construction of Buildings**

This scheme was introduced in the State Plan Budget since 2008-09 to provide accommodation facilities to Divisional Forest Officers, Assistant Conservator of Forests & Ministerial Staff working in the division/regional offices. During 2022-23, the budget provision of 800 lakh has been made for Installation of 100 ft Flag Mast & Ratha Wheel at Aranya Bhawan, O/o the PCCF & HoFF, Odisha, Electrical connection to the Departmental Staff Quarter at Aranya

Vihar, C.S.Pur, BBSR, construction of New RCCF Office building at Angul, new Division Office Building at Balangir, Rourkela, Jharsuguda Division, construction of 3 numbers of DFO Residence, 4 nos of ACF Residence, 4 nos of Ministerial Staff Quarters and 1 number of Class-IV Quarters.

## **6.2.5. Survey & Utilization of Forest Resources**

### **6.2.5.1. Survey and Investigation Expenses**

Forest Resource inventories (sampling, enumeration), compilation of reports, procurement of maps and Survey Instruments have been prepared under this scheme with a total outlay of Rs. 1.20 lakh during 2022-23.

### **6.2.5.2. Working Plan**

Enumeration, stockmapping, estimation of growing stock, checking of boundary, procurement of maps and Survey of India toposheets, data entry in computer and print of book have been taken up under this scheme. The total out lay of Rs.200.00 lakh has been provisioned in Annual Plan 2022-23 for taking up the works.

## **6.2.6. Forest Conservation, Development and Regeneration**

### **6.2.6.1. Working Plan**

The main objective of the scheme is to carry out all working plan prescriptions & preparation of Working Plans. An out lay of Rs.400 lakh has been provisioned for Annual Plan 2022-23 for taking up the works.

### **6.2.6.2. Forest Consolidation**

The components like demarcation and survey of new forest blocks, clearance of boundary of proposed forest blocks, repair of boundary pillars etc have been implemented with a total outlay of Rs.15.00 lakh during 2022-23.

### **6.2.6.3. Regeneration**

Activities like cutting of high stumps, climber cutting, thinning in congested crop and gap planting of economic species have been taken up under this scheme to facilitate regeneration with a total outlay of Rs.13.20 lakh during 2022-23.

### **6.2.6.4. Sowing and Planting**

Activities like production of QPM non-teak stumps, maintenance of (i) QPM non-teak stumps, (ii) 18 months old seedlings & (iii) root-trainer seedlings and seed collection have been taken up under this scheme with a total budget provision of Rs.33.01 lakh during the current year 2022-23.

### **6.2.6.5. Protection from Fire**

A Fire Control Room at the State Forest Headquarters has been established & made fully functional for 24x7 hours under this scheme to monitor the forest fire incidences in the State. An outlay of Rs.12.00 lakh has been provisioned in the State Annual Plan 2022-23 under this component.



### **6.2.7. Drift & Waif wood and Confiscated Forest Produce**

This scheme includes components like salvaging of drift & waif wood collection of A1 timber and transportation of seized timber of UD & OR cases with a total out lay of Rs.32.00 lakh during 2022-23.

### **6.2.8. Forest Produce Sold to Consumer and Purchasers**

Salvaging of naturally fallen trees due to cyclone as well as seized timber of Undetected (UD) and Offence Recorded (OR) cases are undertaken under this scheme. The total outlay of Rs.59 lakh has been provided for 2022-23 to implement the scheme.

### **6.2.9. Departmental Working of Forest Coupes and Depots**

#### **6.2.9.1. Departmental Working of Timber**

The components of this scheme include demarcation and marking of timber coupes, departmental working of Car Timber etc. The total budget provision of Rs.180.00 lakh has been provided for 2022-23 works.

#### **6.2.9.2. Departmental Working of Bamboo**

Silviculture operations in bamboo coupes, cutting of broken, dead & dying clumps, thinning of congested clumps, thinning and putting earth around the clump, clearing and burning the debris, making half-moon trenches for water conservation structure at uphill side of clumps have been taken up during 2022-23 with a total outlay of Rs.20.00 lakh.

### **6.2.10. Information, Education and Communication**

The Forest Department activity based programmes titled as “**BANADARSHAN**” in Door Darshan Odia are telecasted. The total outlay of Rs.20.00 lakh has been provided for 2022-23 programme. Printing of Books like Highlights of Odisha forestry sector, public awareness programmes in Radio and T.V. are taken up.

### **6.2.11. Relocation of Villages from Reserve Forests and Sanctuaries**

This scheme has been introduced under Programme Expenditure since 2018-19. Villagers inhabiting in core area or buffer area of Protected Areas and Reserved Forests are trans-located to suitable places out side the PA and given compensation and other facilities as per the extant rules and guidelines issued by State Government.

During the year 2022-23, relocation of 2 (two) villages namely Asanbahal & Katrang from Satkosia Gorge Sanctuary / Satkosia Tiger Reserve of DFO, Satkosia (WL) Division has been carried out under the budget provision of Rs.312.00 lakh.

## JOINT FOREST MANAGEMENT PROGRAMME

### 7.1. Implementation of Joint Forest Management Programme

In realizing the need for community participation in forest protection, the Govt. of Odisha was the pioneer to adopt a policy of JFM in August 1988, even before implementation of National Forest Policy, 1988 (w.e.f. 2.10.1988) in the country and initiated a step to involve the people in protection of forests adjoining their villages with assigning specific roles and in return granting certain concessions (under section 24 of the Odisha Forest Act 1972) for meeting their bonafide requirement of firewood and small timbers through Resolution No. 10F (Pron)-47/88/7240 FFAH dated 1st August 1988 and sought community participation for protection, regeneration and management of the forest wealth widening the scope of employment generation and social empowerment of the forest-fringe dwellers.

With the changing scenario of Forest Management, increasing awareness among people and experiences gained from the past management practices, such resolution on JFM, was revised and amended periodically latest on 2011, 2015 and 2019 respectively in adding several points, like inclusion of villages located within the National Park/ Sanctuaries as well as adjacent to the same for protection and management of the wildlife and habitat and covering the Reserved Forests and Protected forests, Village forests and Revenue forests having crown density of less than 40% under JFM, role of Palli Sabha and composition of members of Executive Body of Vana Surakshya Samiti, constitution of a "Range level VSS and EDC Forum" for having better interaction between the Range Officers and VSS Members etc.

#### 7.1.1. Progress on Constitution of VSS/EDC in the state

- As per Government direction for implementation of one of the Transformational Action Points under 5T Governance, the 3rd Party Evaluation of Functioning of Vana Surakshya Samities (VSS) for understanding of effectiveness of the Joint Forest Management (JFM) activities has been done by the organization named as AFC India Ltd. New Delhi. The report has also been submitted by them.



G.B Meeting, Handibhanga VSS in Keonjhar Range under Keonjhar Division



Keonjhar G.B Meeting For Reconstitution Executive Committee and Fire Prevention awareness Programme at Kainta VSS Champua FMU

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- A total of 13,85,623 hectare of Forests have been brought under Joint Forest Management through 16,128 Vana Surakshya Samities (VSSs) for protection under usufruct sharing mechanism. Besides, 594 Eco Development Committees (EDC) have been formed within and outside protected areas for protection of the Sanctuaries and National Parks.

JFMCs Formed (in No.)		Families Involved (No. in lakh)	Forest area assigned to VSS (Sq. Km.)
VSS/EDC	16,128 / 594	20.11	13856.23

### 7.1.2. Implementation of JFM under different schemes/projects

Different projects and schemes named as National Afforestation Programme (NAP), Green India Mission (GIM), Odisha Forest Sector Development Project-I & Project II (OFSDP) and Ama Jungal Yojana (AJY) are also being implemented in the state under Joint Forest Management mode.



Awareness programme at Diamunda, Sunabeda WL



Awareness meeting at Koked, Sunabeda WL

## WILDLIFE MANAGEMENT

### 8.1. Wildlife Organization

Odisha has registered constant increase in green cover as per the Reports published by Forest Survey of India (FSI). This increase of green cover on the face of development is pretty challenging and needs well planned concerted and sustained efforts to reduce degradation of natural habitats and loss of bio-diversity. Special habitat improvement measures and relocation of villages from the core and buffer zones of Protected Areas are executed to mitigate the negative effects of development on wildlife habitats. Efforts in the field of in-situ conservation measures by increasing the Protected Area network are and ex-situ conservation measures through establishment and management of zoos, rescue centres and breeding programmes are required to prevent extinction / depletion in the numbers of threatened species.

### 8.2. Activities of Wildlife Organization

- The main activities of the Wildlife Organization are related to protection, conservation and management of wildlife and its habitat within and outside the protected areas of the state. The total protected area (i.e. 8380.72 Square kilometres) in the state constitutes 13.69% of the total forest area and 5.38% of the total geographical area. There are 19 Sanctuaries, one National Park (Bhitarkanika), 1 Conservation Reserve (Similipal- Hadgada - Kuldiha), 2 Tiger Reserves (Similipal & Satkosia), 3 Elephant Reserves (Mayurbhanj, Mahanadi and Sambalpur), one Biosphere Reserve (Similipal) and 14 identified elephant corridors with one proposed National Park (Similipal) and one proposed Tiger Reserve (Sunabeda) in the State for in-situ conservation of wildlife. In addition, ex-situ conservation programme are also taken up in Zoological Parks. The state has one large zoo (Nandankanan), 3 small zoos and 6 mini zoos. All activities for conservation of the sanctuaries are carried out as prescribed in the Wild life Management Plan which is prepared for 10 years and approved by Principal CCF. Similarly, all Zoo activities are taken



*Black Necked White Ibis, Chilika WL Division*



*Brahminy Duck, Chilika WL Division*

up as per the Zoo Management Plan approved by the Central Zoo Authority of Government of India.

- Odisha has total shore line of 480 kilometer which is very rich and houses preferred habitats of marine and estuarine flora and fauna. The State has the singular distinction of having three stretches of mass nesting beaches of endangered Olive Ridley Sea turtles including the world's largest breeding ground of Olive Ridley Sea turtle, *Lepidochelys olivacea* at Gahirmatha, Rushikulya and Devi rookeries.
- Odisha coast experiences a rich bio-diversity of dolphins and as of now four species of dolphins have been recorded. Many endangered and endemic species are also seen in these areas. Apart from that the shores of Odisha attract massive migratory bird population which serves as their wintering grounds prominent of which are Chilika (the largest wetland of Asia) and Bhitarkanika with "Ramsar Sites". There are five Eco- sensitive Zones namely Kapilash, Chandaka-Dampara, Konark-Balukhand, Bhitarkanika and Gahirmatha Marine sanctuary.
- It is imperative to protect and conserve marine eco-systems and habitats by extending legal sanctity for designating them as inviolate zones in order to ensure conservation and proliferation of marine flora and fauna.



*Brown headed Gull, Chilika WL Division*



*Ducks & Gull in Nalabana Sanctuary, Chilika WL Division*



*Peafowl, Rental Meadow area, Bharatpur RF, Chandaka WL*



*Brahminy Duck, Chilika WL Division*



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- Besides, there are 4 crocodilian research and conservation centres in the state, viz for Gharial in Tikarpada /Satkosia, Saltwater crocodile in Dangmal /Bhitarkanika, Mugger in Ramtirtha/ Simlipal and captive breeding programme of above three Indian crocodilian species is being taken up in Nandankanan respectively.
- There is a Community Reserve (proposed) for Black buck habitats at Balipadar-Bhetnoi of Ganjam district.



- Various activities like creation and maintenance of water body, plantation of wildlife forage species, different measures for soil and moisture conservation, firefighting, maintenance of boundary of Protected Area, meadow development, invasive weed eradication and immunization of cattle of forest fringe villages are included in Annual Plan Operations of CAMPA and accordingly, fund allocation is being made to implement these programmes for restoration and improvement of wildlife habitats.
- Voluntary relocation of villages from critical protected areas is an important step for conserving flagship species like tigers which require vast inviolate habitats. It not only makes the protected area inviolate but also enabled the villagers to access the various development schemes of the state. Voluntary Relocation of villagers from the Protected Area / Tiger Reserve / other forest areas to outside these areas is done as per the policy framed by the NTCA & State Government.
  - ❖ A total of 400 families of 4 villages (namely; Rengali, Bhutuli, Kurumkel and Lambipali) across the Debrigarh WL Sanctuary have been relocated with providing compensation amount of Rs.15.00 lakh to each family during the year 2021-22. They have been shifted to the temporary colony builtup with semi-permanent sheds with electricity

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

connection. About 72 acres of patitaland at Chakramal and Tangerpali village outside the sanctuary have been identified for construction of permanent settlement of these 400 families.

Moreover, for this endeavor, about 520 hectares of forest & wildlife habitat have been restored.



- ❖ Till 2022, 15 villages with 843 families have been relocated outside the Tiger Reserve/ Protected Area.
- 594 numbers of Eco Development Committees (EDC) have been formed covering an area of about 44,000 ha of protected area and thus people's participation plays a major role in conservation of wildlife. The State has enhanced compassionate amount to Rs.4.00 lakh from Rs.3.00 lakh towards human kill. A crime cell has been constituted in the office of the Principal CCF (Wildlife) & CWLW, Odisha as well as in the office of the Special Director General of Police, CID-Crime, Odisha for proper and timely investigation of the wild animal poaching cases. Dossier of habitual offenders are being maintained and circulated to the field from time to time to keep close vigil on their activities. A new software module has been developed for monitoring the mortality of Olive Ridley sea turtles on daily basis and is now operational in all the 6 coastal Divisions of the State. Control Room, Elephant Monitoring App, Anukampa App, Site Specific Plan through App are developed to facilitate monitoring of different wildlife related activities.



HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



*A Bull gaur with Calf at Debrigarh, Hirakud WL Division*



*A Sambar Stag at Debrigarh, Hirakud WL Division*



*Mother with Calf elephant, Satkosia WL Division*



*Elephant, Satkosia WL Division*





### 8.3. Management Interventions taken up for Wildlife Conservation

Accelerated developmental activities added with promotional aspects of industries and ever-increasing anthropogenic pressure has created a challenge for protection of wildlife and its habitats. As a result, human and wild animals' confrontations are taking place quite often. In order to minimize man-animal conflict and to protect the life and properties of human beings as well as wildlife, the wildlife organization has initiated a number of steps during 2020-21 and 2021-22 which are given below:

Steps taken	2020-21	2021-22	2022-23
Mangrove plantation (area in hectare)	108	148	Nil
Meadow development (area in hectare)	155.18	152	250
Deployment of Anti-poaching/Protection squad (in number)	281	290	477
Elephant Trackers (in number)	25	25	Nil
Deployment of Elephant Squad (in number)	128	128	116
Deployment of Firefighting Squad (in number)	72	76	134
Protection of marine turtle and marine fauna in 6 Divisions (in number)	5 off-shore 61 on-shore camps	5 off-shore 61 on-shore camps	5 off-shore 61 on-shore camps
Creation of water body (in number)	42	35	41
Renovation of water body (in number)	61	47	36
Trench fencing (in Kilometer)	3	1	118
Engagement of Gajabandhu through VSS / EDC (in number)	122		Nil
Provision of Solar Street light (in number)	250	366	260
Maintenance of Forest Road (in Kilometer)	129	163	821
Construction of Watch Tower (in number)	2	13	30
Construction of Check Dam	5	7	Nil
Engagement of Gaja Sathi (in number)		557	1177



Awareness meeting and rally Kaptipada and Podadiha Range, Similipal South Division



Beach Cleaning, Ganjam

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



*Bichitrapur mangroves, Balasore WL Division*



*Boating through Bichitrapur Mangroves*



*CASFOS Exposure visit- Elephant camp, Similipal South*



*High Speed Sea Going Boat under MFD, Rajnagar*



*Mangrove plantation, Saralikuda*



*Monsoon Patrolling, Similipal South WL Division*



*Nature Awareness Camp, Hirakud WL. Division*



*Relocation Colony of Kurumkel, Rengali, Bhutuli villages at Chakramal under Hirakud WL Division*

### 8.4. Census of Blackbucks in Odisha

The population estimation exercise for Blackbuck (*Antelope cervicapra*) for the year 2023 has been conducted in the State on 29.01.2023. Census was conducted in Ghumsur South Forest Division (Aska, Polosara, and Buguda Ranges), Berhampur Forest Division (Khallikote, Digapahandi and Berhampur Ranges), Ghumsur North Forest Division (Jagannath Prasad and Tarasing Ranges). The method of census adopted was individual total count of animals by direct sighting. The animals sighted were categorized in to males, females and young ones.

The Division wise details of Blackbuck estimated population is given below:

Sl.No.	Name of the Division	No. of Blackbucks during the year 2023 census			
		Male	Female	Young	Total
1	Ghumsur South	938	2999	699	4636
2	Ghumsur North	69	244	37	350
3	Berhampur	858	1835	64	2757
	<b>Grand Total</b>	<b>1865</b>	<b>5078</b>	<b>800</b>	<b>7743</b>

### 8.5. Dolphins and other cetaceans in Odisha

The Dolphins and other cetaceans were found in coastal of Odisha. The Irrawaddy dolphin (*Orcaella brevirostris*) is found mainly in Chilika lagoon. Census of Irrawaddy dolphin is carried out regularly in the Chilika lagoon since the year 2003 but during the year 2015 first time the census of Dolphins and other cetaceans species were conducted in entire coast of Odisha by the six coastal Divisions. During the year 2023 census, a total of 733 nos. of Dolphin and other Cetacean species were found in Odisha.

The Division wise detail estimated Dolphin population is given below:

Sl.No.	Name of the Division	Species and Number of Dolphins						Total
		Irrawaddy Dolphin	Bottle-nose Dolphin	Humpback Dolphin	Striped Dolphin	Spinner Dolphin	Finless Porpoise	
1	Chilika Wildlife	154	19	0	0	0	0	173
2	Mangrove (WL) Rajnagar	6	52	489	0	3	0	550
3	Puri (WL)	5	1	0	0	0	0	6
4	Berhampur	0	0	0	0	0	0	0
5	Bhadrak (WL)	4	0	0	0	0	0	4
6	Balasore (WL)	0	0	0	0	0	0	0
	<b>Total</b>	<b>169</b>	<b>72</b>	<b>489</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>733</b>

## 8.6. Olive Ridley Sea turtles in Odisha

Olive Ridley turtle is one of the 8 species of sea turtles, which are very ancient creatures. This species is critically endangered. All five species of sea turtles found in the sea along the Indian coast are listed in Scheduled-I of the Wildlife (Protection) Act.

More than 50 percent of the world population of Olive Ridley turtles are found in the Odisha coast. They are migratory species and there is a convention on migratory species to which India is a signatory. International Treaty obligations and our own law mandate protection of the Olive Ridley turtles.

The Olive Ridley turtle congregations starts building up in the coastal sea from middle of October each year at 3 places off the Odisha coast. These are Dhamara-Maipura river mouth area near Gahirmatha coast, Devi-Kadua river mouth area and Rushikulya river mouth area.

During the season 2021-22 mass nesting of Olive Ridley sea turtles took place at Gahirmatha Marine Sanctuary during the period from 25th to 28th March, 2022, in which period a total of 5.00 lakhs turtles emerged to lay eggs and Mass nesting also took place at Rushikulya during the period from 27th March to 3rd April, 2022; and about 5.50 lakhs turtles laid eggs. Besides, there are sporadic nesting all along the Odisha coast.



*Massnesting of Olive Ridley Sea turtle, Rushikulya Mouth, Ganjam*



*Olive Ridley Sea Turtle, Berhampur Forest Division*



## 8.7. Wildlife Census

### 8.7.1. Mid-winter waterfowl census in Odisha during 2023

Mid-winter waterfowl / water bird status survey 2023 was conducted in the wetlands and water bodies all over Odisha by Divisional Forest Officers under the supervision of Odisha State Wildlife Organization. The waterfowl census report of major three water bodies of Odisha is given below:

Sl.No.	Name of the Wetland / Water Body	No. of Species	Number of Waterfowls
1	Chilika lagoon	105	10.93
2	Bhitarkanika Mangrove Wetland	140	1.40
3	Hirakud reservoir	108	3.16



*Chittal at Similipal North Division*



*Sloth Bear, Hirakud WL Division*



*Indian giant squirrel, Keonjhar WL Division*





*Asian Elephant at Chunakoli Waterbody, Bharatpur RF*

## 8.7.2. Census of three crocodylian species in Odisha during 2023

### 8.7.2.1. Saltwater Crocodile

Annual census of Saltwater crocodiles was conducted in the river systems, in and outside the Bhitarkanika Wildlife Sanctuary under Mangrove Forest Division (Wildlife), Rajnagar and river systems under Bhadrak Wildlife Division to assess their population number and trend, migration, survival, etc.

A total of 1831 Saltwater crocodiles were counted in the river systems coming under the jurisdictions of both Rajnagar and Bhadrak Wildlife Divisions during the season 2022-23. The size wise saltwater crocodile population is given below:

Census year	Hatchling	Yearling	Juvenile	Sub-adult	Adult	Total
	< 2'	2'-3'	3'-6'	6'-8'	8'-20'>	
2023	571	389	335	173	363	1831

### 8.7.2.2. Mugger and Gharial Crocodile

#### Gharial and Mugger census in Mahanadi river system during 2023

The annual census of Gharial and Mugger Crocodiles in Mahanadi river systems was conducted by Satkosia Wildlife Division jointly with Mahanadi (Wildlife) and Athamallik Divisions. The method of census adopted to count both the crocodilian species (Gharial & Mugger) was by direct sighting and track marks. The river route / area was suitably divided into seven census units and each unit was entrusted to a census party. The census results are as follows:

Location	Gharial	Mugger
Mahanadi river system	7	72
Water bodies in Satkosia Wildlife Division	0	10
Water bodies in Athamallik Division	0	0
Water bodies in Mahanadi Wildlife Division	0	1
<b>Total</b>	<b>7</b>	<b>83</b>



*Salt water Crocodile, Bhitarkanika National Park*

### Mugger census in the river systems of Similipal Tiger Reserve during 2023

The census of mugger crocodile was conducted in the river systems of Similipal by the Field Director, STR-cum-RCCF, Baripada and the Divisional Forest Officers of Similipal South, Similipal North, Rairangpur, Karanjia and Baripada Forest Divisions. The method of census adopted to count the Mugger crocodile population (number) was individual total count by direct day time sighting of animals. The census results are as follows:

Location	No. of Mugger Crocodile sighted during 2023
West Deo River	64
Khairi River	8
East Deo River	4
Khadkei Nala	2
Budhabalanga River	1
Thakthaki River	1
<b>Total</b>	<b>80</b>

### Mugger Census in Ghodahada Reservoir

The mugger crocodile census was conducted in and around Ghodahada reservoir by the Divisional Forest Officer, Berhampur Division. The entire reservoir was divided into 22 segments and each segment was headed by forest staffs with boat man for the crocodile census programme. The census work was done as per the direct sighting method at day time. The census figures are as follows:

Location	No. of Mugger crocodile sighted during 2023
Ghodahada Reservoir	64
Outside Ghodahada Reservoir	17
<b>Total</b>	<b>81</b>

### Abstract of Mugger and Gharial census Mugger crocodile

Location	No. of Mugger sighted during 2023	No. of Gharial sighted during 2023
Satkosia	83	7
Similipal	80	0
Ghodahada	81	0
<b>Total</b>	<b>244</b>	<b>7</b>



## 8.8. Nandankanan Zoological Park

Nandankanan Zoological Park is one among premier large Zoos of India located amidst beautiful natural surroundings spreading over an area of 1043.32 Sq. Km in the outskirts of Bhubaneswar. The Zoological Park was dedicated to public on 29th December, 1960. The undulating topography with natural moist deciduous forest, water bodies and enchanting landscape provides the zoo inhabitants an appropriate ambience to live in harmony with nature.

The mission of the Zoological Park is to achieve the distinction of an outstanding zoo through World Class Conservation, Education, Research and Exciting Visitor Experiences by connecting people to biodiversity conservation.

### Visitors

Total 31,97,904 visitors had their footfall at Nandankanan during the year 2022-2023 (From 01st April 2022 to 31st January, 2023).

### Revenue

An amount of Rs. 16,16,22,803/- has been generated during the year 2022-23 (From 01st April 2022 to 31st January, 2023) towards revenue from entry ticket and other facility.

### 8.8.1. New Facilities

#### 8.8.1.1. Inauguration of Multi-Level Car Parking facility

Multi-Level Car Parking (MLCP) facility of Nandankanan was inaugurated on 27th May, 2022 by Sri Naveen Patnaik, Hon'ble Chief Minister, Odisha. Sri Bikram Keshari Arukha, Hon'ble Minister of Forest, Environment & Climate Change and Parliamentary Affairs, Odisha, and other senior officials from Forest and other Departments. The Multi-Level Car Parking building has a three storied parking facility over total 5.0-acre area with a built-up area of 16800 sq. mt (G+ 2F) and a capacity to accommodate parking for 583 (151+151+151+130) cars. The estimated cost of the facility is Rs. 3542.79 Lakhs. Driver rest rooms, drinking water and snack kiosks, CCTV monitoring, elevator, ramps and landing facilities for visitors along with wash room for both gents and ladies for visitors have been provided. The open areas adjacent to MLCP have been developed with paver tiles and landscaped for safe accommodation of 2000 numbers of motor cycle and cycles. Boom bar for car entry with digital ticketing system have been provided. The facility not only provides safe parking of 583 cars at a time but also addresses the issues for



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

traffic jam and rush at main PWD Road from Nandankanan Police Station to Barang By-Pass Road.

### 8.8.1.2. Zoo Laboratory

To strengthen the diagnostic and research work on zoo animal, the Zoo Laboratory is being developed to carry out microbiological, molecular, reproductive diagnostic test needed for zoo animals' health care, physio-chemical and microbiology examination of water sources providing water to visitors and animals of Nandankanan. The zoo laboratory is being established with the above objective with an expenditure of Rs 60 lakhs.



### 8.8.1.3. Modular PM House & Incinerator Complex

Modular PM House has been developed over an area of 1237 sq. ft with vitrified floor and will have the following facilities. Pathologist chamber (14 × 20 ft) with wardrobes containing personal protective clothing, attached toilets, wash sink, sit outs for small discussion of pathologist and his team. Necropsy Hall (20 × 20 ft) with independent wide entry and exit gates for carrying the trolley with carcass, wide dissection area for the large animals, modern stainless steel mobile hydraulic dissection table with overhead light for dissection/ viscera preparation. Morgue (Carcass holding area) cum staff preparation room (20 × 20ft) with Wash (Decontamination) sink for washing of instruments after post-mortem, big size Instrument rack for keeping all post-mortem instruments, two body mortuary refrigerator, two number of wheeled trolleys for carrying carcass and weighing machine (1000kg capacity). The facility is being developed with an estimated cost of Rs. 30,43,600/-.



Two numbers of Incinerators of capacity 100 kg and 50 kg have been already installed for Management of Solid wastes like disposal of animal carcass, left over feed/bones/flesh and biodegradable materials. The incinerators 100 kg and 50 kg were installed with expenditure of Rs 26,59,552/- and Rs 15,20,000/-, respectively and Rs 1700000/- each for the construction of incinerator house. These incinerators are smokeless and environmentally friendly.



#### 8.8.1.4. Carnivore Quarantine Ward

The new quarantine facility is being developed to house new animal on arrival in western side of zoo (near the back gate) away from the zoo animal enclosures to prevent any cross infection. Presently the quarantine facility for carnivores is being developed over an area of 1034 sqm and having provision of 4 kraals (15mX10mX4.5m), 8 retiring cells (3.25mX3mX3m) and 4 sliding squeeze cages along with 02 keeper corridors (23mX2.5mX3m) to house the large carnivores. This facility is being developed with an amount of Rs. 1,08,69,200/-. Other sections for giving quarantine facility to herbivores, birds and reptiles will be added in future.



#### 8.8.1.5. Indian Fox Enclosure

New Display area of Indian fox enclosure area was constructed on an area of 350 sq mt. in the year 2021-22. The total cost of construction is Rs 13.00 lakhs. The fox enclosure is now having glass fronted open top display area, three feeding cells with old display area converted as back kraal. The fox display is well planted with beautiful landscaping which will enhance animal welfare and beauty of the enclosure for successful breeding and display of the animals.



#### 8.8.1.6. Children's Park

The children's park is situated near fountain square of Nandankanan Zoological Park with area of 16000 sq ft. Children Park has renovated with beautiful landscaping & new Play equipments are such as- Swing - 3 numbers, Slider - 2 numbers, Merry-Go-ground - 1 number, Spring Rider - 3 numbers, Double see-saw - 1 number, Air walker - 1 number, Pendulum - 1 number, Trampoline(10') - 1 number ABS Trainer - 1 number, Spinner - 1 number & Multi-Play station - 1 number. For maintaining cleanliness, ten nos of dustbins were fixed at different points of the park. 13 numbers of Sit outs are placed at different places of parks for sitting purpose. Different informative signages are given like birds of Nandankanan, State symbols of Odisha, Tree signages etc. for giving better information to children.



#### 8.8.1.7. Nursery for Hand Rearing of animal babies

Nandankanan zoo receives orphaned and rescued wild animal babies from all across the state on regular basis for their hand raising and rehabilitation. Animal babies of the zoo animals also require bottle feeding due to mother rejection and in health issues. 'Nursery for hand rearing of animal babies' is a centre categorically designed to cater all these needs. The centre has the facility for the animal keeper to stay inside for rearing of new-born round the clock. It has one milk preparation area, one neonatal ICU for sick neonates, separate cells for carnivore, herbivore and primate babies. The centre is attached to five small closed roof paddock areas where the animal babies can have exercise and access to sunlight. This fully air-conditioned facility will definitely boost our efforts in rearing rescued hapless neonates.



### 8.8.1.8. Operation Theater

Nandankanan has always tried to provide best healthcare facility for its denizens. The new 'Operation theatre' has all advanced facilities for surgical intervention of sick captive animals. The centre has facilities for gaseous anaesthesia, oxygen supply, patient monitor, ventilator facility, ultrasonography, electrocautery system for bloodless surgery. The centre is fully air conditioned and fitted with ultraviolet lights for effective disinfection. It has all advanced instruments required for safe and successful surgery to take our healthcare facility to next level.



### EXCHANGE & PROCUREMENT OF ANIMALS

Sl No	Species received	Sex (M:F:U)	Zoo /Farm Name	Date of arrival
1.	Slender Tailed Meerkat	2:2:0	Sri Chamarajendra Zoological Garden, Mysore	23.12.2022
2.	Black Swan	2:3:0	Sri Chamarajendra Zoological Garden, Mysore	23.12.2022
Sl No	Species Given	Sex(M: F: U)	Zoo /Farm Name	Date of Disposal
1.	Asian Openbill Stork	1:1:0	Sri Chamarajendra Zoological Garden, Mysore	16.12.2022
	Cattle Egret	1:1:0		
	Little Egret	1:1:0		
	Grey Pelican	1:1:0		
	Silver Pheasant	1:2:0		

## 8.8.2. Other Activities

### 8.8.2.1. National Zoo Directors Conference at Bhubaneswar

A two days National Conference for Zoo Directors was organized by Central Zoo Authority, New Delhi & Nandankanan Zoological Park at Bhubaneswar.



### 8.8.2.2. On-line activities

With the changing time to cope with COVID-19 pandemic situations, we have progressed with our virtual presence and conducted several activities. Among which online animal adoption programmes, online zoo education programmes like online quiz, painting, photography, sharing memories of visitors of Nandankanan are worth mentioning. We had the privilege to organize Quiz Competition on behalf of State Wildlife Headquarter to celebrate Wildlife Week 2022.



**ONLINE COMPETITION**  
 UPLOAD YOUR CREATIVE PAINTING  
 Junior Group (Class I to VI)  
 Topic - "Save Tiger"  
 Senior Group (Class - VII to XII)  
 Topic - "Tiger and their habitat"  
 Date - 29 - 07 - 2022  
 Time - 10.00 AM - 05.00 PM

**29<sup>TH</sup> JULY INTERNATIONAL TIGER DAY 2022**

**QUIZ COMPETITION**  
 Category - Open  
 Topic - "Tiger Conservation"  
 Date - 29. 07. 2022  
 Time - 10.00 AM - 05.00 PM

To Participate in Online Quiz Competition Visit : [www.nandankanan.org](http://www.nandankanan.org) | To Participate in Online Painting Competition Visit : [www.nandankanan.org](http://www.nandankanan.org)

[www.nandankanan.org](http://www.nandankanan.org) @Nandankanan Zoological Park @ddnandankanan Nandankanan



**WORLD elephant DAY 12<sup>TH</sup> AUGUST 2022**

**Upload Your CREATIVE PAINTING**  
 Date - 12-08-2022  
 Time - 10.00 AM - 05.00 PM  
 SENIOR GROUP (AGE - 10 YEARS)  
 Topic - "Elephants in our culture"  
 JUNIOR GROUP (AGE - 10 YEARS)  
 Topic - "Elephants in our Ecosystem"

**Upload Your SLOGAN**  
 Date - 12-08-2022  
 Time - 10.00 AM - 05.00 PM  
 Topic - "Elephant Conservation"  
 OPEN TO ALL  
 Write a slogan in Hindi/English/Sanskrit  
 The word count of the Slogan should be less than 20.

To Participate in Online Painting Competition Visit : [www.nandankanan.org](http://www.nandankanan.org)  
 To Participate in Online Slogan Competition Visit : [www.nandankanan.org](http://www.nandankanan.org)

[www.nandankanan.org](http://www.nandankanan.org) @Nandankanan Zoological Park @ddnandankanan Nandankanan

**8.8.2.3. Adopt-an-Animal Programme**



**8.8.2.4. Release of Special Cover & Post Card on Tigers of Nandankanan**

To give recognition to conservation efforts of Nandankanan, special cover and printed post card on Tigers of Nandankanan (Normal coloured, white & melanistic tigers) were released by the Chief Post Master General, Odisha Circle on the occasion of International Tiger Day 2022.



#### 8.8.2.5. Nandankanan Bird Walk

Nandankanan Bird Walk started with an objective of conducting to facilitate opportunity to the volunteers for exploring birds of Nandankanan on every Sunday morning.



#### 8.8.2.6. Internship Programme at Nandankanan

Nandankanan started internship programme for graduate and post graduate students with an objective to start basic research and carry out project/ dissertation in their course curriculum to help in career development and higher studies.





**NANDANKANAN 2022**  
**INTERNSHIP INTAKE**

Internship programme at Nandankanan Biological Park, Odisha initiated to provide a learning opportunity for graduate/post graduate students of recognized institution/university of India and Abroad. The interns will be actively involved in the field of zoo management and learn new skills of ex-situ and in-situ conservation techniques at Nandankanan. It also provides a platform to start basic research and carryout project/dissertation in their course curriculum to help in career development and higher studies.

**Duration of internship: 30 days - 03 months**  
**Eligibility**

Students completed/pursuing graduate degree or pursuing post graduation course from any recognized institutions/universities of India and Abroad.

For more details and application visit: [www.nandankanan.org](http://www.nandankanan.org)



#### 8.8.2.7. Species Recovery of Gharial (*Gavialis gangeticus*) in river Mahanadi

‘Species Recovery of Gharial in river Mahanadi’ is being implemented since 2019 by rehabilitating zoo born gharials of Nandankanan Zoological Park to establish a sustainable population of critical endangered gharials in the river Mahanadi. Under this project, total 19 gharials were released since July 2019 including 7 males and 12 females. During 2021-22, 2 male and 4 female gharials of length 2.3m-3.8m tagged with satellite transmitters were released to river. Out of which one is died due to blasting in non-protected area after 15 days of release. The remaining are being tracked to understand their ecology, behaviour, movement pattern, habitat preferences and survival rate. The released gharials showed exploratory behaviour and seasonal movement. At four instances, the released gharials found with torn fishing net wrapped around their snout. They are successfully rescued, freed from entanglement and released back in the river.

The natural breeding of gharial occurred for the 2<sup>nd</sup> consecutive year at Satkosia gorge. On 11<sup>th</sup> May 2022, 32 gharial hatchlings have hatched at the same nest from the same mother as of previous year. Community awareness activities were prioritized to protect gharials and their hatchlings. In addition to day-to-day monitoring of the transmitter tagged gharials by 3 post-graduate research scholars, association of 14 Divisional Forest Officers on either side of the river Mahanadi from Hirakud dam to Bay of Bengal for rigid protection, implementation of ‘No Fishing Zone’ in 10kms of main gharial habitat in the Satkosia gorge, provision of compensation for the damaged fishing net and reward of Rs 1000/- for releasing live gharial and mugger caught in the fishing net were carried out to ensure their survival and future propagation.



**8.8.2.8. Renovation of Glass house, Orchid house, Green house & Hydrophyte garden at State Botanical Garden**





**8.8.2.9. Creation of Waste management garden, Vertical garden and Bonsai house at State Botanical Garden**



**8.8.2.10. QR code signage for animals and plants installed at different strategic locations of Nandankanan Zoological Park**



**8.8.2.11. High speed free wi-fi service was made available to the visitors at ticket counter of Nandankanan Zoological Park**

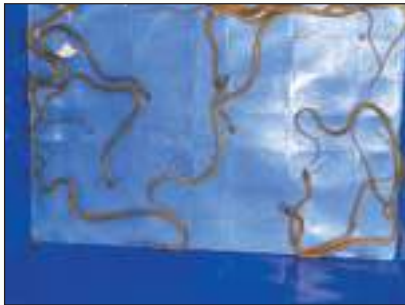


**8.8.2.12. Modernization of laboratory initiated to carry out different disease diagnosis and research activities in the Nandankanan zoo.**





**8.8.2.13. 03 Banded kraits, 11 Rat snakes and 03 Indian star tortoises were hatched through artificial incubations**



**8.8.2.14. Zoo Keepers Training Programme**

Nandankanan organized two days training programme for 44 animal keepers of Kanan Pendari Zoological Garden, Bilaspur in two batches, each batch consisting 22 participants from 16-17 July, 2022 and 21-22 July, 2022 to share hands on experience of best management practices of Nandankanan Zoological Park.



**8.8.2.15. Healthcare Highlights**

**8.8.2.15.1. Successful hand rearing of one white tiger cub and one Asiatic lion Cub**

One white tiger cub rejected by mother after birth due to lack of sufficient maternal instinct was rescued and raised by bottle feeding at 'Hand rearing Centre' of the zoo. One 19-day old Asiatic lion cub became sick and has to be separated from the mother for treatment and ultimately hand raised by bottle feeding. Both were reared together with utmost care and precautions, presently both of them are doing well with normal growth rate.





#### 8.8.2.15.2. Dystocia and assisted parturition in a yellow anaconda (*Eunectes notaeus*)

One six-year-old female yellow anaconda (*Eunectes notaeus*) of Nandankanan gave birth to one snakelet, but failed to deliver further even after 48hrs of the first birth. After examination of abdomen through x-ray and ultrasonography, two doses of hormone 'oxytocin' were administered at 90 minutes apart. Nine snake lets were born including eight live and one dead within 3 hours of the second dose. This was the first birth of anaconda in the zoo.





**8.8.2.15.3. Recurring umbilical hernia in a white tiger cub and its surgical management**

5 months old white tiger cub ‘Himanshi’ was noticed with recurrence of umbilical hernia that was surgically corrected 2 months back. the cub was showing swelling at the umbilical region after taking buffalo meat. Surgical intervention was further carried out using anaesthetic mixture xylazine HCl and ketamine HCl administered intramuscularly. After freshening the hernia ring edges, the hernia was closed, non-absorbable synthetic polypropylene mesh was used as a supporting material to prevent further relapse of hernia. This time no further recurrence was noticed even after taking good meal.



## DIVERSION OF FOREST LAND

### 9.1. Diversion of Forest Land under Section 2 of F (C) Act, 1980

About 62016.53 hectare of forest land has been diverted under the Forest (Conservation) Act, 1980 for 560 number of different developmental projects as on 31.12.2022; the details of such diversion are reflected below:

Name of the Sector	No. of Proposals	Forest Area diverted (ha)
Irrigation	88	10677.88
Industry	34	4438.52
Mining	199	32013.58
Energy	08	159.45
Road & Bridges	56	1822.33
Railway	28	2811.56
Defence	04	3865.25
Human Habitation	05	366.46
Transmission	80	4536.52
Others	58	1324.98
<b>TOTAL</b>	<b>560</b>	<b>62016.53</b>



*Safety Zone Plantation, Bono Division*



## 9.2. Diversion of Forest Land under Section 3 (2) of Forest Rights Act 2006

The Scheduled Tribes & Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 secure individual or community tenure or both. The Ministry of Environment, Forests & Climate Change, Government of India has authorized Divisional Forest Officers to grant permission for diversion of forest land up to 1 hectare in each case & this involves felling of trees not exceeding 75 numbers per hectare for small projects in 13 categories as envisaged under section-3(2) of Forest Rights Act, 2006. About 1510.500 hectare of forest land has been diverted for 3221 number of different small developmental projects under the above Act as on 31.12.2022. The sector wise details are given below:

Name of the Sector	No. of Proposals	Forest Area diverted (ha)
Anganwadi	19	00.856
Electric Line	634	326.731
Water Harvesting Structure	43	11.787
Tank & other Minor Water Bodies	37	14.410
Drinking Water Supply & Water Pipeline	554	114.432
Irrigation	82	33.222
Road	777	527.345
School	828	372.801
Community Centre	122	43.399
Vocational Training Centre	52	32.457
Hospital	23	9.531
Telephone Line	15	2.886
Non-Convention Energy Source	05	4.044
Fair Price Shop	01	1.000
Others	29	15.599
<b>TOTAL</b>	<b>3221</b>	<b>1510.500</b>

*Raising of Mangrove Plantation at Sanatubi PRF*



### 9.3. Diversion of Forest Land under General Approval by State Government

The Ministry of Environment, Forests & Climate Change, Government of India has authorized the State Government to grant General Approval under Section 2 of Forest (Conservation) Act, 1980 for diversion of forest land up to 5 hectare in each case (in two laning of roads, the area is not limited to 5 hectare) for creation of critical public utility infrastructure by Government Departments and this involves felling of trees not exceeding 50 number of trees per hectare in Left Wing Extremism (LWE) affected districts in 15 categories. As on 31.12.2022, about 82.799 hectare of forest land has been diverted under the above Act for 20 number of different developmental projects in LWE districts; the details of such diversion are reflected below:

Name of the Sector	No. of Proposals	Forest Area diverted (Ha.)
Road	07	53.540
Stone Quarry	01	2.992
Police Establishment	04	3.972
Drinking Water Supply	04	6.241
Power Sub-Station	01	2.833
Irrigation	01	4.800
Transmission Line	01	4.261
School	01	4.160
<b>TOTAL</b>	<b>20</b>	<b>82.799</b>

### 9.4. Rights to Tribal and Other Traditional Forest Dwellers (OTFD)

The Tribal and other traditional forest dwellers have been granted individual rights and community rights as per provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights) Act, 2006. The detail picture on the titles issued under individual and community right up to 30.11.2022 is given below:

Category of Right	Titles issued	Forest Area involved (In Hectare)
Individual	454454	270179
Community	7706	139954

Source: ST & SC Development, Minorities & BC Welfare Department



## DEVELOPMENT OF ECO-TOURISM

### 10.1. Eco Tourism Policy

As per Ecotourism Policy of the State, Forest, Environment & Climate Change Department (Wildlife Organization) is the Nodal Agency for development of ecotourism in the State. The department prioritizing the need of getting support of forest dependent communities for Forest & Wildlife Conservation initiated "Community Based Eco-tourism" during the year 2011-12. Subsequently, Ecotourism gained momentum from 2016-17 onwards.

### 10.2. Eco Tourism Destinations

48 Ecotourism destinations have been developed in different Forest and Wildlife areas of Odisha covering 18 revenue Districts including important tribal areas of Mayurbhanj, Sundargarh, Malkangiri, Koraput, Kandhamal, Bargarh, Nayagarh etc. 401 rooms are available to accommodate 1240 number of Eco-tourists/day. Forest dependent communities are made stakeholders in Eco-tourism and major share of income generated from Eco-tourism goes to the community members. There has been gradual increase in tourist footfall and income. Booking for all Ecotourism sites has been made online through [www.ecotourodisha.com](http://www.ecotourodisha.com).



*Nature camp at Daringbadi*



*Boating at Satiguda Nature Camp*



*Nature Camp at Tensa*



*Boating at Tikarpada Nature Camp*



**TABLE-1: Eco-Tourism Destinations in the State**

District	Forest Division	Destination	Location
MAYURBHANJ	DD SIMILIPAL(N)	Similipal Nature Camps	Gurguria
			Jamuani
			Kumari
			Ramatirtha
			Barehipani
NAYAGARH	MAHANADI(WL)	Satkosia Sand Resorts	Satkosia Sand Resort (Badmul)
	NAYAGARH(T)	Sidhamula Nature Camp	Sidhamula
KENDRAPADA	RAJNAGAR(WL)	Bhitarkanika Nature Camps	Dangmal
			Gupti
			Habalikhati
ANGUL	SATOKOSIA(WL)	Satkosia Nature Camps	Baghamunda
			Chhotkei
			Purunakote
			Tarava
			Tikarpada
BARGARH	HIRAKUD(WL)	Debrigarh Nature Camp	Debrigarh
	BARGARH (T)	Nrusinghnath Nature Camp	Nrusinghnath
KANDHAMAL	BALIGUDA(T)	Belghar Nature Camp	Belghar
		Daringbadi Nature Camp	Daringbadi
	PHULBANI(T)	Phulbani Nature Camps	Phulbani
			Mandasaru Valley
PURI	CHILIKA(WL)	Chilika Nature Camps	Rajhans
			Manglajodi
			Berhampura
BALASORE	BALASORE(WL)	Nuanai Nature Camp	Nuanai
		Bichitrapur Nature Camp	Bichitrapur
		Chandipur Nature Camp	Chandipur
SUNDARGARH	BONAI(T)	Rissia Nature Camp	Rissia
		Khandadhar Nature Camp	Khandadhar
	SUNDERGARH (T)	Tensa Nature camp	Tensa
		Sarafgarh Nature Camp	Sarafgarh
KHORDHA	CHANDAKA(WL)	Chandaka Nature Camps	Deras
			Godibari
	KHORDHA (T)	Barbera Nature Camp	Barbera
KEONJHAR	KEONJHAR(T)	Sanghagra Nature Camp	Sanghagara

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

GANJAM	GHUMSUR NORTH	Giant Squirrel Nature Camp	Kaliamba
		Blackbuck Nature Camps	Saluapali Bhanjanagar Dam
	GHUMSUR SOUTH		Chermaria
	BERHAMPUR (T)	Ghodahada Nature Camp	Ghodahada
CUTTACK	ATHGARH(T)	Ansupa Nature Camp	Ansupa
	CUTTACK(T)	Mahavinayak Nature Camp	Mahavinayak
JAJPUR		Olasuni Nature Camp	Olasuni
DHENKANAL	DHENKANAL(T)	Saptasajya Nature Camp	Saptasajya
MALKANGIRI	MALKANGIRI (T)	Chitrakonda Nature Camp	Chitrakonda
		Satiguda Nature Camp	Satiguda
NUAPADA	KHARIAR (T)	Patora Dam Nature Camp	Patora Dam
KORAPUT	KORAPUT (T)	Koraput Nature camp	Koraput (Pine Forest)

**TABLE-2 : Footfall of Visitors & Income generated**

Year	No. of Visitors	Income (In lakh)
2016-17	11,500	157.00
2017-18	17,148	340.00
2018-19	29,024	561.00
2019-20	46,019	685.00
2020-21	56,962	832.27
2021-22	70,216	1051.43
2022-23 (Till 21st February 2023)	1,17,755	1224.42

### 10.3. Employment Generation

As of now more than 600 local community members are engaged for managing 48 Ecotourism destinations all over the State & earning their livelihood, majority of them are rural women and tribal. Gradually more number of community member saregetting enrolled in Ecotourism activities. Ecotourism has been an alternative income for them as they earlier used to rely on forest for their survival by poaching, smuggling, fishing, collecting honey, firewood, etc. Indirectly, 5 to 6 villages per Ecotourism project are now earning their livelihood by providing daily requirements to the Ecotourism projects (i.e., by selling vegetables, handmade articles, different food items, milk, non-veg products, travel facilities etc). All the community members have been trained on hospitality & Ecotourism services for proper management of the destinations. They play different roles in management of Nature Camps i.e., House keeping, accounting, store, reception, service, cooking, cleaning etc. The total income generated through online booking is shared as below to respective community accounts. Forest & Environment

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

Department, Government of Odisha have approved the standard income sharing mechanism of Ecotourism destinations as mentioned below (excluding 10% which is available for OFDC Ltd. for incentive to Tour Operators, maintenance of Ecotour portal and advertisement /promotion of Ecotour properties).

Components	%Share	Purpose
ETG Wage Salary (Online release to respective Community accounts)	35%	Shared by Management Committee of the Community towards wages
Recurring Expenses (Online release to Community account)	25%	For day-to-day expenses & management of Nature Camps. (Fooding of visitors, fuel, electricity etc.)
Infrastructure Development (Online release to Community account)	10%	Major maintenance & Improvement in infrastructures etc.
EDC Share (Online release to Community account)	10%	For developmental work in local villages
Corpus Fund [with PCCF(WL) for remuneration of Hospitality Experts engaged in Nature Camps etc.]	10%	Salary of Hospitality Experts engaged in different Ecotourism Destinations & other contingencies
Government Revenue	10%	Revenue share to Government
Total	100%	



*Hospitality Training by Institute of Hotel Management*



*Eco-guide Training by Odisha Biodiversity Board*

### 10.4. Facilities for Eco-tourists

Boating facilities have been created in Ecotourism destinations like Bhitarkanika, Debrigarh, Nuanai, Bichitrapur, Satkosia, Chilika, Chandaka, Sarafgarh, Chitrakonda, Satiguda, Badmul etc. For safety of tourists, Decks & Floating Jetties have been constructed and other ancillary facilities have been made available for all Ecotourists. Other activities like Cycling, Birding, Sports, Trekking, Farmland visits, Cultural programmes etc. by local communities are being introduced in all destinations. Eco guide (one person acquainted with local trees, herbs, birds, animals etc. from the community) service is provided in all Nature Camps. Display of wildlife movies, library facilities along with Souvenir shops, watch towers for sighting wild animals have also been developed in all destinations. Safari Tourism is functioning in Chandaka, Debrigarh, Similipal & Kapilash Wildlife Sanctuary with open Jeep as well as Air-Conditioned Safari vehicles.



*Cottages in the Koraput Pine Resort*



*Jungle Safari at Kapilash in Dhenkanal Dist.*



*Tent Accommodation at Nuanai Nature Camp*



*ETG members of Chhotkei Nature Camp*



*Tree Top House at Jamuani Nature Camp, Similipal*





*Observation Tower at Ghodahada Nature Camp*

### 10.5. Promotion of Ecotourism as part of 5T initiative

Ecotourism is listed as one of the Transformational Action points (5T) of Govt of Odisha under Forest, Environment & Climate Change Department. Upscaling of Ecotourism activities going on in the State, better services and management through professionals are the priority for taking Odisha Ecotourism to nextlevel.

Forest & Tourism Department are signatory to a joint MoU till 7th January 2026 for promotion of Ecotour-Nature Camps throughout India and abroad. Eco-tour website [www.ecotourodisha.com](http://www.ecotourodisha.com) has been embedded in the website of Odisha Tourism website [www.odishatourism.gov.in](http://www.odishatourism.gov.in) for better promotion of ecotourism destinations & for enhancing the booking of Nature Camps. Social media promotion of Ecotourism destinations is done on regular basis in Face book, Twitter, Instagram etc. jointly by Tourism & Forest Department.

### 10.6. New Up-coming Ecotourism Destinations

District	Division	Destination
Koraput	Koraput (T)	Deomali Hills
		Rani Duduma
		Galigabdar, Kotia
Nayagarh	Nayagarh (T)	Bhandarpahad
Kalahandi	Kalahandi (S)	Jakam
Mayurbhanj	Similipal North (WL)	Nawana
Puri	Puri (WL)	Devi Muhana, Astarang
Gajapati	Paralakhemundi (T)	Mahendragiri
Kandhamal	Phulbani (T)	Pine Forest, Kalinga
Keonjhar	Keonjhar (WL)	Hadgarh
	Keonjhar (T)	Kanjipani
Ganjam	Ghumsur South (T)	Buddhakhola
Boudh	Boudh (T)	Dambarugarh





### 10.7. Awards and Accolades

During the year 2019 the community model of ecotourism adopted by Odisha has received "Best Ecotourism Initiative Awards" by Federation of Indian Chambers of Commerce and Industry (FICCI).

### 10.8. Benefits of Community Managed Nature Tourism

- ❖ Livelihood support to the forest dependent communities of State.
- ❖ Employment to rural women & tribal communities in wildlife areas who were earlier dependent on poaching & anteforestry activities for their living.
- ❖ Prevention of forest fire and poaching in those landscapes where communities are engaged in Ecotourism activities.
- ❖ Communities are running programmes in each destination. Ecotourists are engaged in different activities like trekking, birding, boating, cycling, farm land visit, cultural programmes by locals, safari, watching wildlife movies in Nature Camps, can opywalk etc. to provide the visitor holistic experience on forest, culture & traditions of the local communities. Eco guides, boatman etc. employed in Ecotourism destinations are all locals and trained.
- ❖ The Ecotourism destinations have been developed covering different landscapes of the State i.e., forests, hill stations, lakes, rivers, beaches, lagoon etc. which also provides basic knowledge to the tourists about natural ecosystems.
- ❖ As Ecotourism destinations are providing job opportunities for the local communities, they themselves are conserving & protecting Nature and also maintaining clean liness of the landscape. All destinations are maintained free from plastics.



*Landscape of Bichitrapur Nature Camp*



## FOREST RESEARCH

### 11.1. Silviculture Research

The Silviculture research plays a vital role in conservation of forest resources. Keeping in view on our vast stretch of forest cover, the Forest Research Wing with its head quarters at Angul was created during the year 1936 with a vision to explore various strategies & provide scientific support for decision making on matters related to forestry with particular emphasis on conservation, sustainable utilization and scientific management of our forest resources in the state. Subsequently the head quarters was shifted to Bhubaneswar in the year 1993 and one more Silviculture division was created with head quarters at Rayagada during the year 2008 for imparting focus on conservation strategy of Forest wealth in KBK districts which is having rich biodiversity.

Earlier a lot of research studies were made on adoptability of different exotic species through field trial and progeny trial and in the long run it was found that though the exotics like various Pinus species are yielding very good growth especially in Koraput and Kandhamal district, their natural regeneration are noticed to be very poor. Besides that it was further observed that introduction of exotics in our forest land hampers the regeneration of ground flora and indigenous species.

In the present scenario, it is observed that though the forest cover is increasing, there is always a threat to our indigenous growing stock. Thus it is the need of the hour to embellish the conservation strategy to create employment opportunity and livelihood support for the forest dwellers through scientific management by utilizing our existing NTFP resources.

To beacon the aspiration of forest lovers and to provide improvised technique to the department, the research wing is having 19 numbers of Research Gardens sand 04 numbers HTNs in the state, where in different silviculture studies are being conducted under guidance of the experienced officers of the state and scientists. The list of different silviculture plots existing in the state are as follows.

Sl. No	Item	Number of Existing Plots	Area in Hectare
1	Research Garden	19	465.6
2	Preservation Plot	17	820.04
3	Sample Plots	20	5.985
4	Hi-tech Nursery	04	525.5
5	Seed Orchards	43	44.03
6	Seed production Area	11	66.63
7	Plus Tree	308	-

In the plots we broadly focus on Tree Improvement Programme, Adaptive Research and Silviculture study of indigenous species available in our Forests.

## 11.2. Tree Improvement Programme

Silvicultural Research and experiments in the State are carried out in pursuance to quinquennial programme approved by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar as per Rule 195 of OFD Code. The details of Research Activities are given below:

### 11.2.1. Collection of Quality Seeds

Collection of quality seeds from the phenotypically superior trees of important species from seed production area and other forest area taken up every year. The candidate mother trees of important indigenous species have been identified and selected from the different forest blocks of the states. In total 10792 numbers of candidate trees have been selected in both Bhubaneswar and Rayagada Silviculture division from 2019-20 to 2022-23, covering different Reserve Forests of the state.

### 11.2.2. Establishment of a Seed Testing Laboratory

A seed development cell has been established in the Division which will be responsible for collection, processing and grading, testing, certification, storage and distribution of quality seeds for all afforestation programmes. As a part of this cell a seed testing laboratory has been established to provide good quality planting seed. It will carry out various tests like purity test, moisture determination test, germination test and viability test to certify the quality of the seeds.



### 11.2.3. Preservation Plot

There are 17 (Seventeen) number of preservation plots existing in the state, representing the main Forest sub-types set up for systemic observation of silvicultural and ecological changes.

### 11.2.4. Plus Trees

Elite trees of important indigenous species have been identified and selected on the basis of exceptional rate of growth form and resistance to adverse factors to obtain significant amount of genetic gain as quickly as possible. During the current year steps has been taken to identify the plus tree from the candidate trees with the collaboration of ICFRE, Dehradun under the guidance CCF, T&D, Cuttack. Now focus is being made to collect seeds from Plus trees of indigenous species.



Plus Tree, Sulia RF, Mahipur Range

### 11.2.5. Raising RT seedlings

The large scale use of polypots for raising seedlings creates tremendous environmental hazards and inviting pollution in the vicinity of natural forests while carrying out massive plantation in the open forests. In order to minimize the pollution, we have introduced to raise seedlings in hycopots permanently made for the purpose which are reusable and produce better quality planting material in comparison to polypots because of stronger root system of the seedlings.



RT Seedling



### 11.3. Adaptive Research

#### 11.3.1. NTFP Species

A large number of NTFP species were tried in different stations under different agro-climatic zones over the years to introduce economically important species in the degraded forest areas. Species like *Cinnamomum zeylanicum*, Lemon grass (*Cymbopogon*), *Piper nigrum* and *Coffea arabica* have been grown in Odisha. The planting technique of these species has been standardized. The Hill broom, Siali climber and *Rauwolfia serpentina* have been introduced in the Research Gardens and forest areas simultaneously in the last year to study their growth and output so that these are to be cultivated in a large scale by the tribal people to increase their livelihood support.



*Siali*



*Inter cropping of Hilbroom*

#### 11.3.2. Intercropping of NTFP species in Bamboo Plantation

During the year 2020-21, trial of planting of *Rauwolfia* roots, seeds and Hill brooms as inter crop in bamboo plantation have been made to study the qualitative and quantitative production of *Rauwolfia* seeds and broom sticks by using FYM and organic manure and its commercial feasibility with market link so that it can be introduced in forests as well as in private lands for providing livelihood support to the forest dwellers. Intercropping of above NTFP items will enhance the economic value of the bamboo plantation programme till harvesting of bamboo culm for commercial purpose.



*Intercropping of Bamboo*



### 11.3.3. Hi-tech Nursery & Other Nurseries

There are 4 numbers of Hi-tech Nurseries exist in two divisions, 03 numbers in Silviculture Division, Bhubaneswar and one in Silviculture Division, Rayagada. one Upgraded Nursery at Khandagiri R.G of Silviculture Division, Bhubaneswar which have been maintained for production of large-scale of Quality Planting Materials (QPM) of indigenous species. The name of HTNs & Upgraded Nursery are as follows.

1. Tartua Hi-Tech Nursery
2. Bhasma Hi-Tech Nursery
3. Ajodhya Hi-Tech Nursery
4. Jaring Hi-Tech Nursery
5. Khandagiri Upgraded Nursery

### 11.3.4. Nakshyatra Vana

A Nakshyatra Vana has been developed at Khandagiri Research Station during 2010, where trees associated with 27 constellations of Nakshatras have been planted. A lawn has been maintained at the centre of the Nakshyatra Vana area adding aesthetic value to it. During current year Nakshyatra Vana was renovated and reconstructed by repairing the signage which was damaged during 2019 Foni cyclone.



### 11.3.5. Arboretum

One arboretum was created during the year 1996 at Khandagiri RG with collection of 200 nos indigenous species for academic study of the forest scholars. One inspection path has been constructed during 2021 for better supervision and recording of growth data. In future the arboretum will be treated as seed production area.



### 11.3.6. Medicinal Garden

Medicinal garden was established in the year 2002 over an area of 2.5 Ha. It is situated inside Khandagiri Research Station which comes under Bharatpur D.P.F of Chandaka (Wildlife) Division, about 2 Kms from Khandagiri square towards Nandankanan road.

A gene bank of medicinal plants has been established during 2002 by collection of medicinal plants from different regions with objective of in-situ and ex-situ conservation of medicinal plants naturally growing in forests and to develop market facility to help the small farmers to sale their products under State Medicinal Plant Board scheme.

The medicinal garden houses have 140 numbers mother beds which is maintained regularly.



*Medicinal Garden, Patrapada*

### 11.3.7. RET Plantation

From the recent study by RPRC, it is revealed that some of the valuable forest species are under threat and unscientific exploitation of MFP from the trees makes them more vulnerable. Hence focus on conservation and propagation of some RET trees are being given by raising seedlings and creating trial plots in our RG/HTN. In the current year, the plantation of Phanphana, Ritha and Salai have been made in our RG and it is proposed to create large scale planting stock of RET species for supply to the divisions for its propagation in natural forests.



*RET Species of Asoka*



#### 11.3.8. Live Hedge

Most of the plantation taken up by the department in the forests are susceptible to biotic interference and fire hazards. In order to give protection to the plantation and forests from the above factors, planting of Kantabaunsa and Agave have been introduced along the boundary of the RG/HTN to study its suitability for acting as natural barriers and live hedge for protection of the area, which can be implemented by the forest divisions for protection of the plantation and forest.

#### 11.3.9. Production of Quality Planting Materials (QPM)

With the intention of raising non-teak species in the nursery, effort was made to collect different indigenous seeds from the forest. Since the traditional production of teak stump is discontinued, the collection of seeds of Sal associates was a difficult task. Field staff have taken interest for collection of 53 varieties of non-teak species seeds and supplied to different Divisions to the tune of about 35 quintals. Raising of nursery in root trainers and mother beds (stump) was initiated for different indigenous species.

All total 3350000 numbers of quality planting material of indigenous species has been raised in both Bhubaneswar and Rayagada Silviculture Division and distributed to different forest divisions of the states for afforestation programme during 2022-23.







### 11.3.10. Ficus Conservation Garden

The Germ Plasm of Ficus species is significant for its prominent role in climate change of the states having tropical climate. A Ficus conservation plot is under taken with 94 varieties of Ficus plants and more than 50 species of Ficus bonsai in Khandagiri Research Garden over 3.0 ha of land in the year 2018-19.

Ficus species the large old trees which are often recognized for the provision of variety of ecosystem services to humanity are declining day by day. Existence of such keystone structures spans many human generations and they become a historic link between the generations. Therefore protection and recognition of more culturally, historically, and ecologically important trees by establishing a comprehensive tree list of Ficus is the need of the day.

The ecological roles of old trees in improving and maintaining the quality of water and soil, mitigating the impact of environmental pollution, carbon sequestration, regulation of microclimate, providing habitat for wildlife providing recreational and spiritual values, among other values are widely acknowledged.

This Ficus garden will be useful for academicians as well as common public for recreation; besides ecological and biodiversity conservation with a cost under the existing revolving fund account. Ficus is very good with vegetative propagation. So the exotic and rare species of ficus can be multiplied and propagated along with few Bonsai. The study of growth and behavior of different species of Ficus can be carried out in this garden.



**11.3.11. Wild flower Garden**

The wild flower Garden was created during 2020-21 over an area of 0.4 acre. The purpose of this wild flower garden was to in-situ conservation of herbs, shrubs and climber species available in the forest to provide pollinators and insects with food from leaves, pollen, nectar, shelter and places to breed. Wild flowers are beneficial during the winter also. As food is scarce in the countryside, wildflower seeds become an important food source for birds and small mammals. All total 399 numbers of seedling planted in the garden having 73 numbers species.



## TRAINING, RECRUITMENT AND AWARDS

### 12.1. Training Programme

The Forest staff need to be both technically trained and extension oriented. The training of the initial recruits as well as orientation training for in-service personnel is extremely important. Updating knowledge on new emerging topics of different aspects of forestry, forest management and forest research is essential to augment the efficiency & skill of forestry personnel.

The training institutes need to be strengthened by providing modern training equipment, better amenities like boarding & lodging facility for the trainees, facility for sports & other curricular activities during training.

### 12.2. Training of Forest Range Officers, FES and Frontline Staff

The training of frontline staff/ State level Executive officers is being under taken by the Forest Department under the supervision of Chief Conservator of Forests, Training and Development, Cuttack. The training imparted is of technical nature and as per the curriculum prescribed by Director of Forest Education, Dehradun. At present four training institutions are functioning in the State as detailed below.

#### 12.2.1. Odisha Forest Rangers College, Angul

OFRC, Angul occupying a total area of 37.79 Acre was established in 1979 at Angul. This is the premier Forestry Training institute situated in the heart of Odisha in proximity to dense Forests, Wildlife sanctuaries and tiger reserves which helps to impart classroom training and exposure visits to the trainees. The state run college is controlled by the Director, Forest Education, Dehradun in respect of all matters to the course of studies and imparting training to the trainees. Currently, two batches (17<sup>th</sup> and 18<sup>th</sup> batches) of induction training courses of FROs are continuing simultaneously consisting of (57 and 32) numbers of trainees respectively.

##### 12.2.1.1. Induction Training of Forest Range Officers 17<sup>th</sup> Batch OFRC (2021-2023 Batch)

57 (Fifty Seven) Forest Range Officer Trainees (2021-2023 batch) from the state of Uttar Pradesh, NCT-Delhi & Tamil Nadu are undergoing 18 months FRO Induction course Training at Odisha Forest Ranger's College, Angul since dt.04.10.2021. After successful completion of the 18<sup>th</sup> month Induction course, the passing out ceremony is likely to be held in the 1<sup>st</sup> week of April 2023. Besides class room studies, they have performed local study tours to places like Satakosia WL Sanctuary, Kapilash Zoo, Ansupa Lake, Mahanadi WL Division, Astaranga beach, Debrigarh WL Sanctuary, Nandankan zoo, Chilika lagoon etc. They have made outside Odisha study tours to States like Chhattisgarh, Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, West Bengal, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Uttarakhand, Himachal Pradesh, Uttar Pradesh, Chandigarh, New Delhi, Goa, Kerala and Tamil Nadu. In addition, modular sessions have been held on the following subjects namely: Forest Survey, GIS & Remote Sensing (ORSAC), Application of Modern tools and Technology, Training on Rescue and release of Small Animals,

Training on Demonstration of Water rescue by ODRAF Team, Law and Wildlife Crime Control & Motor Driving training. Their Passing out parade is likely to be held in the 01<sup>st</sup> week of April 2023.

#### **12.2.1.2. Induction Training of Forest Range Officers 18<sup>th</sup> batch OFRC (2022-2023 Batch)**

31 (Thirty One) Forest Range Officer Trainees (2022-2023 batch) from the state of Odisha and Chhattisgarh are undergoing 18 months FRO Induction course Training at Odisha Forest Ranger's College, Angul since dt. 06.06.2022. Besides, class room studies they have performed the following local and outside state study tours as detailed below: Exposure visit to Balasore, Satkosia sanctuary, Athmalik, Dhenkanal, Sambalpur, Chilika lagoon, Nandankanan zoo, Boudh, Paralakhemundi, Rajnagar & Berhampur Division of Odisha as well as States & UTs like Karnataka, Kerala, Tamil Nadu, Poducheri and Andaman and Nicobar islands. In addition, modular sessions have been held on the following subjects namely: Training of Rescue and release of Small Animals, Training & Demonstration of Water rescue by ODRAF Team, Forest Law and Wildlife Crime Control, Ecological population estimation exercise etc. The following special classes have been taken during the training period as detailed below. After successful completion of the 18<sup>th</sup> month Induction course, the passing out ceremony is likely to be held in 1<sup>st</sup> week of December 2023.

#### **12.2.1.3. Induction Training of Forest Extension Supervisors Officers (2022-2023 Batch)**

10 (ten) numbers of Forest Extension Supervisors had joined in this institution on dt. 10.10.2022 for 04 (four) weeks Induction Training Course. It continued from 10.10.2022 to 05.11.2022. All FES trainees have successfully completed the induction course.

#### **12.2.1.4. Refresher Training Course of Forest Range Officers/Deputy Rangers, Foresters and Forest Guards (Financial year : 2022-2023)**

The following Refresher Course Training programme have been conducted under the component "Human Resources Development Programme" during the financial year 2022-2023 as detailed below. 04 (Four) numbers of Training programme have already been completed on the Topics viz: 1. Refresher Course on Forestry, 2. Detection, Enquiry and Preparation of Prosecution Report in Forest Offences, 3. Control and Management of Forest Fire, 4. Survey and Mapping of Forest Resources by use of Modern Technology. Prominent scholars, domain experts & senior officials from various Govt. Departments/Ministries & NGOs have taken classes & shared their knowledge with the trainees during these classes.

#### **12.2.1.5. Infrastructure Development**

A separate Executive Hostel named "Sabari" has been completed & inaugurated during Financial year 2022-23.



### 12.2.2. Foresters' Training School, Ghatikia, Bhubaneswar

Foresters' Training School, Bhubaneswar was established in 1987 at Ghatikia, Bhubaneswar town of Khurda District occupying a total area of 8.0 acres. In the above Training School 48 numbers of Foresters are undergoing Induction Training course during the 2022-23 and 41 numbers of Foresters have successfully completed Induction Training course during the 2021-22.



### 12.2.3. Foresters' Training School, G. Udayagiri

Foresters' Training School, G. Udayagiri was established in 1982 at G. Udayagiri Town of Kandhamal District occupying 11.5 acres of land. During 2021-22, 75 numbers & 2022-23, 72 numbers of Promoted Foresters have undergone 04 (four) months Induction training Course in this School. Induction Training course of newly recruited Forest Guards has been started from dt. 14.02.2023 taking 96 numbers of newly recruited Forest Guards trainees. Besides, 03 numbers Refresher Course Training programmes during December 2022 & January 2023 for the Forester & Forest Guards (73 numbers) has also been conducted successfully.



*P.T class of Newly Recruited F.G Trainees in the Induction Training Course for the session 14.02.23 to 14.08.23*



*Passingout ceremony of Promotee Foresters during the year 2021-22*

#### 12.2.4. Nicholson Foresters' Training School, Champua

Nicholson Foresters' Training School, Champua was established in the year 1927 at Chamupa Town of Keonjhar District covering a total area of 7.76 acres by Late Dr. H.F. Mooney IFS, then advisor to the eastern states for imparting training in forestry to the foresters of the province of Bihar, Orissa and Eastern State Agency. Subsequently, the school was renamed as "Nicholson Forest Inauguration ceremony of Rangers Trainees (Outside State) Training School" in the year 1950, in recognition of the meritorious service rendered by Late Mr. J.W. Nicholson, IFS who was the first Conservator of Orissa. As of now 2298 numbers of Foresters and 730 numbers of Forest Guards trainees have been successfully completed the training course from Nicholson Foresters' Training School, Champua. In this training school, 79 numbers of Promotee Foresters have undergone four months Induction Training Course during 2022-23 in two batches (105<sup>th</sup> batch 34 numbers & 106<sup>th</sup> batch 45 numbers). Induction Training Course of newly recruited 95 numbers of Forest Guards has been started from 14.02.2023.



*Passing out ceremony of Promotee Foresters 106<sup>th</sup> batch during the year 2022-23*



### 12.3. Recruitment

The vacancies in the various cadres are being filled-up either through the direct recruitment or through promotion as prescribed in the Rule. 24 ACFs & 29 Forest Rangers are currently under gone training at ASFOS, Dehradun and FRC, Angul. As per the provision of prevailing Rules, these provisionally selected candidates after completion of training would be posted.

Recently, 806 numbers of Forest Guards have been recruited by OSSSC under direct recruitment quota. They will undergo training in phased manner.

### 12.5. State Forestry Awards

State Forestry Awards are conferred, on the occasion of World Forestry Day, every year for outstanding work in afforestation and plantation activities to Gram Panchayats, Educational Institutions and students. As per the provision made in the Notification No. 8782-FE-PLANT-PLANT-0023/2019-F&E dated 04.05.2021 of Forest & Environment Department, Govt. of Odisha, since the year 2021-22, a cash award of Rs. 10,000/- for the Best Educational Institution (one for every sub- division) and cash award of Rs.20,000/- for the Best Gram Panchayat (one for every sub-division) are given each year for outstanding performance in plantation/afforestation work. These awards are given in district level functions each year on World Forestry Day. Further, the forest field staff (4 Forest Rangers, 12 Foresters and 24 Forest Guards) are honoured each with a cash award of Rs.10,000/-, a citation and a medallion for meritorious services and achievements in Forest protection, promotion of JFM, Afforestation and Plantation works, Forest and Wildlife Management, Forest Research and Kenduleaf operation.





## STATE MEDICINAL PLANTS BOARD, ODISHA

### 13.1. Constitution of Board

State Medicinal Plants Board, Odisha was constituted to ensure sustainable availability and use of medicinal plants. The SMPB is implementing various schemes under financial support received from State sector and Central sector.

### 13.2. Achievement during 2022-23

The SMPB, Odisha has organized 15<sup>th</sup> State Level Kalinga Herbal Fair from 10<sup>th</sup> to 16<sup>th</sup> February, 2023 at Bhubaneswar and two numbers of Regional Kalinga Herbal Fairs at Rourkela & Muniguda.

A team consisting of 12 numbers of Ashwagandha cultivators of Reamal Block of Deogarh district has proceeded to Kerala accompanied by two no. of officials of SMPB, Odisha for Exposure Visit on "Cultivation of Medicinal Plants, Utilization of Harvest, Value Addition and Marketing" from 20<sup>th</sup> February to 1<sup>st</sup> March, 2023. The purpose of visit is to collect information on utilization of medicinal plant produces in herbal industries including value addition and marketing and also regarding cultivation procedure.

20 numbers of training programmes were conducted on cultivation of Ashwagandha at Reamal Block of Deogarh District, Muniguda Block of Rayagada District, Thakurmunda Block of Mayurbhanj District & Semiliguda Block of Koraput District on "Cultivation of Medicinal Plants Project under National AYUSH Mission (NAM)". Around 150 numbers of Medicinal Plant Cultivators have attended the training programme.

As per the Ministry of AYUSH, Government of India guidelines, awareness programme with planting of medicinal plants to promote the use of medicinal plants among the students under "Seva Pakhwada" has already been conducted at Government High School, Baliana in Khurda District successfully. Around 300 students were involved in this programme.

The project related activities on Establishment of Medicinal Plants Conservation and Development Area (MPCDAs) in Mandargiri RF of Angul Forest division supported by the NMPB is in progress. This will ensure on sustainability of Medicinal Plants through in-situ resource augmentation and conservation of Mandargiri Hills.

The SMPB, Odisha has prepared a book entitled "Medicinal Plants used by tribes of Odisha" during the current financial year after making of field survey all over Odisha on the Medicinal Plants used by the tribes.

The SMPB, Odisha has prepared a documentary film on "Ashwagandha", the medicinal plant species of during the current financial year.

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



15<sup>th</sup> State Level Kalinga Herbal fair, Bhubaneswar



Training on cultivation of medicinal plants to interested cultivators of Thakurmunda Block of Mayurbhanj District

The Chief Executive, SMPB, Odisha has attended the 9th International Herbal Fair, Bhopal held from 20<sup>th</sup> to 26<sup>th</sup> December, 2022. Two number of farmers cultivating medicinal plants also have been sent by SMPB, Odisha to attend the fair and to collect information regarding crop insurance, cultivation techniques, marketing procedure and source of quality planting materials etc.



Attended the 9<sup>th</sup> International Herbal Fair held at to collect of information's regarding Crop insurance, cultivation techniques, marketing procedure, source of Quality Planting Material etc.



To promote the use of medicinal plants among the students under "Seva Pakhwada". has already been conducted at Govt High School, Baliana in Khurda district successfully



A video documentary on Ashwagandha cultivation in Odisha has already been prepared for wide publicity among general public as well as farmers to promote the cultivation of medicinal plants and their benefits. Further it is decided for fixing up hoarding on Ashwagandha in different locations of Odisha for wide publication on cultivation of medicinal plants and its benefits.

## STATE COMPENSATORY AFFORESTATION FUND MANAGEMENT & PLANNING AUTHORITY (CAMPA)-ODISHA

### 14.1. Objectives

As per Hon'ble Supreme Court's Order dated 10 th July 2009 the State Compensatory Afforestation Fund Management & Planning Authority (CAMPA), Odisha was constituted vide Notification No. 13995/F & E dated 14.08.2009 with an objective of Conservation, Protection, Regeneration and Management of existing natural forests, Wildlife and their habitats and raising Site Specific Compensatory Afforestation, Penal Compensatory Afforestation etc. with utilization of funds deposited in Adhoc CAMPA towards Net Present Value of Diversion of Forest Land for Non-Forestry purposes under Forest Conservation Act, 1980.

THE COMPENSATORY AFFORESTATION FUND ACT, 2016 has been enacted by the Hon'ble, President of India on 3rd August,2016 and subsequently the rules framed in accordance to the Act as COMPENSATORY AFFORESTATION FUND RULE, 2018 on the 10th August ,2018 for smooth management of Compensatory Afforestation activities.

- ❖ The state CAMPA has formulated 13 Annual Plans of Operations (APOs) so far starting with APO 2009-10. The last one is APO 2022-23 which is being implemented from April 2022.
- ❖ Since inception of State CAMPA in 2009, 12 numbers of APOs have been implemented with total receipt of Rs.2644.15 Crore from Adhoc CAMPA.
- ❖ Further, a total sum of Rs.6281.25 Crore has been received from National Authority, CAMPA, New Delhi and kept with the RBI to meet the expenses against forth coming APOs. Total expenditure at State CAMPA through above APOs is Rs 5291.32 Crore up to APO 2022-23 (Dec-2022).

### 14.2. Achievement up to APO 2021-22

#### 14.2.1. Afforestation Activities

The following interventions under various afforestation components have been achieved.

- Afforestation (CA) and Penal Compensatory Afforestation (PCA) etc. include 185.442 hectare of Block Plantation, 3405.579 hectare of ANR plantation, 344.606 hectare of Bald hill, 13.094 hectare of ANR without Gap, Avenue Plantation over 10.116 RKM and 340 nos. tree plantation
- SSO Bamboo over-75000 hectare,
- Block Plantation over-1490 hectare
- ANR Plantation over-35515 hectare
- Bald Hill Plantation over-1326 hectare
- Bamboo Plantation-1370 hectare
- Fruit & Fodder Plantation-105 hectare



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- Casuarina Plantation-46.1 hectare
- Miyawaki Plantation-13 hectare
- Protection & Conservation of Pure Stand & RET Species-200 hectare
- Soil Moisture Conservation (SMC) over 7115 hectare
- Maintenance of Old Plantation



*SSWLCP AR (F&F) 13 ha, Athagarh-Khuntuni Range*



*F&F AR 10 ha, Boipariguda-Jeypore*



*ANR Vanyasilk 90 Ha, Malkangiri*



*Nursery at Jeypore*



*ANR Vanyasilk 90 Ha, Malkangiri*



*Vanyasilk Plantation*





### 14.2.2. Forest Protection & Prevention of Forest Fire

Under this head the following steps have been undertaken.

- Deployment of 216 firefighting squads in 37 Forest Divisions,
- Deployment of 2270 rural unemployed youth for protection duty and
- 227 nos. vehicles provided for protection duties

### 14.2.3. Infrastructure Development

The following activities have been taken up under this component. They are:

- Construction of 15 Range offices, 15 Range Officer's Quarters, 75 Forester's Quarters & 200 Forest Guard's Quarters,
- Construction of 70 Culverts and 100 Causeways and 150 Tube well,
- Construction of 20000 RMT of Boundary wall and
- Maintenance of 1000 KM Forest Road



LBS Work, Kankaranala, Barpadar



LBCD Work, Barpadar

### 14.2.4. Wildlife Management

Under this component the activities such as -

- Management of Wildlife (Rs.216.83 Crore) in Protected Areas including protection activities, anti-depredation activities, communication, habitat improvement, infrastructure development, zoo management & implementation of elephant train collision mitigation plan,
- Preparation of comprehensive Wildlife Management Plan for the state,
- Implementation of site specific Wildlife Conservation Plan and
- Relocation of families from Similipal & Satkosia Tiger Reserve have been carried out.

### 14.2.5. Other Programmes

Other programmes include the following activities:

- Ama Jangal Yojana (101.81 Crore): Strengthening of VSS & preparation of Micro Plan for taking up ANR & Block Plantation under,





## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- Management of IT & GIS cell, Geo referencing of Forest land & Revenue forest land, development of different mobile application etc.
- Maintenance of Research Garden & other research activities like Adaptive Research / Tree Improvement Programmes/Production of QPM and
- Construction of "State Forest Academy".

### **14.3. Highlights for APO 2022-23**

The CAMPA Annual Plan of Operation 2022-23 is being implemented since April, 2022 with financial outlay of Rs.1241.34 Crore which has been approved by the State Level Steering Committee against which Rs. 1155.91 Crore has been kept in State Budget. Meanwhile the National Authority has approved the APO at 1191.31 Crore.

**The APO 2022-23 is summarized below:**

#### **14.3.1. Afforestation Activities**

- Site specific Compensatory Afforestation (CA), Penal Compensatory Afforestation (PCA) etc. over 785.26 hectare of Block Plantation, 3381.97 hectare of ANR Plantation, 1269.492 hectare of Bald Hill Plantation, 725.173 hectare of ANR without gap and tree planting of 13250 number of saplings,
- Regeneration of Degraded Bamboo Forests over 88520 hectare,
- Block Plantation over 2624 hectare,
- ANR Plantation over 46875 hectare,
- Bald Hill Plantation over 1020 hectare,
- Casuarina Plantation over 452 hectare,
- Mangrove Plantation over 163 hectare,
- Fruit and Fodder Plantation 2820 hectare,
- Conservation of RET species 2452 hectare,
- Maintenance of old plantation
- Raising of 2 crores of 18 months old seedlings for various plantation activities and
- Soil Moisture Conservation (SMC) work over 26500 hectare.

#### **14.3.2. Forest Protection & Prevention of Forest fire**

- Deployment of 213 fire fighting squads in 37 Forest Divisions
- Deployment of 2270 rural unemployed youth for protection duty.
- 227 numbers of vehicles provided for protection duties.
- 10 numbers of Fire watch towers.

### 14.3.3. Infrastructure Development

- Construction of 11 Range Offices, 13 Range Officer's Residence, 90 Forester's Quarters & 258 Forest Guard's Quarters
- Construction of 31 numbers of Seizure Yards
- Construction of 129 numbers of Culverts and 406 numbers of Causeways
- Maintenance and repair of 1000 KM Forest Road.

### 14.3.4. Wildlife Management

- Management of Wildlife (Rs.221.52 Crore) in Protected Areas including protection activities, Anti-depredation activities, Communication, Habitat improvement, Infrastructure development, Zoo management & Implementation of Elephant Train Collision Mitigation Plan,
- Preparation of comprehensive Wildlife Management Plan for the state,
- Implementation of site specific Wildlife Conservation Plan.
- Relocation of families from Similipal & Satkosia Tiger Reserve.

### 14.3.5. Other Programmes

- Ama Jangal Yojana (Rs.69.00 Crore): Strengthening of VSS & preparation of Micro Plan and for taking up maintenance of the ANR & Block Plantation.
- Maintenance of Research garden & other research activities like Adaptive Research / Tree Improvement Programmes/Production of QPM and
- Construction and setting up of "State Forest Academy".

### 14.3.6. Monitoring Mechanism (e-Green Watch)

Web based monitoring portal 'e-Green Watch' has been launched for monitoring and evaluation of all activities taken up under CAMPA in the state. The process of uploading the geo-reference of all activities undertaken on to the portal has already been initiated and likely to be completed soon for their monitoring and evaluation by Forest Survey of India (FSI) & National Information Centre (NIC). Apart from that 3rd party monitoring and deployment of flyingsquads as an internal vigilance have been set up for effective monitoring & checking of all CAMPA activities

### 14.3.7. Status of Compensatory Afforestation as on January 2023

Sl. No.	Description	Forest Land (Ha.)	Non-Forest Land (Ha.)	Total (Ha.)
1	Target as per stipulation for Compensatory Afforestation	40281.760	40561.335	80843.095
2	Achievement under Compensatory Afforestation	39174.770	36103.518	75278.288

## ODISHA FORESTRY SECTOR DEVELOPMENT SOCIETY

### 15.1. Background

Odisha Forestry Sector Development Society (OFSDS) has been constituted as an autonomous society under the administrative control of Department of Forest, Environment and Climate Change, Govt. of Odisha primarily for implementation of Odisha Forestry Sector Development Project, Phase-I (OFSDP-I) during 2006-07 to 2014-15 with financial assistance from JICA (Japan International Cooperation Agency, formerly known as JBIC - Japan Bank of International Cooperation). Presently, the society is implementing three projects, namely- Odisha Forestry Sector Development Project, Phase-II(OFSDP-II), Ama Jangala Yojana (AJY) and OFSDS- OMBADC Livelihood Promotion Project in the selected Forest Divisions in the state. The Society is operated under the guidance of the High Power Committee headed by the Chief Secretary, Government of Odisha with Secretaries from 12 number of Departments as members. The Governing Body of the Society is headed by the Additional Chief Secretary to numbers of Govt., Department of Forest, Environment and Climate Change, Government of Odisha. The PCCF (Projects) and Project Director, OFSDS is the Member Secretary for both the High Power Committee and Governing Body of OFSDS.

### 15.2. Odisha Forestry Sector Development Project (OFSDP) Phase-I

Odisha Forestry Sector Development Project was initially formulated and implemented for a period of 7 years from 2006-07 to 2012-13. The project was implemented by the Department of Forest and Environment through Odisha Forestry Sector Development Society with the aim to restore degraded forests and to augment the income of villagers through promotion of sustainable forest management and community development, thereby improving environment and alleviating poverty. The total project cost agreed as per the above agreement is ₹659.70 Crore (16,429 JPY million) with JICA loan of ₹559.69 Crore (13,937 JPY million) and Government of Odisha contribution of ₹100.12 crore (492 JPY million). Subsequently, the total project outlay was revised and worked out to be ₹802.3 crore of which loan component came to ₹666.7 crore with the project period extended up to March 2015.

The project utilised an amount of ₹790.26 crore till 31st March 2015. The reimbursement claims have been submitted for ₹627.69 crore and total disbursement made by JICA up to March 2015 is ₹622.46 crore. The project was implemented in 10 districts of Odisha i.e Angul, Balasore, Bhadrak, Deogarh, Gajapati, Kandhamal, Keonjhar, Koraput, Rayagada and Sundargarh covering 14 Forest and Wildlife Divisions namely Angul, Paralakheumndi, Phulbani, Baliguda, Koraput, Jeypore, Rayagada, Deogarh, Keonjhar, Bonai, Rourkela, Satakosia (WL), Balasore (WL) and Bhadrakh (WL). The OFSDP Phase-I was rated as the only project with 4 (Highly satisfactory) category and 3 (high) rating in any categories of criteria for evaluation by third party for all JICA assistance projects in India.



### 15.3. Odisha Forestry Sector Development Project, Phase-II (OFSDP-II)

Odisha Forestry Sector Development Project, Phase-II is based on the learning of the Odisha Forestry Sector Development Project, Phase-I (OFSDP-I), which was implemented from 2006-07 to 2014-15. The learnings of OFSDP, Phase-I and of similar JICA assisted sustainable forestry management projects have been integrated into the Project Document of OFSDP, Phase-II.

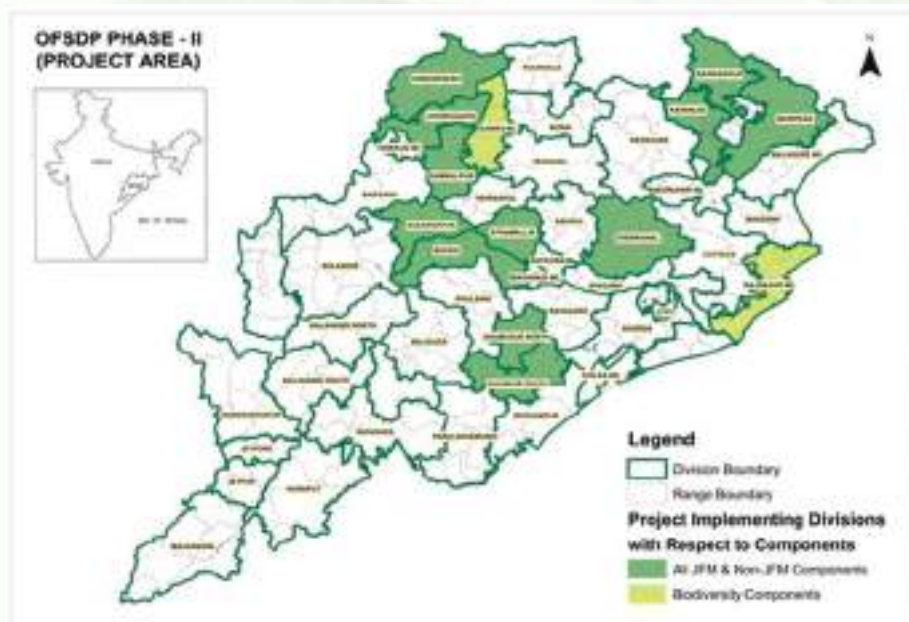
Odisha Forestry Sector Development Project, Phase-II is an externally aided project being implemented in Odisha with the loan assistance from Japan International Cooperation Agency (JICA). The Executing Agency of the OFSDP-II is the Department of Forest, Environment & Climate Change, Govt. of Odisha, whereas the Odisha Forestry Sector Development Society is the Implementing Agency of the project. Such arrangements provide adequate flexibility in implementing the project activities.

The objective of the project is to promote sustainable forest management through community participation following Joint Forest Management mode of implementation and to promote sustainable livelihoods augmentation through inter-sectoral convergence.

The major themes of the project are:

- Sustainable Forest Management through Community Participation
- Livelihood Improvement through Inter-sectoral Convergence
- Experiments in Biodiversity Conservation & Management
  - Satoyama Initiatives in Badarama Wildlife Sanctuary &
  - Scientific Monitoring of Bhattarkanika Conservation Area in Mangrove Forest Division (Wildlife), Rajnagar

This project is being implemented in 10 Revenue Districts and 12 Forest Territorial Divisions and 2 Wildlife Divisions of Odisha. The tenure of the project is ten years, which spans over 2017-18 to 2026-27. A total of 1211 number of Vana Surakshya Samiti (VSS) have been covered under OFSDP-II fold in phases from 50 Ranges. Similarly, 10 Eco Development Committee (EDCs) from Badarama Wildlife Sanctuary have also been brought under the fold of the project through the Satoyama Initiatives.



### 15.3.1. Project Outlay & Components

The Government of Odisha's share/contribution towards the project cost includes administrative expenditure for the implementation of the project in respect of PMU and 12 Forest Divisions and 2 Wildlife Divisions of the state. The Project outlay for the 10 years' project period is summarised below.

COMPONENTS	OUTLAY (Rs in Crore)
<b>A. ELIGIBILITY PORTION - JICA loan</b>	
Preparatory Works	83.4
Sustainable Forest Management	284.1
Sustainable Biodiversity Management	7.0
Livelihood Improvement	91.7
Capacity Development	73.5
Supporting Activities	131.2
Phase-out / Phase-In	5.0
Price escalation	116.3
Physical contingency	39.6
Consulting Services	16.8
Total	848.6
<b>B. NON-ELIGIBLE PORTION - State Share</b>	
Administrative cost	84.2
VAT for Material	16.6
Service Tax for Professional	35.3
Interest during Construction	13.9
Front end Fee	1.7
Total	151.7
<b>TOTAL (A+B)</b>	<b>1000.3</b>

### 15.3.2. Key Interventions under the project

The project is being implemented in JFM mode with active involvement of 1211 VSSs selected in 50 Forest Ranges within 12 Forest Divisions with execution of the biodiversity components in 2 Wildlife Divisions. For the purpose of community mobilisation and strengthening of the institutions like VSS/EDC, there is provision of engagement of the services of partner NGOs at the level of each implementing Divisions (DMU). Moreover, there is a provision for engagement of Animators at the level of each VSS for record maintenance and coordination of meetings, field level activities and convergence of programmes at the village level. The provision for Capacity Development of various stakeholders at different levels including the partner

NGOs on various technical and managerial matters covering project implementation has tremendous impact on the project implementation. Income Generating Activities for enhancing the income of 3600 Women self-help groups has also been provisioned under the project.

## PROJECT SCOPE

COMPONENTS	TARGETS
<b>Sustainable Forest Management - JFM Mode</b>	
ANR Plantation	51000 Ha.
Block Plantation	6000 Ha.
Drainage Line Treatment	1500 Ha.
Fire Protection	1710 km
<b>Sustainable Forest Management Plan - Non-JFM Mode</b>	
Farm Forestry	10000 Ha.
Drainage Line Treatment	750 Ha.
Permanent Nursery	6 numbers
Sustainable Biodiversity Management	2 Sanctuary
Livelihood Improvement	
Promotion of IGAs	3600 WSHG

### 15.3.3. Progress of Activities

Major activities implemented under OFSDP-II during the year 2022-23 are indicated below.

#### 15.3.3.1. Preparatory work

403 VSSs from Batch-III & IV FMUs (Ranges) from 12 Project Divisions have been taken up for implementation under OFSDP during 2021-22. Survey, Demarcation and Posting of pillars across the assigned area of 403 VSSs have been completed. Moreover, Micro Plan preparations in all 403 VSSs are completed.



*Culvert Construction at Tentuli VSS of Angul Division through convergence with RD Dept.*

**15.3.3.2. Sustainable Forest Management Plan**

Under these components, OFSDP-II has made the following progress in 2022-23 upto January, 2023.

Component	Activities	Target & Achievements during 2022-23 (up to January, 2023)		Cumulative Achievements up to January, 2023
		Targets	Achievements	
Drainage Line Treatment	DLT Establishment JFM Mode	26 Ha.	26 Ha.	1504.5 Ha.
	DLT Maintenance JFM Mode	1478.5 Ha.	1478.5 Ha.	1478.5 Ha.
	DLT Establishment Non-JFM Mode	13 Ha	13 Ha	756.29 Ha.
	DLT Maintenance Non-JFM Mode	743.29 Ha.	743.29 Ha.	743.29 Ha.
SMC	Fire line creation	28.5 Kms	28.5 Kms	1710.39 Kms
	Fire line maintenance	1681.89 Kms	1681.89 Kms	1681.89 Kms
	Consolidation of Forest Boundary	32 Kms	32 Kms	1897.81 Kms
Plantation	ANR Plantation	915 Ha.	915 Ha.	51006 Ha.
	ANR Maintenance	293 Ha.	293 Ha.	50091 Ha.
	AR plantation	50091 Ha.	50091 Ha.	6286 Ha.
	AR Maintenance	5993 Ha.	5993 Ha.	5993 Ha.
	Farm Forestry Plantation	2526.8 Ha.	2714.60 Ha.	6833 Ha.
Establishment of Hi-tech Nurseries	6 Hi-tech Nurseries have been established in Athamallik, Baripada and Ghumsur (North), Sambalpur, Subarnapur & Sundargarh Forest Divsiions with a capacity to raise 2.2 lakhs of Poly-pot Seedlings and 2.2 lakhs of Hyco-pot Seedlings in each Nursery every year.			

**SMC WORK in 2022-23**



SMC work Athmallick



ROWHS at Bartana VSS, Betnoti, Baripada



Construction of LBCD at Karunapali VSS under Boudh FMU



DLT Mankadachuna VSS under Ghomsur (S)

### ESTABLISHMENT OF FIRE LINES in 2022-23



Fire Line at Khajuripali VSS of Ullanda FMU, Subarnapur



Fireline work Pithabata FMU, Baripada

### HI-TECH NURSERY



Seedling in Hycopot at Hi-tech Nursery in Subarnapur Forest Division



Sal Seedling raised in poly pot at Hi-tech Nursery Sundergarh DMU



## PLANTATIONS IN 2022-23



*Plantation activities Raghunathpalli VSS under Kolabira under Jharsuguda Division*



*AR fuel fodder plantation in Gandigadha VSS in Baripada Division*

### 15.3.3.3. Sustainable Biodiversity Management

Under this component two Wildlife Divisions viz. Bamra and Rajnagar have been selected.

### 15.3.3.4. Experiments on Bio-diversity Management

Several initiatives have been initiated under the project as experiments with the innovative process of Biodiversity conservation in some target sites of the Project Area.

#### A. Implementation of Satoyama Initiatives

Satoyama Initiative, a landscape based bio-diversity conservation and management with a focused sustainable livelihood initiatives, have been taken up in 10 numbers of Eco Development Committees in Badrama Wildlife Sanctuaries of Bamra Wildlife Division under OFSDP- II.

**The Concept:** "Satoyama" is a Japanese term for landscapes that include both human production activities and natural habitats, where human influence is an essential aspect of the local ecosystem. Satoyama Initiative is based on the principle that such landscapes, when properly managed, can benefit biodiversity and human livelihoods alike, rather than biodiversity and human livelihoods being in a state of conflict, thus leading to "society in harmony with nature".

**The Coverage:** The concept of SATOYAMA is being piloted in 10 villages, covering nearly 500 households and nearly 80% of household are tribal. The major occupation of the community members is agriculture. In addition to agriculture, people largely depend on wage labour for their income. The average land holding at community level is around 2 acres and around 10% of the households are landless.

#### Key interventions taken up at the EDC level include:

1. Formulation of Micro Plan of each EDC has been completed
2. Avenue Plantation across the village

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

3. Revival of traditional variety Paddy (Bhajana) in 1 ha land (pilot) of 14 farmers
4. Training on Bio-fertiliser & Bio insecticides preparation and its use
5. Establishment of nutri garden through convergence in 32 households.
6. Supply of Smokeless Chullha to all households
7. Mushroom Cultivation, Apiculture, Livestock rearing etc. promoted through SHGs
8. Repair of Angan Wadi Centre and making it to functional
9. Clearance of invasive weed in the forest and SMC Measures: Gully Plugging, LBCD in all Nalas
10. Fire line construction and community driven protection of forest from fire
11. Solar Fencing for elephant depredation / reduction in man-animal conflict
12. Approach Pucca Road of 1 Km constructed through Rural Development Department, Govt. of Odisha
13. Revival of traditional equipment like Belana (Thrashing Equipment) and Dhinki (For Processing)
14. Declaration of plastic free - Eco friendly and open defecation free village.
15. 6 EDCs including 65 farmers marketed paddy of 15 different varieties about 20 metric tons at a cost of Rs.4.08 lakhs during January 2023.



*Satoyama Initiatives under OFSDP-II*

### **B. Establishment of Scientific Monitoring System at Bhitarkanika:**

Eco-system based Conservation Management of Bhitarkanika Conservation Area (BCA) is under implementation in Rajnagar Wildlife Division since December, 2017. National Centre for Sustainable Coastal Management, Chennai, Ministry of Environment, Forest and Climate Change, Government of India has been awarded the assignment to formulate the long term monitoring plan for eco-system based conservation and management of Bhitarkanika Conservation Area.

National Centre for Sustainable Coastal Management (NCSCM), Chennai has been preparing a database pertaining to different parameters i.e physical, chemical and biological etc.of Bhitarkanika Conservation Area for last three years. A team of scientists of NCSCM visits the

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

Bhitarkanika Conservation Area (BCA) once in every month to record the required information. The information collected for last three years on different parameters have been analysed for delineating the stress factors and in developing an integrated science based management plan “Eco-system Health Report Card” for BCA involving various components for sustainable management of the mangrove ecosystem.

The Health Report Card of Bhitarkanika Conservation Area based on different parameters (Mangrove, Phytoplankton, pH Value, Dissolved Oxygen, Chlorophyll, Secchi depth, dissolved inorganic nitrogen & phosphate of water, Benthic, Zoo Plankton, Bird population, Salt water crocodiles, Olive Ridley etc.) have been released for 2019-20 and 2020-21. This is highly helpful for the management to take immediate precautionary action for improvement, if any.



Scientific Monitoring of BCA

### C. Crosscutting Issues

#### a. REDD + Readiness- CMRV

In order to achieve the scientific and comprehensive monitoring, the project has carried out the activities to identify the drivers of deforestation, establish Community-based MRV system and build capacity to operationalize Community-Based MRV.

The drivers of forest degradation in 12 Project Divisions have been identified and the activities to address the drivers have been planned as part of the planning process. Some of the interventions that are being supported during the project include introduction of the



alternative means of livelihood and household energy sources, sustainable harvesting of NTFPs, augmentation of forests, restoration initiatives, etc. Indicative options for the interventions linked with international scientific framework (REDD+) have been framed. These activities are planned and carried out under the JFM mode and livelihood support.

The project has introduced community level MRV system so as to involve and strengthen the capacity of the community in institutionalizing the concept of community level MRV. The community is expected to be greatly benefited in sustainable management of entire forest ecosystem.

#### **b. Gender Mainstreaming**

JICA assisted Odisha Forestry Sector Development Project has considered both men and women as important stakeholders in the Joint Forest Management. The objective of gender mainstreaming strategy and action plan for OFSDP-II is to ensure gender equity in access and control over the forest resources and promote women's economic and social empowerment through project interventions for the well-being of the forest dependent communities.

Income Generation Activities have been implemented for VSS members as part of the project interventions. This is aimed to provide alternative means of livelihoods to reduce dependence on the forest resources. This has also led to the economic empowerment and subsequent upliftment of the women's status in family and community. OFSDP-II has adopted a systematic approach and monitored the progress and achievements of the gender related interventions so that OFSDP-II can systematically adopt the gender responsive actions in implementation of the Project.

The Gender Mainstreaming Guidelines have been prepared at the initial stage of the project. At the PMU/ DMU/ FMU, the Gender Mainstreaming Strategy and Action Planning is being done. At the level of VSS/ EDC/SHGs, micro planning for 10 years is prepared. Based on the long term plan, at each level, annual planning is being undertaken. The activities planned in the annual plans are implemented by the project implementation units. As part of the regular project monitoring cycle, the periodic reviews are undertaken at each level, where the progress and achievements of the annual plan is monitored; of which gender responsive components are a part.

#### **c. Environment and Social Management Safeguard Framework (ESMSF) and Scheduled Tribes and Forest Dwellers Planning Framework (STFDPF)**

It is mandated under any JICA Assisted project to internalize and institutionalize the safeguard measures for avoiding adverse environmental and social impacts of implementation of a project in the project area. The OFSDP II project is currently categorised as "Financial Intermediary (FI)" in accordance with the JICA guidelines (2010) which means that the project would not exhibit any significant negative impact on environmental and social dimensions. However, under this project, a broad framework on Environmental and Social Management System Framework (ESMSF) and a specific framework on Scheduled Tribe and Forest Dependents Plan Framework (STFDPF) is mandated.

Environmental and Social Safeguard system under the OFSDP II is to follow proper procedures including the free, prior and informed consultations with the stakeholders such as VSS/ PRI members, Forest Department staffs on possible negative and positive environmental

and social impacts of the sub-projects identified by the beneficiaries such as Scheduled Tribes/ Scheduled Castes/Other Backward Castes and forest dependents in general. Micro-plan is the planning tool at the grass- root level and it is used to develop the indicators on forest management, forest product harvesting, use and trading, seasonality etc., of the forest protection and it also visualises the implementation of the project and its possible impacts. The broad checklist for monitoring of the environmental and social safeguard measures has been integrated into the Micro-plans for monitoring. The environmental and social management and monitoring plans are defined and followed for ensuring the successful implementation of the project components.

The Environmental and Social Management Safeguard Framework (ESMSF) for the OFSDP-II is the primary reference document outlining how environmental and social considerations are being addressed during the project implementation. ESMSF works together with the Scheduled Tribe and Forest Dependents Plan Framework (STFDPF) and also refers to the other safeguards tools which are intended to concentrate on or elaborate specific aspects.

#### **D. Livelihood Improvement Initiatives**

##### **a. VSS Building cum IGA Facilitation Centre**

Under Community Development component, a multi-purpose community building "VSS Building cum IGA Facilitation Centre" is being constructed in each VSSs covered under the Project. Till end of January 2023, a total of 1167 buildings have been constructed and constructions of the rest of the buildings are in progress and expected to be completed shortly.



*VSS Building-cum-IGA facilitation centre constructed in 2022-23*

##### **b. Community Development through Inter-sectoral Convergence:**

Comprehensive development of the project villages has been envisaged under OFSDP-II through inter-sectoral convergence. Such development includes improvement in infrastructure, health, education, livelihood, sanitation, electricity, forest coverage, integrated farming, small scale enterprises etc. Comprehensive development Plans of 1211 VSSs have been formulated in a participatory manner at community level. The VSSs have prepared a comprehensive "Convergence Plan" or a Perspective Plan, under OFSDP-II. Convergence plan. Micro plan preparation of all the project VSSs are completed in all aspects among the 1211 VSSs in 12 Forest Divisions.

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

The Line departments are being involved at VSS level during preparation of convergence plan while formulating the micro plan. The plan is discussed in the Block level Advisory Committee (BLAC) Meeting under the Chairmanship of Block Development Officer. The convergence plan of each VSS is being discussed in the BLAC Meeting and the nodal officers of the respective departments actively implement these activities through the VSSs.

Similarly, the District Advisory Committee Meetings are conducted at District level under the Chairmanship of Collector & District Magistrate. The convergence issues are being highlighted to sort out the issues and to ensure the activities to be taken up in the villages on priority.

Since the beginning of implementation of OFSDP-II, a sum of Rs. Rs.320.68 crore have been mobilized through inter-sectoral convergence, covering about 14.14 lakhs number of beneficiaries in the project villages till January 2023. The activities taken undertaken in all the VSSs covered under OFSDP-II through various Departments include supply of drinking water, provisioning of toilets, supply of seeds of pulses, cereals, vegetables, distribution of LPG connection, financial and technical support to the SHGs for development of Micro enterprise, series of capacity building activities, field demonstration etc. have been facilitated through convergence. Similarly, kitchen garden, nutri-garden, supply of horticulture seedlings were also facilitated through horticulture department. Series of health camps are being organized at VSS level on regular intervals. Schemes of Fisheries and Animal Husbandry department are being synergized for the development of the forest dwellers in association with the Vana Surakshya Samities. The Project authorities have been working in tandem with the agencies and programmes under various Departments to provide the optimum benefits to the forest fringe dwellers of the VSSs.

### Department Wise Convergence from the April 2018 till January, 2023 under OFSDP-II

Sl. No.	Departments	Beneficiaries	Funds mobilised (Rs. in Lakh)
1	Agriculture & Farmers' Empowerment	51713	935.23
2	Corporate & Bank	11254	804.33
3	Department of Water Resource	1036	11.75
4	Dept. of Energy & OREDA	797	52.74
5	Dept. of Industry	569	58.02
6	Dept. of Mission Shakti	6772	433.04
7	Dept. of Youth Services & Sports	901	6.20
8	District Mineral Foundation	1597	96.19
9	Finance Department	783	4.46
10	Fisheries and ARD Department	55683	1088.11
11	Forest, Environment & Climate Change	136385	1204.18
12	Health & FW Dept.	105468	287.53
13	Horticulture Dept.	51921	1210.35
14	Irrigation	9706	744.24

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

15	Labour Dept.	623	21.85
16	Ministry of Food Processing	268	3.56
17	Ministry of Petroleum & Natural Gas (IOCL and others)	17928	288.79
18	MSME	688	13.25
19	NABARD	2980	8.10
20	NGO	11709	53.04
21	NHAI	63	3.61
22	OLM	4598	253.39
23	Others (Municipality, CSR, MP Lad Fund etc.)	3568	33.79
24	Panchayti Raj & Drinking Water	816137	20061.04
25	PWD	3853	252.75
26	Railway Dept. (Skill Development)	24	2.40
27	Revenue & Disaster Management	213	8.21
28	Rural Development	16382	857.65
29	SC & ST Dev. Dept.	47158	1231.26
30	School & Mass Education	1059	32.56
31	Skill Development & Technical Education	4746	105.41
32	Social Security & Empowerment	144	0.81
33	Soil Conservation Dept.	20723	1517.19
34	Urban Development.	2056	57.50
35	Western Odisha Development Council	212	5.00
36	Women and Child Development	24864	281.36
37	Handlooms, Textiles & Handicrafts Dept	50	39.30
<b>Grand Total (Convergence)</b>		<b>1,414,631</b>	<b>32068.18</b>

### c. Income Generation Activities

Promotion of small Income Generating Activities (IGAs) by involving women Self Help Groups (SHGs), Common Interest Groups (CIG) and Poorest of Poor (POP) have been taken up under OFSDP-II. The Project provides support for strengthening these institutions through capacity building, in their business planning, credits, product development including value addition and in establishing market linkages. Various alternate livelihood options have been identified through product mapping for the forest dependent communities in the project area and these are being aggregated at Cluster level. The PMU has developed a guideline on Grounding of IGAs under OFSDP-II.



*Income Generation Activities, Athamallik*



*IGA work at Karanjia DMU*

**d. Establishment of Multi- Product Clusters to promote Income Generation Activities in Project VSS:**

In order to facilitate product aggregation and collective marketing, multiple product clusters have been identified for each Division. Accordingly, three Sal leaf Clusters have been established in Baripada, Karanjia and Rairangpur Forest Divisions of Mayurbhanj District. Product Mapping, identification of beneficiaries, formulation of business plan and trial production has been initiated. Establishment of more 9 Clusters in other Project Divisions is under progress.

**e. Livelihood Resource Cell:**

Livelihood Resource Cell has been established under OFSDP-II since 2019-20 to provide long term support during and beyond for promotion and strengthening of product clusters. It facilitates the individual units involved in IGAs to traverse the business growth trajectory. Detailed guideline on functioning of LRC is being prepared for circulation to all Project Divisions. Advisory Committee at PMU level has been constituted to facilitate the functioning of LRC and to promote IGA activities through small units on cluster mode. Guideline on Income Generation Activities & Revolving fund has been prepared and training on the same has been imparted to all field level staff for effective utilization of fund to promote IGA activities.

**f. Initiative of Marketing and Management Support Agency:**

For Establishing and Operationalizing the Multi Product Cluster under OFSDS a Marketing and Management Support Agency (MMSA) the consortium of KIIT Technology Incubator, Bhubaneswar (KIIT-TBI), Bhubaneswar City Knowledge Institute Centre (BCKIC), Bhubaneswar, Indian Institute of Education (IIE) Guwhati have been engaged since June 2022 for augmenting various management and marketing strategies for the multi-product clusters developed under OFSDP-II.

**E. Capacity Building:**

During the preparatory phase of OFSDP-II, Training Need Assessment (TNA) Exercise was carried out to ascertain the training need of all stakeholders associated in implementation of OFSDP-II. Based on the TNA Document, a comprehensive capacity building requirement document under OFSDP-II has been prepared. Based on the intervention plan of VSSs, the capacity building



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

plans for all stakeholders are being prepared every year. Further, modules relating to all training programme are being prepared at PMU. The field staffs of OFSDP-II at DMU & FMU level are being oriented on the thematic trainings as Training of Trainers for conducting similar trainings for the primary stakeholders.

Customized Capacity Building Modules along with corresponding power-point presentation are prepared for the trainings and are shared with the field staff for conducting the second round of trainings at field level. Till January, 2023, a total of 3309 numbers of trainings/ orientation programme / exposure visits of primary and secondary stake holders have been conducted under OFSDP-II covering about 1,36,632 number of beneficiaries for smooth and effective implementation of project interventions.

The major themes covered till date under the capacity building aspects are as below:

1. Implementation OFSDP-II: Goal, Objectives, Project Components, Implementation Modalities, Roles and responsibilities etc.
2. Strategies and approaches for Community Mobilization for Primary Stakeholders
3. Preparation of Micro Plan/ Annual Plan / Perspective Plan etc.
4. Survey, demarcation & posting of Pillars
5. Sustainable Forest management in JFM Mode.
6. Book Keeping & Accounts Management at VSS level
7. Promotion and Livelihood initiatives through SHGs
8. Gender Mainstreaming
9. Community based Monitoring, Reporting & Verification (CMRV)
10. Guideline on Revolving Fund
11. Book Keeping & Accounts Management at FMU & DMU level.
12. Integrate Management System: function & Use
13. Integrate Management System: a tool for Concurrent Monitoring
14. Forest Conservation & Management
15. SMC & DLT Measures & Forest Protection Mgt at VSS
16. Communication & Management for senior staff
17. Operational Guideline of Revolving Fund
18. Skill Development of SHG members on Sal Leaf Processing & Machine Sewing at Cluster
19. Skill Building training on IGA Through Convergence
20. Training on CMRV, Gender Mainstreaming & ESMSF Framework
21. Training on Re-visit of Micro-plan



Capacity Building programme, Sadar FMU, Sambalpur Division



Pisciculture training, Athmallik



Certification Distribution at SB RSETI Boudh



Capacity Building Programme

## F. Monitoring Activities:

### 1. Baseline Survey on Socio economic and Physical situation:

A detailed survey to capture baseline information on Socio economic and Physical situation of the project intervention areas and control area has been taken up by hiring an external agency. The baseline report would help the project to ascertain the impact / changes in the project areas due to project interventions.

### 2. Concurrent Monitoring:

GIS based Information Management System has been established under OFSDP-II to for concurrent monitoring of project interventions at field level. Dedicated module has been prepared for the activities / sub activities for all project components, wherein the field staff upload the data on real time basis to ascertain the progress.

The GIS Cell of OFSDP-II also prepares different thematic map (base map, potential treatment map, land use land cover map etc.) for each VSS, which contributes significantly in the planning exercise. Moreover, LISS-IV FMX of IRSRS2 satellite imageries covering the entire state of Odisha are being procured as well for different years from NRSC for planning and analyzing the changes occurred.

**G. Communication & Publicity:**

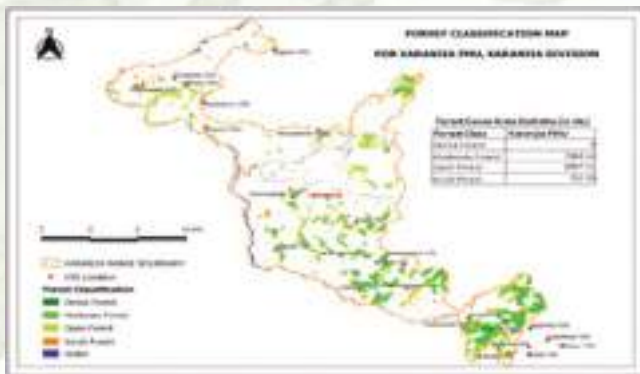
Communication and Documentation has been given utmost priority since commencement of OFSDP-II project. A detailed guideline of Communication Strategy for OFSDP-II has been developed and published. Requisite trainings on communication has been organized for the project staff associated in project implementation. Moreover, Quarterly News Letters highlighting the lessons learnt on different thematic areas of each Division are being captured for knowledge management and dissemination information to all quarters.

Sameekshya, an innovative platform both at DMU level and State level has been adopted under OFSDP-II for the VSS members and p-NGOs to showcase their successful endeavors. Such initiatives is not only an empowering platform for the VSS members to share their achievement to a larger audience but also contribute significantly for sharing of knowledge among each other for better appreciation and quick adoption. Further, Annual Progress Reports of OFSDP-II are being published regularly.

**H. Geomatics Centre established at PMU:**

The Geomatics Centre of OFSDS established in Project Management Unit of OFSDP at SFTRI, Campus, Ghatikia, Bhubaneswar. The centre is primarily involved in providing Geographic Information Management (GIS) solutions and Management Information System (MIS) reports, which facilitates in advanced planning & effective management of project activities. It is also involved in in-house development, deployment and maintenance of MIS and GIS Integrated System solutions of OFSDP-II and other projects. Since inception, the centre has been actively facilitating and providing support to the PMU in continuous monitoring and evaluation of progress of all development activities and programmes of the projects.

The GIS Lab is equipped with high end Workstations, Printer, Plotter, Scanner of required specifications and a video wall for high resolution image analysis and monitoring activities. The other equipment includes DGPS, GPS and Total Stations for ground truthing activities.



Forest Classification Map



GIS Application of OFSDP-II



### Activities in Geomatics Centre

1. Developing and maintenance of all in-house GIS based decision support system.
2. Developing an archive of consistent and accurate geographic data and integrate up-to-date MIS for all forest activities within the project divisions.
3. Formulating and developing new MIS modules for data capturing & concurrent monitoring.
4. Building capacity of forestry officials and staff at all levels by using Geomatics.
5. GIS and Remote Sensing studies for forest cover analysis.
6. Preparing databases for the record of all information.
7. Maintenance & Development of both web and mobile applications and content management of Web portals.
8. Map preparation along with procurement of Resources at-2 LISS-IV imageries and FSI data.
9. Maintenance of IT infrastructure of PMU.
10. Coordinating with external stakeholders for IT related activities like procurement through GeM, emails management, web meeting/ hosting through NIC and etc.

### 15.4. Ama Jangala Yojana (AJY)

Ama Jangala Yojana (AJY) is a flagship program of Government of Odisha, being implemented through Odisha Forestry Sector Development Society with the objective to promote participatory and sustainable forest management and alternative livelihoods for the forest fringed communities in the State. AJY envisages strengthening of the community based institutions for protection of forest and creation of alternate livelihood opportunities to reduce pressure on forests. The tenure of the project is six years (2016-17 to 2021-22) with an extension period from 2022-23 to 2024-25. The Scheme is being implemented in 22 Territorial and Wildlife Divisions of the State covering 4601 Vana Suraksha Samities (VSSs) covering about 4.2 lakh Households. All the activities are being carried out with active participation of local community based institutions called Vana Suraksha Samities (VSSs) in Joint Forest Management (JFM) mode. State CAMPA & State Plan are the major source of funding for Ama Jangala Yojana.





## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

Total 4601 nos. of VSSs have been covered under the scheme by January, 2023. As a major policy under the project, participatory village micro-plans have been prepared, approved in *Gram Sabhas* and implemented in all 1965 villages under the project. In addition to this, 14,263 women self-help groups are linked with various Income Generation Activities (IGAs) under inter-sectoral convergence with Line Departments. During the Project period (as on January, 2023), Assisted Natural Regeneration (ANR)- Without Gap Plantation has been carried out in 2,09,568 ha of forest area and ANR-With Gap Plantation has been carried out in 20,000 ha of forest area under the project in 18 Forest Divisions. Apart from these, Block Plantations have also been raised over 1005 ha of forest land in 12 Forest Divisions. Out of the above, maintenance activities are being carried out in 95, 837 Ha (25,950 Ha under 4<sup>th</sup> year maintenance, 27,000 Ha under 3<sup>rd</sup> year maintenance and 22, 887 Ha under 2<sup>nd</sup> year maintenance of ANR without Gap Plantation and 20000 Ha under 2<sup>nd</sup> year maintenance of ANR with Gap Plantation) of Assigned Forest Area during the present year. Forest protection activities such as Survey, Demarcation, Pillar Postings and Fire Protection Activities have been carried out in the assigned areas of all 4601 VSSs. Soil & Moisture Conservation activities such as Check Dams, Loose Boulder Check Dams (LBCD) and staggered trenches have been created in the assigned areas under the project VSSs. Most importantly, the fire incidents in the assigned areas under AJY could be handled by the proactive response of the VSS members and the project team.

Capacity Building Training programs have been carried out under various project components, such as Survey and Demarcation, Community Mobilization, PRA tools and Micro Plan preparation, GIS based monitoring, ANR Operations and Soil Moisture Conservation Measures involving all 4601 VSSs. In addition to this, skill based Capacity Building Training (CBT) programs for income generation & livelihood promotion have been conducted through convergence involving 14,263 women SHGs of the project area.

There was provision for construction of VSS building-cum-IGA Facilitation Centers in the villages under AJY. As on January, 2023, total 512 numbers of VSS buildings have been completed and handed over to the communities for multipurpose use. Additionally, 100 numbers of VSS building-cum-IGA Facilitation Centers are under construction in AJY project area.

Fifteen (15) Partner NGOs have been engaged in the field level as support organizations for community mobilization and livelihood promotion activities under the scheme. Up to January, 2023 total Rs. 663.04 Crores have been mobilized from other Line Departments benefitting about 24,51,907 persons under the Scheme. During the current year (April, 2022 to January, 2023), the AJY team could mobilize Rs. 120.59 Crores through convergence with other Line Departments under different Schemes, benefitting about 4,08,157 persons of the project area. Additionally, AJY team has accomplished many activities pertaining to community infrastructure development and livelihood improvement for the benefit of the local communities.

After completion of the Project, the Government of Odisha has extended the Scheme for additional 3 years (2022-23 to 2024-25). It has been mandated to carry out the maintenance activities in 95,837 Ha of assigned area under 1964 VSSs belonging to 22 Forest Divisions in which ANR with & without gap plantations have been taken up along with to expedite the livelihood promotion activities for the forest fringe dwelling communities during the extended period.



**1. Community Mobilization & Institution Strengthening :**



*EC Meeting at Jharbelda VSS, Keonjhar Division*



*Grama Sabha at Tangiriapal GP under Keonjhar Wildlife Division*



*GB meeting at Gamhardi VSS, Redhakhol Division*



*GB meeting at Rukhatola VSS, Redhakhol Division*



*VSS monthly meeting at Jhariapada VSS, Balliguda Division*



*Forest Fire Awareness meeting at Sankhajurali VSS, Rourkela Division*





G.B. meeting at Sinduria VSS, Keonjhar Division



GB Meeting at Samanali VSS, Keonjhar Division

## 2. ANR & Maintenance Activities:



ANR with gap plantation at Gopinathpur VSS of Telkoi Range, Keonjhar Division



Maintenance work of ANR with Gap Plantation at Sundra VSS of BJP Range, Keonjhar Division



ANR with gap plantation at Banbir VSS of Patna Range, Keonjhar Division



Maintenance work of ANR with gap plantation at Kaurikala Patrasahi VSS of Champua Range, Keonjhar Division



SSO work at Bagpada VSS, Khariar Division



ANR with Gap Plantation at Pikaradi VSS of Phiringia Range under Phulbani Division



Silvicultural Operation at Kharuatoli VSS under Rourkela Division



ANR Plantation site at Khajuribani VSS, Keonjhar Wildlife Division

### 3. Prevention of Forest Fire:



Fire Line creation work at Panasuan ANR plantation site in BJP FMU of Keonjhar Division



Meeting on Forest Fire Prevention at Gopinathapur VSS, Keonjhar Division





*Forest fire prevention awareness and oath talking at Ulibasa VSS, Keonjhar Wildlife Division*



*Forest Fire Prevention Awareness Rally at Bankapatuli VSS, Keonjhar Division*

#### 4. Capacity Building Initiatives



*Capacity Building Training Program at Kumbhitangiri VSS, Keonjhar Wildlife Division*



*Capacity Building Training Program at Gayalamunda VSS, Keonjhar Wildlife Division*



*Mushroom Cultivation Training at Sinapali Range under Khariar Forest Division*



*Capacity Building Training at Champanagar VSS, Keonjhar Wildlife Division*



*Training and installation of vermin-compost at Sologoda VSS, Keonjhar Division*



*Exposure visit by Keonjhar DMU to S.K. Bio-flock at Kakabarei Village, of Balasore district*

## 5. Livelihood Promotion



*Kitchen Garden developed by vegetable minikit at Mishrapali VSS area of Rourkela Division, an AJY convergence initiative*



*Maize cultivation at Medinipur VSS, Keonjhar Division through AJY convergence initiative*



*Vegetable cultivation by poly mulching at Baba Bholeswar SHG under Purujoda VSS of Keonjhar Division*



*Vegetable cultivation by poly mulching by Omm Shree SHG at Ghuntuposi VSS of Keonjhar Division*



HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



Potato Seed Distribution by RO Banki & Sarpanch Badapurnapani under Rourkela Division



Cattle Vaccination drive by Khariar Division



Potato Cultivation at Bahmindhoda VSS of Bisra FMU, Rourkela Division



Banana cultivation at Thopaberna VSS, Rajgangpur FMU, Rourkela Division



Grafted mango seedling distribution at Sorda VSS, Bisra FMU, RKL



Vegetable Seed distribution at Kasipada VSS, Rajgangpur FMU, Rourkela Division





*Vegetable seed mini kit distribution at Raourkela Division through convergence with Horticulture Dept.*

## **15.5. OFSDS-OMBADC Livelihood Promotion Project**

### **About the Project**

People living in and around forests are highly dependent on forest resources for their livelihoods. Scheduled Tribe (ST) and Scheduled Caste (SC) populations, which are concentrated in forest fringes, depend largely on forest resources. To reduce dependency of the Poorest of Poor (PoP), socially vulnerable people and ST&SC community on forest resources and to improve the health of Forest Ecosystems, it is necessary to enhance and strengthen their livelihoods by providing them with a range of alternative livelihood options. Improving their skills and competencies and connecting them with various developmental programs can bring visible changes in their life.

The OFSDS- OMBADC Project is to be implemented with a view to mitigate the adversities faced by the forest fringe dwellers to some extent by providing them livelihood promotion opportunities.

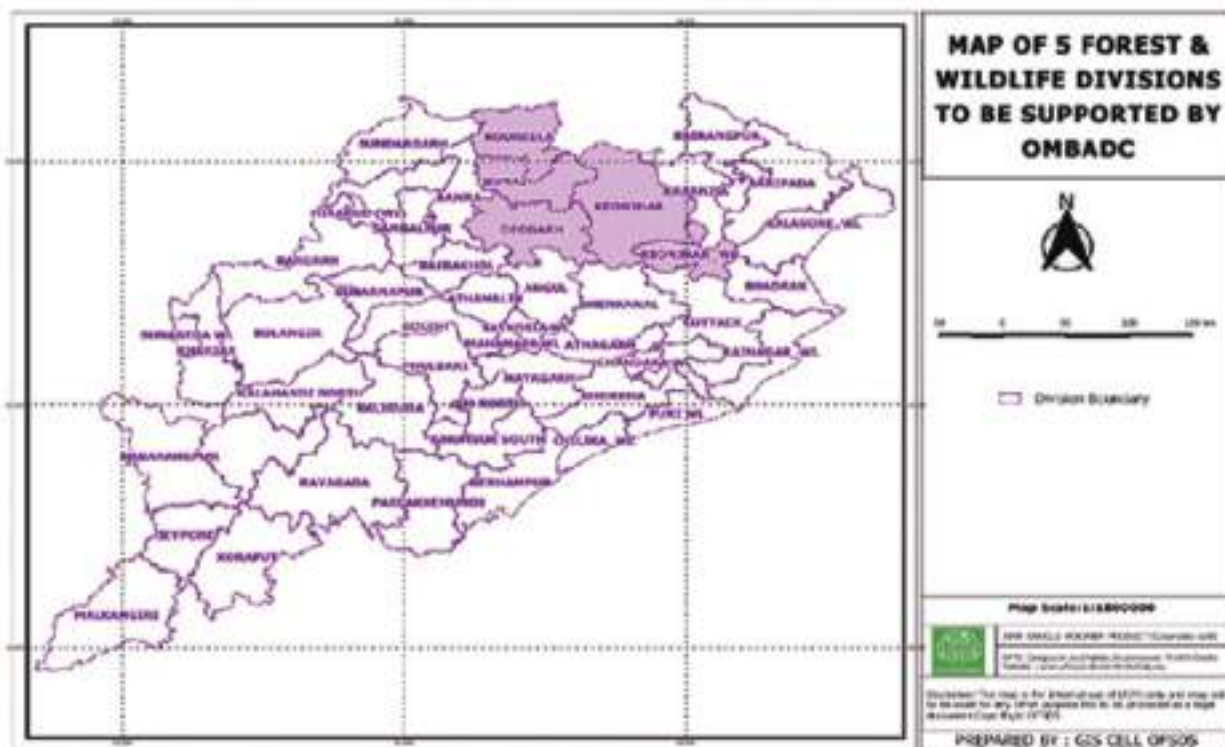
### **Objectives**

The primary objectives of the Livelihood Promotion Project, OFSDS- OMBADC are:

- i. To provide alternative livelihood opportunities of the forest dependent and forest fringe dwelling communities so as to reduce their dependency on forests and provide additional/ alternative source of income.
- ii. To enhance the skill (technical, managerial and decision making) of the forest dependent communities including ST & SC population on various Income Generation Activities.

### Location of the Project

The project is proposed to be implemented in 900 VSSs under 25 Forest Ranges belonging to 5 Forest Divisions namely; Rourkela, Bonai (Sundargarh District), Keonjhar, Keonjhar (WL) (Keonjhar District) and Deogarh Forest Division (Deogarh District).



### Institutional Framework

An OFSDS-OMBADC Cell has been created at the PMU, OFSDS which will be monitoring the implementation of the livelihood project in the 5 Forest Divisions, namely Bonai, Deogarh, Keonjhar, Keonjhar (WL) and Rourkela Divisions. The cell is administered by the Deputy Project Director, (CME&S) as the nodal officer, and will be assisted by Expert, NRM and Expert Livelihood from the PMC with adequate support personnel.

Similarly OMBADC Cell have been created at each Division level with the DFO, ACF, AJY Co-ordinator/ Cluster Co-ordinator, P-NGO member and DEO as members. At FMU level, the Range officer will be in- charge of implementing the project in the selected VSS.

### Project Components

The project has the following components:

1. Livelihood Promotion
  - 1.1. Convergence with line Departments
  - 1.2. Promotion of Income Generating Activities
  - 1.3. Development of multi- product Clusters

1.4. Business Development Service

2. Institution Building and Capacity Building

### **Fund provisioning**

Till January-2023, Rs.23.40 Crores has been received from OMBADC for the project activities, out of which Rs.19.77 crores has been released to field for utilization. Utilization Certificate have been submitted for Rs.12.48 Crores. Balance with OFSDS Rs.10.92 Crores for submission of Utilization Certificate.

### **Major Activities initiated under the OFSDS-OMBADC Livelihood Promotion Project up to Jan 2023**

The major activities initiated under the OFSDS-OMBADC Livelihood Promotion Project up to January 2023 are as follows:

#### **Community Mobilization and Institution Building**

Community Mobilization at VSS level is highly significant in OMBADC Project of OFSDS to ensure community participation in project planning, implementation, monitoring and post project sustainability.

All Project personnel including the members of partner NGOs are responsible for Community Mobilization and Institution Building. Such initiative contributed significantly to sensitize the VSS members to understand the project objectives, activities, implementation modalities and roles and responsibilities of each stakeholder in smooth implementation of the project for overall development.

#### **Activities conducted under Community Mobilization include:**

1. Constitution / Reconstitution / strengthening of VSSs General Body and Executive Committee
2. Sensitization on JFM Mode of Implementation
3. Discussion on Roles and Responsibilities of all Stakeholders
4. Book Keeping & Record Maintenance
5. Participatory Micro Planning Processes
6. Implementation of Project Interventions in JFM Mode at VSS level.
7. Approaches of Community Development through Inter-sectoral Convergence

#### **The Progress of OFSDS OMBADC Livelihood Promotion Project**

The progress of activities till January, 2023 is as follows:

1. VSS identification and Community mobilization has been completed in all 900 number of VSS.
2. The reconstitution of VSS as per the JFM resolution has been completed in 513 VSSs.
3. 900 numbers of community level training programme at VSS level completed.

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

4. Executive Committee of all the 900 VSSs have been resolved as sub-committee of Gram Sabha for compliance of FRA.
5. Survey, Demarcation and pillar posting of the forest area assigned to the VSSs completed.
6. Identification and approval of the products for IGA completed.
7. Identification of 3237 numbers of SHG for inclusion in the project activities completed in all 900 VSSs.
8. Promotion of guideline on management of Revolving fund for the Income Generation Activities of the SHG/CIG and Poorest of the Poor, circulated among the field staff as well as capacity building of the field level staff completed.
9. Constitution of loan appraisal committee in all VSSs completed.
10. PRA Exercise has been completed in 645 numbers of VSSs.
11. Livelihood plan preparation completed in 442 VSSs.
12. Financial assistance to all project VSS for Income Generation Activities have been released.
13. Till January, 2023, 5402 numbers of various meetings conducted at VSS level.
14. Till January, 2023, 20,858 numbers of participants of 1899 numbers of women Self Help Groups have been trained through various Capacity Building Training Programmes under the project.
15. Community Development Activity amounting to Rs.207.87 Lakhs have been mobilized through convergence of 8 Line Departments during January, 2023 benefitting 4980 Persons (2462 Male & 2518 Female) in OFSDS-OMBADC Project Divisions.
16. During the year 2022-23, preparation of livelihood plan as well as training on Income Generation Activities at VSS level is going on under OFSDS-OMBADC Livelihood Promotion Project.

### 1. Community Mobilization



*VSS Meeting at Dandasingha VSS, Deogarh Division*



*Awareness Meeting in Raghubeda VSS, Ghatgaon Range of Keonjhar Division*



PRA (Social Map) at Mishrapali VSS, Rourkela Division



PRA (Resource Map) at Gouduniposh VSS, Rourkela Division

## 2. Capacity Building Initiatives



One day Capacity Building Training at DMU conference Hall, Keonjhar Division



Range Level Capacity Building Training at Patna Range, Keonjhar Division



OFSDS-OMBADC Project Appraisal meeting at Mardang VSS, Deogarh Division



OFSDS-OMBADC Project Appraisal meeting at Asanlata VSS, Deogarh Division



*One Day Capacity Building Training on 'Preparation of Livelihood Plan' on 8th August, 2022 at the Conference Hall of OFSDS*

### 3. Livelihood Planning



*Livelihood Promotion Planning with VSS members, Badudighar VSS of Gayalamunda Section under Keonjhar (WL) Division*



*Livelihood Promotion Planning with SHGs members at Nuagaon VSS, Barkote FMU of Deogarh Division.*



*Livelihood Promotion planning at Haribeda VSS, Gayalamunda Section under Keonjhar (WL) Division*



*Livelihood Promotion planning at Arjunchuan VSS, Rourkela Division*



*Business Plan Preparation at Jareikela VSS, Deogarh Division*



*Business Plan Preparation at Gargadabahal VSS, Deogarh Division*

#### 4. Formation of Loan Appraisal Committee



*Loan Appraisal Committee formation at Kaliakhamar VSS, Deogarh Division*



*Loan Appraisal Committee formation at Bahia EDC, Hadagarh FMU of Keonjhar (WL) Division*



*Loan Appraisal Committee formation at Tainsar VSS, Deogarh Division*



*Loan Appraisal Committee formation meeting at Sangam VSS, Hadagarh FMU of Keonjhar (WL) Division*

## FOREST INFORMATION TECHNOLOGY AND GEOMATICS CENTRE (FITGC)

### 16.1. FIT & Geo-matics Centre

The primary objectives of the Forest Information Technology and Geo-matics Centre (FITGC) functioning in the O/o PCCF & HoFF, Odisha are to:

#### 16.1.1. Objectives

1. Undertake geospatial survey of all Forest Blocks and land parcels recorded or deemed as forests using RS, GIS and DGPS survey, development of Decision Support System,
2. Develop, upgrade and maintain web based Management Information System/GIS for the Forestry Sector (OFMS) in the state of Odisha,
3. Provide Internet & Wi-Fi facility with OSWAS connectivity in all the six floors of Aranya Bhawan including its maintenance,
4. Ensure Internet & OSWAS Connectivity in all the Field functionaries up to Divisional Level,
5. Procure, instal, commission and maintain Computer/Server/ VC solution/CCTV Surveillance/ Network Hardware and Software system in the Forest Headquarter and provide guidance to field units thereof,
6. Develop, maintain and up-grade a comprehensive database on web-based GIS application for decision support System in Forest Management and use of Odisha Spatial Data Infrastructure (OSDI),
7. Monitor Forest Cover Change periodically and land based forestry activities using Remote Sensing and GIS Technologies,
8. Facilitate programmes for capacity building of forestry personnel to build their capabilities to handle MIS/GIS activities for Forest Management & Protection and
9. Procure IT Equipment in Government e-Market Place by FITGC.

#### 16.1.2. Activities taken up for operationalizing the above objectives are briefed below:

- 1) **Official Website for the State Forest:** Official Website for the Forest Organization has been developed by the FITGC in the domain name [www.odishaforest.in](http://www.odishaforest.in) having about 90 dynamic webpages hosted in the server placed at the Forest Headquarters, Odisha. Now initiatives have been taken for preparation of unified website for the whole state Forest Department. This contains links to the Circle and Division Level Portals. The respective Field Units can upload and edit the contents of their own websites through content management system. This has been developed using in-house resources of the Forest Department.



- 2) **DGPS Survey and Geo-referencing of Forest Lands in Odisha using high accuracy DGPS Survey, Remote Sensing & GIS:** For the implementation of the Supreme Court directives, MoEF & CC directed all States for Geo-referencing of all types of forestlands in the State/UTs. It is mandated to Complete the exercise to identify all types of Forest lands (recorded & deemed forest areas), Creation and regular updating of GIS based Decision Support System (DSS) with the location-boundary of each plot of land, ESZ & PA areas, Diverted Forest Land, FRA Land.

Forest, Environment & Climate Change, Dept Govt. of Odisha under the 5T initiative has taken up geo-referencing of all kinds of forestlands (RF, PF, Revenue forests and deemed forests) and preparation of forest cadastres for the entire State as per directives of Hon'ble Supreme Court of India using DGPS, GIS & RS. Acting on the directives and with joint efforts of Forest and Revenue departments, Odisha is the pioneer state till date to gazette notify a Standard Operating Procedure back in July 2017.

The project aims to prepare geo-referenced forestland records of about 60,991 Square Kilometer of forestland i.e. 39% of the state's geographic area, duly reconciled and integrated with the revenue land records on a cadastral scale.

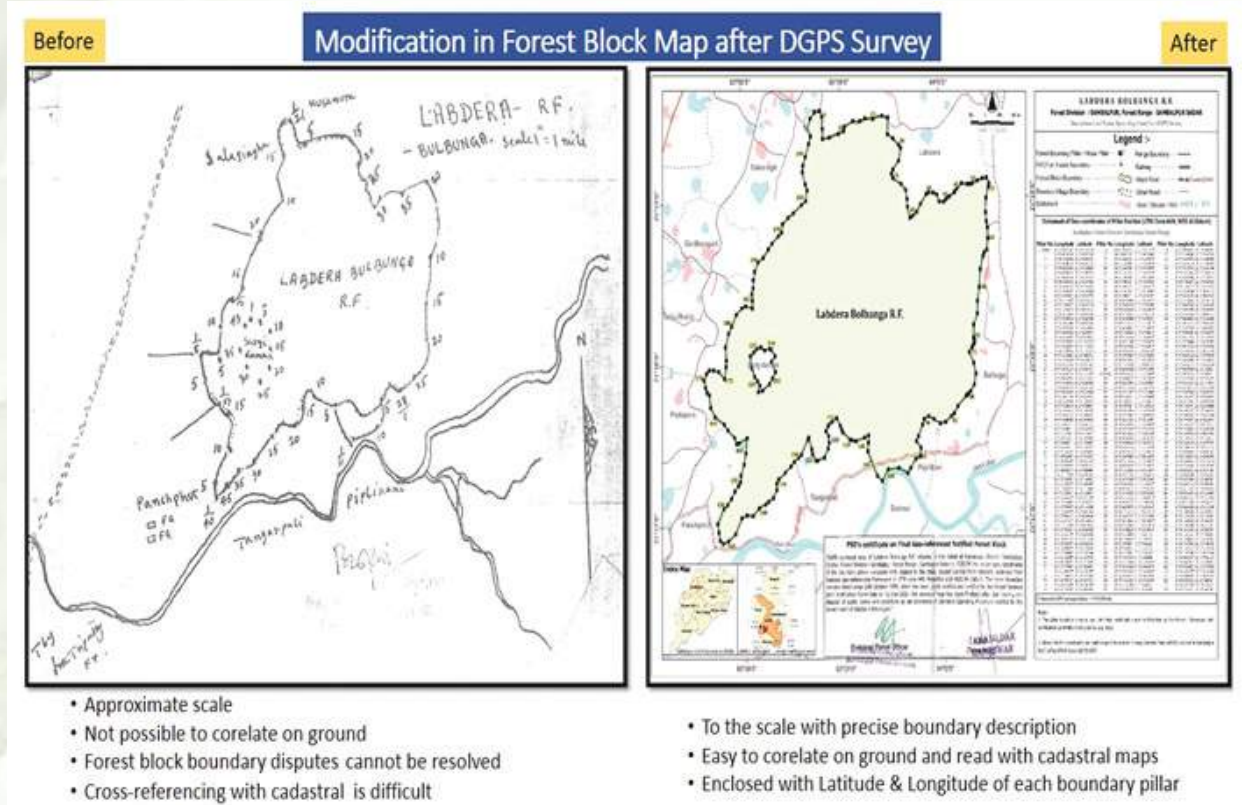
Till now validation of CMV & MMV has been completed in 39 Divisions, FRJVC in 2231 Forest Blocks of 18875.03 Square Kilometer area, DGPS Survey in 2231 Forest Blocks of 15362.91 Square Kilometer area, DLC/ROR validation in 92 Tahsils, Final FSO certification of 1371 Forest Blocks of 8740.74 Square Kilometer area, ORSAC quality assurance (QA) & QC verification & authentication of 1901 Forest Blocks of area 12095.76 Square Kilometer area has been completed.



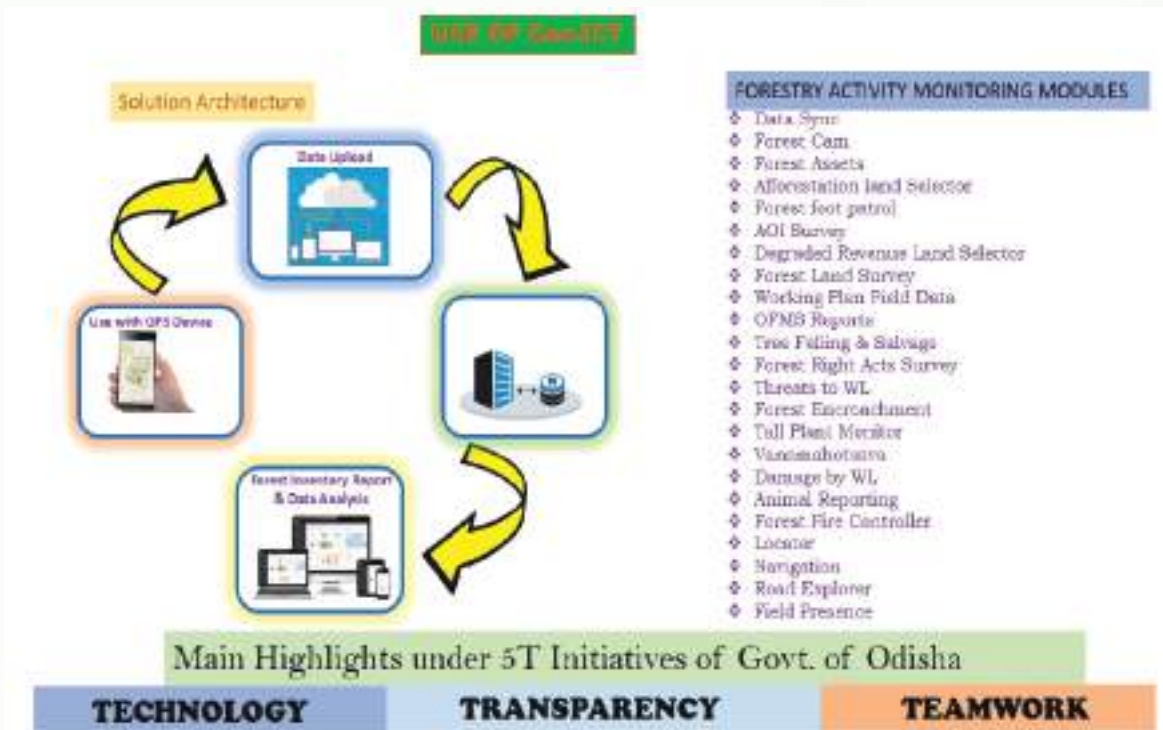
# HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



DGPS Survey going on in the Forest Blocks



- 3) **Wi-Fi LAN System in Aranya Bhawan:** Wi-Fi LAN has been established in the office of PCCF, Odisha through a dedicated leased line connection from Software Technology Parks of India, Bhubaneswar and M/s Railtel @175 Mbps & 1 Gbps respectively.
- 4) **Digital monitoring of forestry activities:**



Geo-ICT based digital monitoring of forestry activities like foot patrolling, plantation & nursery activities, selection of afforestation areas, online forest fire mitigation/monitoring, wildlife habitat management & protection activities and survey of area approved under Forest Right Act inside notified forest blocks. Online monitoring by the administrators has been done in the website, <https://odishaforestgis.in>. Using OFMS (Odisha Forest Monitoring System) from the website consolidated reports are generated on progress of Nursery, Afforestation & SWMC activities, Vanamahotsava celebration, Site selection for plantation, details of Forest fire mitigation etc. The captured details are also shown over Bing maps, Bhuban maps and Google maps for GIS queries and better analysis. There are also facilities for downloading of .kmz files for opening the data through Google Earth and shape files for working on GIS platform. Odisha Forest Monitoring System (OFMS) mobile application is made available in both in Google Play Store and App Store. There are a total of 25 modules in the OFMS Application.

Twenty-five (25) Modules in FITGC Odisha Forest Monitoring System



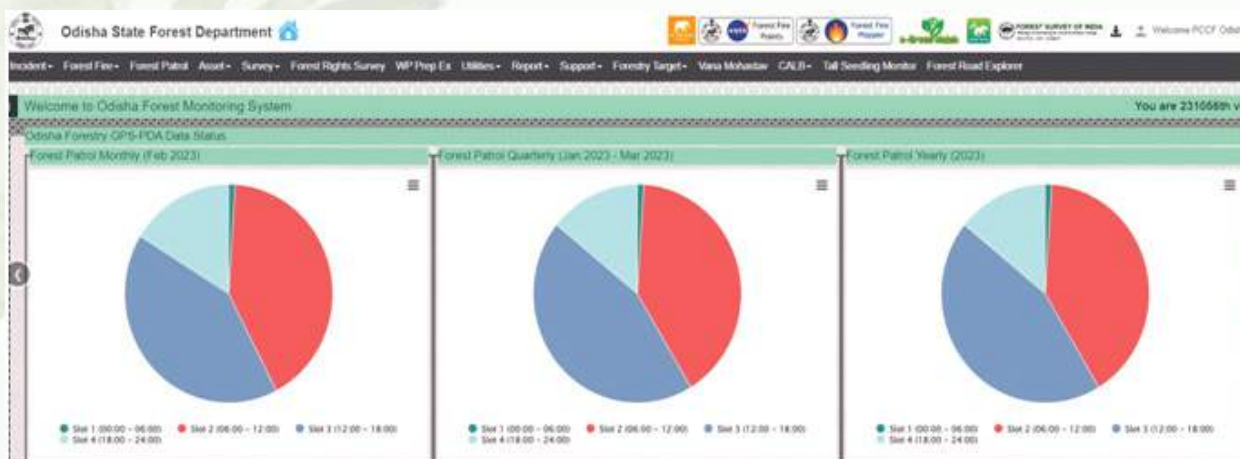


- A. **Forest Assets:** Module is used to map any asset geospatially to project it on map with images. Assets include all types of Plantations, Nurseries, buildings, Rest sheds, Roads, Waterbodies etc.
- B. **Afforestation Land Selector:** This application helps for selection of new Afforestation sites by the field staffs using recent Forest Canopy Density during verification in the field.
- C. **Degraded Revenue Land Selector:** Using this App, the Degraded Revenue Land is being identified & selected.
- D. **Forest Patrol:** It is an application in the device which automatically captures photographs of the distance covered by the field staff during foot patrolling in the Forest.
- E. **AOI Survey:** This module helps in survey of a new area of interest.
- F. **Field Presence:** This module is for the attendance of the field staff, which captures the location details along with photographs.
- G. **Forest Land Survey:** For survey of total or any part of any Forest Block with facilities for calculation of gross area, net area, number of pillars, perimeter of boundary line etc
- H. **Working Plan Field Data:** This app is used for data capturing of number of trees/ herbs/ scrubs present at working plan sample points in various forest blocks provided by ORSAC/ NRSC for preparation of working plan.
- I. **Forestry Inspection:** Used to digitally capture the inspection report in the field by one Forest Officer.

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

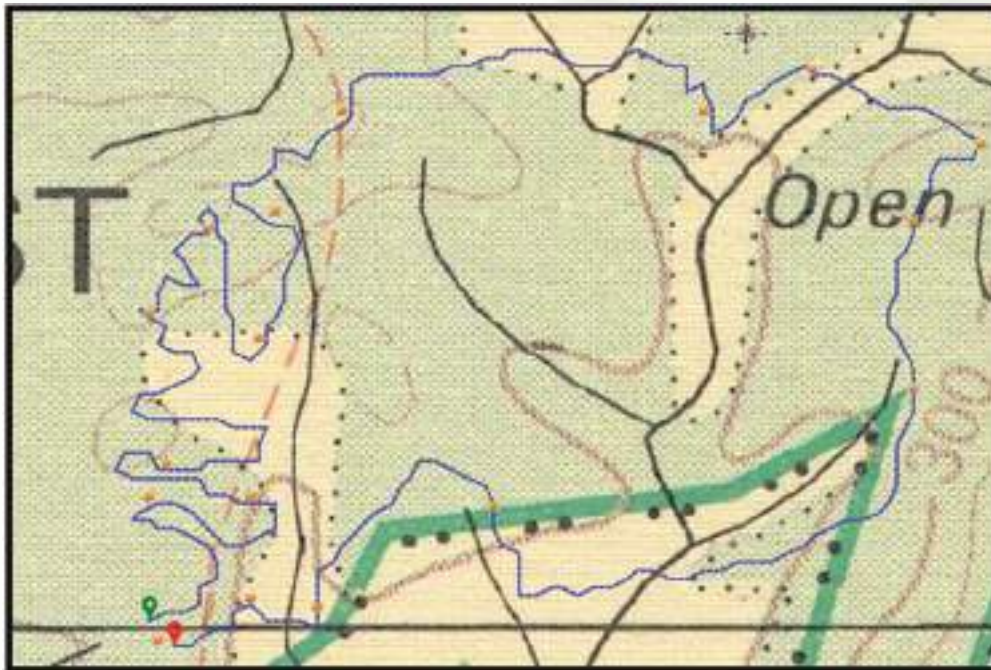
- J. **Tree Felling & Salvage:** To report regarding illicit felling of trees & salvaging them.
- K. **Forest Right Act Survey:** The application is used for survey of individual rights and community rights issued to the Tribal and Traditional Forest Dwellers as per provision of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights) Act, 2006. This module also enable us to capture the data regarding rejected FRA cases.
- L. **Threats to Wildlife:** To capture wildlife vulnerability.
- M. **Forest Encroachment:** Forest land encroachment survey is carried out with the help of this module.
- N. **Tall Plant Monitor:** Monitoring of tall tree plantation in habitation areas.
- O. **Vanmahotsav:** Using this module Vanmahotsava sites are reported along with a number of participants & photographs.
- P. **Damage by Wildlife:** Wildlife de-predation reported is using this module.
- Q. **Animal Reporting:** Animal sighting is reported along with Death & Injury.
- R. **Forest Fire Controller:** Reporting of day to day fire incidents received from FSI portal to the field and feedback reporting from the field are carried out using this application.
- S. **GNSS Skymap:** Functions as GPS aid and is used for tracking and arriving at any desired location.
- T. **Locator:** To know about the present location in the field.
- U. **Navigation:** Which functions as a GPS aid and is used for tracking and arriving at any desired location.
- V. **Data Trans:** Used to sync the captured data from the field to FITGC Server and vice versa.
- W. **Forest Cam:** Used to take Geo Tagged photographs.
- X. **Gallery:** Used to store the Photographs & files.
- Y. **Road Explorer:** Used to survey & upload all the Forest Roads.

### Graphical Representation of Odisha Forest Monitoring System Web Portal





**Map Showing Forest Patrolling data in OFMS Web Portal**



5) **Development of mobile apps under the 5T initiatives of Government of Odisha:** A total two applications have been developed and made available in Google Play Store & App Store in android mobile to bring transparency is as follows:

- **KYFL @ Odisha (Know Your Forest Location in Odisha):** Under the 5T initiative of Government of Odisha, one Application i.e. KYFL @ Odisha has been inaugurated by the Hon'ble Minister Forest and Environment, Parliamentary Affairs, Government of Odisha. The user can get the geo-location of Point of Interest (POI), name & Approximate Distance from the nearest Notified Forest Block and details of Forest Administrative Jurisdiction. The application also provides the additional land revenue

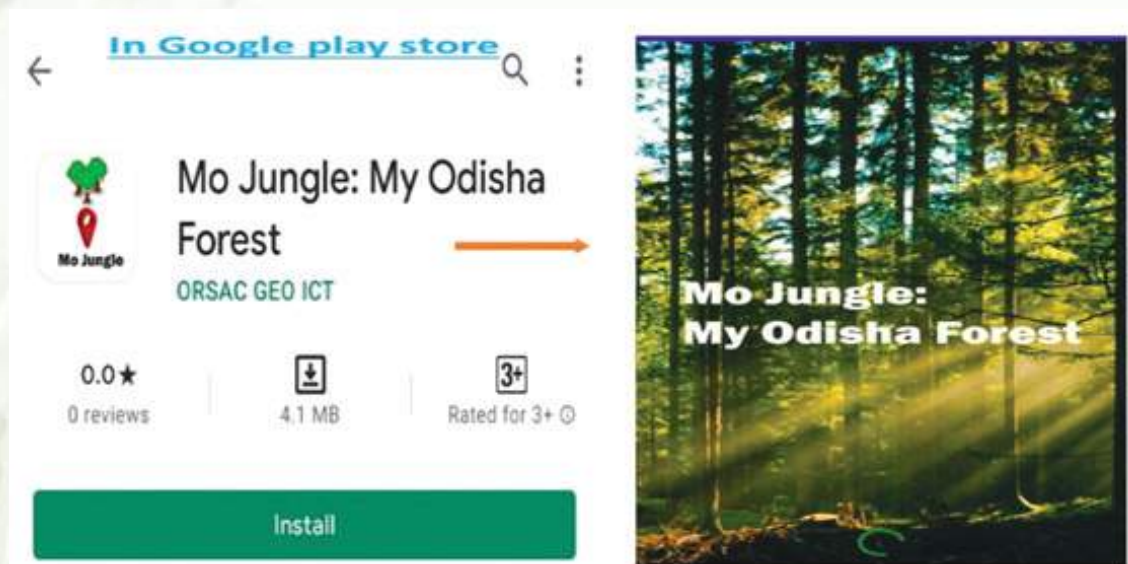


## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

Information like Name of the District, Tahasil, CD Block, GP, Village, Khata No., Plot No., Owner's Name, Land Type & area in Ha with respect to POI.



- **Mo Jungle: My Odisha Forest-** To bring transparency in afforestation activities, Mo Jungle: My Odisha Forest mobile application has been developed.



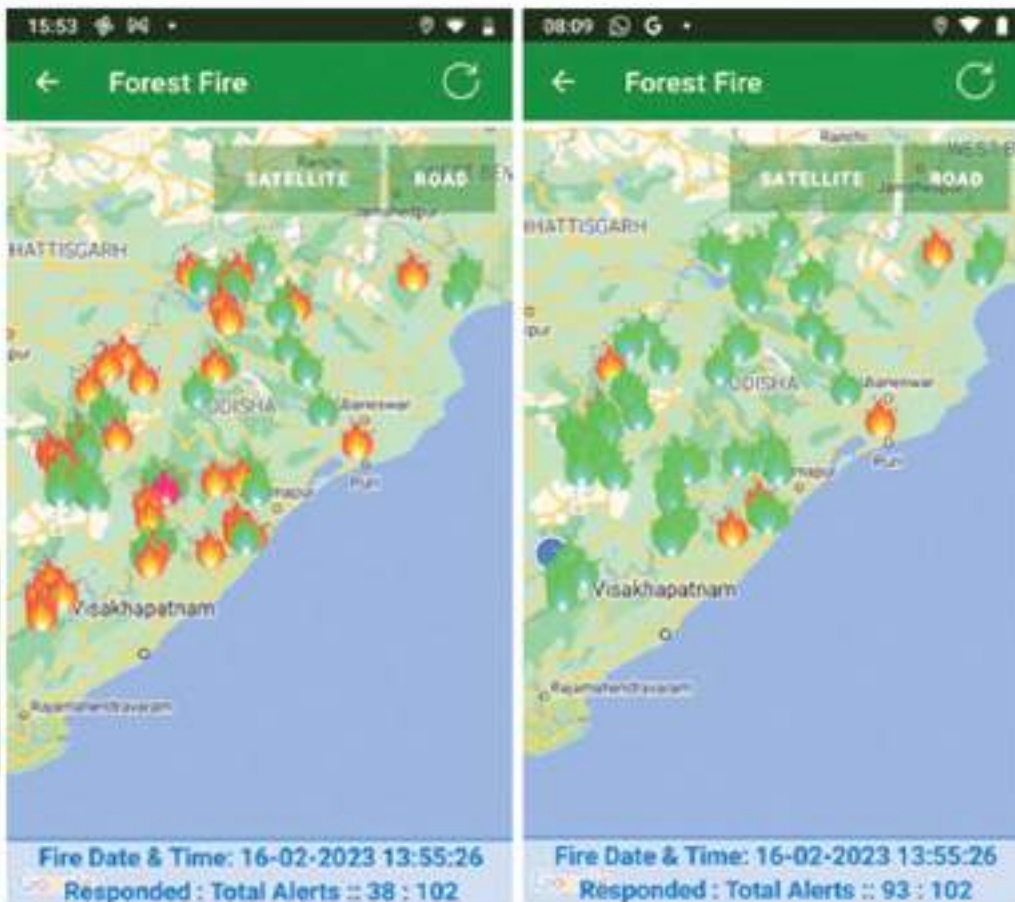
- 6) **Online Odisha Timber Transit Permit System:** The Online Odisha Timber Transit Permit System web application helps the citizens and the institutions to apply for TT Permit online through the website: <https://ttpermitodisha.in>.
- 7) **Annual Maintenance Contract and Purchase of IT equipment:** This Centre has taken up the task of Annual maintenance of Computers and peripherals through an approved firm by process of tender. The FITGC has also been assigned the task of procurement of IT items from GeM portal.



- 8) **Video Surveillance System in the Office of the PCCF, Odisha:** Video surveillance system consisting of 17 CCTV cameras have been set up at AranyaBhawan. All the cameras are IP based and networked. These operate 24x7 and provide feed to remote users as per requirement and has built in analytics.
- 9) **Monitoring of Forest Fire:** The forest fire monitoring is done in a unique way by integrating our FITGC server with FSI server to fetch the fire data directly in the fire application from FSI server. In addition to this, the application having navigation facility helps the ground staff to navigate and quickly reach to the fire spot thereby substantially reducing time to respond fire incidences and areas of damage. The user responds to all the fire spots through the android application and then syncs the data to the server for further monitoring by the Forest Headquarter (HQ). The Forest HQ has a dedicated fire cell which monitors fire on a 24X7 basis and thus the number of fire incidences has reduced from year to year. The application has red spots and green spots to depict the non-responded fire point & responded fire point respectively to monitor the response of the user. The application also depicts the repeated fire points in different colour to alert the user on recurrence of fire incidences. During this year (upto 5th March 2023), out of 12085 numbers of fire incidences, 11670 numbers have already responded by the field staffs.

(Screen display of fire app showing the auto fetching fire point from FSI server, navigating to the fire spot, responding through App. and syncing to the server for monitoring.)





*Fire Points received From FSI downloaded in Mobile App shown in Orange/ Repeat Fire Points in Pink*

*Fire Points received From FSI responded by Forest Staffs in field using Mobile Application shown in Green*

- 10) **Setting Up of a Server Room:** A modular and integrated data centre was created in the Forest IT and Geomatics Centre in January 2016. These have been placed in a part of the FITGC having facilities of a mini server room. The Server room is now Populated with 22 servers and two Unified storage systems from which all applications of FITGC including DGPS Survey, website of the office of the PCCF, Odisha and PCCF, Kenduleaves, Seasonal Staff HRMS & KL Accounting System of Kenduleaves Wing have been hosted. Similarly, Networking Infrastructure is being upgraded for better cyber security with NextGen Firewall and Cisco network Switches. All the servers are housed in self-cooled contained chilled racks with networking infrastructure and facilities of storage of generated data. It is planned to host all Forest Department Data from the Data Centre.
- 11) **DRFL:** The project of identification of degraded Revenue Forest Land for the purpose of raising Compensatory Afforestation against the project requiring Diversion of Forest Land for Non-Forest use is under process. This is part of the Project “Geo-referencing of Forest Land in Odisha”. Till date Identification of Degraded Revenue Forest Land has completed in 13 Forest Divisions. Under this exercise all Revenue & DLC Forest in a Division is being Geo-referenced based on high resolution satellite images, cadastral maps and Tahsildar & DFO certified Revenue & DLC Forest Land schedules as per RoR & DLC records. All these

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



data of each Division have been made available in the official website [odishaforestgis.in](http://odishaforestgis.in) for use by Forest & Revenue officials as below:

S.No	Dist	Taluk	Village	Block No	Plot No	Bal. Area (Ha)	Avail. Area (Ha)	Avail. Area (Ac)	Action
1	Kandhamal	Kandhamal	Kandhamal	68	22	1778	1788	4470	0
2	Kandhamal	Kandhamal	Dumaria	97	80	1632	1647	4170	0
3	Kandhamal	Kandhamal	Kandhamal	6	14	1972	1989	5010	0
Total						5382	5424	13650	0

- 12) **Monitoring of Forest Cover Change periodically:** Beat-wise Forest Cover changes is being analyzed from the ISFR data received from Forest Survey of India, Dehradun using Remote Sensing and GIS Technologies. The change detection data has been made available in our OFMS web portal for ready reference to the field staffs.



## KENDU LEAVES ORGANIZATION, ODISHA

### Introduction

Kenduleaf in Odisha is an important minor forest produce and natural resource which plays a vital role in the lives of poor people especially tribals of our state. Kenduleaf trade provides, employment during summer when there is no agricultural work or any other substantial wage earning opportunity. In consideration of its large scale importance, it is popularly known as "Green Gold" of Odisha.

Odisha Kenduleaf is known for its unmatched flavor and texture. Odisha is the third largest producer of Kendu leaves next to Madhya Pradesh and Chhatisgarh. KL is available in 22 districts (40 Revenue Sub Divisions and 168 C.D. Blocks) of Odisha excluding districts of Gajapati, Puri, Khurdha, Kendrapada, Jagatsinghpur, Jajpur, Bhadrak and Balasore. Besides Odisha is the only state which produces processed Kendu leaves.

### 17.1. Kendu Leaves Organization

Kendu leaves generate employment for large section of rural and tribal population. Besides, the uniqueness of Odisha Kendu leaves is the value addition of green leaves by way of drying and processing (except phal areas) for which Kendu leaves procurement and processing is managed by a full-fledged Kenduleaf organization in Odisha headed by Principal Chief Conservator of Forests (KL). The field establishment comprises of 3 Kendu leaf Circles, 19 KL Divisions, 43 KL Sub Divisions and 149 KL ranges. In addition, there are about 18,000 Seasonal staff engaged in KL procurement and processing.

Principal Chief Conservator of Forests (KL) Odisha	CCF Cuttack Circle	5 Divisions	13 Sub Divisions	41 Ranges
	CCF Balangir Circle	8 Divisions	16 Sub Divisions	59 Ranges
	CCF Sambalpur Circle	6 Divisions	13 Sub Divisions	49 Ranges

### 17.2. Kendu Leaves Working

Kendu leaf trade in Odisha was nationalized in the year 1973. Since then, collection and processing of KL are being done by KL organization whereas disposal and sale of Kendu leaves have been entrusted to OFDC.

Kendu leaf working starts with Bush Cutting operation in the month of February-March. All KL bushes are cut flush to the ground. This operation is done manually by engaging semi-skilled labourers. After 45-50 days of Bush Cutting, collection of KL starts from new shoots. Pluckers offer kendu leaves in form of "Kerry" containing 20 leaves in process area (In phal area one Kerry contains 40 leaves). KL kerries are purchased at phadis, the collection centres. Processing of KL is done in all the Divisions except phal areas which covers entire Jeypore (KL)

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

Division, Nawarangpur (KL) Division, and a part of Khariar (KL) Division. In Phal areas, leaves are sold as such without processing. In the process areas, the leaves after drying are stored inside phadis till processing. There are about 7300 phadis across the state. There are about 8 lakh pluckers who offer kendu leaves. During the time of processing, the leaves are graded into different qualities from Grade-I to IV as per the specification of colour, texture, size and leaf condition and 5 Kg processed leaf bundles are produced. 12 such bundles are packed in a gunny bag which makes one bag of 60 Kg and 100 such bags equivalent to 60 qtls are delivered to OFDC for sale as one KL lot. Around 18,000-20,000 binding labourers are engaged in processing of KL.





### 17.3. Deregulation of KL trade

KL working in entire Nawarangpur (KL) Division and Malkanagiri district of Jeypore (KL) Division was deregulated during the year 2013 and 2014 respectively. There after, total 19 villages in Kalahandi district in Bhawanipatna (KL) Division have so far been deregulated in phases during 2017, 2018 & 2021 basing on community claims conferred to Gram Sabha under Forest Rights Act. Pluckers in deregulated areas are free to sell kendu leaves to private traders and/or even to KL organization.

### 17.4. Achievement of KL during last 5 years

The physical and financial achievement of last 5 years is furnished below.

Crop year	Kerries Purchased In Crore	Physical achievement in lakh Qtl	Financial Achievement in crores	Sale value in crores	Mandays generated in lakhs	OFDC commission in crore	Trade Surplus in crore
2018	137.65	2.84	312.93	461.66	107.98	45.35	103.37
2019	96.31	2.02	256.68	376.17	64.14	34.73	84.76
2020	89.34	1.89	265.44	407.35	60.18	38.37	103.53
2021	125.46	2.64	360.81	596.48	80.00	60.92 (Provisional)	166.85 (Provisional)
2022	130.92	2.776	412.33	529.78 (Provisional)	100.00	60.00 (Anticipated)	90 (Anticipated)

The physical and financial achievement of 2022 crop year upto 31.01.2023 is furnished herein under.

#### Physical

Crop year	Kerries Purchased In Crore	Target In lakh Qtl	Achievement In lakh Qtl	Sale In lakh Qtl upto 31.01.2023	Sale Value in crores upto 31.01.2023	Anticipated Sale value in crores	Anticipated Trade Surplus in crores
2022	130.92	2.782	2.776	2.319	529.78	570.0	90

**Financial**

Crop year	Revised Target in crores	Achievement in Crores upto 31.01.2023	Anticipated achievement in crores	Mandays generated in lakhs up to 31.01.2023
2022	438.79	412.33	422.00	100.00

**Sale**

Sale in lakh Qtl upto 31.01.2023	Sale value in Crores upto 31.01.2023	Anticipated sale value in Crores	Anticipated Trade Surplus
2.319	529.78	570.0	90

**17.5. Fund Management**

- (i) Working Fund advance is arranged by OFDC by availing DRI loan and taking sale proceeds from KL Joint account.
- (ii) Kenduleaves Development Board (KLDB) under the Chairmanship of Hon'ble Chief Minister, Odisha is the apex policy making body
- (iii) Kenduleaves Co-ordination Committee (KLCC) under the Chairmanship of Chief Secretary, Odisha approves budget and monitors progress of KL operations.

**17.6. Welfare Measures**

After establishment of Kendu Leaf Development Fund (KLDF) during 2015, the trade surplus fund from KL working is deposited in this account from which various welfare activities are being taken up every year as approved by KLDB. As per decision taken in KLDB meeting held on 08.03.2022, the following welfare measures to the extent of Rs. 117.92 crores have been taken up during 2022.

- i. Rs 83.37 crores have been paid towards bonus @ 50 % to 7,62,497 nos of pluckers.
- ii. Rs 6.04 crores have been paid towards incentive @ 10 % to 16,405 nos of Seasonal staff.
- iii. Rs 4.05 crores have been paid towards incentive @ 10 % to 20,041 nos of binders.
- iv. Rs 7.62 crores have been paid towards Head Cap allowance to 7,62,497 nos of pluckers @ Rs 100/-
- v. Rs 0.16 crores have been paid towards Head Cap allowance to 16,405 nos of Seasonal Staff @ Rs 100/-
- vi. Rs. 15.24 crores have been paid towards Kerry Procurement Cloth allowance to 7,62,497 nos of pluckers @ Rs. 200/-

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- vii. Rs. 1.40 crores have been paid towards Blankets & Mosquito Net allowance to 20,041 nos of Binder @ Rs. 700/-

Compassionate grant for death and permanent disability are available to the eligible pluckers and binders besides all Seasonal staff under their respective welfare Trust Fund. The compassionate grant has been enhanced to Rs 2.00 lakh w.e.f. 2021 from earlier amount of Rs. 1.0 lakh.

### 17.7. Other interventions

- i. During November 2022, Hon'ble CM, Odisha declared a special package of financial assistance of Rs 1000 to each plucker and Rs 1500 to each Seasonal staff and binders. More than Rs 83.0 crores have been distributed to more than 8 lakh beneficiaries to this effect.
- ii. The Kerry price has been enhanced from Rs. 1.20 to Rs. 1.40 per Kerry containing 20 leaves in Process area and from Rs. 2.40 to Rs. 2.80 per Kerry containing 40 leaves in Phal area.
- iii. Besides, Rs. 14.91 crores have been provided to 958 nos. of beneficiaries as compassionate grant towards death claim. All these amounts have been given to beneficiaries through DBT system.
- iv. Besides, 15000 nos of Seasonal Staff have been covered under EPF and Rs. 6.73 Crores have been deposited towards employers share.
- v. During 2022, 1026 nos of Seasonal Staff have been paid Gratuity of Rs. 855.95 lakhs. The anticipated expenditure under Seasonal Staff gratuity till March' 2023 will be around 1000.0 lakhs.
- vi. One online platform named "KL Anukampa" in lines similar to "Anukampa" application as being implemented in "Wildlife" wing for filing death claim cases is being developed with the help of ORSAC.







## CHILIKA DEVELOPMENT AUTHORITY

Chilika is one of the important hot spots of biodiversity sheltering a number of endangered species. The lagoon is an avian grandeur and wintering ground of more than one million migratory birds and is also a Ramsar site. The highly productive ecosystem with its rich fishery resource sustains the livelihood of more than 0.2 million fisherfolk who live in and around the lagoon. For the preservation of its ecology and conservation as well as to bring an all-around development in and around the lake, calls for multi-dimensional and multi-disciplinary developmental activities, Chilika Development Authority is carrying out the most desired and appropriate restoration measures of the lake.

The government had been sanctioned 4.0 crore during the FY 2022-23



### 18.1. Improvement of water exchange and salinity gradient by desiltation and Enhancement of hydrological regimes.

The tendering process is ongoing

### 18.2. Biodiversity Conservation

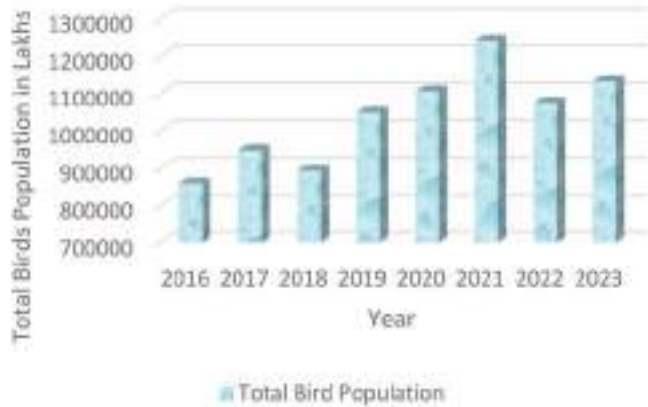
Chilika is well known for being India's largest congregation of migratory avifauna. It is an avian grandeur that hosts over 228 species of birds during the peak migratory season, out of which at least 97 species are intercontinental migrants. Restoration and improvement of the Nalabana Eco-system are being supported by CDA with assistance from the Chilika Wild Life Division for the protection of the migratory bird, census, habitat improvement, and research. The census estimates during 2022 were 10,74,173 numbers and also during the 2023 census, it was 11,31,929 numbers.



**Table 1: Bird Population at Chilika wetland from 2016-2023**

Year	Water birds	Water dependent birds	Total Population
2016	839478	19377	858855
2017	924353	22766	947119
2018	867834	25556	893390
2019	1021563	26405	1047968
2020	1071477	33563	1105040
2021	1204351	38475	1242826
2022	1036220	37953	1074173
2023	1093049	38880	1131929

**Total Bird Population in Chilika lake from 2016 to 2023**



Irrawaddy dolphin is the flagship species inhabiting Chilika Lake. The present distribution range of this species is only in Asia, from Chilika to Indonesia. Irrawaddy dolphins in India are protected under Wildlife (Protection) Act 1972, CITES (Appendix-I), and IUCN Red List.

The dolphin population in Chilika lake from the year 2013 to 2022 is as below;

Year	Dolphin Population in Chilika lake
2013	152
2014	158
2015	160
2016	145
2017	121
2018	155
2019	150
2020	156
2021	162
2022	156



Becon Island



Ferry

The annual population estimation survey of the Irrawaddy dolphin has been conducted by CDA since 2003. The annual survey was conducted by the “Transact Survey Method” followed worldwide for the population of aquatic mammals. Each survey team was equipped with binoculars, GPS, Range finder and data recording sheets, etc. This year there was a total sighting of 156 numbers at Irrawaddy dolphin. A good amount of sighting was observed in the Rambha Bay area along with the Outer Channel. The Dolphins are colonizing new areas of Chilika Lagoon and this gives hope for this endangered mammal. The movement has been facilitated by the clearing of Gherries at places.

The dolphin population in Chilika lake from the year 2013 to 2022 is as below:

The census data for the year 2023 has not been published. The census had already been completed on 22<sup>nd</sup> December 2022. CDA also carried out the 6<sup>th</sup> Flora and Fauna survey on 17<sup>th</sup> February 2023 in Chilika lake to ascertain the status.

### **18.3. Population Estimation of Fishing Cat (*Prionailurus viverrinus*) in Chilika Marshes.**

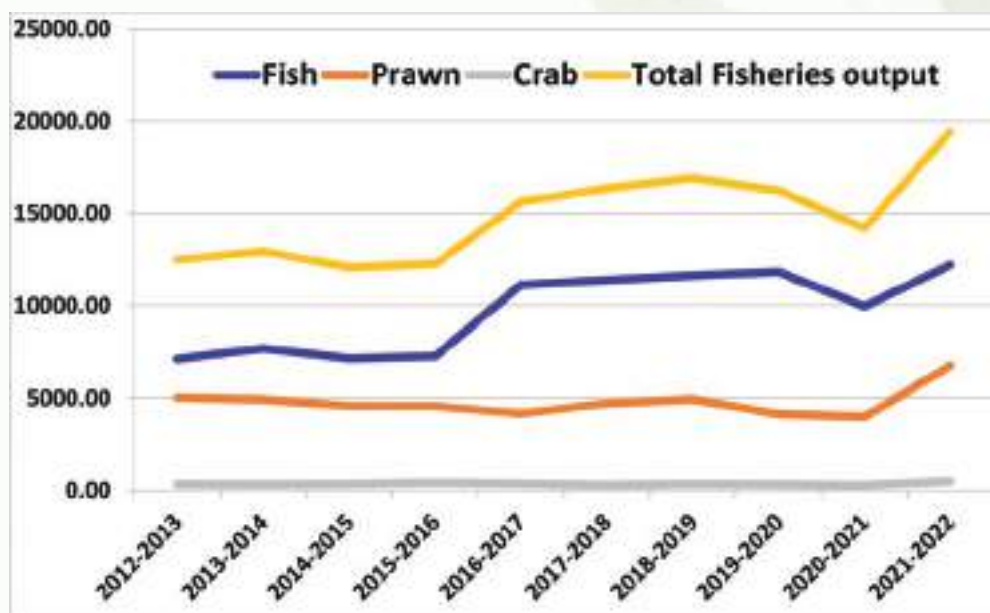
The total study area is 230sq. km. A map of this study area was superimposed with grids of 1.5 km x 1.5 km. The study was conducted from 1st March 2021 to 15th April 2021 when the water levels receded exposing mudflats in which it became easier to detect tracks and signs. In each grid, a pair of camera traps were placed in areas known to be frequented by Fishing Cat (water channels or ponds lined with tall emergent vegetation of Phragmites Karka) after locating tracks and signs. Each team was composed of a local fisherman, a boatman, Wildlife Protection Committee members, Student Volunteers, a technical expert from The Fishing Cat Project team and also personnel from Chilika Development Authority (CDA). Each trap was placed at a mean nearest neighbor distance of 1 km approximately. Each station was placed at the location for at least 30 trap nights leading to a total of 1440 trap nights. A total No. of 119 species were recorded and also seven kittens during the first phase of Population estimation in the Northern sector of Chilika lake. The data collection has been undergoing for 2022-23 also.

### **18.4. Fishery Resource Development**

CDA has been continuing to monitor the fishery resource assessment from 33 landing centers and Two Godowns, demolition of unauthorized gharries, research studies on crab and shrimps, construction of fish landing centers, catch capacity building, and training of fishermen, etc. The total estimated Fish, Prawn and Crabs from Chilika during the year 2021-22 was 12187.58 MT, 6762.02 MT and 478.70 MT respectively and total recorded fish landing was 19428.30 MT.

**Table 2: Year-wise Fish, Prawn, and Crab landing at Chilika**

Year	Fish	Prawn	Crab	Total Fisheries output
2012-2013	7114.31	5034.05	318.58	12466.94
2013-2014	7699.71	4927.66	308.97	12936.34
2014-2015	7146.77	4572.32	334.58	12053.67
2015-2016	7271.95	4564.54	398.77	12235.26
2016-2017	11101.74	4154.00	351.38	15607.12
2017-2018	11375.27	4706.70	276.37	16358.34
2018-2019	11618.05	4951.37	330.90	16900.32
2019-2020	11808.46	4112.88	305.41	16226.75
2020-2021	9942.85	3973.11	269.15	14185.11
2021-2022	12187.58	6762.02	478.70	19428.30



*Khanda Fishing*

### 18.5. Wetland Research, Training, Monitoring & Assessment

Monitoring & assessment is the backbone of wetland management. Chilika Lake is a complex and dynamic ecosystem. The salinity gradient of the Lake is influenced by the influx of fresh water from the catchment area and the ingress of saline water with every tidal cycle. It is a complex assemblage of marine, brackish and freshwater ecosystems. Sound knowledge and understanding of all the factors that influence the distribution and the behaviour of the bio-data of the ecosystem are essential for the sustainable management of the Lake. The biological phenomenon occurring in aquatic systems pertaining to the biological regime such as plankton, algae, macrophytes, fish, prawn, crab, other benthic bio-data, etc. are directly or indirectly influenced by the intrinsic properties of water. Considering the fragile ecosystem of the Lake, close monitoring of the Lake is carried out to assess the impact of various management interventions on the Lake.

For a long-term management strategy of the Lake, it is essential to generate scientific data to bridge the gap and to develop an integrated database. The basic objective of the Wetland Research Centre is to facilitate the studies and research in the field of limnology, marine biology, hydrology, coastal influence on the Lake, floristic and faunistic study, weed analysis, ecological and mathematical modeling, advanced oceanographic and hydrological studies like sediment transport, wave climate, tidal influence, Lake bathymetry, hydrographic survey, weed distribution maps using Remote Sensing and GIS Technique. The monthly monitoring of the Chilika lake has been carried out from 33 predefined monitoring stations spread over four sectors of Chilika lake, namely the Southern, Central, Northern, and Outer Channel areas and also during the monsoon season the discharged of fresh water and also sediment has been collected from 12 river gauge stations of Mahanadi and Western Catchments.

	2012	2014	2016	2017-18	2019-20
Overall	B	B	B	A-	A
Southern Zone	B	B+	B	B+	A
Central Zone	B+	B	B	A	A
Northern Zone	B	B-	B-	B+	B
Outer channel Zone	B	B	B	A	A

### 18.6. Excavation of Creeks

CDA carried out the excavation of the creek at Ashuripatna, Mansighpur, Jatiapatna and Tatapadato facilitate the fishers in navigating their boats.

### 18.7. Construction of Boat sheltering Yard

Under the Fishery infrastructure development, a boat sheltering yard had been constructed at Amaraoli, Nairi, Jantipur, Kumdala Patna, Chadraput, Digirisahi and Kaluparaghat and an Auction hall at Jatiapatna, Chilikasahi, Balipada, Nua Dokonda under Kanas Block and a Jetty at WRTC and Fishermen Community hall at Panidwar.



### **18.8. Celebration of World Wetlands Day**

Chilika Development Authority is planning to celebrate this year on 2nd February 2023 to celebrate World Wetlands Day at Wetland Research and Training Center, Barkul, Visitor Center, Satapada and also Ansupa lake.

### **18.9. Ongoing activities in Chilika lake and Ansupa lake under NPCA Components**

- Bird migration and ringing operation in Nalabana island.
- Macrophytes have been collected and identified from 33 monitoring stations.
- Collection of fish landing data, fish catch estimation following approved statistical sampling method and preparation of monthly catch reports, Research studies on lake fisheries, conducting awareness training camps on sustainable fisheries, authorized fishing gears and fisheries practices,
- Construction of 10 nos of Pindi at Ansupa lake
- Construction of Watch Tower at Ansupa Lake
- Deweeding of Ansupa lake.



HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

- Physicochemical data collection of Ansupa lake.
- Construction of the second floor of the Monitoring Station at Ansupa lake.

*Protection Camp-cum-Watch Tower at Mangalajodi*



*Excavation of Creek*





## REGIONAL PLANT RESOURCE CENTRE

### Research and Developmental Activities in RPRC

Regional Plant Resource Centre (RPRC), Bhubaneswar, an autonomous R&D institute of Forest, Environment & Climate Change Department, Govt. of Odisha, has been implementing various R&D activities primarily through execution of various research projects relevant to the state and establishment of different State of the Art facilities to produce and conserve plant genetic resources such as Modern Tissue Culture Laboratory, Orchidarium, Threatened Plants (RET) Garden: Wild Edible Fruits Garden, Medicinal Plants Garden, Cacti and other Succulents, Jagannath Vatika, Fragrant Flower Garden, Morning Walk etc. Various research programmes have been undertaken with the financial support from Forest, Environment & Climate Change Department, Govt. of Odisha, RKVY, Science & Technology, Govt. of Odisha, other apex central funding agency like DBT, NMPB, Govt. of India, which were prioritized to address issues pertaining to conservation and bio-resource utilization relevant to the state of Odisha.

RPRC has prioritized research areas such as re-introduction of RET and other important special group of plants including mangroves and orchids, domestication and evaluation of wild edible fruits and medicinal plants for active bio-molecules, nutraceuticals, antioxidants, development of bioinoculant for forest species, useful secondary metabolites from fungi, micro-propagation of forest species, plantation crops and endangered plants.

A total five external funded, fourteen state plan funded projects have been implemented during the year 2022-23, engaged around thirty-five research fellows, published twenty research papers, one book, four leaflets, one Research & Activity Report, trained twelve M.Sc. Biotech students for their PG degrees.

### 19.1. Highlights of various research activities undertaken

#### 19.1.1. Microbiological Applications

- Production, purification and evaluation of anticancer properties of extracellular secondary metabolite from *Colletotrichum* sp.
- Bioprocess optimization for enhanced recovery of Glutaminase free L-asparaginase of fungal origin
- Morphotaxonomic characterization and documentation of fungi of Odisha
- Harnessing the potential of endopytes against root knot nematode *Meloidogyne icognita* in banana

### 19.1.2. Tissue Culture & its application on various important plant spp. (banana, orchids, medicinal & forest spp.)

- Standardization of Efficient Tissue Culture Based propagation Methods for *Pomatocalpa decipiens* (Lindl.) J.J.Sm. and *Cymbidium bicolor* (Lindl.): Rare Orchids of Odisha
- Developing efficient micro-propagation methods for some important RET listed forest tree species of Odisha
- Standardization of in vitro regeneration techniques in red banana and establishment of red banana in Odisha climate condition



(a) Orchid Cultivation and Breeding Facility, (b) Cultivation of *Dendrobium* Earsakul, (c) Cultivation of *Dendrobium* Singapore White and Sanan White

### 19.1.3. Medicinal plant and its application

- The protective diabetic neuropathy effect of *Buchanania lanzan* Spreng in streptozotocin induced type 2 diabetic rats.
- Ameliorative effect of *Aporosa octandra* against carbon tetrachloride-induced oxidative stress and hepatocellular injury in experimental rats.
- Assessment of antifungal activity of *Combretum roxburghii* and *Terminalia arjuna* solvent extracts against *Aspergillus flavus*.
- Evaluation of non-viable seeds of *Withania somnifera* for biological activity



**19.1.4. Wild Edible Fruits : propagation and nutraceutical analysis**

- Immunity boosting natural fruits: determination of Vitamin-C (Ascorbic Acid) and other antioxidant properties for selection of potent species to promote domestication.
- Field introduction and establishment studies of variously propagated wild edible fruits of Odisha



**RPRC Wild Edible Fruit Research:  
Exploring the Immuno-Boosting Properties.**

Species Name	Ascorbic Acid Content (mg/100g)
AI	~0.8
AJ	~1.2
AK	~0.5
AL	~1.0
AM	~0.3
AN	~0.6
AO	~0.9
AP	~1.1
AQ	~0.7
AR	~1.3
AS	~0.8
AT	~0.4
AV	~0.6
AW	~1.0
AX	~0.5
AY	~0.9
AZ	~0.7

**Analysis of Ascorbic Acid for it's Immune-boosting Properties**



**19.1.5. Propagation and reintroduction of RET & Mangrove plants**

- Conservation of salt-sensitive back mangroves *Heritiera fomes* and *H. littoralis* through re-introduction in protected area: application of vegetative propagation technique.
- Development of alternative regeneration method of rare mangrove species of *Xylocarpus* through vegetative propagation
- Propagation and reintroduction of selected endangered species of Odisha.





## 19.2. Other Achievements

- Up-scaling of QPM production & Sale: Ornamental & Garden plants, Seasonal & Orchids, wild edible fruit plants.
- RPRC has been recognized by NCSTP for Certification on TC Banana Plants.
- Inauguration of Pop-up irrigation systems
- Inauguration of Orchid Breeding & cultivation facilities
- RPRC as Lead Institute : Integrated Management Plan of Similipal Biosphere Reserve (SBR)



HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



## OBSERVATION OF IMPORTANT DAYS

### 20.1. List of Observation days

Following are some of the annual events observed at international, national level and celebrated throughout the state to raise public awareness about values, importance and significance of natural resources like environment, forests, wildlife, wetland etc.

- |  |                      |
|--|----------------------|
| 1. World Wetlands Day                              | - 2nd February       |
| 2. World Wildlife Day                              | - 3rd March          |
| 3. World Forestry Day                              | - 21st March         |
| 4. World Earth Day                                 | - 22nd April         |
| 5. World Environment Day                           | - 5th June           |
| 6. World Day to Combat Desertification and Drought | - 17th June          |
| 7. Vana Mahotsava                                  | - 1st week of July   |
| 8. World Elephant Day                              | - 12th August        |
| 9. Wildlife Week                                   | - 2nd to 8th October |

#### 20.1.1. World Wetlands Day - 2nd February

World Wetland Day is celebrated every year on February 2nd to raise awareness about the value of wetlands for humanity and the planet. This day marks the date of the adoption of the Convention on Wetlands on 2 February 1971, in the Iranian city of Ramsar on the shores of the Caspian Sea. The day was celebrated for the first time in 1997 and its relevance has grown remarkably since then.



Each year, government agencies, non-governmental organizations and groups of citizens at all levels of the community have taken advantage of the opportunity to undertake actions aimed at raising public awareness of wetland values and benefits. Some of these benefits

## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

include: biologically diverse ecosystems that provide habitat for many species, serve as buffers on the coast against storms and flooding, and naturally filter water by breaking down or transforming harmful pollutants.

Each year a theme is selected to focus attention and help raise public awareness about the value of wetlands. At national and state level, a variety of events are organized to raise awareness such as; lectures, seminars, nature walks, children's art contests, sampan races, community clean-up days, radio and television interviews, letters to newspapers, to the launch of new wetland policies, new Ramsar Sites and new programmes at the national level.

The theme for the current year is 'Wetlands for a sustainable urban future'. In our state, the wetland Day is celebrated every year successfully to raise public awareness on value and significance of wetlands.

### 20.1.2. World Pangolin Day - 18th Feb



### 20.1.3. World Wildlife Day - 3rd March







#### 20.1.4. World Forestry Day - 21st March

The World Forestry Day initiated in the year 1971 at the 23rd General Assembly of European Confederation of Agriculture and it was decided to celebrate as an annual event celebration on 21st of March by the United Nations Food and Agriculture Organization to raise public awareness about the importance of the forests.

United Nation General Assembly proclaimed March 21 as International Day of Forests in 2012 to commemorate and raise awareness of the significance of all types of forests.

World Forestry Day or International Day of Forests is celebrated worldwide every year on 21st of March at the international level in order to increase the public awareness among communities about the values, significance and contributions of the forests to balance the life cycle on the earth. The theme for the current year is “Forest and Sustainable Production and Consumption”.

The day has been observed and celebrated in the state with an aim to meet the above objectives.



#### 20.1.5. World Earth Day - 22nd April

World Earth Day is celebrated every year as an annual event by the people all across the world on 22nd of April in order to increase the awareness among people about the environment safety as well as to demonstrate the environmental protection measures. For the first time, the world earth day was celebrated in the year 1970 and henceforth was celebrated annually on a global basis by almost 192 countries.

The state of Odisha has been celebrating this day every year producing ever increasing awareness among the people.

#### 20.1.6. World Environment Day - 5th June

World environment day is a day especially celebrated to know and solve all the environmental issues. It is also known as the Environment Day, Eco Day or WED. It is a great annual event focusing on the issues of environment and trying to solve them completely. It is being celebrated for years worldwide with lots of creative activities and enthusiasm to bring positive changes in the environment. It aims to protect the natural environment forever on the earth for the healthy possibility of life.



## HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023

It is celebrated annually on 5<sup>th</sup> of June since 1973 however declared in 1972 by the United Nations General Assembly during the opening of conference on Human Environment to raise the global awareness about the declining condition of the environment as well as tell people about the importance of healthy and green environment on earth. The annual celebration of it depends on the particular theme of the year (declared by the UN) which focuses on implementing some new and effective plans to save the environment.



### 20.1.7. World Day to Combat Desertification and Drought - 17th June

The World Day to Combat Desertification and Drought is observed every year to promote public awareness of international efforts to combat desertification. The day is a unique moment to remind everyone that land degradation neutrality is achievable through problem-solving, strong community involvement and co-operation at all levels.

In 1994, the United Nations General Assembly declared June 17 the “World Day to Combat Desertification and Drought” (General Assembly Resolution A/RES/49/115) to promote public awareness of the issue relating to international cooperation to combat desertification and effects of drought.

Similarly, Odisha has also been celebrating this day successfully every year. As a result, the forest cover in the state has always been more than the national average.

### 20.1.8. Vana Mahotsava - 1st week of July

Vana Mahotsava is an annual pan-Indian week long tree planting festival, observed in the month of July. The day is dedicated by my Government to arouse public awareness on three key strategies: increasing tree cover by plantation of more and more trees, protection and conservation of existing forests with support of community to improve biodiversity.

This was first done in the 1950s immediately after independence by the then Union Minister for Agri-culture, Mr. K.M. Munshi and since then it has been annual event.



In our state Vana Mahotsava has always been celebrated right from the grass roots level in the first week of July ensuring greater participation and awareness among the people for receiving overall positive impact on forests and their biodiversity.

### 20.1.9. International Tiger Day 29th July



**20.1.10. World Lion Day 10th August**



**20.1.11. World Elephant Day - 12th August**

This day highlights about the importance of conservation and protection of elephants from the numerous threats they face.

On August 12, 2012, the inaugural World Elephant Day brought about the attention towards the existing plight of Asian and African elephants. There is not an inkling of doubt that the elephant is loved, revered and respected by people and cultures around the world, yet we balance on the brink of seeing the last of this magnificent creature.

The escalation of poaching, habitat loss, human-elephant conflict and mistreatment in captivity are just some of the innumerable threats to both the African and the Asian elephants. In this connection, almost all the elephant conservation organizations are primarily focussing on better protection for wild elephants, conserving elephant habitats, improving enforcement policies to prevent the illegal poaching and trade of ivory, better treatment for captive elephants and, when appropriate, reintroducing captive elephants into natural, protected sanctuaries.

This day invites you to experience elephants in a non-exploitive and sustainable environment where elephants can thrive under adequate protection and care. Everyone needs to express thier concerns, share knowledge and create solutions for the better care of captive and wild elephants alike.



Elephants are not just one more natural resource that is being caught up in human greed on the one hand and human need on the other. We somehow need people to become reacquainted with nature or they can have no clue as to the interrelatedness of cause and effect.



#### 20.1.12. International Vulture Awareness Day - 4<sup>th</sup> September



#### 20.1.13. Wildlife Week - 2nd to 8th October

Wildlife Week is celebrated all over the country in the month of October from 2<sup>nd</sup> to 8<sup>th</sup> October every year with a view to preserve the fauna of India. It was first started in the year 1952 with the great vision of saving the life of animals by taking some critical steps. The Indian Government has established an Indian Board of Wild Life which works to improve the awareness as well as the consciousness of the Indian people towards the wildlife preservation.

On a similar note, in the State of Odisha, Wildlife Week has been successfully celebrated every year without hiccups.

HIGHLIGHTS OF ODISHA FORESTRY SECTOR - 2023



**68<sup>th</sup> National Wildlife Week**  
02<sup>nd</sup> to 08<sup>th</sup> October, 2022  
**Activities of Nandankanan**

Date & Day	Event Name	Time	Species in focus	Theme
02.10.2022 Thursday	Bird Walk	Time: 7:00-8:00 am	Species in focus: Tiger	Awareness quiz on Birds Creative Painting on Theme - Wildlife of Odisha
03.10.2022 Friday	Species in focus	Indian Pangolin	Species in focus: Indian Pangolin	Awareness quiz on Mammals Creative Painting on Theme - Wildlife of Odisha
04.10.2022 Saturday	Tree Walk	Time: 7:00-8:00 am	Species in focus: Indian Vulture	Awareness quiz on Insects Creative Painting on Theme - Why Insect matters?
05.10.2022 Sunday	Hopping Time	Evening	Species in focus: Chital	Awareness quiz on Wetlands Creative Painting on Theme - Wetlands: A key habitat for wildlife
06.10.2022 Monday	Walk	Time: Evening	Species in focus: Sloth bear	Awareness quiz on Plants Creative Painting on Theme - Forest Landscape
07.10.2022 Tuesday	Butterfly Walk	Time: 4:00-6:00 pm	Species in focus: Chitragupta	Awareness quiz on Reptiles Creative Painting on Theme - Reptiles in Indian Culture
08.10.2022 Wednesday	Nature Trail	Time: 7:00-8:00 am	Species in focus: Hippopotamus	Awareness quiz on Nandankanan Zoo Creative Painting on Theme - Zoo: Centre for learning and conservation

www.nandankanan.org | @Nandankanan Zoological Park | @nandankanan | nandankanan

20.1.14. Foundation Day (29<sup>th</sup> December)



**FOREST HEAD QUARTERS, ODISHA**  
BHUBANESWAR

*Glimpses of Aranya Bhawan*









*Smritivana, Patrapada, Bhubaneswar*



Indon. Gaur



Mangrove Plantation, Hetamundia

