With the failure of monsoon this year Orissa government has declared all the 30 districts and 283 blocks, with anticipated crop loss of 50% and above during the Kharif season as drought affected. 31 blocks have been left out on account of having assured irrigation for 50% or more of its arable land. This year July rainfall deviation ranges from 82.5% in Angul district to 27.41% in Khurda district. On an average almost 60 percent less rainfall, which is lowest in 40 years was received in the month of July. Since Kharif crop production largely depends on downpour in the month of July it is estimated that the paddy crop damage is 68% in 4.2 million hectares of land. As per the relief code drought every year is declared on the basis of crop cutting report, but this year to avoid delay the government has declared drought on the basis of amount of rain received.

**Rainfall analysis (June – 9th August)**

- June - The normal rainfall recorded in the state is 564.80mm but this year it has been 306.94 mm i.e. a deviation of (-45.66)% from the normal.
- July – The normal rainfall is 351.60 mm while this year it was 140.14mm, which is a deviation of (-60.14) % from the normal. Not even a single district has received normal rainfall in July. The rainfall deviation for the month ranges from 82.5 % in Angul district to 27.41% in Khurda district
- August – Orissa receives on an average 335 mm of rainfall but between August 1st – 9th this year the state has recorded an average rain fall of 80 mm.

Rainfall: The August rainfall will help recharge the ground water table, and would reduce the moisture stress, and prevent further worsening of the situation and facilitate a pre Rabi crop.

**Today catchments rainfall summary** - Heavy rainfall has occurred at isolated places over Upper and Lower Mohanadi catchments. Rainfall has occurred at most places over Baitarani, Upper and Lower Brahmani, Upper and Lower
Orissa Drought

Mohanadi and Vamsadhara, at a few places over Subernarekha and Budhabalanga and weather was mainly dry over Rushikulya catchment.

The reservoir status of major projects as on today is

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Reservoir</th>
<th>Full Reservoir level</th>
<th>Date &amp; Time</th>
<th>Present Reservoir level</th>
<th>Inflow</th>
<th>Outflow</th>
<th>Gates opened (Nos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HIRAKUD</td>
<td>630.00 ft.</td>
<td>13.08.2002/12.00 hrs.</td>
<td>604.08 ft.</td>
<td>106000 cusec</td>
<td>21928 cusec</td>
<td>NIL</td>
</tr>
<tr>
<td>2</td>
<td>RENGALI</td>
<td>123.50 m.</td>
<td>13.08.2002/09.00 hrs.</td>
<td>114.65 m.</td>
<td>4307.66 cumec</td>
<td>724.04 cumec</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>BALIMELA</td>
<td>1516.00 ft.</td>
<td>13.08.2002/08.00 hrs.</td>
<td>1442.30 ft.</td>
<td>12905 cusec</td>
<td>1548 cusec</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>MACHHKUND</td>
<td>2750.00 ft.</td>
<td>13.08.2002/08.00 hrs.</td>
<td>2694.80 ft.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>UPPER KOLAB</td>
<td>858.00 m.</td>
<td>13.08.2002/08.00 hrs.</td>
<td>847.00 m.</td>
<td>117.00 cumec</td>
<td>23.72 cumec</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>INDRAVATI</td>
<td>642.00 m.</td>
<td>13.08.2002/08.00 hrs.</td>
<td>627.68 m.</td>
<td>152.078 cumec</td>
<td>12.611 cumec</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>SALANDI</td>
<td>82.30 m.</td>
<td>13.08.2002/08.00 hrs.</td>
<td>62.04 m.</td>
<td>11.81 cumec</td>
<td>2.50 cumec</td>
<td>-</td>
</tr>
</tbody>
</table>

**AREA AFFECTED:**

- 30 / 30 Districts
  - (18 District Fully)- Angul, Balasore, Bargarh, Bolangir, Boudh, Deogarh, Dhenkanal, Gajapati, Ganjam, Jajpur, Jharsuguda, Kalahandi, Maubhanj, Nawrangpur, Nayagarh, Nuapara, Sundargarh, Kendrapada
  - (12 Districts Partially)- Bhadrak, Cuttack, Jagatsinghpur, Kandhamal, Keonjhar, Khorda, Koraput, Malkangiri, Puri, Rayagada, Sambalpur, Sonepur

- 283 / 314 blocks

**b) Blocks Affected (Nos)**

- Mayurbhanj – (26)
- Ganjam – (22)
- Sundergarh –(17)
- Bolangir – (14)
- Keonjhar – (12)
- Koraput – (12)
- Khandmal – (12)
- Balasore – (12)
- Cuttack – (11)
- Kalahandi – (11)
- Rayagada – (11)
- Nowrangpur – (10)
- Jajpur – (10)
- Dhenkanal – (8)
- Angul – (8)
- Baragarh – (8)
- Sambalpur – (8)
- Khorda - (8)
- Nayagarh - (8)
- Puri – (7)
- Gajapati – (7)
- Kendrapada –(6)
- Bhadrak – (6)
- Sonepur – (5)
- Jharsuguda – (5)
- Nuapada- (5)
- Malkangiri (5)
- Boudh –(3)
- Deoghar – (3)
- Jagatsinghpur – (3)

**IMPACT: DAMAGE BY SECTOR**

**Agriculture:**

- 5.05 (million ha) Due to scantly and sporadic rainfall in June and July 2002 around 0.8 million ha land remained fallow this year.

**b) Statistic for Crop area coverage (Paddy)**

<table>
<thead>
<tr>
<th>Total Cultivable Area</th>
<th>Normal coverage (till July)</th>
<th>Current coverage (till July)</th>
<th>Approximate Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 (million ha)</td>
<td>3.01 (million ha)</td>
<td>2.24 (million ha)</td>
<td>0.77(million ha)</td>
</tr>
<tr>
<td>- High land: 0.85</td>
<td>- Direct Sown: 2.08</td>
<td>- Direct Sown: 2.11</td>
<td></td>
</tr>
<tr>
<td>- Medium: 1.80</td>
<td>- Transplanted: 0.92</td>
<td>- Transplanted: 0.12</td>
<td></td>
</tr>
<tr>
<td>- Low: 1.55</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**c) Different Stages of paddy damages – (in million hect.)**

- Gajamarudi: 0.86
- Beaushading not done: 19.22
- Beaushaned but affected: 0.32
- Nursery Damaged: 0.76
d) Loss % of Paddy Production  
- 68 % (estimated value is Rs. 1700 (Cr). The loss in terms of produce ranges between 52 –94 % in the districts. Near 3.54 million MT

<table>
<thead>
<tr>
<th>d) Loss % of Paddy Production</th>
<th>More than 90 % crop loss has been reported from:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kendrapara (94.25 percent crop)- which is the worst hit district.</td>
</tr>
<tr>
<td></td>
<td>Balasore (94.15 pc)</td>
</tr>
<tr>
<td></td>
<td>Gajapati (92.64 pc)</td>
</tr>
<tr>
<td></td>
<td>Jajpur (91.11 pc)</td>
</tr>
</tbody>
</table>

More than 50 percent crop loss has been reported from:  
- Kandhamal, Rayagada, Nayagarh, Deogarh, Balangir, Bhradak, Nabangrup, Jharsuguda and Nuapada.

Irrigation: Deficit rainfall has also reduced release of water in Canals. Of the total 1.5million hectares in the command area, irrigation to only 0.5 lakh hectares could be available.

- Major Irrigation projects could not service the command areas
- Total Irrigation likely to be available for 0.5 million (ha) against 1.0 million (ha)
- Minor Irrigation Projects with inadequate water reserve

Crop water interplay: Keeping this in view the crop water requirement of the transplanted lowland rice, medium land direct seeded rice (beau shaning), upland direct seeded rice and minor millets for different soil situations (As per GOI soil survey record) is presented as below; this calculation was based on the water demand (15 June to 15 July 02) to meet the Evapo-transpiration losses (150 mm for 30days), percolation losses (30-150 mm depending on soil type), puddling, transplanting and beaushaning operations ( 50 mm to 100 mm) and some soil moisture supply conditions.

All agricultural operations have come to stand still. All the districts of the state passed through a long dry spell for about three weeks from 25th June to 15th July with scanty, sporadic and localized rainfall occurring at few isolated places. The rainfall deficiency in July 02 so far is 62 percent. Keeping in view the water requirement of the rice crop for 23 days in July to meet the Evapo-transpiration losses (90 mm), percolation losses (30 mm), puddling, transplanting and beaushaning operations (50 mm to 100 mm) and soil moisture supply (20 mm), the districts have been classified as per the rainfall received till 9th August 2002 is mentioned below:

<table>
<thead>
<tr>
<th>District wise dry spell situation in Orissa- Kharif 2002 - (Rainfall update from 1st July –9th August 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Stress = 8 districts Rainfall &lt;165 mm</td>
</tr>
<tr>
<td>Stress= 15 districts Rainfall (165 to 265)</td>
</tr>
<tr>
<td>Near optimum= 5 districts Rainfall (265 to 315)</td>
</tr>
<tr>
<td>Optimum = 2 districts Rainfall&gt;315mm</td>
</tr>
</tbody>
</table>

Projected development and development options:
1. The agricultural situation in terms of growing paddy in upland is very grim. The upland paddy may cover more than 25-35 % in western drought affected districts of Orissa. The bunded upland has some chances provided the districts receive normal rainfall even now onwards. The projected ‘potential yield” as per a tested crop model for Bolangir is nearly 2500 kg/ha, but realizable may be 50-60% of that due to constraint of moisture, nutrient input, pest and diseases (Details analysis may be required for final conclusions.).
2. The chance for growing very short duration pulses and some oilseed (sesamum) are there in the inland drought prone districts. Here constraints maybe large scale availability of certified seeds, quantity of seeds to cover large areas, quality of seeds.
3. Lowland in western Orissa may have some moisture due to extra clay/fine soil-particle component and location of the land. Still hope is there but suitable assessment and planning through field study and local people’s knowledge use may be required.
4. Uncertainty over rainfall during rest of the season exits.
5. Large scale migration is expected if suitable steps are not being taken. All labour registration centers are to be monitored and labour brokers has to be tracked and village level information collection and feedback system may be developed.

**Government Response:**

**Administrative measures**
- Rs 18.84 crores had been sanctioned to districts to begin labour intensive works on need basis
- Allotment of Rs 2.07 crores to Collectors for providing Protective Irrigation wherever possible
- Sanction of Rs 1.22 crores for Revival of Lift Irrigation Points in operable condition through Pani Panchayats
- Initiative by W&CD Department to care for the Health of Children, Pregnant and Nursing mothers among the vulnerable population
- Strengthening of Public Distribution System
- Contingency plan of Agriculture Department
  - Alternative Crops Advised for up land, medium & low land
  - Pre Rabi and Rabi Programme chalked out
  - Specific Advice on moisture stress conditions
  - Separate set of advice assuming optimum rainfall in August
- Close monitoring of situation at various levels and regular field visits by Senior Officials

**Mobilization of resources**: The state is planning to target the Calamity Relief Fund and the National Contingency Calamity Fund for undertaking relief work. State government is submitting a fresh memorandum to the Union government. Centre has already sanctioned 90.52 Cr from the Calamity Relief Fund.

**Co-ordination**: The State Relief commissioners and Orissa State Disaster Mitigation Authority have started the coordination effort by calling meetings of different bilateral and multilateral. State government is planning to take up early rabi crop in view of the paddy crop failure. The Orissa seeds Corporation is preparing a seeds plan, which will be operationalised soon after the Government decides the rate of subsidy. The water resources department has been asked to workout the acreage of rabi crop that could be taken up with irrigation. Government is preparing plans to make loan defaulters eligible for further loans and conversion of short term loans into medium term loans for which govt. has submitted a proposal to NABARD. Posters have been printed with the help of United Nations Development Programme on various schemes of Government for providing food to the most vulnerable sections of the society. Further, self help groups and non govt. organization would be associated in undertaking relief work.

**Priority Needs**: SRC has expressed that there is a need to have contingency plans for each district so that the problems can be addressed step by step. In this regards he has also discussed the matters with different collectors.

**Interventions needed**:
- Arrangement of enough support for livelihood / Food For Work in the worst situation may be 20% most vulnerable families with agricultural support, 10-12 % with non-farm support (NTFP processing), 10-15% with Livestock support.
- Technical guidance to community to shift from paddy to non-paddy.
- Capacity building of district administration on interventions for sustainable livelihood
- Technical assistance on how to handle the problem of water scarcity in most of the drought affected districts and dissemination of experiences of UNDP programme implemented by PR department in Bolangir and Nuapada districts.

**Sources of Information**

- Special Relief Commissioner, Orissa
- Field assessment of UNDP Komna team
Orissa Drought

- District collectors report and discussion
- Media Reports
- India Meteorological department bulletins