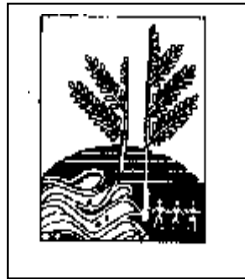


*To be revised and updated. Contact author for clarifications  
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**People—Forest—State:**  
**A Statistical Review of the Triangular Relationship in Orissa**

**Bikash Rath**

**January 2002**



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## **PREFACE**

The need of a statistical report on the status of community forest protection in Orissa has long been felt and the present study is an attempt to correspond to that necessity.

It may be mentioned here that the purpose of this study is to only to highlight the important role that has been played by the communities in preserving the local forests and as such, it does not go into the details of the limitations, problems & defects of community forest protection that have been observed in various areas.

The report was prepared originally in less than three months time although findings of some previous studies (undertaken by VASUNDHARA and other organisations/departments) also have been incorporated. It should therefore be not surprising if this presentation is found to have many limitations.

The draft which was first finalised in September 2001, has now been revised to give it a more perfect & complete form.

Bhubaneswar  
5th January, 2002

Bikash Rath

## ACKNOWLEDGEMENT

Our sincere thanks are due to:

1. Directorate of Economics & Statistics, Bhubaneswar
2. Regional Centre for Development Cooperation(RCDC), Bhubaneswar
3. Director of Social Forestry, Bhubaneswar
4. Planning Section, PCCF's Office, Bhubaneswar
5. Librarian, Office library of the Principal Chief Conservator of Forests, Bhubaneswar
6. Librarian, Janaganana Bhawan, Bhubaneswar
7. Sri Dharani Sethi, Janaganana Bhawan, Bhubaneswar
8. Sri A. Shastry, Chief Statistical Officer, Directorate of Agriculture, Bhubaneswar
9. Orissa State Museum, Bhubaneswar
10. Orissa State Archives, Bhubaneswar
11. Smt. Sanjukta Das, OUAT library, Bhubaneswar
12. Sri B.K. Pattnaik, Special Secretary, Forest Department, Bhubaneswar
13. Villagers of Koshka
14. Villagers of Lapanga
15. Sri Nakul Parida (ex-forest guard of the protected village forest), Gadavanikilo
16. Sri Magi Parida, Gadabanikilo
17. Sri Barnabaibhava Panda, Jangal Surakshya Mahasangh, Nayagarh
18. Sri N.R. Pattnaik, Kotpad
19. Sri Rangadhar Panda
20. Sri Arakshita Sahu, Ranpur
21. Sri Hari Mishra, Sadashivpur
22. Sri A. Surya Narayan Naidu, Jamunda
23. Sri Haladhar Mishra, Dhenkanal
24. Sri Kunjabihari Mishra, Kaimati
25. Sri Govinda Jena, Ankarantipur
26. Sri Gorachand Mahato, Budhikhamari
27. Sri Sachchidananda Sahu, Gundichapara
28. Sri Vimal Acharya, ACF, Development Circle (Forest Department), Cuttack

The author is also thankful to his colleagues Rekha, Rana, Giri, Pritam, Pravat and Sakuntala for their cooperation.

## ABBREVIATIONS

APR:	Annual Progress Report
CFM:	Community Forest Management
EFTI:	Evolution of Forest Tenures in India: Implications For Sustainable Forest Management
GCPI:	Gazetteer of the Central Provinces of India
JFM:	Joint Forest Management
KDG:	Koraput District Gazetteer
Koraput Settlement:	Final Report on the Major Settlement Operations in Koraput District(1938-64),1966
NA:	Not available
ODG:	Orissa District Gazetteer
OTSG:	Orissa Tributary States Gazetteer
Pal-Lahra Settlement:	Final Report on the Settlement of Pal-Lahra State(1932)
PEAECR:	Report of the Partially Excluded Areas Enquiry Committee
PF:	Protected Forest
Ranpur Settlement:	Final Report on the Original Survey & Settlement Operations of the Ranpur ex-State area (1943-52), 1963
RCDC:	Regional Centre for Development Cooperation
RF:	Reserved Forest
SICFM:	Self-initiated CFM
SIDA:	Swedish International Development Authority

## Contents

<u>Chapter</u>	<u>Page</u>
Mutually Opposite Trends of Same Origin	5
Failure of the State Control	13
Growth of Forests under Community Protection	21
From State to the People:JFM	26
Protection by Women	28

### References

### *Annexures:*

1. CFM in Koraput district
2. District-wise distribution of forest management by the communities in 1980s
3. Forest protection groups in different Forest Divisions in 1990s
4. Progress of JFM in Orissa as on 31-08-2001
5. Types of village level organisations in Orissa
6. Conversion table

### *Sources & Original Database*

## Mutually Opposite Trends of Same Origin

Growth of population has developed two mutually opposite trends:

1. Growth in the demand as well as consumption of forest produce (timber, firewood, etc.).
2. Growth in the demand as well as utilisation of non-forest area (for extension of settlements and agriculture, development projects etc.).

The following tables reflect the second trend i.e., decrease in forest area with increase in population (the first one i.e. growth in the demand of forest produce with increase in population has been substantiated statistically in Chapter: III).

The basis on which the sample areas were selected are:

1. To represent some of the best forested areas (in the past) of Orissa.  
Examples: The districts of Mayurbhanj, Keonjhar, Koraput, Dhenkanal, Malkangiri and Balangir as well as the ex-State areas of Ranpur, Dasapalla and Pal-Lahra.
2. To represent some of the coastal areas of the state, viz. Puri and Balasore districts.
3. Availability of data (etc.).

The general trend of land use was:

- Decline in forest area.
- Increase in the Net Area Cropped.
- Decrease in the area of culturable waste.
- Increase in the area of land put for non-agricultural use.

The trend varied in different regions (districts) as well as in different periods for the same region (for ex. 1901-1950 and 1950-1991) due to any or all of the following reasons:

1. Major changes in livelihood options (for ex., a shift from agriculture to various non-agricultural options like industry. See box.)).
2. Migration.<sup>1</sup>
3. Improved scope for a particular kind of land use<sup>2</sup>.
4. Other factors.<sup>3</sup>

Besides these factors, erroneous survey reports have sometimes been found to project pictures quite different

### Shifting occupation?

It seems that there has been a significant decline in the total number of perhaps the most important class of landusers in the state (i.e., cultivators) as shown in the following:

Year	Number of cultivators in % of total population
1951	65.46
1961	49.6
1971	15.34
1981	15.37
1991	14.52

On the other hand, the % of people depending primarily upon livestock, forestry,

<sup>1</sup> See the analysis for Dasapalla ex-State.

<sup>2</sup> For ex., development of irrigation facilities.

<sup>3</sup> For ex., during 1920-39, people deserted villages in the Balimela & Kondakamberu areas of Malkangiri and went back to jungles 'owing usually to the havoc wrought by wild animals on crops and cattle' (KDG:1945, p.5).

from the ground reality (see box). Still the following tables would help to some extent to make an appraisal of the situation.

**Changes in land use: Mayurbhanj district<sup>4</sup> (1901-02 to 1990-91)**

(in % of total land area)

Year	Population Per sq. mile	Forest	Waste not available for cultivation <sup>5</sup>	Culturable waste other than fallow <sup>6</sup>	Current fallow <sup>7</sup>	Net area cropped
1901-02	146.65	41.52	16.70	33.33	5.39	3.04
1952-53	257.39	22.19	20.29	5.47	21.69	30.34
1977-78	382.92	45.48	6.82	4.23	2.98	40.48
1990-91	469.34	46.82 <sup>8</sup>	5.57	4.61	1.34	41.63

**Changes in land use: Keonjhar district (1901-02 to 1990-91)**

(in % of total land area)

Year	Population Per sq. mile	Forest	Waste not available for cultivation	Culturable waste other than fallow	Current fallow	Net area cropped
1901-02	94.84	51.67	25.83	7.95	3.01	11.51
1952-53	186.54	33.57	12.95	21.67	3.02	28.77
1977-78	332.52	48.97	5.05	6.37	5.65	33.93
1990-91	416.72	29.96 <sup>9</sup>	7.34	25.15	0.60	36.94

<sup>4</sup>The ex-State of Mayurbhanj was given the status of a district after its merger. Same was the case of Keonjhar ex-State.

<sup>5</sup> This includes Land put for non-agricultural use + Barren & uncultivable land.

<sup>6</sup> This includes Misc. tree crops + Permanent pastures + Culturable waste.

<sup>7</sup> This includes, for convenience, Current fallow + Other fallow.

<sup>8</sup> 39% as per the analysis of the Forest Department (Table 2.4.2, A Decade of Forestry in Orissa:1981-90)

<sup>9</sup> 44.9 % as per the analysis of the Forest Department (Table 2.4.2, A Decade of Forestry in Orissa:1981-90)

### Facts & Figures

The changes in the land use pattern of Orissa, as per the Statistical Abstract compiled by the concerned department, has been as in the following (in % of the total land area):

Year	Forest	Not available for cultivation	Culturable waste other than fallow	Fallow	Net area cropped/sown
1936-37	12.80	29.95	17.53	8.22	31.47
1940-41	12.93	32.67	16.21	7.88	30.28
1949-50	19.63	26.71	16.36	4.89	32.38
1950-51	18.60	19.31	19.31	6.45	36.31
1963-64	23.05	16.34	16.46	5.63	38.50
1971-72	39.17	5.40	10.21	8.10	37.09
1980-81	42.72	5.77	7.92	4.12	39.44

This shows that the forest area of the state was almost constantly increasing. However, as per satellite data, the state's forest area was as in the following:

Year	1972-75	1980-82	1987	1989	1991	1993
% of forest area	31.07	25.31	34.14	30.27	30.31	30.27

Although the estimates based on remote sensing data are debatable, there is no doubt in the fact that the actual forest area in the state has declined considerably in comparison to the area of forests by legal status.

**Changes in land use: Angul District(1901-02 to 1911-12)**

(in % of the total land area)

Year	Population Per sq. mile	Forest	Waste available for cultivation	not for	Culturable waste other than fallow	Current fallow	Net area cropped
1901-02	114.16	37.42	28.64		7.74	-----	26.27
1911-12	117.19	32.09	38.71		4.81	1.98	22.38

(Note: Population figures of 1901 and 1911 have been substituted for the years 1901-02 and 1911-12 respectively.)

**Changes in land use: Balasore District**

(in % of total land area)

***Table-1(1901-02 to 1910-11)***

Year	Population Per sq. mile	Forest	Waste available for cultivation	not for	Culturable waste other than fallow	Current fallow	Net area cropped
1901-02	514.95	-----	22.48		10.49	3.17	63.85
1910-11	506.94	-----	22.51		4.19	6.19	67.1

(Note: Population figure of 1901 has been substituted for the year 1901-02.)

***Table-2 (1952-53 to 1980-81)***

Land use	1952-53	1959-60	1980-81
Population per sq. mile	435.99	581.21	901.83
Forest <sup>10</sup>	6.08	6.29	6.18
Not available for cultivation	10.56	10.36	10.97
Cultivable waste other than fallow	13.93	8.39	10.97
Fallow	5.52	7.34	5.25
Net area sown	63.88	67.60	66.61

<sup>10</sup> Forest resources of Balasore district increased to some extent after the inclusion of the ex-State of Nilgiri in this district after the merger of the latter in 1947. By 1952-53, the district had been reconstituted.

### **Changes in land use: Puri District**

(in % of total land area)

*Table-1(1840 to 1901-02)*

Year	Population per sq. mile	Area under cultivation
1840	Not available	38.73
1870	249.64	46.83
1901-02	407.07	65.79

*Table-2 (1952-53 to 1980-81)*

Land use	1952-53	1972-73	1980-81
Population per sq. mile	395.49	608.36	723.29
Forest <sup>11</sup>	27.91	27.82	32.79
Not available for cultivation	13.05	7.55	7.55
Cultivable waste other than fallow	15.12	13.57	11.37
Fallow	2.92	6.30	3.44
Net area sown	40.98	44.74	44.83

### **Changes in land use: Dhenkanal District (1952-53 to 1980-81)**

(in % of the total land area)

Land use	1952-53	1959-60	1972-73	1980-81
Population per sq. mile	203.26	238.39	320.59	375.41
Forest <sup>12</sup>	47.42	27.17	46.61	41.57
Not available for cultivation	7.56	10.16	4.30	5.31
Cultivable waste other than fallow	6.40	10.09	4.30	8.42
Fallow	2.18	3.69	8.24	7.14
Net area sown	36.42	48.87	36.53	37.54

<sup>11</sup> The district of Puri was reconstituted after the merger of the ex-States of Nayagarh, Dasapalla, Ranpur & Khandapara and the subsequent inclusion of the latter in this district. It may be noted here that these ex-States, like their counterparts in other districts, had significant forest resources.

<sup>12</sup> Forest resources of Balasore district increased to some extent after the inclusion of the ex-State of Nilgiri in this district after the merger of the latter in 1947. By 1952-53, the district had been reconstituted.

### **Changes in land use: Balangir District<sup>13</sup> (1866 to 1990-91)**

(in % of total land area)

Land use	1866	1944	1957-58	1963-64	1965-66	1977-78	1990-91
Population per sq. mile	42.85	252.96	299.99	330.39	341.82	410.79	500.92
Forests	40 <sup>14 +</sup>	25.38	20.87	20.84	30.48(?) <sub>15</sub>	20.04	16.30 <sup>16</sup>
Barren & uncultivable land	—	—	—	—	3.7	4.64	3.96
Land put to non-agricultural use	—	—	—	—	1.3	3.51	4.41
Cultivable waste	—	—	—	—	2.83	6.11	3.39
Permanent pastures & other grazing grounds	—	—	—	—	6.83	6.79	6.56
Misc. tree crops & groves	—	—	—	—	1.29	1.92	9.39
Current fallow	—	—	—	—	1.44	7.24	0.45
Other fallow	—	—	—	—	1.41	3.96	2.37
Net area sown	—	—	—	—	50.72	45.75	53.11

### **Changes in land use: undivided Koraput district (1939-40 to 1990-91)**

(in % of total land area)

Land use	1939-40	1961-62	1970-71	1974-75	1978-79	1990-91
Population per sq. mile	115.45	153.27	195.86 <sup>17</sup>	212.76	229.65	288.77
Forest	70.77 <sup>+</sup>	70	54.77	54.77	56.29	32.82 <sup>18</sup>
Misc. tree crops & groves	—	—	1.92	1.92	1.92	8.66
Permanent pastures and other grazing lands	—	—	2.10	2.10	2.10	5.92
Cultivable waste	—	—	1.62	1.25	0.88	7.25
Land put to non-agricultural use	—	—	1.73	1.88	1.99	5.92
Barren & uncultivable land	—	—	2.73	2.73	1.70	7.58
Current fallow	—	—	9.06	4.73	2.55	1.14
Other fallow	—	—	1.29	1.66	0.85	2.51
Net area sown	—	—	24.78	28.96	31.68	28.12
Total cropped area	22.21	26.38	26.60	31.49	36.67	43.58

<sup>13</sup> Includes the ex-States of Patna & Sonapur.

<sup>14</sup> Based on certain assumptions (see 'Original Database')

<sup>15</sup> calculated as 100 - % of Area under other land uses.

<sup>16</sup> 12 % as per the analysis of the Forest Department (Table 2.4.2, A Decade of Forestry in Orissa:1981-90)

<sup>17</sup> Population density for 1970-71 and subsequent years has been calculated on the basis of an area of 10432.25 sq. miles (as per village papers).

<sup>18</sup> 27.1 % as per the analysis of the Forest Department (Table 2.4.2, A Decade of Forestry in Orissa:1981-90)

**Changes in land use: Malkangiri district<sup>19</sup> (1939-40 to 1994-95)**

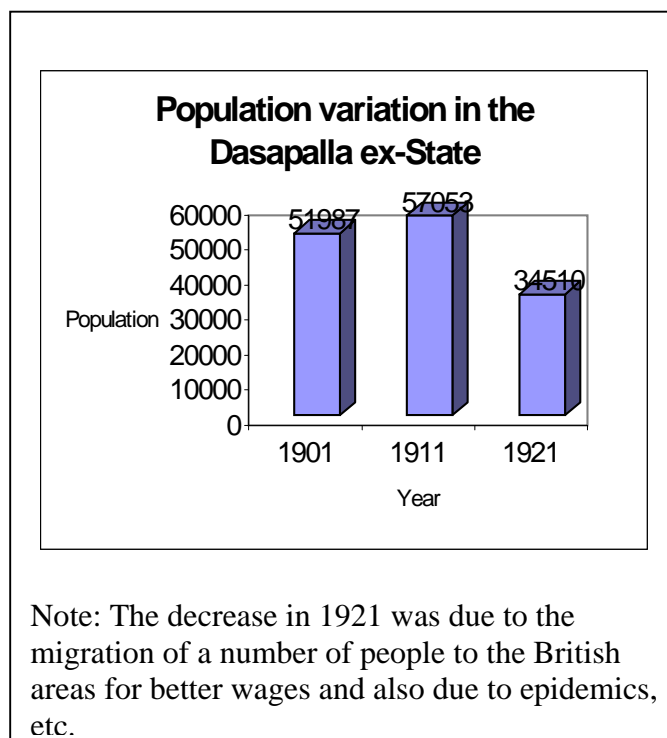
(in % of total land area)

Year	Population per sq. mile	Forest
1939-40	39	85 <sup>+</sup>
1994-95	188.53	25.32

**Changes in land use:Dasapalla ex-State (1901-02 to 1921)**

(in % of total land area)

Details	1901-02	1921
Population per sq. mile	91.52	60.86
Forest	66.99	67.9
Cultivated area	10.27	16.40
Uncultivable waste	8.56	3.35



<sup>19</sup> Originally a part of the undivided Koraput district.

**Changes in land use: Pal-Lahra ex-State<sup>20</sup> (1901-02 to 1932)**

(in % of total land area)

Year	Population per sq. mile	Cultivated area	Forests & waste lands
1901-02	49.44	7.25	92.74
1931-32	62.16	18.27	81.72

**Changes in land use: Ranpur ex-State<sup>21</sup> (1901-02 to 1951)**

(in % of total land area)

Year	Population per sq. mile	Net area cropped	Forest
1901-02	225.16	48.12	61.30
1951	290.48	68.20	53.18

**Progress in the number of towns of Orissa**

Urbanisation means increasing deforestation as well as increasing non-agricultural use of land.

The following table illustrates the trend of urbanisation (growing number of towns) in Orissa:

Year	Orissa	Mayurbhanj	Balangir	Keonjhar	Koraput
1901	14	1	1		
1911	18	1	2		
1921	20	1	2		1
1931	21	1	3		1
1941	29	1	4	1	2
1951	39	1	5	1	5
1961	62	2	5	2	7
1971	81	2	6	4	10
1981	108	4	7	6	14
1991	124	4	7	7	14

(Source: Census of India:1991, Orissa, Part II-A)

The above table shows that between 1901 & 1951, the number of towns increased by 178.57% whereas between 1951 & 1991, the increase was by 217.94 % implying greater rate of non-forest use during the latter period.

<sup>20</sup> Now in the new Angul district.

<sup>21</sup> Now in the new Nayagarh district.

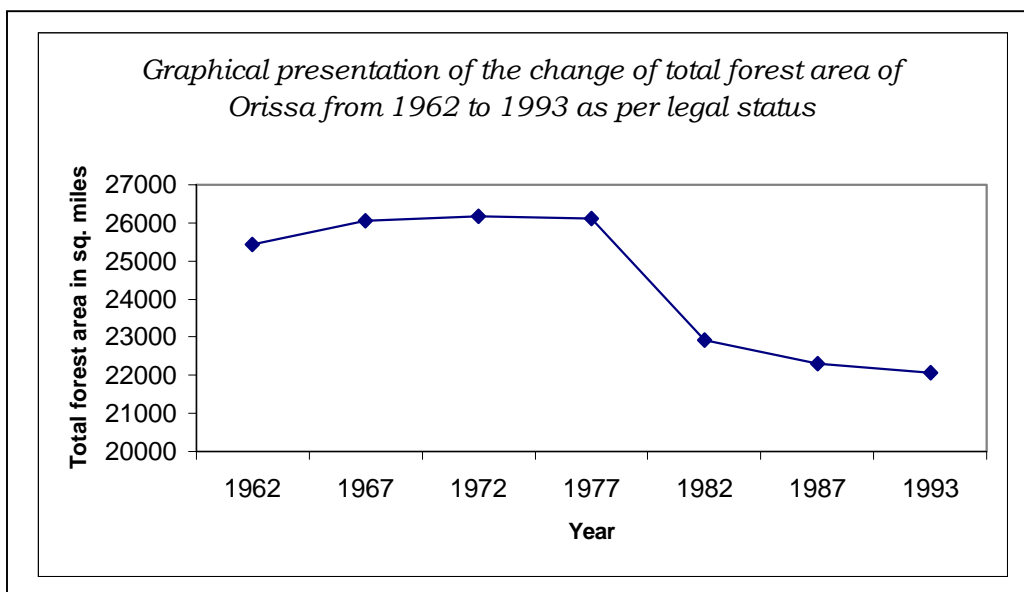
## Failure of the State Control

The State assumed control of the forests in the 19<sup>th</sup> century on the ground that the forests were destroyed due to indiscriminate exploitation by the people. The objective of forest management was then said to be for the greater cause of the people. However, after 150 years, it was found by the people that there was little hope for the conservation of forests if the State continued to assert its conventional control.

The following table illustrates the decreasing trend of forest cover in the state:

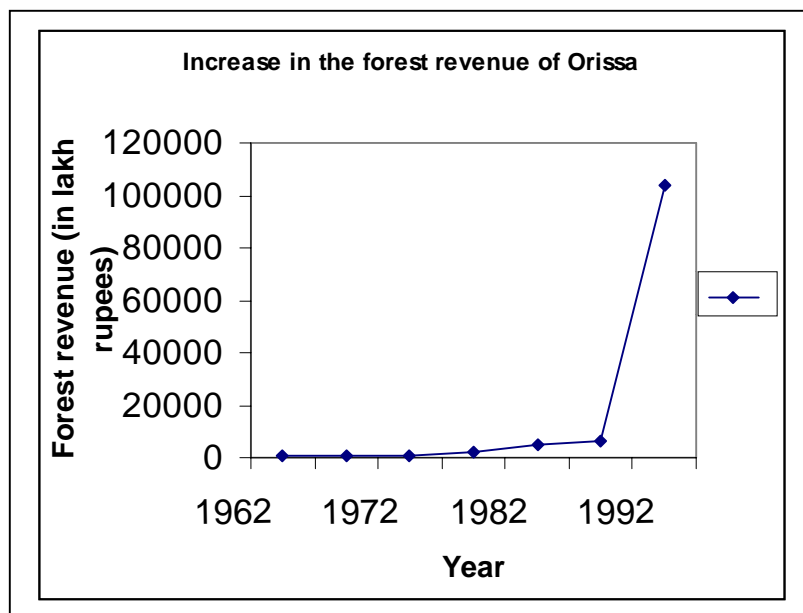
Total forest cover of Orissa (in sq. miles)						
1962	1967	1972	1977	1982	1987	1993
25425.43	26040.87	26172.42	26122.70	22937.20	22289.76	22072.87

(Note: Orissa became a separate province in 1936, but it still did not have the present geo-political form since there were many Princely States/Estates which had sovereign or semi-independent status. In 1947-49, the Princely States merged with Orissa and by 1962, the Estate forests also came under the jurisdiction of the Govt of Orissa after the Estate abolition of 1951-52. Hence, the 1962 figure gives us an earliest complete(almost) picture of the forest resources of present Orissa. It may be noted here that prior to the integration of these Princely States/Estates, the total forest area of the province was about 4583.98 sq. miles only since most of the forest area was under the feudatory rulers.)



However, it seems that the trend of gross forest revenue was just the reverse:

Gross forest revenue of Orissa (in lakh rupees)						
1962	1967	1972	1977	1982	1987	1992
411.56	482.55	796.56	1914.03	4662.52	6356.39	103910.09



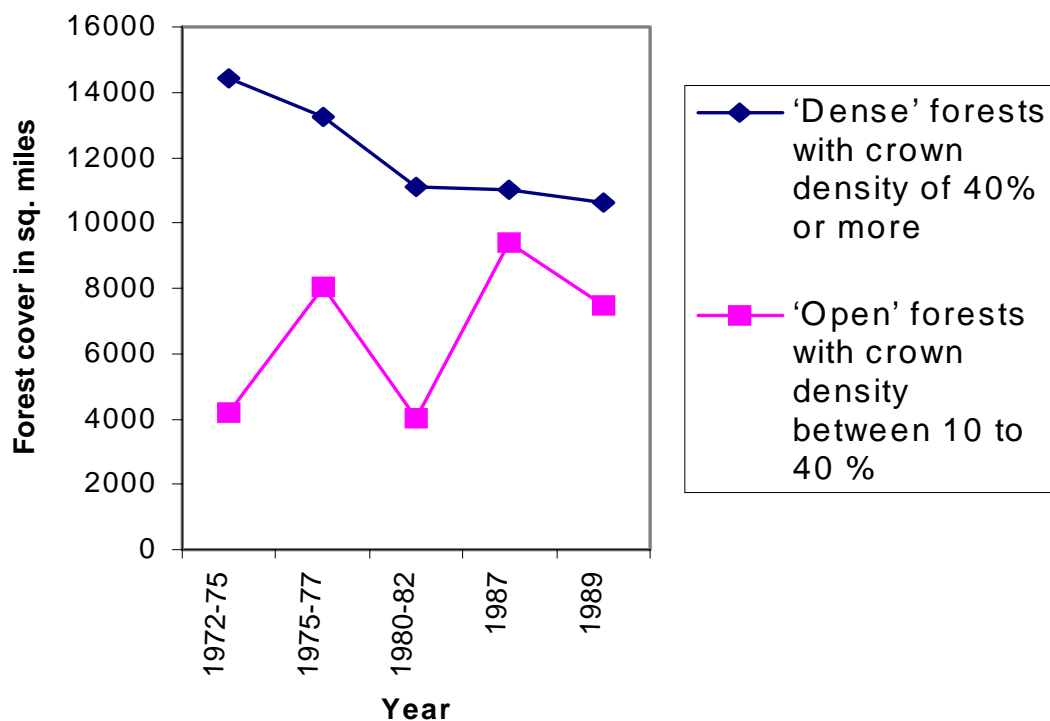
There were many reasons behind the failure of the forest department in preserving the forests. For ex.,

*Over-exploitation:*

It is often alleged by the people that indiscriminate coupe cutting by the Forest Department (through Departmental agencies or private contractors) has been a major reason behind the depletion of forest resources in the state. Although the assessment of the rate of overexploitation is difficult, the following tables and graphs would certainly indicate that despite a decreasing trend in forest area (particularly, that of the 'Dense' forests), the extraction of timber by the Department did not decrease proportionately for many years:

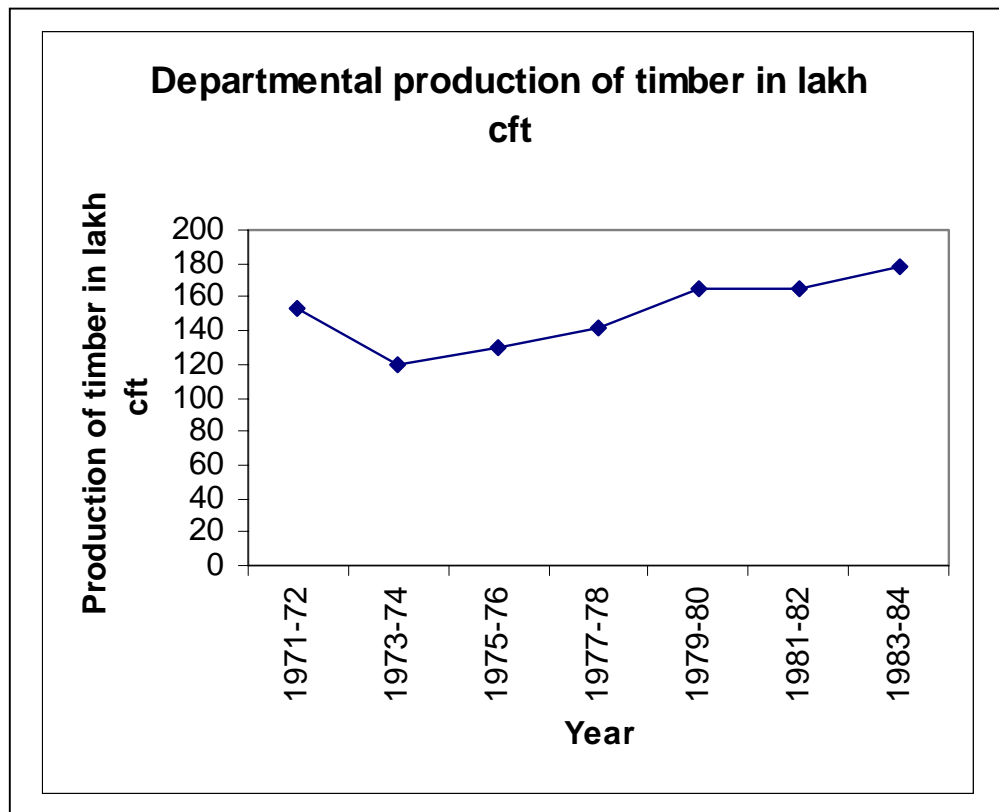
Classification of forests with area in sq. miles	Year				
	1972-75	1975-77	1980-82	1987	1989
'Dense' forests with crown density of 40% or more	14405.52	13259.1	11121.43	11029.17	10638.54
'Open' <sup>22</sup> forests with crown density between 10 to 40 %	4179.99	8048.1	4008.99	9414.92	7482.22
Mangroves	90.32	---	87.62	76.81	74.11

### Variation in the forest cover of Orissa as per satellite data



<sup>22</sup> In conventional uses, 'open' forest means forests that are open for public access. But in remote sensing interpretation, a Reserved Forest (by legal status) can be regarded as 'open' if it lacks adequate vegetation (crown) density.

Year	Departmental production of timber in lakh cft
1971-72	153.26
1973-74	119.71
1975-76	129.60
1977-78	142.31
1979-80	165.62
1981-82	164.92
1983-84	177.63
1985-86	84.40
1987-88	71.68
1989-90	37.78



*Illicit felling by individuals/groups:*

It is very difficult to substantiate the statement that a major cause of the depletion of forests is illegal extraction, because specific statistical data against the same is lacking. Still, it is indicated in the following table:

Year	1936	1940	1947	1954	1960	1967	1975	1980	1985	1989
Total number of forest offences <sup>23</sup>	3625	3995	6696	2745 1	4183 9	4804 6	4510 2	5163 9	31408	1251 6

Qualitatively, the impact of these offences is reflected even in some of the recent figures, as furnished below:

Year	No. of offences detected <sup>24</sup>	Value of the seized materials (in rupees)	Total forest revenue(in rupees) <sup>25</sup>	Value of the seized materials in % of the total forest revenue of the state
1988-89	32315	6223052	591819000	1.05
1989-90	28769	5731573	1090131000	0.52
1990-91	42355	7886264	1090442000	0.72
1991-92	72931	27569019	846660000	3.25
1992-93	72995	27126449	1039109000	2.61

((Note: The official figures do not include the large number of undetected (?) cases. The actual figures are supposed to be much higher than those furnished above. For ex., between 1997 & 1999, there was a loss of 18 sq. kms (6.94 sq. miles) of forest area in the Dhenkanal district mainly due to illicit felling, as per the estimates of Forest Survey of India<sup>26</sup>. The area lost is about 1.69 % of the total forest area (1063 sq. kms.) of the district.))

*Shifting cultivation (Podu):*

<sup>23</sup> These figures are as per the reports of the Forest Dept. of Orissa only (as quoted in Singh R.V., EFTI, Tables 6.5 & 6.8). Needless to say that those of the ex-State/Estate Forest Departments have not been included in the table.

<sup>24</sup> The number of offences detected as well as the value of materials seized are from 'Orissa Forests:1993', Table-3.2.

<sup>25</sup> As given in 'A Decade of Forestry in Orissa:1981-90', Tables 2.5.1 & 2.5.4.

<sup>26</sup> State of Forests Report:1999, Table 3.20.f.

According to an estimate, the loss of forest area due to Podu was about 2045 sq. miles per year(1981-90).In the '80s, the area under shifting cultivation in the state was approx. 10225 sq. miles i.e., more than 46% of the total forest area (as in 1989-90) of the state.

Shifting cultivation seems to have increased in many areas during the last 70 years, as evident from the following table:

Districts	Area affected in 1936-37 (in sq. miles)	Area affected in 1982 (in sq. miles)
Keonjhar	500 <sup>+</sup>	975.70
Koraput	5.79 <sup>+27</sup>	4449.84

#### *Non-forest use:*

Non-forest use of forests for various civil & military purposes has been an important factor behind the depletion of forests. Forest area released for non-forest use is as in the following table:

Year	Sept. <sup>28</sup> (?)1947 to 1980(October)	1980(Dec.)- June 1991	1991-1999
Area released for non-forest use (in sq. miles)	769.66 <sup>29</sup>	106.04	93.15

Hence, the total forest area released for non-forest uses is 878.45 sq. miles during 1947-1999. Assuming the total forest area of the state in September 1947 as that in 1962 (i.e., 25425.43 sq. miles) and the total forest area in 1999 as that in 1997-98(i.e.,22440.29 sq. miles), the loss is about 2985 sq. miles of which the forest area released (as above) is about 29.42 %.

#### *Forest fire:*

According to departmental sources, damage of forests by fire has not been of any significant extent since the dominant species like Sal are fire-hardy and also the fire is often confined to the ground only.

The number of offence cases detected for causing forest fire has been given below:

Year	No.	of
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<sup>27</sup> Actually much more extensive than this estimation, as observed by the Partially Excluded Areas Enquiry Committee.

<sup>28</sup> Post-independence period starts from 15<sup>th</sup> August, 1947.

<sup>29</sup> 24.14% (48135.63 Hectares) of this was Reserved Forest.

	cases <sup>30</sup>
1936	153
1940	127
1947	62
1954	202
1960	359
1967	3
1975	7
1980	17

The loss has been estimated as below (examples):

Average for the years	Number of fire	Area burnt (in sq. miles)	Recorded value of loss (in rupees)
1960-61 to 1964-65	272	416.61	Negligible
1968-69 to 1972-73	550	196.86	5520000

Year	Area affected by forest fire (in sq. miles)	% of total forest area	Loss (in rupees)	Loss in % of the total forest revenue
1995-96	503.07 <sup>+</sup>	2.32	8603763	1.26
1996-97	281.48 <sup>+</sup>	1.25	4735200	0.62
1997-98	234.85 <sup>+</sup>	1.04	5611356	0.76

The above discussion suggests that the major factors behind the depletion of forest resources were(are) over-exploitation by the Forest Department, illicit felling, shifting cultivation and non-forest use. Besides that, the policy of the govt as well its way of implementation has sometimes acted as a facilitator of deforestation. For ex., people at some places of the state allege that natural forests were cleared by the govt agencies so as to raise cashew or Eucalyptus plantations (probably to utilize the funds received for such purposes).

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<sup>30</sup> Singh, EFTI, Tables 6.5 & 6.8.

### State versus State

Mayurbhanj was the largest princely State of Orissa having extensive high forests. By 1895-96, it was found that nearly all the plains and accessible parts of the State had been denuded of mature Sal because of commercial and/or indiscriminate exploitation. Nearly 75% of the south-western plains had also been ruined by shifting cultivation.

Efforts for the systematic management & conservation of the forests soon began and the rulers paid special attention for the same. It is because of the sincerity of the princely administration that the forests of Mayurbhanj (particularly, the Simlipal forests) remained more or less intact till the Govt. of Orissa took over the feudal administration. The following tables would indicate how sincerely the forests were managed in this former State:

Year	Population per sq. mile	Total forest area in % of the total geographical area of the State	Gross forest revenue (in rupees)
1894-95	132.80	41.52	54438
1901-02	146.65	41.53	92527
1914-15	174.22	53.09	274958
1930-31	209.66	52.17	699198
1944-45	236.24	51.49	1318759

Year	Area of Reserved Forests in sq. miles
1895-96	1039.22
1901-02	1075.22
1914-15	1259.25
1930-31	1278.52
1944-45	1148.28
1945-46	1287.65

It can be seen that despite the growing pressure of population as well as significant increase in the forest revenue, the forests of the State remained more or less intact (by legal status atleast) over a period of fifty years. It is true that there was some loss of reserved forest area, but this was regularly compensated by adding portions of Protected Forests to the reserved areas as well as by afforestation /plantation projects, etc.

Two things that mainly attributed for this successful management were the sincerity of the rulers/administrators and the strict enforcement of the forest rules. However, that did not went totally against the people of the State since various concessions were available to meet the bonafide demands of the residents.

Within a period of 50 years, population of the State of Mayurbhanj increased by 76.22% whereas the per-capita non-RF forest area decreased by 29.36% (from .00126 sq. miles in 1895-96 to .00089 sq. miles in 1945-46). In comparison of that, the population of Orissa increased by 81.61% between 1962 and 1993 whereas the per-capita non-RF (i.e. forests excluding Reserved Forests & Reserved Lands) forest area decreased by 76.72% (from .000799 sq. miles to .000186 sq. miles) during the same period. In other words, with 1 % increase in population, the decrease in the per-capita non-RF forest area was 0.38% in the Mayurbhanj State over a period of 50 years whereas in Orissa, the decrease in per-capita non-RF forest area was 0.94% per 1 % increase in population over a period of approx. 30 years.

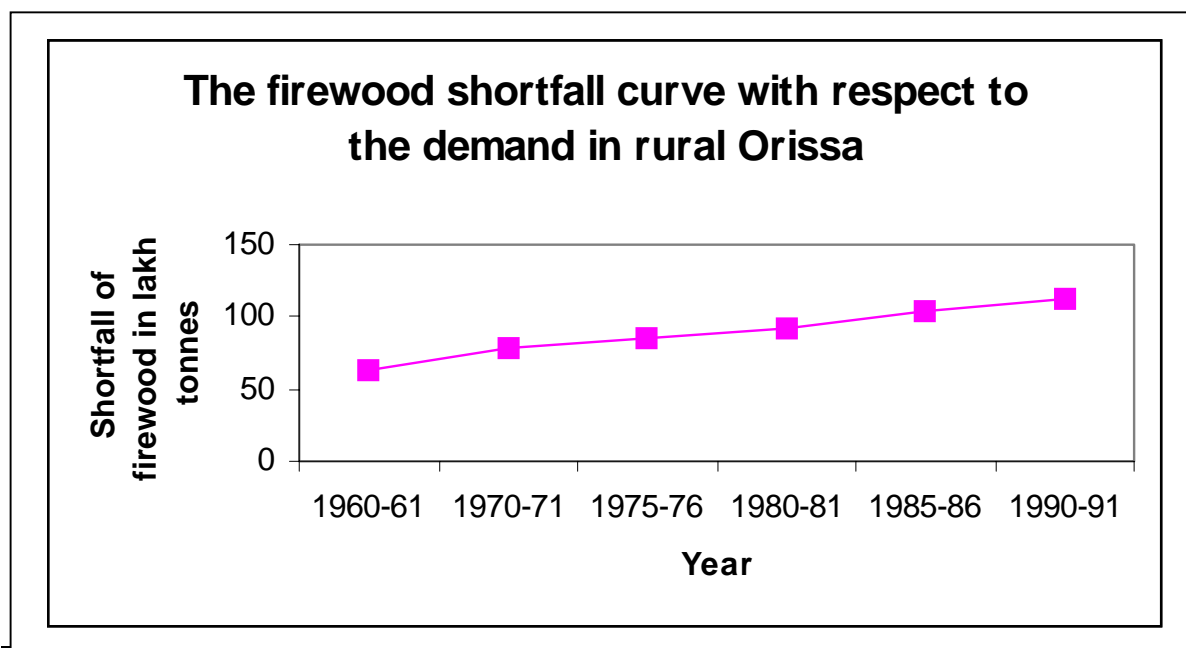
The rulers of Mayurbhanj state regarded the State forests as their own valuable property and hence they used to take care of that with a responsible attitude. But the Forest Department people of Orissa state rarely maintained this attitude. However, in community forest management, the protecting communities essentially see the protected patch as their own property and that is why SICFM groups are not ready to allow the Forest Department people any share in 'their' forest even though it is a Reserved Forest.

## Growth of Forests under Community Protection

While the per-capita unreserved forest area was decreasing in Orissa, the demand for timber & firewood for domestic use was increasing. This resulted in the growing shortfall of the required timber & firewood and it was due to this reason that people, at places, started protecting the local forest patches. The effort gradually assumed the form of a mass movement after 1947 when the people, having felt themselves 'free' in the independent India, cut down forests at various places for their own cause in consequence of which some villages started protecting the local forests so as to save them (forests) from the 'outsiders'.

As per the findings of the Operations Research Group, Bhubaneswar; per-capita consumption of firewood in the rural areas of Orissa is 382 Kg<sup>31</sup>. Taking this into account, the following table illustrates the overall situation of demand & shortfall of firewood in the state since 1960-61:

Year	Rural population	Demand of firewood in lakh tonnes	Departmental production of firewood in lakh tonnes <sup>32</sup>	Shortfall of firewood in lakh tonnes
1960-61	16439196	69.16	6.17	62.99
1970-71	20099220	84.45	6.69	77.76
1975-76	21679602	91.09	5.99	85.10
1980-81	23259984	97.73	6.25	91.48
1985-86	25342368	106.48	3.22	103.26
1990-91	27424753	115.23	2.01 <sup>33</sup>	113.22



<sup>31</sup> Quoted in 'State of Orissa's Environment', 1994, p. 239

<sup>32</sup> For years 1970-71 to 1985-86, vide Table 2.2 of 'Forestry Sector Review For National Forest Action Plan' (Orissa Unit), 1994

<sup>33</sup> 1.83 lakh metric tonnes as given in 'Orissa Forests':1993.

**The short-fall in firewood production with respect to the demand itself signifies the amount of illicit felling that would have taken place in the forests to fulfill the gap. Same can be said of the short-fall in timber production<sup>34</sup>.**

It is very difficult to assess the exact number of self-initiated<sup>35</sup> CFM (SICFM) groups as well as the area under their protection because adequate data on the same is lacking. Still, an attempt has been made here to illustrate the gradual growth of community initiatives in forest protection over a period of 70 years, in the following table<sup>36</sup>:

Year	Number of self-initiated CFM groups	Forest area under their protection (in sq. miles)	Remarks
1930s	1 <sup>+</sup>	0.31 <sup>+</sup>	The group mentioned is that of the Lapanga village in the Sambalpur district. There is a difference of opinion among the leaders of this protection committee regarding the exact area under their protection. It was therefore found safe to consider the area as 81 Hectares.  The number of such groups as well as the area under their protection (particularly in the undivided Koraput district) are not available.
1940s	2 <sup>+</sup>	0.54 <sup>+</sup>	This includes 0.23 sq. miles of area (approx.) in the Gadabanikilo village of Nayagarh district <sup>37</sup> .
1950s	5 <sup>+</sup>	5.29 <sup>+</sup>	This includes approx. 100 acres protected by Sadashivpur village of Dhenkanal district, 2900 acres protected by Jagannathprasad village( Nayagarh

<sup>34</sup> Estimated to be 2.67 lakh cubic metres in 2001 against the demand & production of 3.67 lakh cu. metres & 1 lakh cu. metres respectively (Table 3.34, A Decade of Forestry in Orissa:1981 to 1990)

<sup>35</sup> i.e., those who started protection without any recognition or encouragement from the government. The SICFM groups under assessment in the above table managed,protected & harvested their forests independently excepting Jamunda where the removal of forest produce was supervised to some extent by the govt authorities.

<sup>36</sup> The data furnished in the table is not exclusive since it was impossible for the author to make necessary survey in all the districts of Orissa to collect the information. The table is therefore only indicative of the growth of SICFM effort in the state.

<sup>37</sup> According to Sri Jameswar Behera of Lachchipur (a neighbouring village of Gadabanikilo), one of the key persons behind the forest protection initiative of his village, Gadabanikilo and other neighbouring villages started forest protection only after 1952 (when the Lachchipur villagers initiated protection). This would mean that either there was no effort for forest protection in Gadabanikilo in 1940s or it was there in an informal way & assumed an organised form in 1950s.

			district) and approx. 45 acres protected by Lachchipur village (Nayagarh district).
1960s	13 <sup>+</sup>	6.04 <sup>+</sup>	<p>This includes the approx. area of 150 acres under the protection of Jamunda panchayat near Jeypore. Although the panchayat involved 22 villages, it has been considered here as one group. Also included are the area protected by the villagers of Kaimati(80acres), Ankarantipur(50 acres), Panchumati(50 acres),Siminoi (50 acres),Mulasinghpur(50 acres) and Gundichapara(50 acres) of Dhenkanal district.</p> <p>The area under the protection of Kutasingha village in the Balangir district is not available.</p>
1970s	15 <sup>+</sup>	7.01 <sup>+</sup>	<p>This includes 700 acres of forest protected by Koshka village in the Nayagarh district. The area under the protection of Baradungri village in the Sambalpur district is not available.</p> <p>It may be mentioned here that the protected patch of Sadashivpur in the Dhenkanal district was reduced by about 90 % due to intra-village conflicts.</p>
1980s	19 <sup>+</sup>	30.78 <sup>+38</sup>	This includes 80 Hectares of Kudamunda (Sambalpur district), 240 Hectares of Kantapalli (Balangir district), 840 Hectares of Dhani-Panchmausa (Nayagarh district) and 5000 Hectares of Budhikhamari (Mayurbhanj district). <sup>39</sup>

<sup>38</sup> In 1988-89, a survey was undertaken by a govt agency to assess the number of forest protecting groups in Orissa and the area under their protection. The survey was done by a private firm under the name 'Project Corporate Consultant' and the findings suggested that there were some 333 organisations protecting about 70400 Hectares of Reserved Forest and 848 organisations protecting about 116500 Hectares of Protected Forest in the state ('Community Based Forest Management Systems', 1991, p.4). These figures could not be included here for the simple reason that the exact number of SICFM groups was not known from these figures although it is very much possible that almost all the groups mentioned in the said report belonged to the SICFM category.

<sup>39</sup> There is some controversy regarding the famous Budhikhamari forest protection. Acc. to one report, the area under protection is about 3250 Hectares (Jonsson & Rai, 1994, p.iv) and that the protection was initiated with some encouragement from the Forest Department. However, Sri Gorachand Mahato, the president of Budhikhamari

1990s	2509 <sup>+</sup>	443.39 <sup>+</sup>	The number of SICFM groups is as per the survey undertaken by the Directorate of Social Forestry in 1999. The area is that under the 'unregistered groups', as mentioned in 'Orissa Forests:1999'.
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**Forests under successful community protection can withstand the pressure of growing population and this has been demonstrated in many cases.**

For ex., in Lapanga, where the protection started in or before 1930s, the population has been increased as per the following table:

Year	Population
1951	1507
1971	1621
1991	2050

Despite this growth, the main protected patch has not only remained more or less intact, but there has been an increase in the density of vegetation of this forest since the villagers have planted trees therein. It might be mentioned here that the villagers donated many of their cultivated lands for the growth & protection of forest. In addition to that, scattered small patches of forest have also been protected.

Koshka is one of the few villages of Nayagarh district where the forest protection began about 30 years before. Before the protection started, the local forest, on which the villagers were dependant, had been denuded to such an extent that it (forest) was used as a cultivation site. During the last 30 years, the population of the village has been increased by approx. four times, but the change in the status of the forest could be apprehended from the following comparison:

Indicators	Status 30 years back	Current status
Sal trees ( <i>Shorea robusta</i> )	Only stumps of the cut down trees were left.	'Innumerable' mature & immature trees. <sup>40</sup>
Mohul trees ( <i>Madhuka indica/latifolia</i> )	Some 50 to 100 trees were left confined to the upper slope of the hill.	500 to 600 (or more ?) mature trees.
Piasal trees ( <i>Pterocarpus marsupium</i> )	Almost nil.	More than 500 (mature) trees.

Protection Committee told this author on 24-8-2001 that he himself initiated the protection movement in the late '80s and the area then included forests of Manchabandha & Budhikhamari (total approx. 5000 Hectares). The Forest Deptt. later supported the movement and now Mahato is leading a federation of 95 villages for the protection of some 10000 Hectares of forest.

<sup>40</sup> The villagers say that some 7 to 8 years before, a lady researcher came to their village for some study on their protection effort and during her measurements in the Sal dominated area of the local forest, the density was 45 mature & immature Sal trees (girth ranging from 6 inches to 2 feet) per an area of 35x35 sq. feet.

It may be noted here that the protection failed partially in its mission atleast two times during the last thirty years due to the laxity on the part of the protectors. The third initiative has tried successfully to prevent that kind of failure, but it has not been possible to completely stop illegal cutting of timber by the outsiders. Despite all this, the forest has grown up to a dense one.

**The above examples clearly demonstrate the fact that decrease in percapita forest area in any region over the years does not necessarily mean degradation of the forest resources of that area. This is possible in community forest protection because of the following reasons:**

1. The forest is protected from the outsiders.
2. The protecting community restricts itself, in the use of its forest resource, to various extents.
3. Sometimes, there is an effort to increase the density of vegetation through plantations, etc.

If growth of population has caused depletion in forest resources, the only hope to annul this pressure of population seems to be community forest protection.

#### **For a greater cause**

- The landholding tenants of Lapanga donated their private lands so as to grow and protect forests in a larger area for the cause of the villagers. More than 50% of the main protected patch of Lapanga originally belonged to them.
- The villagers of Kaimati purchased about 40 acres of degraded forest land for protection in the interest of the community. This constitutes about 50% of the total area of forests protected by them.
- Gorachand Mahato, the legendary figure of Budhikhamari forest protection, has spent some forty thousand rupees from his 'own pocket' against various expenditures relating to the protection movement under his leadership simply because he enjoyed his role in the great effort.

#### **Protection at what cost?**

In Sadashivpur village of Dhenkanal district, some of the lower caste people (who were allegedly involved in the destruction of local forests) have reportedly 'protected' 10 to 15 acres of 'forest' patch which is capable of yielding only some fencing materials as the species growing there (for ex., *Naharabeli* or *Cipadessa baccifera* and *Naga-airee* or *Lantana camara*) do not belong to the category of 'timber trees'. And to collect one cartload of such fencing materials, the cost of production (labour) is said to be approx. Rs. 200 whereas the market price of the produce thus collected is about Rs. 30. (Source: Sri Hari Mishra, Sadashivpur)

In Gadabanikilo village of Nayagarh district, Rs. 6000 is spent annually from the village fund towards the salary of the watcher appointed. And the annual gain for the 146 households of the village is some 100 to 150 cartloads (total) of fuel (approx. market price: Rs. 30 per cartload) and Mahul seeds from which each household gets approx. 30 Kg oil (market price: Rs. 30 to 35 per Kg) if the production of Mahul seed in the forest is 'sufficient'. (Source: Sri Magi Parida & other villagers of Gadabanikilo)

In these two examples, one group is a loser while the other one is a gainer (if season favours). This way, the net gain for the protecting villagers vary from time to time as well as from area to area. Still, one thing is common to them and that is: they protect their jungle because they want to have a forest of their own; a forest which would make them self-reliant. They primarily protect the forests not for any cash return but for a return in kind (timber/firewood etc.). Lack of maturity and other factors might have made some of the protecting communities a financial loser, but for all the groups it is more important that they have their own forests.

## From State to the People: JFM

Involving communities in forest protection began by the government in the mid-1980s when the Social Forestry project was started with the support of a Swedish agency (SIDA). The jurisdiction of this project was confined to the village woodlots & plantations near the village areas known as 'Social Forests' and as such, there was no involvement of communities in the protection of natural forests under this project.

In 1988, the government issued a resolution to recognise & facilitate community involvement in the protection of degraded Reserved Forests. The resolution was amended in 1990 whereby the recognition for community protection was extended for the Protected Forests also. The forest protection committees representing such community effort were called Village Forest Protection Committees (VFPC) and these were all created/formalised by the govt.. These communities were entitled for the removal of small timber & fuel without royalty from the forests under their protection.

In 1993, the Joint Forest Management (JFM) declaration was published. In the JFM scheme, the protecting communities were allowed more rights (for ex., upto 50% share) in the produce of their protected forests. In 1996, the JFM scheme was revised to include all kinds of forests for protection under the communities and to allow such protecting groups 100% rights over the forests protected by them if certain conditions were fulfilled. The forest protection committees/groups directly created under the JFM scheme were known as VSS (Van Samrakshan Samities) and since then the govt has been trying to convert the VFPCs (and the SICFM groups) into VSS as a result of which the number of VFPCs has declined while that of VSS is increasing as evident from the following table:

Be it JFM or CFM, community participation in the protection/management of forests has come out with remarkable results in many cases. For ex., the Forest Survey of India estimated that between 1997 & 1999, there was an increase of 90 sq. Km.(34.74 sq. miles) and 10 sq. Km.(3.86 sq. miles) in the forest areas of Mayurbhanj & Balangir districts respectively and this gain was possible because of JFM.(State of Forests Report:1999, Table 3.20.f)

Year	Number of VFPCs	Area protected by VFPCs (in sq. miles)	Number of VSS	Area protected by VSS (in sq. miles)
1980-90	6085	5483.24	0	0
1990-99	4928	3894.90	6685	2450.18

Forests under protection (in sq. miles)	1980s		1990s <sup>41</sup>	
	VFPC	VSS	VFPC	VSS
RF	4598.75	0	516.60 <sup>+</sup>	876.38 <sup>+</sup>
PF	884.49	0	1428.26 <sup>+</sup>	587.87 <sup>+</sup>

<sup>41</sup> Information available for 3606 VSS & 1150 VFPC only. It may be noted here that some of the figures initially furnished in the govt publications have later been modified (for ex., the total number of VSS in 1990s has come down from 6685 to 5542 for the same period and the area protected by the latter number of VSS has been stated as 539395 Hectares (vide memo number 1193 of 14-5-2001 of the Conservator of Forests, Development Circle). Reliable sources say that the exact numbers are difficult to get due to lack of proper co-ordination among the concerned officers as well as the exaggerations made by some officers to project their 'achievements' (fulfillment of target),etc..

Accordingly, there were about 12382 (?)cases of community protection in/by 1999 and the area under their protection was approx. 6788.47 sq. miles<sup>42</sup> i.e., approx. 30% of the total forest area<sup>43</sup> of the state if only the official estimation is taken into consideration.

*Two sides of the interaction:*

In 1980s, it was found by the then Forest Settlement Officer of Kalahandi district that people who had been protecting forests for years, suddenly decided to cut down the same forests when they came to know that the Forest Department was going to assert its rights on those forests and to sell out the trees therein. The people took this extreme step simply because they were not ready to let their years of labour fall prey to the commercial hunger of the Forest Department.<sup>44</sup>

At many other places, SICFM groups were against the so-called formalisation of their effort under the JFM since they feared that any intervention by the Department would mean a lot of trouble for them.

However, when the Department interacted with the people for the sake of their(people's) own interest as well as of the forests without any commercial objectives of its (Department's) own, the result has been quite encouraging(see box). Realising this, the government has gradually amended the JFM scheme in this direction. For ex., as per the 1996 declaration, the adjacent forest areas (be it 'Reserved' or 'Protected' ) allotted to a community for protection would henceforth be regarded as a 'Village Forest', i.e., forests of the villagers and not of the Department. Still, there is some lacuna in the formulation as well as implementation of the JFM scheme because of which the advocates of CFM demand for a critical review of the whole scheme as well as for some more pro-people amendments.

**An alternative to the 'alternatives'**

Use of substitutes of fuel wood or timber certainly helps to reduce the consumption of these forest materials and accordingly provides alternatives to these materials.

However, an alternative to these 'alternatives' is the community participation in the conservation and sustainable use of forests. For ex., till last year, an average household of the Deogarh Forest Division used to extract at least 40 cartloads of firewood per annum from all the forests of the Division. However, with the help of the representatives of the *Orissa Jungle Manch*, the villagers were constantly persuaded by the forest officials for the sustainable use of the forests, as a result of which the level of extraction(of firewood) has now come down to 12 cartloads/household/annum (vide 'Community Based Initiatives in Fire Management....', VASUNDHARA, 2001)

It is often observed that more are the resources, less careful are the local people for their sustainable use. A responsible approach towards the resources can be expected from the people through successful community participation programmes.

<sup>42</sup> This included 4928 VFPCs, 6685 VSS and 769 'unregistered' groups and the area protected by them. However, the Directorate of Social Forestry estimated about 14633 groups involved in such protection, the area under them being not estimated. This latter figure included groups involved in the protection of 'forests' created under the Social Forestry scheme. As per the data furnished in 'Orissa Forests:1999' (p.38), the total number of committees (known as Village Forest Committees or VFCs) in the state was 9141 and the area (Social Forests) protected by them was 118122 Hectares i.e., 456.06 sq. miles.

<sup>43</sup> 58135.47 sq. kms (22440.29 sq. miles) as in 1997-98 by legal status.

<sup>44</sup> Sri Rangadhar Panda, ex-Forest Settlement Officer of Kalahandi, over phone to the author on 20-07-2001.

## Protection by Women

Although forest protection by women is a comparatively recent phenomenon, they have been taking lead in community forest protection either exclusively or occasionally at various places. They got involved in this movement because of various reasons:

1. Laxity on the part of their male relatives.
2. The males were engaged in some other important work.
3. The males found it more effective to involve women directly in the protection since the male intruders would not usually like to face the women protectors and also, there would be no threat of the cases of misbehavior while handling female intruders.<sup>45</sup>

Exact number of the women protecting groups and the forest area under their protection is not known because of lack of complete survey . The following figures (mostly taken from the studies of RCDC, Bhubaneswar) can, however, provide some idea about the status of women's representation in community forest protection in Orissa by the first half of 2001:

### *Exclusively Women's Protection Committees*

District	Number of committees	Approx. area under protection (in sq. miles)
Deogarh	4	1.17
Sambalpur	10	8.36
Sundargarh	5	0.39 (area of 4 committees not available)
Kandhamal	3	0.04
Nayagarh	4	0.79 (area of one committee not available)
Mayurbhanj	1	Not available
Total <sup>46</sup>	27	10.75 <sup>+</sup>

<sup>45</sup> For ex., in Krushnachandrapur of Nayagarh district, the forest is easily accessible by the outsiders; but despite that it has remained almost intact as the protectors are women and the intruders do not like to get humiliated by the women.

<sup>46</sup> Information for other districts are not available.

*Committees dominated by women*

District	Number of committees	Area under protection (in sq. miles)
Balangir	2	0.46
Sambalpur	4	1.53
Sundargarh	4	1.65 (area of 2 committees not available)

*Committees with less than 100% representation of women*

% of women's representation	Number of committees
30	527
50	175
60	34
80	29

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## **ANNEXURES**

## ANNEXURE:1

### CFM IN KORAPUT DISTRICT

Undivided Koraput district was almost synonymous with what was formerly known as the Jeypore Estate. The district was characterised by an undulatory topography with extensive forest cover as well as an unhealthy climate till a few decades ago.

Forests formed a major source of income for the Maharaja of Jeypore. The income from forests) per annum rose from about ± Rs 10000/- in 1890-91 to Rs 4 lakhs in 1939 and ± Rs 9.5 lakhs in 1951-52.

The forest administration of the Estate was not very satisfactory (in view of scientific management) and the forests were exploited both for commercial purposes as well by the practitioners of Podu. The rules were comparatively liberal for the tenants. In spite of all these

**Forest status of the district (in sq. miles)**

Year	Reserved Forest	Reserved & Protected Forest	Unreserves <sup>47</sup>	Total Area	Forest	Population
1901				7000 <sup>+</sup>		722792
1907	324		6676 <sup>48</sup>	7000 <sup>+</sup>		825106
1911				7000 <sup>+</sup>		868955
1939		1645.14	5354.86	7000		
1941				7000		1176989
1945		1645.14				
1947	1545					
1951						1322640
1959	1593.54	1706.04	3814.98	5521.51		
1961	1593.54			5521		1561051
1966	1590	1700				
1971						2043281
1979		1810.51	3595.51	5404.24		
1981				5404		2484005

factors & the damage done to forests, the forest cover was about 70% by 1966. However, the district saw a growth in the rate of forest destruction in the subsequent years because of the following factors:

- Development projects.
- Commercial exploitation by the Forest Department of the Govt of Orissa.
- Rehabilitation projects (which began with the Dandakaranya Project in 1950s).

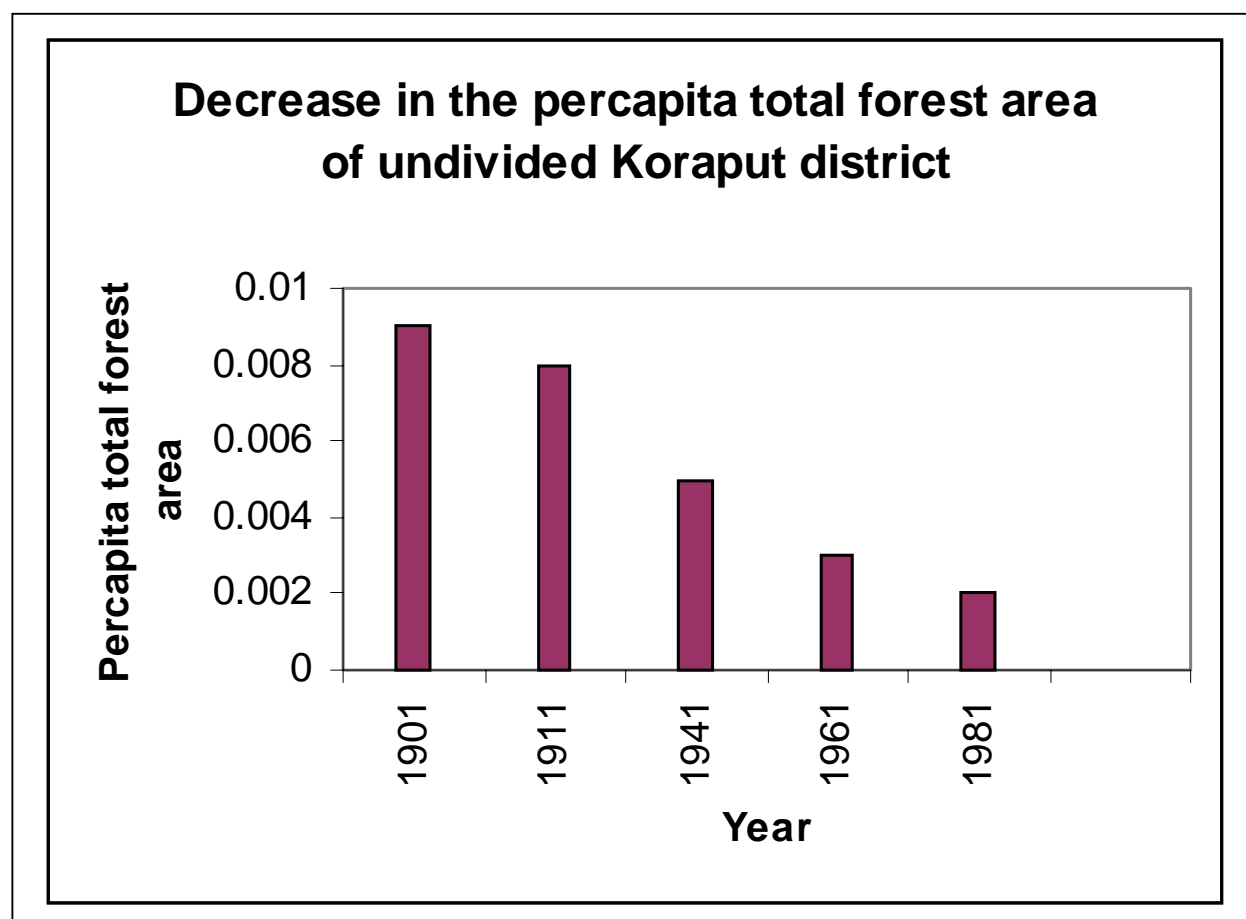
<sup>47</sup> 'Unreserves' in this former Estate meant village forests or open forests.

<sup>48</sup> Protected Lands were created only after 1916.

- Increase in the demand of timber/firewood due to increase in population.
- People taking advantage of the abolition of the strict administrative system of the former ruler.

Per-capita total forest area in the undivided Koraput district	
Year	Area in sq. miles
1901	0.009
1911	0.008
1941	0.005
1961	0.003
1981	0.002

- 



The Jeypore Forest Rules asked the village in-charge (Mustajars, etc.) to see that people did not make any indiscriminate/illegal use of the local forests. People had a right to take forest produce from the nearby 'unreserves' (open forests) by paying annual forest cess or 'plough tax'. It seems that it was in this context that CFM or similar activities began in the Estate as evident from following details found in the Koraput District Gazetteer of 1945 (compiled almost by 1939):

“ The forests are guarded by officials of the forest department of the estate. No experiments have yet been tried in placing them under the control of the villagers, but the latter have recently in not a few cases themselves taken the initiative in protecting small areas of unreserved land where firewood is scarce.”<sup>49</sup>

This observation is further supported by the following report of the Partially Excluded Areas Enquiry Committee (PEAEC) of the Govt. of Orissa which visited the Estate in the late 1930s:

“ But there are considerable areas, such as in Nowrangpur, Koraput and Kotpad ranges, where there are no Estate forests existing near villages xxxxxxxx. In practice, people of such areas actually find it difficult to utilise the unreserves of the distant villages although they are given such rights because of payment of plough tax. The adjoining villagers, for whom these unreserves are primarily meant, feel that their legitimate rights and privileges xxxxxxxx are being encroached upon by distant villagers coming to their forests for timber; and quite naturally they resent the idea that others should exhaust their forests, which have been kept for their use at the time of reservation of some neighbouring block. Most of the unreserves have also a very limited stock of reserved trees, where actually the villagers prevent the people from distant villages from using them<sup>50</sup> xxxxx.”

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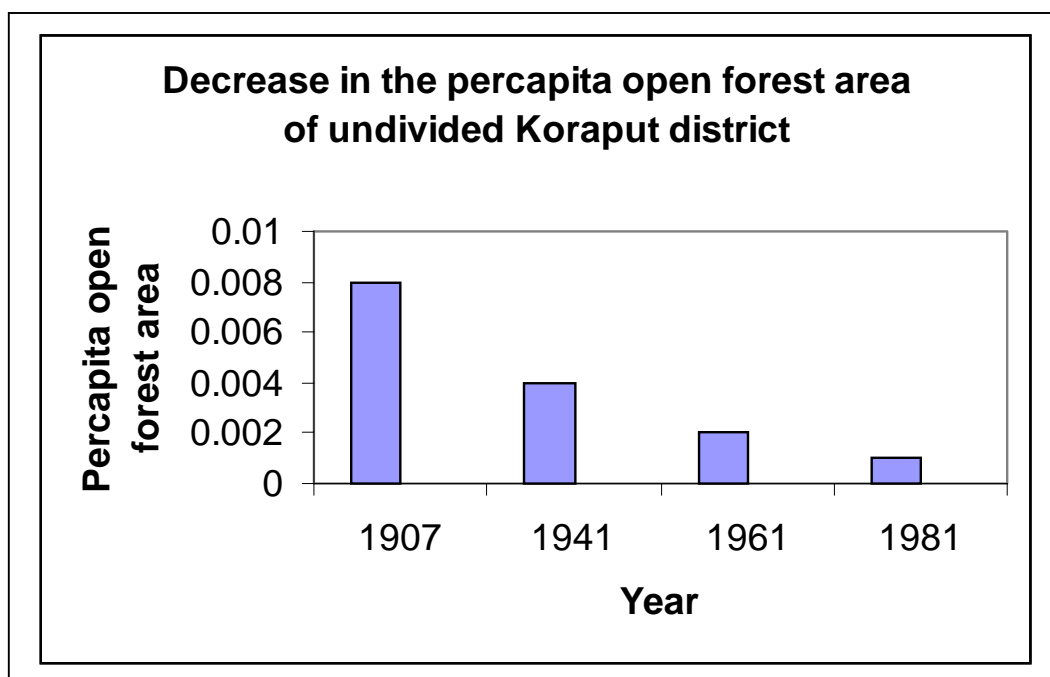
<sup>49</sup> KDG:1945, p.102

<sup>50</sup>PEAECE:1940,p.27

The Committee also found evidences that “people at their costs planted trees in some unreserves and guarded them<sup>51</sup>” in the Kotpad region where there were plenty of unreserves<sup>52</sup>. However, these were practically extinct by the time the Committee visited the area and there was no forest worth the name.

The following table indicates the gradual growth of pressure on the open forests of the district:

Per-capita open forest area	
Year	Area in sq. miles
1907	0.008
1941	0.004
1961	0.002
1981	0.001



<sup>51</sup> PEAECR:1940,p.28

<sup>52</sup> This has been reconfirmed by Sri Narayan Rao Pattnaik of Kotpad who served as a revenue official under the Estate administration. Pattnaik told us that people appointed watchers for guarding the protected village forests and paid them either in cash or kind. The village in-charge used to organise the people for this purpose.

Pattnaik, who joined the Estate administration in 1930s, is of the view that such kind of public protection systems existed in the Estate from some unknown period, a claim which is quite doubtful. His belief that such systems existed throughout the Estate has also been dismissed by some veteran residents of the district. It however seems that villagers did protect forests at some places in the district, particularly in the Kotpad region. (Sri N.R. Pattnaik over phone to the author on 1-6-2001)

It is not clear why did the people's initiatives fail or get discontinued. There might be one or a number of reasons behind the same, for ex.,

- It was not at all a people's initiative, but an initiative of the village in-charge (who often exploited the people) which the villagers were in a way forced to adopt.
- Mismanagement.
- Intra- village/inter-village conflicts.
- The 'protected' forests could no more meet the increasing demand of the villagers. The PEAEAC observed that people of the Estate did not aim at the ultimate preservation of forests and believed that it was their right to take from the unreserves as much timber they wished since they paid an cess/licence fee in lieu of that. Also, no particular block of the unreserves being set apart for the use of the people, they removed timber from any portions thereof.
- Lacuna in government policy to facilitate/legalise the protection so as to prevent it from failure (see box).
- The protection was intended for a short period.<sup>53</sup>

#### **Recommendation of the Forest Enquiry Committee, 1959**

“ Where people have preserved & protected forests within their village limits some legal protection should be given to these forests as otherwise other villagers would destroy them as in Nowrangpur(Maidalpur), Sundargarh(Gamaridihi). It was complained that the area preserved by the Kesinga Panchayat was leased out by the Forest Department to a Company”.

(Report of the Forest Enquiry Committee, p. 94, Govt of Orissa, 1959)

Community involvement in forest protection was revived in the district(undivided<sup>54</sup>) by 1980s and since then, it has progressed a lot as evident from the following table<sup>55</sup>:

Year	Number of community organisations involved in forest protection	Area under protection (in sq. miles)
1980s	214	42.47
1990s	3009	1534.98

<sup>53</sup> For ex., the DFO of Nowrangpur Forest Division (1980) found that in Kotpad, Dabunga and Borigumma areas community protection successfully regenerated degraded Sal forests within 4 to 5 years, but the protecting villagers suddenly removed the pole crop for their own use.(Pattnaik:2000, pp.69-70)

<sup>54</sup> Now divided into four districts: Koraput, Rayagada, Nowrangpur & Malkangiri.

<sup>55</sup> The figures in the table are based on the statistics provided by the PCCF, Orissa. However, a possibility of exaggerated projection cannot be totally denied.

## **ANNEXURE :2**

### **District-wise distribution of Forest Mgmt. by communities in 1980s**

District (Old)	Number of organisations protecting RF	Area of the RF in Hectares	Number of organisations protecting PF	Area of the PF in Hectares	Total number of organisations	Total area in Hectares
Koraput	30	1600	184	9400	214	11000
Dhenkanal	44	12000	220	44500	264	56500
Mayurbhanj	141	40000	47	14800	188	54800
Sundargarh	3	700	231	35000	234	35700
Keonjhar	62	3500	6	900	68	4400
Ganjam	3	1300	4	100	7	1400
Phulbani	12	500	18	600	30	1100
Puri	7	6000	4	300	11	6300
Bolangir	5	900	81	6000	86	6900
Sambalpur	1	500	26	2500	27	3000
Kalahandi	---	----	19	2000	19	2000
Cuttack	10	1000	8	400	18	1400
Balasore	15	2400	-----	----	15	2400
Total	333	70400	848	116500	1181	186900

(‘Report on the Study on Enumeration of Forest Patches Protected by Villagers in Orissa & Mechanism & Motivation behind such Protection’, Project Corporate Consultant, 1990 quoted in ‘Community Based Forest Mgmt. Systems, 1991, p.47

### ANNEXURE:3

#### Forest Protection Groups in Different Forest Divisions (1990s)

Forest Divn.	No of VSS	Area protected in Hectares	No of FPC	Area protected in Hectares	No of unregd. groups	Area protected in Hectares
Angul	256	37586.18	98	17751	28	NA
Athmallik	84	7017.36	155	26254	0	0
Athagarh	77	7349.59	76	7207	0	0
Dhenkanal	112	13774.98	148	30550	68	3996
Keonjhar	201	16322.14	197	20697	4	0 <sup>56</sup>
Puri	28	5580	83	17507	10	2003
Nayagarh	5	585	55	10824	44	7049
Ghumsur North	22	702	55	28617	0	0
Ghumsur South	85	13489.3	160	35058	0	0
Parlakhemundi	518	46639	106	10237	0	0
Phulbani	473	29504	214	54237	143	5102
Baliguda	206	10378	56	34280	0	0
Boudh	162	52222.6	150	5260	10	760
Sambalpur	423	58941	11	1615	0	0
Rairakhol	97	9676	111	45986	11	425
Deogarh	62	3103.96	222	34477	188	30308
Bamra	256	22396.66	138	26349	0	0
Sundargarh	437	48110.17	59	11715	10	489
Bonei	119	8496.452	145	32016	0	0
Jaypore	466	27628.24	139	10058	196	58493
Newrangpur	371	31995.06	503	115796	0	0
Rayagada	748	48133.55	586	105464	0	0
Balangir	325	36882.31	457	98351	38	6216
Kalahandi	669	52840	551	164115	12	0
Khariar	270	21268	81	8276	0	0
Karanjia	22	2164.2	220	36729	7	0
Baripada	191	21822.37	152	19372	0	0
Total	6685	634608.12	4928	1008798	769	114841

(Source: Orissa Forests: 1999, p.37)

<sup>56</sup> This certainly means that the area protected is not known, otherwise mentioning the number of groups as 4 would be meaningless.

## ANNEXURE:4

### PROGRESS OF JFM IN ORISSA AS ON 31.08.2001

SL. NO.	NAME OF THE DIVISION.	NO.OF JFM. COMMITTEES (V.S.S.)	AREA UNDER JFM IN HECTARES.	NO.OF VSS REGISTARED UNDER SOCIETY OF REGISTRATION.
1	ANGUL	256	36773	
2	ATHAGARH	85	8218	NIL
3	ATHAMALLIK	86	7086	NIL
4	BALLIGUDA	168	7378	NIL
5	BAMARA	258	25685	NIL
6	BARIPADA	191	21309	NIL
7	BALANGIR	378	46386	NIL
8	BONAI	120	8551	NIL
9	BOUDH	100	10004	NIL
10	DHENKANAL	167	20615	NIL
11	DEOGARH	143	NA	NIL
12	G.NORTH	23	3742	NIL
13	G.SOUTH	86	12370	NIL
14	JEYPORE	481	35076	NIL
15	KALAHANDI	569	39942	NIL
16	KARANJIA	21	2043	NIL
17	KEONJHAR	37	4059	NIL
18	KHARIAR	378	35283	NIL
19	NAYAGARH	15	1434	NIL
20	NOWRANGPUR	95	33325	NIL
21	PARALAKHEMU NDI	516	46639	NIL
22	PHULBANI	473	29614	NIL
23	PURI	27	3699	NIL
24	RAIRAKHOL	102	10232	NIL
25	RAYAGADA	255	20055	NIL
26	SAMBALPUR	423	58941	NIL
27	SUNDARGARH	478	49311	NIL
	TOTAL ORISSA	5931	577770	

Reference: Letter dated 14-9-2001 of the Conservator of Forests, Development Circle, Cuttack.

### **ANNEXURE:5**

#### **Types of Village Level Organisations in Orissa**

(As per the independent survey undertaken by the Social Forestry Division in 1999)

Sl. No.	Social Forestry Division in(district)	Village Level Organisations		
		Formal	Non-formal	Total(number)
1	Balasore	657	86	743
2	Bargarh	623	6	629
3	Bolangir	772	124	896
4	Cuttack	833	103	936
5	Dhenkanal	1271	172	1443
6	Ganjam	992	4	996
7	Kalahandi	588	177	765
8	Keonjhar	904	803	1707
9	Koraput	392	38	430
10	Phulbani	779	218	997
11	Puri	946	88	1034
12	Rairangpur	983	464	1447
13	Rayagada	672	104	776
14	Sambalpur	925	109	1034
15	Sundargarh	787	13	800
Total	Orissa	12124	2509	14633

(Data courtesy: Director, Social Forestry Division)

***ANNEXURE:6*****Conversion Factors**

To convert	Into	Multiply By
Acres	Hectares	0.405
Cubic feet	Cubic metres	0.028
Cubic metres	Cubic feet	35.315
Hectares	Acres	2.471
Pounds	Kilograms	0.454
Square Kilometres	Square miles	0.386
Ton(2000 lbs.)	Metric ton	0.907
Metric ton	Ton(2000 lbs.)	1.102
Acres	Square miles	0.0015625
Hectares	Sq. Kilometres	0.01

## **SOURCES & ORIGINAL DATABASE**

## Forest Revenue (in rupees)

### 1. *Mayurbhanj*

1901-02 : 92527  
 1930-31 : 699198  
 1944-45 : 1318759

( Jee S., Working Plan for the RFs of Baripada, Udala, Karanjia & Rairangpur Forest Divisions in Mayurbhanj District :1953-54 to 1972-73, p,195.)

1894-95 : 54438 (Administration Report of Mayurbhanj State: 1894-95, p.46)  
 1914-15 : 274958 (Administration Report of Mayurbhanj State : 1914-15,p.15 )

### 2. *Orissa*

1962-1992 (in lakh rupees)

1962: 41156.1  
 1967: 48255.3  
 1972: 79656.4  
 1977: 191403.3  
 1982: 466252.0  
 1987: 635639.0  
 1992: 1039109.0

(EFTI, p. 237)

### 3. *Jaypore Estate*

1890-91 : Estimate of forest revenue for Fasli 1300(add 590 to convert Fasli in to the calendar year).

Actuals upto the month of March: Rs.4331/-  
 Estimates for the remaining months of the year : Rs.6250/-  
 Total Rs. 10581/-  
 (Record No. 63 KOR/22, Orissa State Archives)

1939 : KDG, 1945, p.103

1951-52(before estate abolition):Koraput Settlement, p.9

### Population<sup>57</sup>

Year	Orissa	Mayurbhanj	Keonjhar	Dhenkanal	Puri	Balangir	Balasore	Koraput
1901	10302917	610383	285758		1328753	447625		722792
1911	11378875	729218	364702		1354842	624417		868955
1921	11158586	754314	379496		1218796	721207		841860
1931	12491056	889603	460609		1350555	804844		992839
1941	13767988	984741	529786		1459563	871804		1176989
1951	14645946	1028825	588441	837138	1575372	917875	1106012	1322640
1961	17548846	1204042	743315	1026553	1865069	1068686	1415923	1561051
1971	21944615	1434200	955514	1293914	2340859	1263657	1830504	2043281
1981	26370271	1581873	1114622	1582787	2921045	1459113	2252808	2484005
1991	31659736	1884580	1337026	1908907	3590026	1707753	2202417	3012546

Sources:

1. pp. 400-404, Census of India -1991 : Orissa, Part II -A
2. Orissa District Gazetteer : Mayurbhanj, 1967
3. Orissa District Gazetteer : Balangir, 1968

*Population of Balangir in 1866:*

Sonepur: 60000 & Patna: 90000 (The Gazetteer of Central Provinces of India, 1870, pp. 393 & 483)

*Population of Mayurbhanj in 1891: 532238*

(Orissa Tributary States Gazetteer Statistics: 1901-03, Calcutta, 1905)

*Population of Puri : 1869 :540995(Hunter, A Statistical Account of Bengal, Vol. XIX, p.27, 1976 reprint ).*

1872 : 769674 (Puri District Gazetteer Statistics : 1901-02)

1901 : 1017284 (Puri District Gazetteer Statistics : 1901-02)

*Population of Angul :1901 : 191911 (Angul District Gazetteer Statistics: 1900-01 to 1910-11)*

1911 : 199451 (Angul District Gazetteer Statistics: 1900-01 to 1910-11)

*Population of Daspalla:1901(substituted for 1901-02) : 51987 (OTSG)*

1911 : 57053 (Report on the Survey & Settlement of Daspalla Feudatory State:1917-21 )

1921 : 34510 (Report on the Survey & Settlement of Daspalla Feudatory State :1917-21 )

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<sup>57</sup> Mid-year population has been calculated on the basis of annual growth rate, unless the source is quoted.

*Population of Pal-Lahra :* 1901(substituted for 1901-02) : 22351 (OTSG)  
1931(substituted for 1931-32) : 27975(Final Report on the  
Settlement of Pal-Lahra State : 1932).

*Population of Ranpur :* 1901(substituted for 1901-02) : 46075 (OTSG)  
1951 : 58968 (Final Report on the Original Survey & Settlement  
Operations of the Ranpur ex-State Area : 1943-52).

*Population of Lapanga :* District Census Hand book (Sambalpur District ) for 1951 & 1971.  
Figure for 1991 courtesy Sri Dharani Sethi, Janaganana Bhawan,  
Bhubaneswar.

*Population of Malkangiri Dist.:*  
1941:39 per sq.mile (Bell, Koraput District Gazetteer, p.4, 1945).  
1991:422326 &  
2001(provisional): 480232 (Census of India 2001: Orissa,  
Provisional Population Atlas, Paper-1 of 2001, p.38.)

Population of Koshka Village: (Approx. 150 in 1970 and 600 in 2001)By courtesy the villagers  
of Koshka

*Rural Population of Orissa :* 1931 : 12173802  
1941 : 13355460  
1951 : 14051876  
1961 : 16439196  
1971 : 20099220  
1981 : 23259984  
1991 : 27424753  
(Census of India -1991 : Orissa, Part II-A, p. 31)

*Mid-year population of the districts for 1952-53( in '000).*

Balasore	: 1093
Balangir	: 926
Dhenkanal	: 859
Keonjhar	: 600
Koraput	: 1296
Mayurbhanj	: 1035
Puri	: 1599

(Statistical Abstract of Orissa, Vol.11, pp. 3-4, 1957).

*% of cultivators:*

1951

Cultivators of category- I : 4308305 (Male)+4410517(Female)

Cultivators of category- II : 437779 (Male)+ 431972(Female)

(Census of India:1951:Orissa, Part II-A, pp. 40-41; 1957)

1961

363 Males in a population of 1000

133 Females in a population of 1000

(Census of India:1961:Orissa, Part II-A, p. 144; 1963)

1971

3368025 (cultivators)

146923 (dependent upon livestock, forestry, fishing etc.)

(Census of India:1971:Orissa, Part II-A, pp. 227,229)

1981

4053310 (cultivators)

(Census of India:1981:Orissa, Part II-B, p. 26)

1991

4598500(cultivators)

192991 (dependent upon livestock, forestry, fishing etc.)

(Census of India:1991:Orissa, Part II-B(i), pp. 66-67)

## Land Use

### 1. Orissa : 1936-37 to 1950-51 (in acres)

Year	Area	Forest	Area not available for cultivation	Culturable waste other than fallow	Fallow	Net area sown
1936-37	20605973	2637771	6172556	3613873	1695473	6486300
1940-41	20141921	2605676	6580632	3265967	1589185	6100461
1949-50	37534375	7371109	10029120	6141474	1838668	12154004
1950-51	38498406	7162918	7434652	7436797	2483954	13980085

(Statistical Abstract of Orissa, 1957, Vol. 1A)

### Orissa: 1963-64 to 1980-81 (in '000 Hectares)

Year	Area according to village papers	Forest	Not available for cultivation	Permanent pastures & other grazing grounds	Culturable waste other than fallow	Misc. tree crops	Other fallow	Current fallow	Net area sown	Total area cropped
1963-64	15540	3582	2540	776	1282	501	147	728	5984	7224
1971-72	15540	6088	840	537	435	616	247	1012	5765	6874
1980-81	15540	6640	897	560	249	423	189	452	6130	8746

(Statistical Abstracts of Orissa : 1973 & 1981)

### 2. Geographical Area & Forest Area : Mayurbhanj State

Year	Total Geographical Area	Total Forest Area	Reserved Forest
1894-95	4243	1762 sq. miles	—
1895-96	4243	1762.30	1039.22
1901-02	4243	41.53 %	1075.22
1914-15	4243	Protected forest (993.69 sq.miles) + Reserved forest	1259.25 Sq.miles
1930-31	4243	Protected forest (940.57 sq.miles) + Reserved forest	1278.52 Sq.miles
1944-45	4243	2184.93 sq. miles	734900.74 acres
1945-46	4243	2184.93 sq. miles	824099.74 acres

Except for the figures of 1895-96 (which are from Mayurbhanj Forest Manual of 1911), all others are from the Annual Administration Report of Mayurbhanj State of the corresponding years.

*3. Districts/ex-States : 1901-02 (in acres)*

District	Area	Forest	Not available for cultivation	Culturable waste other than fallow	Current fallow	Net area cropped
Mayurbhanj	2715520	1127680	453560	905173	146552	82555
Keonjhar	1981440	1023987	512000	157534	59767	228152
Angul	1075840	402676	308192	83372	.....	281600
Puri	1599360	257165	366446	180588	69761	725400
Balasore	1334368	-	300000	140000	42368	852000
Pal-Lahra	289280	262352	4297	1651	2662	18318
Daspalla	363520	243549	31135	49219	2258	37359
Ranpur	130969	80280	7247	4872	7751	30813

1910-12 (in acres)

Balasore (1910-11)	1332621	—	300000	55900	82521	894200
Angul (1911-12)	1089280	349627	421761	52500	21592	243800

Source :

- OTSG
- Angul District. Gazetteer Statistics : 1901-02 and 1900-01 to 1910-11
- Balasore District Gazetteer Statistics:1901-02 and 1900-01 to 1910-11
- Puri District Gazetteer Statistics: 1901-02

*4. Puri district :1840 & 1870*

In 1840 :

2504 sq. miles - Total area

970 sq. miles - Under cultivation

54 sq.miles - Culturable waste

1486 sq. miles- Incapable of cultivation

In 1870 :

2472.37 sq. miles: Total area

1158 sq. miles: Total cultivated area

(Hunter,A Statistical Account & Bengal, Vol. XIX, p. 95).

### 5. *Balangir : 1866*

#### Patna State:

Total area: 2500 sq.miles (approx.),

Under cultivation: Two-third of the area

Rest: Dense Jungle (p.392, GCPI)

The forest area of Patna State is therefore assumed to be approx. 1000 sq.miles(minimum) to include village forests in the Gross Cultivated Area (i.e. 2/3 of the total area).

#### Sonepur State:

Total area: 1000sq.miles (approx.)

"There are no forests of any great extent....." (p. 482, GCPI)

"xxx Highly cultivated xxx" (p.483, GCPI)

The forest area of Sonepur State is therefore assumed to be approx. 40% of the total area i.e. 400 sq.miles.

Hence, total geographical area of Balangir district in 1866 = 3500 sq.miles

Total forest area in 1866=1400sq.miles

### 6. *Balangir: 1944*

#### Sonepur:

Total area: 961 sq.miles

Reserved forest: 60 sq.miles

Village forest: 139 sq.miles

(Inspection Notes of Mooney, March-April 1944).

#### Patna: 1942-43

Total area: 2540 sq.miles (Final Report on the Land Revenue Settlement of Patna State: 1937)

Total forest area: 441489 acres

(Administration Report of Patna State for 1942-43)

The above figures have been presumed to be the same for 1944.

### 7. *Balangir: 1957-58 to 1963-64*

% of total forest area in 1957-58: 20.87

% of total forest area in 1963-64: 20.84

(District Statistical Hand Book: Balangir District, 1965)

8. *Balangir: 1965-66 (in acres)*

Barren & Uncultivable land: 80916

Land put to non-agricultural use: 28534

Cultivable waste: 61848

Permanent pasture & other grazing lands : 149337

Misc. trees..... : 28320

Current fallow : 31504

Other fallow : 30821

Net area sown : 1107543

(District Statistical Hand Book: Balangir District, 1965)

9. *Balangir: 1977-78 to 1990-91 (in '000 Hectares)*

Land use	1977-78	1990-91
Area	883	883
Forest	177	144
Misc. trees...	17	83
Permanent pastures.....	60	58
Cultivable waste	54	30
Land put to non-agricultural use	31	39
Barren & uncultivable land	41	35
Current fallow	64	4
Other fallow	35	21
Net area sown	404	469

(Orissa Agricultural Statistics of the corresponding years)

10. *Koraput district*

1907: Reserved Land (Forest): 324 sq.miles (KDG:1945). There were no Protected Lands in this district in 1907.

1939-41: Total area : 9891 sq.miles

Total forest area: 7000 sq.miles

Reserved Land (forest): 1544.53 sq.miles

Protected Land (forest): 100.61 sq.miles (KDG: 1945)

Total cropped area: 1400000 acres (KDG:1945)

1945: Total area of Reserved & Protected Lands presumed to be that in 1939 since no variation is reported in the 1945 edition of the KDG.

1947-48: Reserved Lands: 1545 sq.miles (Annual Progress Report on the Forest Administration in Orissa: 1947-48)

1959: Total forest area (in sq.miles): 3068.86(Koraput Forest Division) + 2452.65(Rayagada Forest Division).

Reserved & Protected Lands(in sq.miles): 1355.36(Koraput Forest Division)+351.03(Rayagada Forest Division).

Unreserved (in sq.miles): 1713.36(Koraput Forest Division)+2101.62 (Rayagada Forest Division)

(Report of the Forest Enquiry Committee, 1959, p.103)

- 1961: Reserved Forest (Land):  
Jaypore Circle: 1326.86 sq.miles  
Rayagada Circle: 266.68 sq.miles
- Total Forest Area:  
Jaypore Circle: 3068.46 sq.miles  
Rayagada Circle: 2452.65 sq.miles  
(APR on Forest Admn. in Orissa for the year 1960-61, p.55)
- 1966: Total geographical area: 10498.95 sq.miles  
% of forest area: 70  
Reserved Land : 1590 sq.miles  
Protected Land: 110 sq.miles  
Unreserves (approx.): 5000 sq.miles (ODG:1966)
- 1979: Total area: 26961 sq.kms. (1981)  
Total forest area: 14000.63 sq.kms.  
Reserved Forest: 582.82 sq.kms.  
Demarcated Protected Forest  
(Protected Land): 4107.64 sq.kms.  
Un demarcated Protected Forest(Unreserved or open forests):9309.62 sq.kms  
(KDG, Supplement, 1984)
- 1981: Presumed to be same as these in 1979.

Forest area of 1901, 1907 & 1911 have been presumed to be atleast the same as that in 1939-41 since Koraput district was nothing but a 'forest district' by early 20th century.

Area of undivided Koraput District: 1971-91:  
2702000 Hectares according to village papers.

Detail Land Use(1971-79): Undivided Koraput district (in'000 Hectares)

Year	1970-71	1974-75	1978-79
Forest	1480	1480	1521
Misc. tree.....	52	52	52
Permanent pastures	57	57	57
Cultivable waste	44	34	24
Land put to non-agricultural use	47	51	54
Barren & uncultivable land	74	74	46
Current fallow	245	128	69
Other fallow	35	45	23
Net area sown	— <sup>58</sup>	—	856
Total area (acc. to village papers)	2702	2702	2702

(KDG, Supplement of 1984)

<sup>58</sup> Calculated as Total area – Area under other land uses.

## Land use in 1990-91 (in'000 Hectares)

Area	2702
Forest	1521
Misc.trees	52
Permanent pastures	57
Cultivable Waste	27
Land put to non-agricultural use.	52
Barren & uncultivable land	48
Current fallow	79
Other fallow	25
Net area sown	841

(Orissa Agricultural Statistics of 1990-91)

Land use in 1961-62( ?):

Total area under cultivation (taken as Total Cropped Area): 1772731 acres (KDG, 1966, p. 163)

Total Cropped Area (in '000 Hectares)

1970-71: 719

1974-75: 851

1978-79: 991

1990-91: 1177.70

(Orissa Agricultural Statistics)

11. *Malkangiri district:*1939:" Almost the whole of the taluk<sup>59</sup> is nothing but a vast jungle." (KDG, 1945,p.4)The forest area is therefore presumed to be approx. 85% <sup>+</sup> of the total area.

1994-95: Total area: 612000 Hectares

Forest area: 155000 Hectares

(Orissa Agricultural Statistics for 1994-95)

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<sup>59</sup> Division or region.

12. *Dasapalla ex-State (1921):*

Total area : 567 sq.miles  
 Forest : 385 sq.miles  
 Cultivated area: 93 sq.miles  
 (Net area cropped)  
 Wastelands : 89 sq.miles (of which 70 sq.miles is culturable fallow)  
 Hence, unculturable waste is 19 sq.miles  
 (Report on the Survey & Settlement of Dasapalla Feudatory State: 1917-21)

13. *Pal-Lahra ex-State (1932)*

Total area: 450 sq.miles

**Forest : 121 sq.miles**

Besides that, "within each village more than 3/4 of the area is jungle and waste-land and only 1/4 of the area is cultivated." (p.1, Pal-Lahra Settlement)

Taking the village area as  $450 - 121 = 329$  sq.miles, 246.75 sq.miles of it is jungle & waste lands.  
 Hence, total area of forest & waste lands =  $121 + 246.75$  sq.miles.

14. *Ranpur ex-State(1951)*

Total area: 203 sq.miles  
 Net area cropped: 43653.14 acres

Forests:

'A' Class: 48260 acres

'B' Class: 4000 acres

Villageforest: 16500 acres

Total : 68760 acres

(Ranpur Settlement)

15. *Land use: different districts*

1952-53 (in acres)

District	Area	Forest	Not available for cultivation	Culturable waste	Fallow	Net area sown
Dhenkanal	2704640	1282707	204589	173228	59000	985116
Keonjhar	2058451	691162	266632	446097	62300	592260
Mayurbhanj	2573504	571142	522384	140880	558195	780903
Puri	2587520	722304	337763	391302	75635	1060516
Balasore	1604416	97682	169480	223502	88684	1025050

(Statistical Abstract of Orissa, 1957, Vol. 1.A)

## 1959-60 (in '000 acres)

District	Area acc. to village papers	Forest	Land put to non-agrl. uses	Barren & uncultivable land	Permanent Pastures	Misc. tree crops	Cult. waste other than fallow	Other fallow	Current fallow	Net area sown
Balasore	1525	96	48	110	53	58	17	17	95	1031
Dhenkanal	2705	735	106	169	109	53	111	45	55	1322
Puri	2588	758	153	149	128	100	166	31	42	1061

(Statistical Abstract of Orissa, 1960)

## 1972-73 to 1980-81 (in '000 Hectares)

District	Area acc. to village papers	Forest	Not available for cultivation	Permanent pastures	Cult. waste other than fallow	Misc. tree crops	Other fallow	Current fallow	Net area sown
Dhenkanal:									
1972-73	1092	509	47	20	17	10	10	80	399
1980-81	1092	454	58	45	7	40	10	68	410
Balasore:									
1972-73	647	33	70	31	25	20	12	41	415
1980-81	647	40	71	26	20	25	8	26	431
Puri:									
1972-73	1046	291	79	57	61	24	6	60	468
1980-81	1046	343	79	57	35	27	16	20	469

(Statistical Abstract of Orissa: 1973 &amp; 1981)

## 1977-78 to 1990-91 (in '000 Hectares)

District	Area acc. to Village papers	Forest	Misc. tree crops	Permanent pastures	Cult. waste other than fallow	Land put to non-agrl. uses	Barren & unculti-vable land	Current fallow	Other fallow	Net area sown
Balangir:										
1977-78	883	177	17	60	54	31	41	64	35	404
1990-91	883	144	83	58	30	39	35	4	21	469
Keonjhar:										
1977-78	831	407	6	38	9	24	18	41	6	282
1990-91	831	249	116	38	55	34	27	5	...	307
Mayurbhanj:										
1977-78	1040	473	8	30	6	36	35	26	5	421
1990-91	1040	487	13	29	6	40	18	14	...	433

(Orissa Agricultural Statistics of 1977-78 &amp; 1990-91)

## 16.Total Forest Cover: Orissa

1962-1993 (in sq.kms.)

1947: 11875.60  
 1962: 65869.00  
 1967: 67463.4  
 1972: 67804.2  
 1977: 67675.4  
 1982: 59422.8  
 1987: 57745.5  
 1993: 57183.6  
 (EFTI, p. 230)

1936-37 to 1950-51 (in sq.miles)

1936-37: 1991  
 1940-41: 3276  
 1950-51: 17651  
 (Statistical Abstract of Orissa, 1957, Vol. 1A, p.32)  
 1960-61:66817 sq. kms  
 (Statistical Abstract of Orissa, 1973, p. 107)

1995-96 to 1997-98 (in sq. kms)

1995-96: 56059.59  
 1996-97: 58135.47  
 1997-98: 58135.47

(Orissa Forests: 1999, p. 15)

## 17. Non-RF (Forests): Orissa

((Calculated as Total Forest Area- (Area Under Reserved Forest + Reserved Lands) )

Year	Reserved Forest (in sq.kms)	Reserved Land (in sq.kms.)
1962	23002.8	5617.3
1993	26176.5	15217

(EFTI : p.230)

18. Forest cover (in sq. kms) of Orissa as indicated by Satellite data (in sq.kms)

Year	1972-75	1975-77	1980-82	1987	1989	1991	1993
'Dense' forests with crown density of 40% or more	37320	34350	28812	28573	27561	27349	27151
'Open' forests with crown density of 10 to 40 %	10829	20850	10386	24391	19384	19661	19799
Mangroves	234	-----	227	199	192	195	195
Total	48383	55890	39425	53163	47137	47205	47145

The % of total forest cover has been calculated by taking the total geographical area of Orissa as 155707 sq. kms.

(Source:

- A Decade of Forestry in Orissa:1981-90, Table 2.4.1.
- Pattnaik, 'Jangala, Paribesha O Manava Jeevana', 2000, pp. 63 & 68)

19. *Shifting Cultivation:*

Forest area lost annually due to Podu : 5298 sq.kms.

Total area under shifting cultivation in Orissa : 26490 sq.kms.<sup>60</sup>

Area affected by shifting cultivation:

Koraput district : 11528.07 sq.kms.

Keonjhar district: 2527.73 sq.kms

(A Decade of Forestry in Orissa: 1981-90, Table 2.4.4 & 2.4.7)

Area affected in Keonjhar ex-state

in 1936-37: more than 500 sq.miles

(Eastern States Forest Bulletin No.4, p.52)

Area affected in Koraput district

in 1936-37: 3706.95 acres

(Report of the Partially Excluded Areas Enquiry Committee, p.25, 1940)

<sup>60</sup> Elsewhere the total area affected has been shown as 31237.93 sq. kms. (Table:2.4.7, A Decade of Forestry in Orissa: 1981-90)

20. *Non-forest use of forests:*

Forest area released during post-independence period:

Upto October, 1980: 199347.87 Hectares

Dec. 1980-June 1991: 27466.32 Hectares

(A Decade of Forestry in Orissa: 1981-90, Tables 2.4.5 & 2.4.6 )

From 1991-1999: 24124.2004 Hectares

(Orissa Forests : 1999, p.27)

### ***Forest Fire***

Number of offences: Evolution of Forest Tenures in India: Implications For Sustainable Forest Management, pp. 227 & 234

1960-65: 107905 Hectares

1968-73: 50988 Hectares

(Report of the National Commission on Agriculture, Vol. IX, p.381, 1976)

Division-wise area affected (in Hectares<sup>61</sup>) & loss (in rupees) from 1995-96 to 1997-98, by courtesy Planning Section, PCCF's Office, Bhubaneswar.

### *Out turn of forest produce*

<b>Year</b>	<b>Timber</b>	<b>Firewood</b>	<b>Source</b>
1936-37	1726000 cft	3908000 cft	Statistical Abstract of Orissa, 1957, Vol. 1A, p.32 and Annual Progress Report on Forest Administration in Orissa: 1936-37
1940-41	3455000 cft	3970000 cft	
1950-51	10456000 cft	15092000 cft	
1960-61	455830 cubic metre	773550 cubic metre	Statistical Abstract of Orissa, 1973, pp. 107 & 109

The volume measure (in cft/cubic metre) for firewood was converted into measure by weight using the following conversion factor:

General fuelwood:725 kg. per cubic metre (A Decade of Forestry in Orissa: 1981-90, Table 9.19)

<sup>61</sup> 1995-96: 130297.57 Ha; 1996-97: 72905.5 Ha; 1997-98: 60829.69 Ha.

Year	Departmental production of timber in lakh cubic metre
1971-72	4.34
1973-74	3.39
1975-76	3.67
1977-78	4.03
1979-80	4.69
1981-82	4.67
1983-84	5.03
1985-86	2.39
1987-88	2.03
1989-90	1.07

(Forestry Sector Review For National Forestry Action Plan, Orissa Unit, 1994, Table:2.7)

### SICFM Groups

Start of Protection	Number	Name of the village	Area under protection	Source
1930s	1	Lapanga	81 Hectares	1. Mohapatra R., On The Warpath, Down To Earth, Sept. 30, 1999; p.40
1940s	2 (including Lapanga)	Gadabanikilo	150 acres	1. Sri Nakul Parida & His family; interview at Gadabanikilo on 28-07-2001 2. Gadabanikilo An Example of Community Forest Management With a Difference, p.3, VASUNDHARA - 1997.
1950s	5 (including Lapanga & Gadabanikilo)	Sadashivpur Jagannath-prasad (near Khandapara) Lachchipur	100acres 2900 acres Approx. 45 acres	Sri Hari Mishra (77), Nuasahi, Sadashivpur, Interview on 24-07-2001. Sri Barna Baibhava Panda, Jangal Surakshya Mahasangh, Nayagarh. Sri Jameswar Behera & Sri N.C. Mohanty of Lachchipur; interview on 17-8-01

1960s	13 (including the groups of 1950s)	Jamunda	150 acres	Sri A.Surya Narayan Naidu, Jamunda, Interview on 9-2-01.
		Kaimati	80 acres	Sri Haladhar Mishra, Dhenkanal & Sri Kunjabihary Mishra, Kaimati. Interview on 24-07-01. Also, Rai & Jonsson, Forests, People & Protection, 1994
		Ankarantipur, Panchumati, Siminoi & Mulasinghpur	Each about 50 acres	Sri Govind Jena, Ankarantipur. Interview on 24-07-01
		Kutrasingha	Not available	Forests, People & Protection, p.13.
		Gundicha pada <sup>62</sup>	50 acres	Sri Sachchidananda Sahu, Gundichapada, Interview on 24-07- 01
1970s	15 (including the groups of 1960s)	Koshka	700 acres	Villagers of Koshka. Discussion on 28-07-01.
		Baradungri	Not available	Rai & Jonsson, Forests, People & Protection , p.5
1980s	18(including the groups of 1970s)	Kudamanda	80 Hectares	Rai & Jonsson, op.cit., p.iv
		Kantapall		Rai & Jonsson, op.cit., p.iv
		Dhani- Panchmausa	240 Hectares 840 Hectares	Reports of VASUNDHARA quoted in World Resources: 2000-2001, pp. 183 & 190
1990s	2509	Details not available	114841 Hectares	1. The number of non-formal groups is by courtesy Director, Social Forestry, Orissa. 2. The area protected is from 'Orissa Forests: 1999', P.37

<sup>62</sup> supposed to have began protection in 1952, but this is not confirmed.

### Number of VFPC & VSS

1981-90 : Number of VFPC: 6085  
 Area protected by them: 1420185.524 Hectares of which 1191098.394 Hectares are RFs & 229087.13 Hectares are PFs.  
 (A Decade of Forestry in Orissa: 1981-90, Table 2.4.10)

1990-91	:	<u>Number</u>	<u>Area protected (in Hecares)</u>
		VSS: 6685	634608.12
		FPC: 4928	1008798
		(VFPC)	

( Orissa Forests: 1999,p.37)

	<u>RF (Hectares)</u>	<u>PF (in Hectares)</u>
VSS	226986.61(2101 VSS)	152261.02 (1505 VSS)
VFPC	133804 (814 VFPC)	369927(336 VFPC)

(Source: Development Circle, Forest Department, Cuttack)

### Formal & Non-formal Groups in 1990s

Number of VSS : 6685  
 Number of VFPC : 4928  
 Number of un-registered groups-769  
 (Orissa Forests: 1999. p.37)

### Women's Protection Groups

*Exclusively protected by women:*

District	Name of the village	Approx. area under protection	Source
Nayagarh	Brundabanpur	10 acres	Sri Arakshita Sahu, Ranpur
-do-	Dengajhari	200 acres	Sri Arakshita Sahu, Ranpur
-do-	Balisahi	Not available	Sri Barnabaibhava Panda, Jangal Surakshya Mahasangh, Nayagarh
-do-	Bhuinragadi	300 acres	Sri Barnabaibhava Panda, Jangal Surakshya Mahasangh, Nayagarh

Mayurbhanj	Orachandvilla	Not available	Federation Study From Gender & Equity Perspective, VASUNDHARA, 2001
Sundargarh	Bandhaberna	Not available	Federation Study from Gender & Equity Perspective, VASUNDHARA, 2001
Sundargarh	Jharbeda	200 acres	Effective Local Management of Forests: Learning from Self-initiated Management Organisations in India-Jharbeda Village: A Proteting Case, VASUNDHARA, 1998
-do-	Kantapalli	21 Hectares	RCDC, Bhubaneswar
-do-	Kainragada	NA	RCDC, Bhubaneswar
-do-	Raichhapala	NA	RCDC, Bhubaneswar
-do-	Thaiberna	NA	RCDC, Bhubaneswar
Sambalpur	Debahali	540 acra	RCDC, Bhubaneswar
-do-	Phalasal	862 acres	RCDC, Bhubaneswar
-do-	Bagdoli	1411 acres	RCDC, Bhubaneswar
-do-	Brahmani	1546 acres	RCDC, Bhubaneswar
-do-	Sanamundaloi	500 acres	RCDC, Bhubaneswar
-do-	Purunapani	250 acres	RCDC, Bhubaneswar
-do-	Satakama	48 acres	RCDC, Bhubaneswar
-do-	Ardapal	22 acres	RCDC, Bhubaneswar
-do-	Manapara	125 acres	RCDC, Bhubaneswar
-do-	Laindamal	50 acres	RCDC, Bhubaneswar
Kandhamal	Kutiguda	4 acres	RCDC, Bhubaneswar
-do-	Sakhipada	15 acres	RCDC, Bhubaneswar
-do-	Ghugulasahi	11 acres	RCDC, Bhubaneswar
Deogarh	Taladiha	100 acres	RCDC, Bhubaneswar
-do-	Baghamunda	525 acres	RCDC, Bhubaneswar
-do-	Purunapani	60 acres	RCDC, Bhubaneswar
-do-	Katei	70 acres	RCDC, Bhubaneswar

*Committees Dominated by Women*

District	Village	Area under protection	Source
Bolangir	Jadamunda	200 acres	RCDC, Bhubaneswar.
-do-	Gaibahal	100 acres	RCDC, Bhubaneswar.
Sambalpur	Balibuda	100 acres	RCDC, Bhubaneswar.
-do-	Suipadar	75 acres	RCDC, Bhubaneswar.
-do-	Chandnimal	400 acres	RCDC, Bhubaneswar.
-do-	Pandira	400 acres	RCDC, Bhubaneswar.
Sundargarh	Nuniapalli	20 hectares	RCDC, Bhubaneswar.
-do-	Bijabahal	NA	RCDC, Bhubaneswar.
-do-	Kumjharia	NA	RCDC, Bhubaneswar.
-do-	Tangrapalli	1015 acres	RCDC, Bhubaneswar.

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