



**GOVERNMENT OF ODISHA  
DEPARTMENT OF WATER RESOURCES  
RESETTLEMENT & REHABILITATION PLAN  
OF  
HIDISING IRRIGATION PROJECT**


**BHUBANESWAR  
2016**

**CHIEF ENGINEER  
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## C O N T E N T S

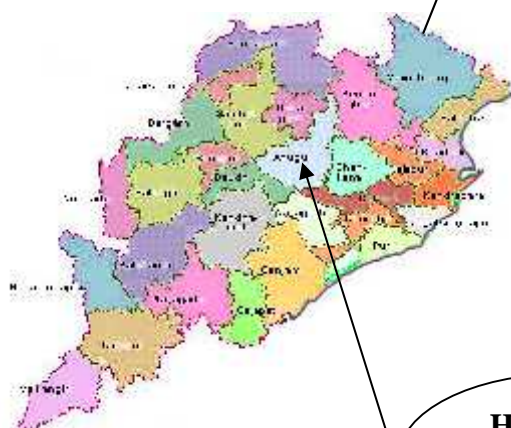
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## LOCATION MAP OF HIDISING IRRIGATION PROJECT



## LOCATION MAP OF HIDISING IRRIGATION PROJECT



**HIDISING  
IRRIGATION  
PROJECT**

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## ANUGUL DISTRICT AT A GLANCE

Angul District, located at the heart of state of Odisha covers an area of 6375 Sq Km. Angul is known for its vast reserves of coal that have helped to strengthen the financial base of the state of Orissa through coal mining & power industries. The district supports numerous reputed industries of Indian Aluminium Product Ltd, Mahanadi Coalfields Limited, National Aluminium Company (NALCO), Heavy Water Plant, Talcher and National Thermal Power Corporation (NTPC).

Angul is blessed with natural scenic beauty. The luxuriant green fields, swift flowing River Brahmani in north-east direction and the salubrious weather makes Angul an ideal destination for the tourists. Representing the religious fervour of the local indigenous inhabitants of the place, Angul district has several places of religious importance. The Budhi Thakurani is a renowned religious shrine of Angul that draws several devotees who visit the temple to seek divine blessings and eternal happiness. Dedicated to Budha Thakur, this ancient temple represents the tribal form of worshipping the Supreme Being. Another revered religious temple of Angul district is that of Lord Jagannath that bears relics to the rich religious history of Orissa.

Upholding the unique cultural heritage and traditional legacy of the state of Orissa, Angul district is famous for Ravan Chhaya. The traditional puppet dance of Angul district, Ravan Chhaya displays the colorful and attractive lifestyle of the native inhabitants of the place.

Angul district is the commercial, industrial, and cultural nerve center of Orissa. Apart from agriculture with support of the rengali irrigation project and animal husbandry, Angul has a flourishing coal mining industry too.

The district provides proper education services through a number of schools, colleges and technical institutions.

Covered with lush green forests and rocky hills, the district possesses some of the most appealing tourist spots like Angul, Tikarpada and Talcher, Satakosia Gorge, Budhi Thakurani and Lord Jagannath Temple.

One of the prominent districts of Orissa, Angul is spread over a total area of 6232 sq. km. The district of Angul was established on the 1st of April in the year of 1993.

In 2011, Anugul had population of 1,273,821 of which male and female were 655,718 and 618,103 respectively. In 2001 census, Anugul had a population of 1,140,003 of which males were 587,234 and remaining 552,769 were females. Anugul District population constituted 3.03 percent of total Maharashtra population. In 2001 census, this figure for Anugul District was at 3.10 percent of Maharashtra population.

There was change of 11.74 percent in the population compared to population as per 2001. In the previous census of India 2001, Anugul District recorded increase of 18.62 percent to its population compared to 1991.



|   |                  |
|---|------------------|
|   |                  |
| <b>Actual Population</b>                | <b>1,273,821</b> |
| <b>Male</b>                             | <b>655,718</b>   |
| <b>Female</b>                           | <b>618,103</b>   |
| <b>Population Growth</b>                | <b>11.74%</b>    |
| <b>Area Sq. Km</b>                      | <b>6,375</b>     |
| <b>Density/km2</b>                      | <b>200</b>       |
| <b>Proportion to Orissa Population</b>  | <b>3.03%</b>     |
| <b>Sex Ratio (Per 1000)</b>             | <b>943</b>       |
| <b>Child Sex Ratio (0-6 Age)</b>        | <b>889</b>       |
| <b>Average Literacy</b>                 | <b>77.53</b>     |
| <b>Male Literacy</b>                    | <b>85.98</b>     |
| <b>Female Literacy</b>                  | <b>68.64</b>     |
| <b>Total Child Population (0-6 Age)</b> | <b>152,403</b>   |
| <b>Male Population (0-6 Age)</b>        | <b>80,666</b>    |
| <b>Female Population (0-6 Age)</b>      | <b>71,737</b>    |
| <b>Literates</b>                        | <b>869,456</b>   |
| <b>Male Literates</b>                   | <b>494,425</b>   |
| <b>Female Literates</b>                 | <b>375,031</b>   |
| <b>Child Proportion (0-6 Age)</b>       | <b>11.96%</b>    |
| <b>Boys Proportion (0-6 Age)</b>        | <b>12.30%</b>    |
| <b>Girls Proportion (0-6 Age)</b>       | <b>11.61%</b>    |

The initial provisional data released by census India 2011, shows that density of Anugul district for 2011 is 200 people per sq. km. In 2001, Anugul district density was at 179 people per sq. km. Anugul district administers 6,375 square kilometers of areas.

Average literacy rate of Anugul in 2011 were 77.53 compared to 68.79 of 2001. If things are looked out at gender wise, male and female literacy were 85.98 and 68.64 respectively. For 2001 census, same figures stood at 81.43 and 55.37 in Anugul District. Total literate in Anugul District were 869,456 of which male and female were 494,425 and 375,031 respectively. In 2001, Anugul District had 671,433 in its district.

With regards to Sex Ratio in Anugul, it stood at 943 per 1000 male compared to 2001 census figure of 941. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate. In 2011 census, child sex ratio is 889 girls per 1000 boys compared to figure of 937 girls per 1000 boys of 2001 census data.

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In census enumeration, data regarding child under 0-6 age were also collected for all districts including Anugul. There were total 152,403 children under age of 0-6 against 163,943 of 2001 census. Of total 152,403 male and female were 80,666 and 71,737 respectively. Child Sex Ratio as per census 2011 was 889 compared to 937 of census 2001. In 2011, Children under 0-6 formed 11.96 percent of Anugul District compared to 14.38 percent of 2001. There was net change of -2.42 percent in this compared to previous census of India.

In 2011, total 352 families live on footpath or without any roof cover in Anugul district of Orissa. Total Population of all who lived without roof at the time of Census 2011 numbers to 1,309. This approx 0.10% of total population of Anugul district.

|            |           |
|------------|-----------|
| Hindu      | 1,258,684 |
| Muslims    | 7,512     |
| Christian  | 3,383     |
| Sikh       | 812       |
| Buddhist   | 226       |
| Jain       | 36        |
| Others     | 971       |
| Not Stated | 2,197     |

Out of the total Anugul population for 2011 census, 16.21 percent lives in urban regions of district. In total 206,546 people lives in urban areas of which males are 109,333 and females are 97,213. Sex Ratio in urban region of Anugul district is 889 as per 2011 census data. Similarly child sex ratio in Anugul district was 837 in 2011 census. Child population (0-6) in urban region was 21,820 of which males and females were 11,881 and 9,939. This child population figure of Anugul district is 10.87 % of total urban population. Average literacy rate in Anugul district as per census 2011 is 86.82 % of which males and females are 92.00 % and 81.05 % literates respectively. In actual number 160,387 people are literate in urban region of which males and females are 89,653 and 70,734 respectively.

As per 2011 census, 83.79 % population of Anugul districts lives in rural areas of villages. The total Anugul district population living in rural areas is 1,067,275 of which males and females are 546,385 and 520,890 respectively. In rural areas of Anugul district, sex ratio is 953 females per 1000 males. If child sex ratio data of Anugul district is considered, figure is 898 girls per 1000 boys. Child population in the age 0-6 is 130,583 in rural areas of which males were 68,785 and females were 61,798. The child population comprises 12.59 % of total rural population of Anugul district. Literacy rate in rural areas of Anugul district is 75.70 % as per census data 2011. Gender wise, male and female literacy stood at 84.75 and 66.28 percent respectively. In total, 709,069 people were literate of which males and females were 404,772 and 304,297 respectively.

All details regarding Angul District have been processed by us after receiving from Govt. of India. We are not responsible for errors to population census details of Anugul District.

### DEMOGRAPHIC PROFILE OF ANGUL DISTRICT

| Name               | No_<br>HH  | TOT_<br>P   | TOT_<br>M  | TOT_<br>F  | P_SC       | P_ST       | P_LI<br>T  | P_IL<br>L  | TOT_WOR<br>K_P | MAINWOR<br>K_P | MAIN_C<br>L_P | MAIN_A<br>L_P | MAIN_H<br>H_P | MAIN_O<br>T_P | MARGWOR<br>K_P | MARG_C<br>L_P | MARG_A<br>L_P |
|--------------------|------------|-------------|------------|------------|------------|------------|------------|------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
| Anugul             | 2970<br>50 | 12738<br>21 | 65571<br>8 | 6181<br>03 | 2395<br>52 | 1796<br>03 | 8694<br>56 | 4043<br>65 | 526520         | 317547         | 80508         | 57414         | 19840         | 159785        | 208973         | 27099         | 115000        |
| Purunakot<br>P.S   | 6746       | 29526       | 14826      | 1470<br>0  | 4982       | 9659       | 1679<br>0  | 1273<br>6  | 14952          | 8053           | 2438          | 3608          | 367           | 1640          | 6899           | 782           | 4943          |
| Hinsaloi           | 17         | 58          | 32         | 26         | 0          | 56         | 27         | 31         | 34             | 16             | 4             | 12            | 0             | 0             | 18             | 3             | 15            |
| Hinsaloi           | 44         | 195         | 94         | 101        | 7          | 30         | 89         | 106        | 111            | 43             | 0             | 43            | 0             | 0             | 68             | 0             | 68            |
| Karadasing<br>a    | 77         | 337         | 175        | 162        | 79         | 85         | 173        | 164        | 197            | 85             | 0             | 84            | 0             | 1             | 112            | 0             | 111           |
| Baghuapat          | 19         | 82          | 41         | 41         | 8          | 54         | 21         | 61         | 45             | 25             | 3             | 21            | 0             | 1             | 20             | 0             | 20            |
| Hidising           | 87         | 356         | 176        | 180        | 15         | 156        | 146        | 210        | 192            | 96             | 38            | 53            | 0             | 5             | 96             | 0             | 96            |
| Dimiripal          | 24         | 94          | 49         | 45         | 21         | 44         | 33         | 61         | 64             | 62             | 28            | 33            | 0             | 1             | 2              | 0             | 2             |
| Pampasar           | 41         | 179         | 99         | 80         | 20         | 90         | 98         | 81         | 121            | 118            | 5             | 101           | 0             | 12            | 3              | 2             | 1             |
| Bantala P.S        | 1678<br>7  | 71713       | 36378      | 3533<br>5  | 1645<br>7  | 5129       | 4812<br>5  | 2358<br>8  | 27255          | 18626          | 5680          | 4418          | 1358          | 7170          | 8629           | 1121          | 4102          |
| Kusumapat          | 5          | 16          | 9          | 7          | 0          | 0          | 9          | 7          | 4              | 3              | 2             | 0             | 0             | 1             | 1              | 0             | 0             |
| Karatpata          | 133        | 645         | 331        | 314        | 54         | 157        | 420        | 225        | 300            | 277            | 83            | 4             | 0             | 190           | 23             | 5             | 15            |
| Baulapur           | 9          | 51          | 29         | 22         | 51         | 0          | 16         | 35         | 27             | 20             | 0             | 19            | 0             | 1             | 7              | 0             | 6             |
| Brahmapur          | 238        | 1095        | 543        | 552        | 250        | 0          | 708        | 387        | 433            | 385            | 144           | 97            | 34            | 110           | 48             | 22            | 18            |
| Nandapur           | 285        | 1059        | 530        | 529        | 407        | 45         | 695        | 364        | 406            | 320            | 76            | 43            | 94            | 107           | 86             | 14            | 28            |
| Madhupur           | 240        | 1039        | 523        | 516        | 154        | 6          | 795        | 244        | 423            | 351            | 117           | 102           | 10            | 122           | 72             | 26            | 35            |
| Madhapur           | 148        | 660         | 315        | 345        | 52         | 39         | 391        | 269        | 323            | 317            | 129           | 35            | 56            | 97            | 6              | 3             | 0             |
| Madhapur<br>jungle | 19         | 71          | 36         | 35         | 0          | 0          | 31         | 40         | 42             | 42             | 34            | 6             | 0             | 2             | 0              | 0             | 0             |
| Panagobind<br>apur | 82         | 331         | 152        | 179        | 327        | 0          | 193        | 138        | 103            | 83             | 29            | 44            | 1             | 9             | 20             | 0             | 17            |
| Kanhei<br>Nagar    | 64         | 266         | 139        | 127        | 105        | 63         | 144        | 122        | 98             | 81             | 51            | 21            | 1             | 8             | 17             | 6             | 10            |
| Gopalpur           | 125        | 553         | 271        | 282        | 87         | 19         | 385        | 168        | 178            | 173            | 111           | 20            | 2             | 40            | 5              | 3             | 2             |
| Dhokata            | 583        | 2290        | 1150       | 1140       | 389        | 90         | 1552       | 738        | 1150           | 906            | 196           | 456           | 69            | 185           | 244            | 25            | 96            |
| Pokatunga          | 964        | 4176        | 2139       | 2037       | 1094       | 57         | 3034       | 1142       | 1419           | 1122           | 398           | 280           | 215           | 229           | 297            | 26            | 158           |
| Haripur            | 1          | 1           | 0          | 1          | 0          | 0          | 1          | 0          | 1              | 1              | 0             | 0             | 0             | 1             | 0              | 0             | 0             |



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|              |     |      |      |      |     |     |      |      |      |      |     |     |    |     |     |     |     |
|--------------|-----|------|------|------|-----|-----|------|------|------|------|-----|-----|----|-----|-----|-----|-----|
| Manapur      | 152 | 724  | 363  | 361  | 197 | 148 | 572  | 152  | 436  | 414  | 195 | 110 | 0  | 109 | 22  | 3   | 18  |
| Lachhabandha | 173 | 742  | 363  | 379  | 178 | 0   | 523  | 219  | 235  | 201  | 36  | 28  | 36 | 101 | 34  | 1   | 3   |
| Khalagaon    | 418 | 1950 | 994  | 956  | 90  | 106 | 1411 | 539  | 662  | 482  | 150 | 48  | 35 | 249 | 180 | 19  | 5   |
| Bantala      | 818 | 3615 | 1847 | 1768 | 594 | 18  | 2427 | 1188 | 1370 | 1056 | 156 | 14  | 43 | 843 | 314 | 20  | 203 |
| Bandanpasi   | 213 | 922  | 471  | 451  | 103 | 11  | 693  | 229  | 589  | 306  | 162 | 55  | 5  | 84  | 283 | 210 | 56  |
| Sanahinso    | 20  | 121  | 63   | 58   | 0   | 121 | 60   | 61   | 69   | 33   | 6   | 18  | 0  | 9   | 36  | 12  | 22  |
| Badahinso    | 249 | 1044 | 527  | 517  | 376 | 0   | 732  | 312  | 564  | 223  | 28  | 131 | 16 | 48  | 341 | 17  | 238 |
| Talagarh     | 761 | 3087 | 1549 | 1538 | 457 | 257 | 1978 | 1109 | 951  | 787  | 495 | 205 | 11 | 76  | 164 | 2   | 121 |

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## **CHAPTER-II**

### **DESCRIPTION OF THE PROJECT**

#### **I) SALIENT FEATURES OF HIDISING IRRIGATION PROJECT**

Hidising Irrigation Project is proposed in Brahmani basin on Bauli nallah, a tributary to river Brahmani near village Karadasing in Angul Block of Angul District, Odisha. The Bauli nallah is a tributary of Lingara nallah joining it near Ramkasinga. Lingara nallah in turn joins the river Brahmani on its right bank near the village Meramundali. The Bauli nallah originates from the hill ranges of Balanga in Angul Block of Angul District and traverses in the north-east direction. The project intercepts a catchment area of 72.30 sq. km. at the proposed dam site. The catchment area is fairly shaped and is bounded by hills and covered by thick forest.

The dam site, which is near village Karadasing is 25 kms, from Angul, the district head-quarters. There is no N.H. passing near by the project area. However, a state highway namely SH-23 is running between Angul to Tikarpada passes near by the Hidising Irrigation Project. A portion of length of about 3.60 km will come under reservoir submergence. The nearest railway station of East Coast Railways is at Angul, which is 30 kms from the proposed dam site. The dam site is 180 kms from the state capital and nearest airport, Bhubaneswar. The project is confined within Latitude 20° 41' 7" to 20° 44' 20" N and Longitude 84° 56' 31" to 85° 05' 56" E in the Survey of India Topo sheet No. 73 H/2 and 73 D/14. The map showing the location of the project including the adjoining R.F./ P.F. boundary & catchment area in Topo sheet is enclosed as Plate No.-I in 1:50,000 scale.

#### **A. HYDROLOGY:**

|    |                                  |               |
|----|----------------------------------|---------------|
| I  | Catchment area                   | 72.30 sq.km   |
| II | Rainfall                         |               |
|    | (a) Maximum annual rainfall      | 2693.40 mm    |
|    | (b) Minimum annual rainfall      | 770.00 mm     |
|    | (c) 75% dependable year rainfall | 2020.05 mm    |
|    | (d) Net 75% dependable yield     | 1710.41 Ham   |
|    | (e) Design Flood Discharge       | 778.80 Cumecs |

#### **B. Reservoir: The river system:**

|     |                       |                |
|-----|-----------------------|----------------|
| I   | Gross storage at FRL  | 1765.58        |
| II  | Dead storage capacity | 245.30 Ham     |
| III | Live storage capacity | 1520.28 Ham    |
| IV  | Full Reservoir Level  | RL.228.00 m.   |
| V   | Dead storage Level    | RL.214.000 m.  |
| VI  | Top Bank Level        | RL. 231.000 m. |

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|      |                               |            |
|------|-------------------------------|------------|
| VII  | Submerged area at FRL / MWL   | 324.95 Ha. |
| VIII | Number of village submerged   | 4 Nos.     |
| IX   | Length of N.H to be submerged | Nil        |
| X    | Length of S.H to be submerged | 3.65 km.   |
| XI   | Forest area to be submerged   | 117.00 Ha. |

**a. Submergence:**

|     |                                       |                                  |
|-----|---------------------------------------|----------------------------------|
| I   | Number of village affected            | 4 Nos.                           |
|     | Number of village fully affected      | 2 No. (a)Hidising.(b) Dimiripal. |
|     | Number of village partly affected     | 2Nos.(a)Pampasar(b) karadasing.  |
| II  | Number of families affected           | 161 Nos.                         |
| III | Cultivate land submerged              | 9.20 Ha.                         |
| IV  | Land required for head works          |                                  |
|     | (a) Private Land                      | 176.39 Ha.                       |
|     | (b) Revenue Land                      | 31.56 Ha.                        |
|     | (c) Forest Land                       | 117.00 Ha.                       |
| V   | Land required for Distriburary system |                                  |
|     | (a) Private Land                      | 61.00 Ha.                        |
|     | (b) Revenue Land                      | 5.59 Ha.                         |
|     |                                       | <b><u>Total = 421.54 Ha.</u></b> |

**b. Dam:**

|     |                     |                       |
|-----|---------------------|-----------------------|
| I   | Type                | Homogeneous Earth Dam |
| II  | Length of Earth Dam | 933 m.                |
| III | Maximum height      | 2.50 m.               |
| IV  | Top width           | 6.00 m.               |

**c. Spillway:**

|     |                         |                                |
|-----|-------------------------|--------------------------------|
| I   | Location & Type         | Central Spillway & Ogee Creast |
| II  | Length of Spillway      | 36 m.                          |
| III | Crest Level of Spillway | RL. 220.000 m                  |
| IV  | Size of Gate            | 10m x 8 m.                     |
| V   | Numbers of Bays         | 3 Nos.                         |

**d. Distribution system:**

|      |                                       |          |
|------|---------------------------------------|----------|
| I.   | G.C.A                                 | 3943 Ha. |
| II.  | C.C.A                                 | 2958 Ha. |
| III. | Percentage of CCA & GCA               | 75 %     |
| IV.  | Identity of irrigation during Khariff | 80%      |

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|   |           |
|---|-----------|
| V. Intensity of irrigation during Rabi  | 25%       |
| VI. Area to be irrigated during Khariff | 2366 Ha.  |
| VII. Area to be irrigated during Rabi   | 740 Ha.   |
| VIII. Annual Irrigation                 | 3106 Ha.  |
| IX. Annual intensity of Irrigation      | 105%      |
| X. Utilization factor                   | 77.52%    |
| XI. Length Main Canal on Right side     | 8.460 km. |
| XII. Length Main Canal on left side     | 7.700 km. |
| XIII .Number of village to be benefited | 30 Nos.   |

#### C. Cost:

|     |  |                 |
|-----|--|-----------------|
| I   | Cost of Head Works                     | 8626.429 Lakhs. |
| II  | Cost of Distribution System            | 4305.676 Lakhs  |
| III | Total Cost of the Project              | 12933.105 Lakhs |
| IV  | Cost per hector of annual irrigation   | Rs. 416355.00   |
| V   | B.C. Ratio (10% rate of interest rate) | 1.555           |

## II) INTRODUCTION

Hidising Irrigation Project is proposed near village Karadasing in Angul District, Odisha and falls in Survey of India Topo Sheet No. 73 H/2, 73 D/14. This project envisages construction of a 933 m. long and 32.50 m. height homogeneous earthen dam besides a central spillway proposed at the centre of river gap portion. This medium irrigation project will provide irrigation to 2958 ha of CCA out of 3943 ha GCA with annual irrigation of 3106 ha in the drought prone areas under Angul Block.

This project has the Catchment Area of 72. 30 Sq. Km. and require a Catchment Area Treatment (CAT) Plan. The CAT plan targets overall improvement in the environmental conditions of the region. All the activities are aimed at treating the degraded and potential areas of severe soil erosion. The plan provides benefits due to biological and engineering measures and its utility in maintaining the eco-tourism. It also aims to reduce fuel wood consumption at least during the interregnum till the plantations become utilizable.



The project area is to benefit Angul block of Angul District, which are chronically drought prone areas, inhabited mostly by poor people belonging to backward, Scheduled Caste and Scheduled Tribe.

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The only source of income for the inhabitants is agriculture, whose yield in this area completely depends on the natural rainfall, which is inadequate and highly skewed in time and space. Consequently, the agriculture production is much below the average level. As such, financial status of the people in this area is very low. Therefore, the project is absolutely necessary to improve the agriculture output and economy of the region to mitigate the misery of a sizeable population, mostly belonging to Scheduled Caste, Scheduled Tribe and other backward classes.

### **HYDROLOGICAL PARAMETERS OF THE PROJECT**

#### **Water availability:**

Hidising Irrigation Project is proposed in Brahmani basin on Bauli nallah, a tributary to river Brahmani near village Karadasing in Angul Block of Angul District, Odisha. The Bauli nallah is a tributary of Lingara nallah joining it near Ramkasinga. Lingara nallah in turn joins the river Brahmani on its right bank near the village Meramundali. The Bauli nallah originates from the hill ranges of Balanga in Angul Block of Angul District and traverses in the north-east direction. The project intercepts a catchment area of 72.30 sqkm at the proposed dam site. The catchment area is fairly shaped and is bounded by hills and covered by thick forest.

  
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## CHAPTER-III

### BRIEF DESCRIPTION ON R & R

The most negative impact of River Dam project is submergence of villages and displacement of population. It is at the pain of displaced population that a vast majority of population gains through sustainable irrigation. Consequent upon submergence of human settlement, for the sake of larger interest of the state there is need for resettlement of displaced persons and project-affected persons. The people to be displaced bear deep emotional attachment to their home tradition and culture and obviously express reluctance to part with these aspects. The state Government in general and the project authorities in particular have the utmost responsibilities in prioritizing the activities related to resettlement and rehabilitation of the project affected persons in a manner, so that, the displaced population suffer little from adverse effect.

A holistic approach with sympathetic and humanitarian consideration is required for the resettlement and rehabilitation of the displaced families. Further it must be ensured that the standard of living of the displaced people is at least restored if not improved. The weaker and vulnerable section should get special attention in the whole Resettlement & Rehabilitation operation. In order to streamline the procedure connected to resettlement and rehabilitation of persons displaced from their lands and properties, the Government of Orissa in Revenue & Disaster Management Department after careful consideration have laid down the R&R Policy guidelines in 2006 vide Resolution No 18040-R & REH -1/2006-R Dt. 14.5.06.

The development projects in Odisha was paying sector specific attention to Resettlement & Rehabilitation for the project affected person till 2006 when a full-fledged R & R policy came into existence with an objective to give a righteous standard of living to the displaced & affected persons. The 2006 R & R policy gave major emphasis to Resettlement & Rehabilitation which includes:

- a) The relocation of displaced families;
- b) Finding acceptable new employment for those whose jobs are lost;
- c) Restoration (or compensation) of affected productive resources such as land, workplaces, trees and infrastructure;
- d) Restoration of other adverse effects on Affected Persons' (APs) living standards (quality of life) through land acquisition, indirect resettlement impacts or other project impacts;
- e) Restoration of or compensation for affected private and public enterprises;
- f) Restoration of adversely affected cultural or common properties.

**Rehabilitation means:** the restoration of the APs' resource capacity to continue with productive activities or lifestyles at a level higher or at least equal to that without the project. The objective of this Policy is to provide a plan for the resettlement and rehabilitation of the APs so that their losses



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will be compensated and their standards of living will be improved or at least restored to the pre-project levels in a sustainable manner. Affected productive resources of businesses, enterprises (including shops) and public facilities and infrastructures will also be improved or at least restored to their pre-project levels.

In the 2006 R & R policy provisions have been kept for preparation of the Resettlement and Rehabilitation Plan. Based on the list approved by Government and option of displaced families, Resettlement and Rehabilitation Plan shall be prepared by the Collector for resettlement and rehabilitation after due consultation with displaced communities in the manner determined by the Government. Such plan should address the specific needs of the women, vulnerable groups and indigenous communities. The same will be placed before the RPDAC for approval. While preparing the plan, the following aspects are to be taken into consideration:

- (i) Site for resettlement habitat shall be selected by the RPDAC in consultation with the displaced families.
- (ii) No physical displacement shall be made before the completion of resettlement work as approved by the RPDAC. The certificate of completion of resettlement work will be issued by the Collector.
- (iii) Gram Sabha shall be consulted.
- (iv) Where there is multiple displacement additional compensation amounting to 50 % of the normal compensation payable, shall be paid to each displaced family over and above the normal compensation in form of ex-gratia.
- (v) Provisions relating to rehabilitation will be given effect from the date of actual vacation of the land.
- (vi) Project Authority shall abide by the provisions laid down in this Policy and the decisions taken by RPDAC from time to time provided they are within the ambits of the approved Policy of the Government.
- (vii) District Administration and Project Authorities shall be jointly responsible for ensuring that the benefits of R & R reach the target beneficiaries in a time bound manner.
- (viii) Record of Rights of the land and house allotted to the displaced persons should be handed over to them by District Administration while resettling them in the Resettlement habitat. The District Administration shall take steps for immediate declaration of the new Resettlement habitat as a Revenue Village if it is not a part of an already existing Revenue Village.
- (ix) Steps will be taken by the Project Authorities for acclimatization of the resettled people in new habitat including development of cordial social relationship between the host and resettled communities and to ensure as far as practicable overall improvement of standard of living of the displaced families.

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## **SURVEY & INVESTIGATION**

### **Field visit overview**

A team of five people visited Anugul block of Anugul district to collect primary information on the project and the people getting affected by the project. The relevant data from the project site has been captured and analyzed in tabular forms for giving a clear picture about the project



**Figure 1-Bauli nala as it looks ...**

and people getting affected

by the project. The picture in the left shows the Bauli nala in its present form.

The dam will be built on this nala for providing irrigation to people in the command area. At the moment the river is sparingly used for lift irrigation at specific points, fishing and day to day needs of the local population who reside along the river. However, the people understands that when a dam is built the benefit from the river will be many fold and the economic scenario of the area will change. The team also visited the land to be submerged in the proposed reservoir of Irrigation Project. After visiting the project site it was revealed that the land which will be submerging for Hidising project are mostly un-irrigated. Not only un-irrigated but many of the lands are lying fallow and have big tree growths on it.

These tree growths are also of not any help to the villagers except for firewood and in some cases some amount of timber value.

However, in some villages the lands are being cultivated by the villagers.

These lands are low lands and the villagers mainly grows paddy there. But they expressed their fear over the irregular rain fall in the area and



**Figure 2-Proposed Project area**

hoped that with assured irrigation from the project their agricultural output will grow many fold.

They also hoped that the quality and price of the land will grow once the project comes up in the river.

As one can see from the dam axis the land to be submerged are mostly high lands. The dam axis is not very accessible at the moment. However, with the project coming up all other infrastructure like roads, electricity will also be available in the locality. The people are also hopeful that there will be lots of outsiders to the project areas once the project comes up.

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The team visited Hidising, karadasing, Pampasar, Dimiripal villages of the proposed Hidising irrigation project where the people will be losing maximum agricultural land. They have been staying in those villages since generations now and they are happy about the fact that they will not lose any settlement due to construction of the project. Except for individual land owners who are losing more land to the project other villagers are happy that their village infrastructure will improve due to coming up of the project.



**Figure 3- The village Hidising in irrigation Project**

They are all the more happy that this will happen at no human cost. Besides, they also hoped that village temple will be improved by the project contractor which indicates their deep religious attachment to the spiritual practices of the community. But they expressed their anger that the project execution is very slow and they have been hearing about the project for last so many years. The team explained them that project investigations take time and there are statutory clearances to be made before the execution of the project. The project can start only after the statutory clearances are made.

The fourth figure shows the daily market on which people depend for their daily consumption need. This also indicates the familiarity of villagers with vegetable cultivation.



**Figure 4- Daily market in the village area**

The team interacted with few vegetable vendors who are basically from the same locality but act as middlemen.

They procure vegetables from the farmers at a lower rate and sell it at a higher price in the daily market. The team enquired where all they have to go to procure vegetables. They indicated that they get it from the local farmers who cultivate the land along the river bank. The team also interacted with some of the farmers who were selling vegetables grown by them directly in the market.

They intimated the team about the difficulties they are facing due to lack of irrigation. They are hopeful that the project will be of immense benefit to them as it will provide assured irrigation to their agricultural fields and their products can be easily sold off to the outsiders who will come and work in the project.

The cultivators are scared about the untimely natural calamities in the form of drought or untimely rain. Crop damage has also affected the



**Figure 5- Common Property Resources**

health of cattle. The villagers feel that with assured irrigation lot of their problems will be resolved. With a good harvest there will be less dependence on the common property resources like the grazing field. Besides there will be good market for the milk products and the goats will fetch them better prices. Hidising irrigation project is good for the locality in the sense that it will have no physical displacement and there will be least effect on the common property resources. The fifth figure shows the common property resources of the village.

The Bauli nallah is a tributary of the river Brahmani. This nallah originates from the hill ranges of Balanga and traverses in the north-east direction and joins Lingara nallah before it falls into river Brahmani near the village Meramundali. The reservoir scheme envisages construction of a 933 m. long and an earth dam of maximum 32.50 m height having a central river bed spillway of 36.00 m. length. The total catchment area at the dam site is 72.30 sq km and the total inflow into the reservoir is 1710.41 ham corresponding to a 75% dependable year after deducting 20% utilization by the upstream and downstream stake holders. The project has an average water utilization of 77.52%. The catchment is fairly shaped and is bounded by hills. Bauli nallah is a tributary of Lingara nallah joining it near Ramkasinga. Lingara nallah in turn joins the river Brahmani on its right bank. The catchment of Bauli nallah and the ayacut of the project lie entirely in the state of Odisha, although it is tributary of the Brahmani, an interstate river. Total two villages namely Pampasar and Karadasing will be partially affected due to reservoir submergence and other two villages “Hidising and Dimiripal” will be partially affected due to reservoir submergence and village Hidising will be completely submerged. Besides villages like Badahinso, Bandanpasi, Bantala, Baulipur, Baghuapata, Brahmapur, Dhokata, Gopalpur, Haripur, Hinsaloi, Jaraopur, Kanheinagar, Karatapata, Khalgaon, Kusumapat, Lachhabandha, Manpur, Madhapur, Nandapur, Pangobindapur, Pokatunga, Sanhinso, Sankhapur, Sarangapur and Talagarh are also partially affected by this project along with Balanga PF, Bhogopal PF and Madhapur PF. The certified copy of the land schedule over the total area involved in this project is enclosed as Annexure-I. Out of the total area proposed for the project, the different classified land area in each village & Protected Forest area is indicated in TABLE – 1.

**TABLE – 1:**

| <b>VILLAGE &amp; PROTECTED FOREST WISE PROPOSED LAND SCHEDULE OF<br/>HIDSING IRRIGATION PROJECT, Angul District, Odisha.</b> |                     |                             |                        |                            |                        |                                 |
|--|---------------------|-----------------------------|------------------------|----------------------------|------------------------|---------------------------------|
| <b>Sl.<br/>No.</b>   | <b>Village name</b> | <b>Proposed Area in AC.</b> |                        |                            |                        | <b>Total area in<br/>Acres.</b> |
|  |                     | <b>Private<br/>Land.</b>    | <b>Govt.<br/>Land.</b> | <b>Village<br/>Forest.</b> | <b>DLC<br/>Forest.</b> |                                 |
| 1  | Badahinso           | <b>3.87</b>                 | 0.02                   | 0                          | 0                      | 3.89                            |
| 2  | Baghuapat           | <b>14.38</b>                | 2.68                   | 1.290                      | 3.232                  | 22.595                          |
| 3  | Bandanposi          | <b>15.12</b>                | 0.36                   | 0                          | 0.193                  | 15.720                          |
| 4  | Bantala             | <b>32.80</b>                | 2.91                   | 0                          | 0                      | 35.71                           |
| 5  | Baulipur            | <b>1.30</b>                 | 0.34                   | 0                          | 0                      | 1.64                            |
| 6  | Brahmapur           | <b>12.22</b>                | 12.52                  | 0                          | 0.991                  | 25.501                          |
| 7  | Dhokata             | <b>2.99</b>                 | 2.29                   | 0                          | 0                      | 5.28                            |

|                          |                |                |               |               |               |                |
|--------------------------|----------------|----------------|---------------|---------------|---------------|----------------|
| 8                        | Dimripal       | <b>69.16</b>   | 35.31         | 22.432        | 12.862        | 145.511        |
| 9                        | Gopalpur       | <b>5.33</b>    | 3.91          | 0             | 0             | 9.24           |
| 10                       | Haripur        | <b>1.91</b>    | 0.18          | 0             | 0             | 2.09           |
| 11                       | Hidsing        | <b>336.75</b>  | 29.26         | 16.464        | 11.110        | 392.53         |
| 12                       | Hinsoloi       | <b>16.06</b>   | 0             | 0             | 1.127         | 16.942         |
| 13                       | Jaraopur       | <b>6.57</b>    | 0.36          | 0             | 0             | 6.93           |
| 14                       | Kanheinagar    | <b>1.42</b>    | 0.12          | 0             | 0             | 1.54           |
| 15                       | Karadasing     | <b>50.47</b>   | 11.84         | 2.728         | 14.434        | 76.815         |
| 16                       | Karatapata     | <b>7.57</b>    | 1.30          | 1.127         | 0             | 9.997          |
| 17                       | Khalagaon      | <b>14.59</b>   | 2.26          | 0             | 0             | 16.85          |
| 18                       | Kusumpata      | <b>6.07</b>    | 2.98          | 0.974         | 2.879         | 12.44          |
| 19                       | Lachabandha    | <b>6.49</b>    | 0.72          | 0             | 0             | 7.21           |
| 20                       | Madhapur       | <b>7.25</b>    | 1.83          | 0             | 0             | 9.08           |
| 21                       | Madhupur       | <b>5.65</b>    | 1.94          | 0             | 0             | 7.59           |
| 22                       | Manapur        | <b>13.38</b>   | 6.09          | 0             | 0             | 19.47          |
| 23                       | Nandapur       | <b>4.51</b>    | 3.14          | 0             | 5.434         | 11.478         |
| 24                       | Panagobindapur | <b>4.31</b>    | 0.25          | 0             | 0             | 4.56           |
| 25                       | Pokatunga      | <b>26.07</b>   | 18.77         | 0             | 0             | 44.84          |
| 26                       | Pampasar       | <b>0.00</b>    | 0             | 0             | 1.201         | 1.201          |
| 27                       | Sanhinso       | <b>1.64</b>    | 0             | 0             | 0             | 1.64           |
| 28                       | Sankhapur      | <b>11.50</b>   | 5.06          | 0             | 0             | 16.56          |
| 29                       | Sarangapur     | <b>4.76</b>    | 0.18          | 0             | 0             | 4.94           |
| 30                       | Talagarh       | <b>25.15</b>   | 6.62          | 0.141         | 8.038         | 40.211         |
| <b>Total area in Ac.</b> |                | <b>709.29</b>  | <b>153.24</b> | <b>45.156</b> | <b>61.501</b> | <b>969.187</b> |
| <b>Total area in ha.</b> |                | <b>287.045</b> | <b>62.016</b> | <b>18.274</b> | <b>24.888</b> | <b>392.223</b> |

Survey for the longitudinal section of the river has been considered for both upstream and downstream of the proposed dam site. River cross section survey has been completed for both upstream and downstream. Dam base survey has been conducted with a grid plan of 50 m x 50 m with contour interval of 2 mtr. covering an area up to 200 mtr. upstream and downstream of the dam axis. The detailed reservoir survey was conducted with a grid plan up to MWL / FRL + 5 mtr. A reservoir contour map has been prepared in the scale of 16": 1 Mile with a contour interval of 2 mtr. The map has also been prepared above an elevation of RL.231.000 mtr. The ayacut of Hidsing Irrigation Project is available below 213.700 mtr. Accordingly, FSL of the main canal has been fixed at 213.700 mtr at the head reaches and alignment survey of two main (Right & Left) canal and branch canals have done for its entire length. The main canals off take from right side of the dam axis and the lengths of main (Right & Left) canals are 8.460 km and 17.700 km., respectively.

The sub-surface exploration and geo-technical investigation of Hidsing Irrigation project were carried out fast during 2004-05 and 2006-07. The geological set up including the geological mapping of the area surrounding the dam axis has been done by



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Geological Survey of India (GSI), Govt. of India. Basing on the suggestion of GSI, the original dam axis shifted by around 90 mtr. in order to take advantage of a large outcrop of granite gneiss striking E-W and dipping 700 towards north along the nalla course, occupying the entire river width and continuing for few meters beyond the left bank. The drill holes have been made at 40 mtr interval along the spillway axis and in the bucket portion. Along with logging of the data the ground water table has also been ascertained. 48 hours after completion of drilling, field permeability or water loss tests have also been conducted during the time of drilling.

The main (Right & Left) canals of this project are contour canals and off-take from right & left side of dam axis. The length of the right & left main canal are 8.640 km & 17.700 km., respectively. The Sill Levels of the Left & Right head regulator are RL 213.313 & RL.213.513 mtr, respectively. The design discharges at the head reach are 3.62 Cumecs (2.44 cumec & 1.18 cumec, respectively for the left and right main canals). Full supply level of both the left & Right main canal at the head reach is RL.213.700 mtr. The full supply depths at the head reach of Left & Right main canals are 0.95 mtr. & 0.75 mtr, respectively. The bed width of Left main canal at the head reach is 4.40 mtr and of Right main canal is 3.00 mtr. Moreover, for both distribution systems there are 28 nos. of minors and sub-minors, apart from 11 nos. of direct out let from the main canal. All the minors and sub-minors are ridge canals. The ayacut planning has been done for 40 ha. blocks.

After the project is advanced, farm development works such as construction of watercourses, field channels and field drains will be taken up. Watercourses and field channels will be constructed after taking up micro planning works for 5 ha. blocks. A network of natural field drain is in existence, which are adequate for drainage works. All the natural drains are leading to the river. The main canal runs in contour and minors, sub-minors runs in ridges in a slopped ayacut towards the river. The area as observed from the GWL is free from drainage congestion. Taking into account this fact, the land topography & sandy nature of soil texture which is free draining, it is expected that providing irrigation facility by the project will not lead to drainage congestion. Thus the project contemplates irrigation facilities to 2958 Ha. of CCA in the Angul block comprising of beneficiaries in as many as 27 nos. of villages. The basic data collection started during 2005 and was completed by 2010.

**(i) Justification for locating the project in forest area:**

Bauli nala is a tributary of Lingara river in the Brahmani Basin. The proposed Dam site near village Karadasing is site specific and technically ideal. Due to suitability of location and other conceptual advantage, as detailed below, alternative sites have not been explored during the engineering survey and investigation.

- The Hidisingh Irrigation Project is site specific. The main (Right & Left) canals of this project are contour canals and off-take from right & left side of dam axis. Accordingly the canals are designed and the flow of water to irrigate the lands depends upon the level of the ground.



- The project area is confined to a draught prone area, chronically affected with frequent bouts of draught. The agriculture in this area completely depends upon the rainfall, which is not dependable because of wide temporal & spatial distribution. As a result, the agricultural production is much below the average level. Agriculture being the main source of income, the per capita income of the people in this area is very low. So the inhabitants of the locality are continuing with poor education, mal-nutrition and poverty. The construction of a dam across Bauli nallah and providing irrigation is absolutely necessary to improve the agriculture output and economy of the region to mitigate the misery of the population, mostly belonging to Schedule Cast, Schedule Tribe and backward class.
- The gauge and discharge observation data at Karadasing has been recorded from 2005 to 2010 and found suitable. Initially, the yield series for Hidishig Irrigation Project was prepared basing on the observed gauge & discharge data for Sapua Badajore Project. However, after discussion with CWC authorities, nearby Derjang irrigation project was found more hydro meteorologically similar with Hidshing. Hence, yield series has been developed with the observed data of Darjang Irrigation Project with proportional catchment area for Hidishing.
- The catchment area is thinly populated as the area lies in the hilly terrain. But the ayacut area is moderately populated. The growing population demands enhancement in the production of crops for betterment of their livelihood. Population is exposed to chronic draught conditions year after year and this project will serve the population by transforming the land from rain fed to irrigate. The people are gradually getting conscious regarding benefits of irrigation due to the success of Derjang dam project in the same district.
- Though forest and water resources are in abundance, sub-surface mineral deposits are generally not found in this zone. Hence, the area is very much deprived of industrial set up and the people mainly depend on agriculture for their livelihood.
- Economically backward inhabitants of the project area mostly belong to schedule caste, schedule tribe and other backward classes. Due to erratic and uneven rain fall, although the agricultural lands are fertile, the yield per hectare is very low. The advanced technology of cultivation, tools & machines and cropping pattern is yet to override the primitive practice due to lack of irrigation. Project will accelerate the growth of economy and improve socio-economic status of the backward classes. The reasons mentioned above coupled with direct or indirect employment potential of rural population with allowable B.C Ratio justifies immediate implementation of the project.

## **SOCIO ECONOMIC DETAILS**

Social Infrastructure: (Projected)

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(i) **Communication facilities:**

- One State Highway road of 3.6 Km long will come under reservoir submergence. The project authorities in consultation with Chief Engineer, Roads will relocate / reconnect to Tikarpada by constructing a 'SH' standard road 3.085 Km long from Purunagarh to Bruti. This new road will provide better communication link from Angul to Tikarpada.
- There will be one new approach road from Karadasing village to the Dam site.
- A temporary approach road is also proposed for carrying quarried materials. This road will be used by the public after the construction period.
- The 26.16 Km canal will have a service road 3.66 m (12') wide at its left Bank. This service road will be connected to several village roads in its stretch of 26.16 km and would provide better communication facilities for the command area population as well as to farmers for trading and crop marketing.

(ii) **Plantation:**

The project authorities intend to contribute to environmental up-gradation through an elaborate plantation programme. Apart from the statutory compensatory afforestation plan, where plantation programme will be implemented on equivalent area of non-forest land, some additional plantation is proposed as follows.

**(a) Canal Bank plantation:**

Plantation will be taken up on 3.0m wide land at both sides of the canal for a length of 26.16Km. Plantation schedule, selection of the suitable species and implementation programme will be charted out through Arboriculture experts of Agriculture Department.

**(b) Road side plantation:**

Plantation in the above manner is also proposed along the new roads on its both flanks.

|   |          |
|---|----------|
| • Relocation of SH Road connecting Village Manikjodi to Bruti | -3.085Km |
| • Approach road to Dam site                                   | -0.5 Km  |
| • Colony Road   | -1.0 Km  |
| • Approach road to R&R colony                                 | -4.0 Km  |
| Total   | 8.585 Km |

Plantation is not proposed along the approach road to quarry site.

**(c) Plantation around Reservoir periphery:**

A 12 Km long periphery road around the reservoir periphery is proposed for inflow study, gauging and maintenance as well as communication link to peripheral villages. Plantation will be taken up at the U/s of this periphery road. The plantation programme in this area will be entrusted to D.F.O,

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Angul Forest division who will decide the plant species, plantation schedule and raise them according to the estimate.

It is estimated that about 5000 trees will be planted inside the command area and 3500 trees around the reservoir periphery. Assuming 25% of them being fruit bearing trees, around 4000 trees will prove beneficial to the public who may maintain them on lease basis. Provision has been kept in DPR for plantation of Rs. 8.649 lakhs.

**iii) Drinking water supply:**

In view of the scarcity of water for domestic uses in dry summer months, the project authorities have prudently kept a liberal provision of drinking water supply @100 liters per capita for about 10000 population belonging to needy villages in the command area.

The procedure for treatment of canal water to potable standard after dis-infection will be disseminated to users in consultation with the local public health counterpart.

**(iv) Improvement to sewerage and sanitation:**

The project authorities will ensure sanitation and on spot sewerage disposal by using septic tank and soak pit methods in the temporary labour camps through executants agencies.

The command area population with increased agricultural activities may face minor insanitation problems due to stagnation of water. The project authorities with the help of GPs and SHGs will educate the people about various methods to prevent insanitation and water pollution.

**(v) Assistance in Health Delivery System:**

There may be increased instances of malaria and water borne diseases due to utilization of canal water for domestic purpose throughout the year. The project authorities will assist the existing health units maintained by Directorate of Health Services.

**(vi) Employment Generation:**

The social infrastructure will be remarkably boosted-up in the command area due to higher crop yield in the post project irrigated agriculture. Apart from engagement in project construction works, the educated young mass will resort to crop trading, marketing and allied business activities. The Tribal community may opt for self engagement by using Forest produce, Fish farming & marketing. The project authority will encourage fodder farming in the catchment as effective measures to prevent likely soil erosion and excess siltation. Processing the fodders for cattle feed will be an alluring engagement and additional income generation. Allied small scale industries like Rice mill and ancillary processing units maybe taken up as business cum self employment.

**6.0 REHABILITATION & RESETTLEMENT (R&R) PLAN:**

- It has been surveyed that 4 nos. of villages come under submergence, of which, 2 nos. are fully submerged and 2 nos. are partly submerged.
- 161 families comprising of 63 no. SC families, 12 no. ST families and 86 no. General category families will be displaced / rehabilitated.

- They are to be adequately compensated for their loss of property (land, houses and others), transported to a newly set up Resettlement colony with sustenance allowance, and other admissible benefits according to the State R&R plan.
- 'R&R plan' will be prepared for these oustee families as per the following policy guide lines.
  - i) State R&R policy 2006 with amendments 2007 & 2009-10, issued by Government of Odisha.
  - ii) National R&R policy 2007 will be given due weightage although the state R&R policy provides better package.
  - iii) Specific guidelines for displacement of Tribal families issued by Ministry of Tribal Affairs (Government of India).
- The R&R planning is to be examined by the state government – Recommended to the Tribal Ministry and statutory clearance processed.
- A district level rehabilitation committee will look after the implementation of R&R plan which will be reviewed by a state level committee from time to time and resolve critical issues.
- The project authorities will place funds for this purpose according to the budgetary provision.

#### ANALYSIS OF THE PROPOSAL AND RECOMMENDATION:

- As discussed earlier; the crop coverage, grain receipt and financial outturn will scale up enormously after irrigation. A comparative study is furnished below.

| Status                          | Crop coverage in ha |      |       | Grain receipt in Mt. | Total value of firm produce rupees in lakhs. |
|---------------------------------|---------------------|------|-------|----------------------|--|
|                                 | Khariff             | Rabi | Total |                      |  |
| Pre-project (Before irrigation) | 675                 | 300  | 975   | 22,500               | 260.68                                       |
| Post project (After irrigation) | 2366                | 740  | 3106  | 3,12,207             | 3280.117                                     |
| Benefit                         | -                   | -    | -     | 2,89,707             | 3019.437                                     |

- From the statement above, the Grain receipt / crop output will be 28970 MT extra with additional financial benefit of 30.19 crores annually.
- With above benefits at the background the socio-economic status of the people will be elevated considerably. The proposed infrastructure development activities have already been discussed earlier in the above para of this pre-feasibility report.

#### The area, the land and the population:-

The entire ayacut area of the project lies in the Angul Block of Angul District, which has very little scope of development. The inhabitant of this area mostly belongs to schedule cast and schedule tribe and under privileged section of the society. The area has neither any allied industrial activities and the people of the ayacut mainly depend on agriculture, which is subjected to ravages of nature in the form of drought due to erratic and uneven rainfall. The agricultural lands are fertile and mostly in erosion planes of Tikira, segregated by hill ranges and thick tropical forests. Nevertheless, due to lack of irrigation the yield per hectare is very low. The present land use practice is very primitive and the

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traditional farming in the command area is continuing from generation to generation. The modern methods of cultivation and modern cropping pattern are yet to be practiced as the erratic behavior of monsoon poses hindrances. The potentiality of this project when utilized shall no doubt, accelerate the growth of economy in general and improve socio-economic status of the backward classes in particular.

Entire population in the command area of this project are consisting mainly of backward classes, resort to cultivation for their livelihood. In absence of irrigation facility, the crop solely depends on the natural rainfall, which is unevenly distributed. Failure of crop is a common phenomenon in this area on account of drought. Apart from drought, due to unevenly distributed rainfall, the crop output suffers very badly. For this, the only solution is to provide a sustainable irrigation from a storage reservoir.

On completion of the project, the local people will immediately enjoy the facility of assured irrigation and will add to development of this area.

**Existing Agriculture pattern:-**

The entire area of the proposed command area depends solely on rainfall. Therefore, no regular cropping pattern is being followed in the command area at present. The local people are changing the cropping pattern accordingly to the distribution of rainfall and availability of soil moisture as they are to be dependent upon rainfall only. Paddy is the principal crop of the area and mostly taken up in Kharif on suiting the rainfall condition with coverage of more than 80% of the total cultivation area. Generally, local varieties of paddy of different duration are cultivated. Besides paddy, maize, pulses and vegetables are also grown in the up land. Local varieties of seeds are generally used by farmers and improved variety crops are grown in a very limited scale by some of the progressive farmers.

**Existing Agriculture practice:-**

The present agricultural practice in this area is very primitive and undeveloped. Usually only one crop i.e. paddy is cultivated, almost in all the command area. Neither high yield variety of paddy is cultivated nor attempted since the cultivators cannot afford to agrarian expenditure of this type of agriculture. Even if some people can invest on such type of cultivation, they do not want to take risk due to erratic nature of rainfall. The cultivation does not follow any crop calendar. No agricultural implements of sophisticated order are used not farm machineries are in operation. Wooden plough pulled by bullock is used for tilling the lands and wood planes are used for leveling the same.

Chemical fertilizers are very rarely used in cultivating lands. Most of time, only cow dung manure is applied which is also sufficiently not available for the lands. Thus, the agriculture practice in the area remains primitive as was done years ago without any appreciable improvement. On implementation of this project, the cultivators will be more interested in adopting modern methods of agriculture, as there will be little chance of failure of crops. There will be variation in cropping pattern and change in agricultural practice will take place after irrigation is introduced.

The reasons mentioned above coupled with direct or indirect employment potential of rural population with allowable B.C ratio fully justifies immediate implementation of the project.

**Village wise category wise land loss in acre**

| <b>VILLAGE WISE LAND RECORDS OF HIDSING IRRIGATION PROJECT,<br/>Angul District, Odisha.</b> |                     |                             |                                |                        |                    |                             |
|---|---------------------|-----------------------------|--------------------------------|------------------------|--------------------|-----------------------------|
| <b>Sl. No.</b>  | <b>Village name</b> | <b>Proposed Area in AC.</b> |                                |                        |                    | <b>Total area in Acres.</b> |
|   |                     | <b>Private Land.</b>        | <b>Non- forest Govt. Land.</b> | <b>Village Forest.</b> | <b>DLC Forest.</b> |                             |
| 1   | Badahinso           | 3.87                        | 0.02                           | 0                      | 0                  | 3.89                        |
| 2   | Baghuapat           | 14.38                       | 2.68                           | 1.290                  | 3.232              | 22.595                      |
| 3   | Bandanposi          | 15.12                       | 0.36                           | 0                      | 0.193              | 15.720                      |
| 4   | Bantala             | 32.80                       | 2.91                           | 0                      | 0                  | 35.71                       |
| 5   | Baulipur            | 1.30                        | 0.34                           | 0                      | 0                  | 1.64                        |
| 6   | Brahmapur           | 12.22                       | 12.52                          | 0                      | 0.991              | 25.501                      |
| 7   | Dhokata             | 2.99                        | 2.29                           | 0                      | 0                  | 5.28                        |
| 8   | Dimripal            | 69.16                       | 35.31                          | 22.432                 | 12.862             | 145.511                     |
| 9   | Gopalpur            | 5.33                        | 3.91                           | 0                      | 0                  | 9.24                        |
| 10  | Haripur             | 1.91                        | 0.18                           | 0                      | 0                  | 2.09                        |
| 11  | Hidsing             | 336.75                      | 29.26                          | 16.464                 | 11.110             | 392.53                      |
| 12  | Hinsoloi            | 16.06                       | 0                              | 0                      | 1.127              | 16.942                      |
| 13  | Jaraopur            | 6.57                        | 0.36                           | 0                      | 0                  | 6.93                        |
| 14  | Kanheinagar         | 1.42                        | 0.12                           | 0                      | 0                  | 1.54                        |
| 15  | Karadasing          | 50.47                       | 11.84                          | 2.728                  | 14.434             | 76.815                      |
| 16  | Karatapata          | 7.57                        | 1.30                           | 1.127                  | 0                  | 9.997                       |
| 17  | Khalagaon           | 14.59                       | 2.26                           | 0                      | 0                  | 16.85                       |
| 18  | Kusumpata           | 6.07                        | 2.98                           | 0.974                  | 2.879              | 12.44                       |
| 19  | Lachabandha         | 6.49                        | 0.72                           | 0                      | 0                  | 7.21                        |
| 20  | Madhapur            | 7.25                        | 1.83                           | 0                      | 0                  | 9.08                        |
| 21  | Madhupur            | 5.65                        | 1.94                           | 0                      | 0                  | 7.59                        |
| 22  | Manapur             | 13.38                       | 6.09                           | 0                      | 0                  | 19.47                       |
| 23  | Nandapur            | 4.51                        | 3.14                           | 0                      | 5.434              | 11.478                      |
| 24  | Panagobindapur      | 4.31                        | 0.25                           | 0                      | 0                  | 4.56                        |
| 25  | Pokatunga           | 26.07                       | 18.77                          | 0                      | 0                  | 44.84                       |
| 26  | Pampasar            | 0.00                        | 0                              | 0                      | 1.201              | 1.201                       |
| 27  | Sanhinso            | 1.64                        | 0                              | 0                      | 0                  | 1.64                        |
| 28  | Sankhapur           | 11.50                       | 5.06                           | 0                      | 0                  | 16.56                       |
| 29  | Sarangapur          | 4.76                        | 0.18                           | 0                      | 0                  | 4.94                        |
| 30  | Talagarh            | 25.15                       | 6.62                           | 0.141                  | 8.038              | 40.211                      |
| <b>Total area in Ac.</b>  |                     | <b>709.29</b>               | <b>153.24</b>                  | <b>45.156</b>          | <b>61.501</b>      | <b>969.187</b>              |
| <b>Total area in ha.</b>  |                     | <b>287.045</b>              | <b>62.016</b>                  | <b>18.274</b>          | <b>24.888</b>      | <b>392.223</b>              |

It is seen from the above table that social infrastructure in the above seven affected villages is better compared to other backward villages of Orissa. However, provisions will be made in



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the budget for further improvement of already existing infrastructure and creation of new infrastructure for the benefit of affected villages.

### **Social networking**

The festive time of the year is the primary period where large number of people from different villages gets integrated and celebrates the occasion with joy. Weekly market or 'Haat' is a gathering place for all people from different villages where they observe various marketing techniques, improving communication skills while interacting with different customers from outside community & gathering news on other villages. In a way it is a hub for social and economic networking where the village people accumulate good amount of exposure to outside world. The picture above shows social networking of people from nearby villages in the weekly 'Haat'. Since there is no physical displacement the project will further enhance the quality of food & availability of vegetables. There will be comparatively less or no impact as there is displacement occurring due to Hidising Irrigation Project.

### **Marriage, family & kinship**

Large numbers of tribal women in the community get married within the community itself. Many choose their partner by themselves and for others parents have to arrange. After marriage many women prefer to live in the joint family with their in laws and within the periphery of the community. This is because they have emotional bonding with their kith and kin and the community people where they all grew up together. The project will have less impact on villagers social life although many will be losing agricultural land there will be little tension within the family.

### **Culture & festivals**

Though one of the most industrialized district of India, Angul has one of the largest and most magnificent natural beauties i.e. Satakosia tiger reserve. As the Mahanadi River takes a sharp turn, It has created one of the deepest gorges of India. Satakosi got his name from his gorge as 'Sata' means Seven and 'Kosha' means Mile in Odia. Inside this reserve there is Tikrapada Wildlife Sanctuary. It is famous for the endangered crocodile species "Gharial" Breeding Center. It is of 795.52 km<sup>2</sup> area.

Other places of interest are Rengali Dam and Samal Barage over Brahmani River, the hot water spring at Deulajhari in its Athmallik sub-div, Panchadhara hills, Budhi Thakurani and Lord Jagannath Temple, the puppet dance.

  
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## **STRATEGY FOR INCOME RESTORATION AND REHABILITATION PLAN**

### **OBJECTIVES**

The Rehabilitation plan for affected villages of Hidising Irrigation Project will be formulated with the following objective:

- (i) First, to ensure that the Project affected Families at least regain & restore their Pre-Project living standards
- (ii) Then, to improve on these and transform the rehabilitation process into an opportunity for attaining better livelihood.

For preparing the comprehensive RAP with the above objective, intensive discussions both individually and in groups shall be made with the PAF. The options & interest shall be debated to understand the livelihood risks and approaches to reconstruct livelihoods.

### **Identification of livelihood risks**

The livelihood risks of affected villages of Hidising Irrigation Project are identified as follows:

- Landlessness – reduced land holding & loss of production base
- Loss of access to forest – loss of access to minor forest produce

However, there will be increased business opportunity for Country Liquor, Poultry & Dairy and there will be increase in construction work in the shape of Govt. and private buildings, Dam work and other related infrastructure. There will also be increased opportunity to do business at the Weekly Market.

The displaced families during discussion advocated for both land based and non-land based rehabilitation programmes that need to be included. The land-based program will provide them with enough land and assured water to regain their agricultural production base and engage in economically beneficial horticulture and small rural business. The non-land based programs will include activities such as occupational training, skill development, non-farm based employment, directed credit for small business & self employment and community development fund. Dovetailing with government development schemes is also an essential means to improve their livelihood.

### **INCOME RESTORATION PROGRAMS**

Income restoration programme takes time to yield results. Both Short-term & Long-term strategies for restoring Project affected family's income need to be adopted.

Under Short-term income restoration strategies the following are included:

- Compensation for land, structures, and all other assets;
- Subsidized inputs for agriculture, and livestock production;
- Temporary or short-term employment in civil construction activities at the resettlement or project construction sites; and

  
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Long-term income restoration strategies involve land & non-land based economic activities that will provide a sustained source of income over a longer period of time to enable restoration, or better still, improvements in displaced families standard of living. These strategies will consist of both project – sponsored programs and establishing linkages to local or national economic development and employment programs in the project area (e.g, poverty alleviation programs in PRC, integrated rural development programs and Small Farmers Development Programs etc). There are also various kinds of rural credits and micro-enterprise managed by NGOs. The eligible PAFs will be encouraged to have access to various poverty alleviation & income generation schemes and programmes of Government line departments like DRDA, District Agriculture Office, District Soil Conservation Office, District Fisheries Office, Block Development Office, District Horticulture Office etc. for proper economic rehabilitation. Financial institutions like Gramya Bank/Cooperative Banks/ State Bank of India /Land Development Bank/ Local Lead Bank will be persuaded & tied up for financial assistance in terms of long term soft loan to D.Fs for implementing economic rehabilitation programmes e.g, Diary, Goatery, Poultry, Agricultural Implements, Crops, Commercial forestry, Horticulture, shop etc.

The following are the specific economic restoration measures planned to be implemented for the affected villages.

**a) Agricultural Development:**

Each affected family losing more than 75% of their total land holding in the project area will be allotted with cultivable land upto @ 5 Ac to each Tribal Family and @ 4 Ac. to each other caste categories for agricultural use depending on the availability of land and the option exercised by the affected families. The project authorities will ensure land leveling at the project cost and arrange to extend irrigation facilities. In RAP, planning shall be made to construct Diversion weir over the Nalla flowing near the rehabilitation area and small water harvesting structures to facilitate irrigation to the newly developed agricultural land. Besides, lift irrigation either from the canal or from the reservoir shall be provided to all the lands of affected families.

The Director of Agriculture will be requested to divert services of District Agriculture Extension Officers to provide training to the affected families in agricultural farming & about the latest technology in use with modern farm implement, application of Bio-fertilizers and pesticides etc. Cultivation being the principal means of livelihood, the affected families will quickly get conversant to the advance agriculture technology. With irrigated land in hand and technical knowledge & support provided to them; will definitely, enhance their economic standard after few years' of successful crop produce.

**b) Engagement of labour force in project construction activities.**

The Project Construction activities will continue for 6-7 years during which there will be large deployment of construction labourers. The project authorities will give priority to eligible affected

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persons to earn their livelihood by engaging themselves as unskilled labourers in the Project construction and Resettlement works through contractor.

**c) Horticulture Development.**

A Community Orchard over an area of 2 Ac. is also planned in which indigenous fruit bearing trees used by the Oustees in the old village will be planted. This village orchard will be handed over to Women SHG for maintenance & livelihood earnings. The Kitchen Garden & Community Orchard development plan shall be included in the RAP.

Apart from agriculture, if any PAFs will be interested for Horticulture or floriculture, they will be provided assistance under different existing programmes like National Horticulture Mission, National Coconut Board etc. Dovetailing of different schemes under Horticulture Dept will be made to facilitate Horticulture Development to enhance their economic standard.

Also, the Director of Horticulture will be requested to divert services of District Extension Officers to provide training for the oustees in Horticulture farming & about the latest technology.

**d) Pisciculture Development.**

With the construction of reservoir, the potentiality of fishing in the area increases immensely. Therefore, fishing boats and nets may be supplied to willing affected families to boost up their earning. The gill-net fishing unit in the reservoir can consist of a traditional wooden boat and the fishing nets. This scheme has no gestation period and can be continued throughout the year. However, fishing rights in the reservoir shall be on priority basis reserved for project affected families. This will help in generating adequate income to them.

In order to increase the exploitation of fishing in the area, there is a need to clean off the reservoir area from any underwater obstructions like tree stumps, buildings etc. (particularly in the penetrating zone). This facilitates easy movement of boats and proper placement of fishing nets. Secondly, there is a need for regular stocking of large size fingerlings annually so as to build up the harvestable stock of fish in the reservoir.

The Project authority with the help of Director of Fisheries will take up reservoir Pisciculture Programme immediately after the creation of reservoir. The PAFs will be motivated to form 'Fish farming cooperative Societies' and engage themselves in the fish farming activities. The Project authority will provide support for 5 year and the fish farming cooperative societies will function independently after the 5<sup>th</sup> year. Within three years of implementation, the Project Affected families can be benefited with an earnings of around Rs.40, 000/- per family/per annum. The reservoir pisciculture programme will be implemented as per the Pisciculture plan report from the concerned authority. The PAFs interested to stay nearer to project area will be encouraged to participate in Reservoir Pisciculture Plan. The state & central Government fishery policy has provision of fishing rights for the reservoir affected families.

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**e) Livestock Development.**

The Project authorities with the help of District Authorities will act to introduce Livestock Development in the resettlement village.

Some of the PAFs from Gouda community (Cow heard) are doing Diary, Goatery, Poultry in the village and earn by selling in local market. They will be encouraged to participate in Diary, Goatery, and Poultry development programme and avail the earning benefit. Loan assistance at subsidized rate will be made available to the affected families through village Cooperative Societies / Banks. The project authorities will provide incentive and training facilities, technical support from the line departments.

**f) Vocational Training Program for self - employment.**

Vocational Training programme for self employment (**Technical** – Carpentry, Blacksmith, Masons, Welders, Electricians, Automobile mechanics, Tailoring, Motor driving, Computer Operator, Fitter etc; **Agro based** – Agricultural input, Cultivation and processing of Turmeric & Ginger, Floriculture, Medicinal plant farming, Mushroom farming etc; **Forest based** – Processing of Sal leaf thali, Processing of Kendu leafs, Manufacturing of Bamboo & cane products; **Other** – Maintaining Live Stock, Poultry farming, Fish farming, Sericulture, Bee keeping) will be provided to the willing PAFs.

The Project authorities will interact with other line departments, training institutes, educational institutes to extent above vocational training programmes at the project cost as per Orissa R & R Policy, 2006.

**g) Diversification of crop pattern**

The one third of population in Angul district rely on agriculture so the execution of Irrigation Project will bring opportunities to the farmers to grow varieties of cash crops and vegetables because of the plentiful water facilities. However large chunk will have scope for inter cropping such as Maize+rice, Wheat+Rajma etc. various techno irrigation methods could be adopted for the improvisation of crops such as drip irrigation system, sprinkler system, pressurized irrigation system. Apart from various types of crops & techniques adopted by the farmers there are provisions of horticulture training & training on contemporary methods to the farmers under various Government schemes.

**h) Women empowerment**

Women play a crucial role in the community with the construction of Hidsing Irrigation Project large number of people will have access to reservoir which will further empower women to form Self Help Group for fishery industry, stocking of fish, dry fish cottage industry for exporting to cities and to nearby state, selling in local market etc. The women could be given training on fish net weaving to create economic opportunity which will further furnished there trading ability and women empowerment.

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### **i) Microfinance**

The poor will remain poor if they are not nurtured completely. The self employment training to the project affected families won't sustain without provision of financial assistance. Micro-Finance programme intends to arrest the most burning issues i.e. poverty and unemployment, which are main hurdles in the process of development. Micro-Finance can be defined as provision of thrift, credit and other

financial services and products of very small amounts to the poor in rural, semi-urban or urban areas for enabling them to raise their income levels and improve living standards.

Objectives of Micro-Finance Programme:

1. To make the participating agencies well acquainted with the needs of different target groups e.g. women, tribal, micro entrepreneurs and unemployed youth.
2. To initiate and implement microenterprises development programmes and supports the programme by way of an effective micro-finance delivery mechanism.
3. To strengthen capabilities of microfinance organizations in the areas of planning, managing and coordinating micro-enterprises i.e. identification of feasible business projects, encouraging the entrepreneurs to execute these projects and supporting them with managerial, financial and marketing assistance.

To give a kick start to self employment businesses many microfinance bodies like banks & other organization shall be persuaded to offer soft loans, small trade loan with low interest rate. It is important to link up the families with the banks.

### **ii) Other Government schemes**

The state & central Government has taken initiative to introduce many employment schemes for the poor, project affected & under privileged people. Schemes like Jawahar Rojgar Yojna, Mahatma Gandhi National Rural Employment schemes have a positive impact on rural economy. Some of the employment schemes are mentioned below-

### **k) Skills development & capacity building**

Upgrading existing traditional skills of the Project Affected Persons will give them extra benefit. Traditional occupations such as carpentry, blacksmith, pottery etc there is a need of upgrading their skills to enhance the economic capacity of the families. In order to improve the production efficiency and its profitability, there is a need to organize training programmes for such artisans. Financial assistance is required to help the artisans to establish their units. All the traditional trades have good scope to develop in view of the irrigation development and consequent agricultural activities in the area here again hardly any gestation period is involved to yield returns. Continuation of these trades will widen the scope for employment more so of the family labour.



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Capacity building training on ongoing trades such as welding, motor cycle repairing, motor driving, heavy machine operation etc training program could be arrange for youths who are more or less literate to understand the technical terms. Training facilities for some of these trades are available in the Industrial Training Institutes, NGOs, Government organization like Jana Sikhsan Sansthan, Lifeline leaning centre etc. where some seats may be reserved for the eligible oustees. Once the relevant oustees are trained, they are to be rehabilitated for which assistance available under R & R can be utilized.

  
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## **Orissa Resettlement and Rehabilitation Policy 2006**

### **Preamble**

Government of Orissa has been pursuing various development initiatives to improve the quality of lives. Ensuring social justice being one of the major cornerstones of development, the Government always proactively tries to make sure people's participation in development process. In spite of Government's intention to bring development to the people, development interventions do at times create undesirable consequences. Displacement due to large development projects is one such phenomenon. Government of Orissa has been responding to this problem through various projects specific Resettlement & Rehabilitation

Policy and plans. The current intervention of policy formulation has actually taken note of the lessons learnt through these past policies, which essentially reflects Government's genuine spirit of learning and retrospection. The present Policy draws its strength from experiences from the implementation of past policies, best practices in other states and Orissa Government's Industrial Policy Resolution, 2001. Consultation with various direct and indirect stakeholders including civil society of the state has been conducted, and the views of the academicians, and specialists in the field of resettlement and rehabilitation have been considered as a part of democratic response of the Government in Policy formulation. Limitations of the past policies have been acknowledged and analyzed and a flexible framework has been attempted, which nonetheless demonstrates the dynamism of the Government. Unlike many other policies, there is a strong focus on the modalities of implementation of this policy that makes it a vibrant instrument to promote sustainable development in the state.

### **Short Title, application and Commencement:**

- (i) This Policy may be called as "The Orissa Resettlement & Rehabilitation Policy, 2006" and shall come into effect from the date of its publication in the Orissa Gazette.
- (ii) It shall apply to all those projects, for which acquisition of private land under Land Acquisition Act, 1894 or under any other law's for the time being in force or proclamation inviting objections in case of Government land is notified.
- (iii) This shall also be applicable to all projects for which land is acquired through negotiation under the provisions of this Policy.

### **Definitions:- In this Policy unless the context requires otherwise:**

- (a) "Agricultural Land" means land used or capable of being used or raising of crops, grass or garden produce, horticulture, dairy farming, fish farming, breeding and keeping of live stock and used as pasture or for any other purpose where such use is ancillary to agriculture.
- (b) "Compensation" has the same meaning as assigned to it under the Land Acquisition Act, 1894.

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(c) “Cut-off Date” for the purpose of compensation shall be the date on which the notification declaring the intention to acquire land under the relevant Act or under the provisions of this Policy is published. Note:- For the purpose of declaring eligibility for R & R benefits, the list of displaced families, will be updated on the 1st of January of the year in which physical displacement is scheduled to take place provided that those families who move into the project area after determination of the “cut-off- date”, will not be eligible for any benefit.

(d) “Displaced Family,” means a family ordinary residing in the project area prior to the date of publication of notification under the provisions of the relevant Act and on account of acquisition of his/her homestead land is displaced from such area or required to be displaced.

(e) “District Compensation Advisory Committee (DCAC)” means the Committee constituted by Government under relevant provisions of this Policy.

(f) “Family” means the person and his or her spouse, minor sons, unmarried daughters, minor brothers or unmarried sisters, father, mother and other members residing with him or her and dependent on him or her for his / her livelihoods. Note:- Each of the following categories will be treated as a separate family for the purpose of extending rehabilitation benefits under this policy.

(i) A major son irrespective of his marital status.

(ii) Unmarried daughter / sister more than 30 years of age.

(iii) Physically and mentally challenged person irrespective of age and sex;(duly certified by the authorized Medical Board). For this purpose, the blind / the deaf/ the orthopedically handicapped / mentally challenged person suffering from more than 40% permanent disability will only be considered as separate family.

(iv) Minor orphan, who has lost both his/her parents.

(v) A widow or a woman divorcee.

(g) “Government” means the Government of Orissa in Revenue Department.

(h) “Land Acquisition Officer (LAO)” means an Officer appointed by the Government by an order to perform duties as such under Land Acquisition Act 1894, for the project and shall include a Special Land Acquisition Officer.

(i) “Non-Government Organization (NGO)” means any organization duly registered under the Society Registration Act 1860 and functioning for public cause outside the Government.

(j) “Original Family” means the family, which at the time of Notification under provisions of relevant Act(s) is living together in a single household with a common kitchen.

(k) “Periphery” means the district(s) in which the project is geographically situated

(l) “Project” means the construction, extension or improvement of any work such as reservoir, dam, canal, highway, industrial plant, factory, mining, national park, sanctuary, etc. as notified by the Government from time to time and includes its offices and establishment within the State.

(m) “Project area” for the purpose of extending R & R benefits means the land, which is acquired / alienated / purchased for establishment of any project.

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(n) “Project Director Resettlement & Rehabilitation (PD-RR)” means an officer appointed by the Government by an order to perform such duties under R & R Policy of the State, for the project.

(o) “Rehabilitation & Periphery Development Advisory Committee (RPDAC)” means the committee constituted by the Government under relevant provisions of this Policy by Government to look after rehabilitation and periphery development matters.

(p) “State Level Compensation Advisory Committee” means a committee constituted by Government under the relevant provisions of this Policy.

(q) “State Level Council on Resettlement & Rehabilitation (SLCRR)” means the council headed by the Chief Minister constituted by a notification of Government to that effect.

### **Policy Objectives**

Objective of the Policy of the Government in general shall be :

(a) To avoid displacement where possible and minimize it, exercising available options otherwise.

(b) To facilitate resettlement / rehabilitation process:

(i) Recognizing voices of the displaced communities (emphasizing the needs of the indigenous communities and vulnerable sections): and

(ii) Ensuring environmental sustainability through participatory and transparent process ; and

(c) To help guiding the process of developing institutional mechanisms for implementation, monitoring, conflict resolution and grievance redressal.

#### **Survey and identification of Displaced Families**

(a) Ordinary within two months of publication of notice for acquisition land for the development project, a socio-economic survey would be undertaken in the manner to be decided by the Government for identification of displaced families and for preparing their socio-economic baseline.

(b) The list of displaced families shall be placed before and approved by the respective RPDAC.

(c) The list of displaced families so approved will be displayed at Collectorate / Block / Tahsil / Panchayat and other conspicuous locations for wider dissemination.

(d) RDC shall realistically assess the requirement of land for acquisition before issue of notification under the relevant law(s) or under the provisions of this Policy.

(e) A socio-cultural, resources mapping and infrastructural survey shall be conducted by an independent agency to be identified by the Government to ensure proper benchmarking. It will be the responsibility of the concerned Project Authority to conduct the survey within two months of notifying the intention to acquire land under the provisions of the relevant law(s) or under the provisions of this Policy.

(f) A comprehensive communication plan for awareness creation shall be formulated and executed in the affected area. The detailed modified of his exercise that include involvement of civil society will be notified by the Government. The cost of implementation of this communication plan shall be borne by the project(s).

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(g) Gram Sabha or Panchayats at the appropriate level shall be consulted in scheduled areas before initiating Land Acquisition proposal.

(h) Normal development programmes implemented by different agencies should be dovetailed with resettlement and rehabilitation package in resettlement habitats and made available to the displaced community on a priority basis.

(i) An identity card shall be issued to each displaced family in a manner prescribed by Government.

**Project Types:**For the purpose of R & R benefits under this policy, Development Projects are classified into the following types:

A. Industrial Projects;

B. Mining Projects;

C. Irrigation Projects, National parks and Sanctuaries;

D. Urban Projects and Linear Projects like roads and railways, power lines; and

E. Any other Projects

### **Land Acquisition and Payment of Compensation / Award**

Procedure prescribed by Government shall be followed in acquiring land and other property and for payment of compensation / award. All compensation money due to the “displaced families” shall be paid through account payee cheques. As regards “public property” like School Building, Club House, Hospital, Panchayat Ghar, Electrical installation, place(s) of worship, value of such property affected shall be deposited with the concerned District Collector. Either Project for District Administration shall take up construction at the place as would be determined in consultation with representatives of displaced persons. The Project proponent may opt for direct purchase of land on the basis of negotiated price after issue of notification requiring acquisition of land under relevant Act(s). If acquisition of land through direct purchase fails, other provisions of the relevant Act may be invoked. Land not utilized by the Project within the prescribed time limit and for the required purposes shall be resumed.

### **Resettlement and Rehabilitation Plan**

Based on the list approved by Government and option of displaced families, Resettlement and Rehabilitation Plan shall be prepared by the Collector for resettlement and rehabilitation after due consultation with displaced communities in the manner determined by the Government. Such plan should address the specific needs of the women, vulnerable groups and indigenous communities. The same will be placed before the RPDAC for approval. While preparing the plan, the following aspects should be taken into consideration:

(i) Site for resettlement habitat shall be selected by the RPDAC in consultation with the displaced families.

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- (ii) No physical displacement shall be made before the completion of resettlement work as approved by the RPDAC. The certificate of completion of resettlement work will be issued by the Collector.
- (iii) Gram Sabha shall be consulted.
- (iv) Where there is multiple displacement additional compensation amounting to 50 % of the normal compensation payable, shall be paid to each displaced family over and above the normal compensation in form of ex-gratia.
- (v) Provisions relating to rehabilitation will be given effect from the date of actual vacation of the land.
- (vi) Project Authority shall abide by the provisions laid down in this Policy and the decisions taken by RPDAC from time to time provided they are within the ambits of the approved Policy of the Government.
- (vii) District Administration and Project Authorities shall be jointly responsible for ensuring that the benefits of R & R reach the target beneficiaries in a time bound manner.
- (viii) Record of Rights of the land and house allotted to the displaced persons should be handed over to them by District Administration while resettling them in the Resettlement habitat. The District Administration shall take steps for immediate declaration of the new Resettlement habitat as a Revenue Village if it is not a part of an already existing Revenue Village.
- (ix) Steps will be taken by the Project Authorities for acclimatization of the resettled people in new habitat including development of cordial social relationship between the host and resettled communities and to ensure as far as practicable overall improvement of standard of living of the displaced families.
- (x) Subject to the details regarding provision of employment as enunciated elsewhere in the Policy the project authorities shall give preference in the matter of employment, both direct and indirect as well as through contractors employed by them, for execution, operation and maintenance of the project, to local persons as per the detailed guidelines issued by the State Government from time to time.

**Rehabilitation assistance-**Rehabilitation Assistance will be specific to the 'type' of project as mentioned at para 5 above, because of difference in nature of projects, their source(s) of funding and magnitude of displacement / impact.

#### **I. Type A: Industrial Projects:-**

(a) Employment: Families shall be eligible for employment, by the project causing displacement or loss of all agricultural land. For the purpose of employment, each original family will nominate one member of such family.

However, the families as mentioned at para 2 (f), (i), (ii),(iii), (iv), or (v) will not be considered separately for employment. Any one from among these categories may, subject to eligibility, be nominated by the family as defined in para 2 (f) for the purpose of employment. The project



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proponent will give preference to the nominated members of the displaced / other families in the matter of employment. The order of preference will be as follows:

- Displaced families losing all land including homestead land;
- Displaced families losing more than 2/3rd of agricultural land and homestead land;
- Displaced families losing more than 1/3rd of agricultural land and homestead land;
- Displaced families losing only homestead land but not agricultural land;
- Families losing all agricultural land but not homestead land.

The Project authority will make special efforts to facilitate skill up-gradation of the nominated member of each displaced / other family make him/her 'employment' in their project.

- In case of nominees of displaced / other families eligible for employment otherwise, the upper age limit shall be relaxed by five years.
- Project authorities should notify their employment capacity sufficiently in advance.
- As far as practicable, the objective shall be to provide one member from each displaced / other family as mentioned above with employment in the project. However, where the same cannot be provided because of reason to be explained in writing, cash compensation as mentioned below shall be provide to the displaced / other families. Displaced / other families, who do not opt for employment / self-employment as mentioned in sub para (a) and (b) below, shall be provided by the Project authority with one time cash assistance in lieu of employment at the scale indicated below.

Categories of families referred to in clauses (i) to (v) of para 2 (f) shall not be considered separately for employment in the project. However, they will be paid one time cash compensation in lieu of employment. Provided that if any industry is willing to offer employment to more than one member of a family, it may do so in lieu of one-time cash assistance. Displaced / other families who are eligible to be considered for employment and families defined under clause (i) to (v) shall be provided with one time cash assistance in lieu of employment / self-employment in the scale indicated below: Sl.No. Families under category as Amount of onetime cash per sub-para

(a) above assistance (Rs. In Lakhs.) (i) Displaced Families coming under Category (i) 5.00 (ii) Displaced Families coming under Category (ii) 3.00 (iii) Displaced Families coming under Category (iii) 2.00 (iv) Displaced Families coming under Category (iv) & (v) 1.00

(b) Training for Self-employment: Project authority under the guidance of the Collector concerned will make adequate arrangement to provide vocational training to at least one member of each displaced / other family so as to equip him her to start his/her own small enterprise and refine his/her skills to take advantage of new job opportunities. For those engaged in traditional occupations / handicrafts / handlooms, suitable training shall be organized at the cost of project authority to upgrade their existing skills.

(c) Convertible Preference Share : At the option of the displaced family and, subject to the provisions of relevant law(s) in force for the time being, the project authority may issue Convertible Preference

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Share(s) or Secured Bond(s) up to a maximum of 50 % out of one time cash assistance as mentioned in sub-para (a) above.

(d) Provision for homestead land : Subject to availability, each displaced family will be given at least 1/10th of an acre of land free of cost in a resettlement habitat for homestead purpose.

(e) Assistance for Self-relocation : Each of the displaced family who opts for self-relocation elsewhere other than the Resettlement habitat shall be given a onetime cash grant of Rs. 50,000/- in lieu of homestead land.

(f) House Building Assistance : Besides, Project authority shall construct house for each of the displaced families in the resettlement habitat or provide house building assistance of Rs. 150,000/- to each of the displaced families selling in the Resettlement habitat or opting for self relocation elsewhere.

(g) Shops and Service Units: Project authorities will also construct shops and service units as feasible locations at their own cost, which will be allotted in consultation with Collector to project displaced families opting for self-employment. While allotting such units, preference will be given to physically challenged persons and members of displaced SC & ST families.

## **II Type B: Mining Projects:**

(a) Employment : displaced and other affected families shall be eligible for employment, by the project causing displacement. For the purpose of employment, each family will nominate one member of the family. The project proponent will give preference to the nominated members of the displaced and other affected families in the matter of employment. The order of preference will be as follows:

- (i) Displaced families losing all land including homestead land;
- (ii) Displaced families losing more than 2/3rd of agricultural land and homestead land;
- (iii) Families losing all agricultural land but not homestead land.
- (iv) Displaced families losing more than 1/3rd of agricultural land and homestead land;
- (v) Displaced families losing only homestead land but not agricultural land;

The Project authority will make special efforts to facilitate skill up-gradation of the nominated member of each displaced / other family make him/her 'employment' in their project.

1. In case of nominees of displaced families eligible for employment otherwise, the upper age limit shall be relaxed by five years.
2. Project authorities should notify their employment capacity sufficiently in advance.
3. As far as practicable, the objective shall be to provide one member from each displaced / other family as mentioned above with employment in the project. However, where the same cannot be provided because of reason to be explained in writing, cash compensation as mentioned below shall

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be provide to the displaced / other families. Displaced / other families, who do not opt for employment / self-employment as mentioned in sub para (a) and (b) below, shall be provided by the Project authority with one time cash assistance in lieu of employment at the scale indicated below.

Sl.No. Families under category as Amount of one time cash per sub-para (a) above assistance (Rs. In Lakhs.)

(v) Displaced Families coming under category (i) 5.00

(vi) Displaced Families coming under category (ii) 3.00

(vii) Displaced Families coming under category (iii) 2.00

(viii) Displaced Families coming under category (iv),(v) &(vi) 1.00

(b) Training for Self-employment: Project authority under the guidance of the Collector concerned will make adequate arrangement to provide vocational training to at least one member of each displaced / other family so as to equip him her to start his/her own small enterprise and refine his/her skills to take advantage of new job opportunities. For those engaged in traditional occupations / handicrafts / handlooms, suitable training shall be organized at the cost of project authority to upgrade their existing skills.

(c) Convertible Preference Share : At the option of the displaced family and, subject to the provisions of relevant law(s) in force for the time being, the project authority may issue Convertible Preference Share(s) or Secured Bond(s) up to a maximum of 50 % out of one time cash assistance as mentioned in sub-para (a) above.

(d) Provision for homestead land : Subject to availability, each displaced family will be given at least 1/10th of an acre of land free of cost in a resettlement habitat for homestead purpose.

(e) Assistance for Self-relocation : Each of the displaced family who opts for self-relocation elsewhere other than the Resettlement habitat shall be given a onetime cash grant of Rs. 50,000/- in lieu of homestead land.

(f) House Building Assistance : Besides, Project authority shall construct house for each of the displaced families in the resettlement habitat or provide house building assistance of Rs. 150,000/- to each of the displaced families selling in the Resettlement habitat or opting for self relocation elsewhere.

(g) Shops and Service Units: Project authorities will also construct shops and service units as feasible locations at their own cost, which will be allotted in consultation with Collector to project displaced families opting for self-employment. While allotting such units, preference will be given to physically challenged persons and members of displaced SC & ST families.

### **III.Type C: Water Resources / National Parks and Sanctuary:**

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#### Rehabilitation Package for Displaced family (DF)

- (a) Homestead land @ 0.10 acre in Rehabilitation habitat or cash equivalent @ Rs. 56,000/- to each displaced family opting for self-relocation elsewhere.
- (b) House Building Assistance: Rs.1,66 ,000/- to each displaced family, which includes cattle shed. This will be admissible to all displaced families whether setting in a Resettlement Habitat or elsewhere.
- (c) Assistance for Agricultural Land: Each Displaced Family belonging to category shall be provided two-and-a-half acres of irrigated agricultural land or live acres of non-irrigated agricultural land. In case of non-availability of land, cash equivalent will be provided @ of Rs. 1,11,000/- per acre of irrigated land and Rs. 56,000/- per acre of non-irrigated land, including the cost of reclamation or at the rate decided by the Government from time to time.
- (d) Registration cost: of land up to 5 acres of non-irrigated land or two and half acres of irrigated land in case of indigenous households or 4 acres of un-irrigated land or 2 acres of irrigated land for other displaced households who opt for cash based rehabilitation in lieu of land shall be paid by the project authority within a period not exceeding five years from the date of displacement.

#### **IV. Type D: Urban Projects and Linear Projects:**

Each displaced Family will get:

- (a) Homestead land @ 1/10th of an acre in rural area and @ 1/25th of an acre in urban area or cash equivalent of Rs. 50,000/- preferably near growth centers like land by the side of roads and important junctions, land by the side of railway stations etc., subject to availability. If required, project authority may acquire such suitable land under the relevant Act for the purpose.
- (b) House Building Assistance: Rs. 1,50,000/- to each displaced family will be admissible whether settling in a Resettlement Habitat elsewhere.
- (c) If house/homestead land of any landholder is acquired for linear project or if there is total displacement due to acquisition for such project, the project authority shall provide employment to one of the members of such displaced family in the project. Whenever RPDAC decides that provision of such employment is not possible onetime cash assistance as decided by the Government will be paid by the project authority.

#### **V. Type E: Any other Projects:**

Government may issue separate policy guidelines for any other projects not covered above specifying R & R packages to be extended to displaced families.

Benefit to landless & homestead-less encroachers common to all categories

- (a) An encroacher family, who is landless as defined in the Orissa Prevention of Land Encroachment Act, 1972, and is in possession of the encroached land at least for a period of ten years continuously

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prior to the date of notification under relevant law(s) declaring intention of land acquisition will get ex-gratia equal to compensation admissible under the Land Acquisition Act, 1894 for a similar category of land to the extent of land under his/her physical possession up to a maximum of one standard acre if the encroachment is unobjectionable. While determining the extent of land for such compensation the royalty land held by him/her is to be taken into account.

(b) An encroacher family, who is homestead less as defined in the Orissa Prevention of Land Encroachment Act, 1972 and is in possession of the encroached land at least for a period of ten years continuously prior to the date of notification under relevant law(s) declaring intention of land acquisition will get ex-gratia equal to compensation, for the similar category of homestead land, against the encroached homestead land up to a maximum of 1/10th of an acre in rural areas or 1/25th of an acre in urban areas, if the encroachment is unobjectionable. While determining the extent of land for such compensation the homestead land held by him/her is to be taken into account. The ex-gratia will be in addition to the actual cost of structures thereon. If the encroachment is found to be objectionable, (s) he will be entitled to the cost of structure only.

**Other Assistance Common to all categories of projects:**

(a) Maintenance Allowance: In order to ensure timely vocation, an allowance of Rs. 2,000/- per month per displaced family shall be provided an evocation of land / house for a period of one year from the date of vocation as determined by the Collector concerned.

(b) Assistance for Temporary Shed: An assistance of Rs.10,000/- shall be provided to each displaced family.

(c) Transportation Allowance: Transportation allowance of Rs.2,000/- or free transportation to the resettlement habitat or their new place of inhabitation, shall be provided to each displaced family by the Project Authority. Provided that State Government in Revenue Department shall review and may revise rate if necessary, once every two years basing on the index point.

**Additional provisions for assistance:** Notwithstanding anything contained elsewhere in the policy, the Government or the Project Authority may extend any additional benefits and provisions to the displaced families keeping in view the specific nature of displaced. Special benefits to displaced indigenous families and primitive tribal groups

(a) While developing the resettlement plans, the socio-cultural norms of indigenous and primitive tribal groups will be respected.

(b) Each displaced family of indigenous category shall be given preferential allotment of land.

(c) As far as practicable, indigenous communities should be resettled in a compact area close to their natural habitat.

(d) Indigenous displaced families resettled outside the district shall be given 25 percent higher R & R benefits in monetary terms.

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**Indexation of Rehabilitation Grant:** Rehabilitation grant will be indexed to the Wholesale Price Index (WPI) with 01.04.2006 as the reference date and will be revised by the Government once in every two years thereafter the basis of WPI.

**Periphery Development:** The Project authority shall be responsible for periphery development as decided by the RPDAC within the guidelines issued from time to time by the State Government.

**Compensation Advisory committee:** Government in Revenue Department may constitute a District Compensation Advisory Committee (DCAC) under the chairmanship of the Collector to determine negotiated price. Adequate representation will be given to women and indigenous communities (whenever applicable) in the committee.

If any dispute arises on recommendation of the DCAC, the matter will be referred to the State level compensation Advisory Committee (SCAC) chaired by the Member-Board of Revenue whose decision shall be final and binding on all concerned. The composition of this state level Compensation advisory committee will be notified by the Government.

**Rehabilitation and Periphery Development Advisory Committee (RPDAC)**

In order to encourage participation of displaced people and their elected representatives in implementation and monitoring of R & R package, to oversee and monitor periphery development, the Govt. may constitute a Rehabilitation-cum-Periphery development Advisory Committee (RPDAC) for each or a group of projects falling in one district. The detailed composition of the Committee shall be notified by the Government and it may include people's representatives, one or two leading NGOs of the affected area and select Government officers, and any other persons to be notified by the Government. Adequate representation will be given to women and indigenous communities (wherever applicable) in the committee. Chairman of the committee will be at liberty to co-opt members for efficient discharge of its functions.

**State Level council on Resettlement and rehabilitation (SLCRR)**

At the State level, there will be a Council headed by the Chief minister to advise, review and monitor implementation of Resettlement and rehabilitation Policy. The Council may comprise of Ministers, select representatives of the people, leading social activists, academicians and experts of national and international repute and senior official of the Government.

**LA and R & R Structure**

**(a) State level:** A Directorate of R & R will be constituted to discharge and oversee the implementation of the R & R policy. Detailed structure and functions of this Directorate will be notified by the Government.

**(b) District / Project Level:** (i) Depending on magnitude of the R & R works at the project level, there may be a Project Director, Resettlement and Rehabilitation (PC-RR), who shall be assisted by such other officers as Government any decide. The PD\_RR shall be the Chief Coordinating Officer between all the line departments in the matter of resettlement and rehabilitation. He will be



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responsible for implementation of the Policy and timely execution of R & R works under the overall supervision and guidance of the Collector and the Directorate of R & R.

(ii) Where R & R work is of lesser magnitude, the same can be undertaken by the LAO of the Collectorate.

**Budgetary provision and Allotment:** Wherever required, adequate budget provision will be kept towards land acquisition and R & R establishments to ensure effective implementation of R & R Policy. The Directorate of R & R should submit such budgetary estimate / works by 1st January of every year. Government will ensure timely release of allotment to the concerned authorities.

**Grievance Redressal Mechanism:** An effective Grievance Redressal Mechanism will be set up at District and Directorate level to deal with grievance of the project displaced people relating to land acquisition, resettlement and rehabilitation. Besides all the project authorities shall be asked to set up an effective Grievance Redressal Mechanism relating to their project.

Effective participation of the displaced communities will be the ensured in the process.

**Assessment of Policy Implementation:** Government may from time to time undertake assessment of the implementation of this Policy through appropriate agencies.

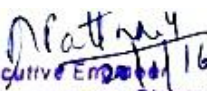
**Interpretation and Amendment:**

(a) Any issues or doubts regarding this Policy shall be referred to Government in Revenue Department whose decision shall be final and binding on all concerned..

(b) Government in Revenue Department may from time to time amend the provision as contained in this policy as considered necessary.

(c) Government in Revenue Department shall have the powers to issue guidelines and instructions from time to time to operationalise this policy.

ORDER- Ordered that the resolution be published in the extra- ordinary issue of Orissa Gazette for the general information of the public and copies of the same be forwarded to Government of India, Ministry of Rural Development /Ministry of Tribal Affairs/Ministry of Social Justice and Empowerment / All Departments of Government/All Heads of Departments / All Revenue Divisional Commissioners/All Collectors / Secretary, Board of Revenue/CMD, IDCO/CMD,IPICOL/A.G Orissa, Bhubaneswar / DAG (Works), Orissa, Puri for information.

  
Executive Engineer  
Cuttack Investigation Division  
Jobra, Cuttack