State: ARUNACHAL PRADESH
Agriculture Contingency Plan for District: LOHIT

1.0 District Agriculture profile*

1.1 Agro-Climatic/Ecological Zone

<table>
<thead>
<tr>
<th>Zone Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agro Ecological Sub Region (ICAR)</td>
<td>Eastern Himalayas, Warm Perhumid Eco-sub region (16.3)</td>
</tr>
<tr>
<td>Agro-Climatic Zone (Planning Commission)</td>
<td>Eastern Himalayan Region (II)</td>
</tr>
<tr>
<td>Agro Climatic Zone (NARP)</td>
<td>Sub-Tropical Hill Zone (NEH-3)</td>
</tr>
</tbody>
</table>

List all the districts falling under the NARP Zone* (*>50% area falling in the zone)
Lohit, Twang

Geographic coordinates of district headquarters headquarters

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>27° 30’ to 28°45’ N</td>
<td>95°45' to 96°45’ E</td>
<td>210 m</td>
</tr>
</tbody>
</table>

Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS
ICAR, Basar, Arunachal Pradesh

Mention the KVK located in the district with full address
KVK, Momong, Lohit-District

Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone
ICAR Research Complex for NEH Region, Arunachal Pradesh Center, Basar, West Siang District-791101, Arunachal Pradesh.

Lohit-dist. at a glance, 2009, District Statistical office, Lohit- dist., Tezu, Arunachal Pradesh-792001

1.2 Rainfall

<table>
<thead>
<tr>
<th>Season</th>
<th>Normal RF(mm)</th>
<th>Normal Onset</th>
<th>Normal Cessation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW monsoon (June-Sep):</td>
<td>1380</td>
<td>1st week of June</td>
<td>2nd week of October</td>
</tr>
<tr>
<td>NE Monsoon(Oct-Dec):</td>
<td>165.8</td>
<td>3rd week of October</td>
<td>2nd week of November</td>
</tr>
<tr>
<td>Winter (Jan- February)</td>
<td>113.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Summer (March-May)</td>
<td>649.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Annual</td>
<td>2309.1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## 1.3 Land use pattern of the district (latest statistics)

<table>
<thead>
<tr>
<th>Area (000 ha)</th>
<th>Geographical area</th>
<th>Cultivable area</th>
<th>Forest area</th>
<th>Land under non-agricultural use</th>
<th>Permanent pastures</th>
<th>Cultivable wasteland</th>
<th>Land under Misc. tree crops and groves</th>
<th>Barren and uncultivable land</th>
<th>Current fallows</th>
<th>Other fallows</th>
</tr>
</thead>
<tbody>
<tr>
<td>521</td>
<td>41.9</td>
<td>10.3</td>
<td>1.6</td>
<td>NA</td>
<td>2.0</td>
<td>NA</td>
<td>48.9</td>
<td>2.2</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

## 1.4 Major Soils (common names like red sandy loam deep soils (etc..))*

<table>
<thead>
<tr>
<th>Area ('000 ha)**</th>
<th>Percent (%) of total geographical area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Soils</td>
<td>145.6</td>
</tr>
<tr>
<td>Alluvial Soils</td>
<td>20.7</td>
</tr>
<tr>
<td>Sandy Soils</td>
<td>365.88</td>
</tr>
<tr>
<td>Acid Soils</td>
<td>518.20</td>
</tr>
</tbody>
</table>

## 1.5 Agricultural land use

<table>
<thead>
<tr>
<th>Area ('000 ha)</th>
<th>Cropping intensity %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sown area</td>
<td>41.9</td>
</tr>
<tr>
<td>Area sown more than once</td>
<td>-</td>
</tr>
<tr>
<td>Gross cropped area</td>
<td>41.9</td>
</tr>
</tbody>
</table>

## 1.6 Irrigation

<table>
<thead>
<tr>
<th>Area ('000 ha)</th>
<th>Number</th>
<th>Source of Irrigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net irrigated area</td>
<td>3.53</td>
<td></td>
</tr>
<tr>
<td>Gross irrigated area</td>
<td>4.20</td>
<td></td>
</tr>
<tr>
<td>Rainfed area</td>
<td>32.69</td>
<td></td>
</tr>
<tr>
<td>Sources of Irrigation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canals</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Tanks</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Open wells</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Bore wells</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lift irrigation schemes</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage of total irrigated area</th>
<th>Area may be indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Area under major field crops & horticulture

<table>
<thead>
<tr>
<th></th>
<th>Kharif</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irrigated</td>
<td>Rainfed</td>
<td>Total</td>
<td>Irrigated</td>
<td>Rainfed</td>
<td>Total</td>
<td>Summer</td>
<td>Grand total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paddy</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Seed</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11430</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulses</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1559</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Area (ha)</th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Orange</td>
<td>2175.89</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pineapple</td>
<td>135.38</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Banana</td>
<td>111.29</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Litchi</td>
<td>34.90</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Grand total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10500</td>
<td>8024</td>
<td>11430</td>
<td>1559</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Groundwater availability and use*

<table>
<thead>
<tr>
<th></th>
<th>No. of blocks/Tehsils</th>
<th>(% area)</th>
<th>Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over exploited</td>
<td>No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical</td>
<td>No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Semi-critical</td>
<td>No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Safe</td>
<td>8</td>
<td>100</td>
<td>-</td>
</tr>
<tr>
<td>Wastewater availability and use</td>
<td>-</td>
<td>&lt; 70</td>
<td>-</td>
</tr>
<tr>
<td>Ground water quality</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%
<table>
<thead>
<tr>
<th>Vegetables</th>
<th>2010</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potato</td>
<td>625</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ginger</td>
<td>895</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Medicinal and Aromatic crops</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Plantation crops</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Eg., industrial pulpwod crops etc.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Fodder crops</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total fodder crop area</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Grazing land, reserve areas etc</td>
<td>2100 ha</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Availability of unconventional feeds/by products eg., breweries waste, food processing, fermented feeds bamboo shoots, fish etc</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sericulture etc</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other agro enterprises (mushroom cultivation etc specify)</td>
<td>2 units</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Others (specify)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### 1.8 Livestock

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Male ('000)</th>
<th>Female ('000)</th>
<th>Total ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous cattle</td>
<td>30.87</td>
<td>33.47</td>
<td>64.34</td>
</tr>
<tr>
<td>Improved / Crossbred cattle</td>
<td>0.23</td>
<td>0.68</td>
<td>0.91</td>
</tr>
<tr>
<td>Buffaloes (local low yielding)</td>
<td>0.53</td>
<td>0.90</td>
<td>195</td>
</tr>
<tr>
<td>Improved Buffaloes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Goat</td>
<td>10.9</td>
<td>17.98</td>
<td>28.89</td>
</tr>
<tr>
<td>Sheep</td>
<td>7.37</td>
<td>7.3</td>
<td>14.74</td>
</tr>
<tr>
<td>Pig</td>
<td>0.57</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Mithun</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Yak</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Others (Horse, mule, donkey etc., specify)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commercial dairy farms (Number)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### 1.9 Poultry

<table>
<thead>
<tr>
<th>Poultry</th>
<th>No. of farms</th>
<th>Total No. of birds ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Backyard</td>
<td>-</td>
<td>92.03</td>
</tr>
</tbody>
</table>
### 1.10 Fisheries (Data source: Chief Planning Officer)

#### A. Capture

<table>
<thead>
<tr>
<th></th>
<th>No. of fishermen</th>
<th>Boats</th>
<th>Nets</th>
<th>Storage facilities (Ice plants etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Marine (Data Source: Fisheries Department)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mechanized</td>
<td>Non-mechanized</td>
<td>Mechanized (Trawl nets, Gill nets)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mechanized</td>
<td>Non-mechanized (Shore Seines, Stake &amp; trap nets)</td>
<td></td>
</tr>
<tr>
<td>ii) Inland (Data Source: Fisheries Department)</td>
<td>No. Farmer owned ponds</td>
<td>No. of Reservoirs</td>
<td>No. of village tanks</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>

#### B. Culture

<table>
<thead>
<tr>
<th></th>
<th>Water Spread Area (ha)</th>
<th>Yield (t/ha)</th>
<th>Production (’000 tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Brackish water (Data Source: MPEDA/ Fisheries Department)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ii) Fresh water (Data Source: Fisheries Department)</td>
<td>82</td>
<td>1.59</td>
<td>130</td>
</tr>
<tr>
<td>Others (River/Stream)</td>
<td>-</td>
<td>-</td>
<td>200</td>
</tr>
</tbody>
</table>

### 1.11 Production and Productivity of major crops (Average of last 5 years)

<table>
<thead>
<tr>
<th>1.11 Name of crop</th>
<th>Kharif</th>
<th>Rabi</th>
<th>Summer</th>
<th>Total</th>
<th>Crop residue as fodder ('000 tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production ('000 t)</td>
<td>Productivity (kg/ha)</td>
<td>Production ('000 t)</td>
<td>Productivity (kg/ha)</td>
<td>Production ('000 t)</td>
</tr>
<tr>
<td>Rice</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oilseed (specify)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Maize</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pulses</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Major Field crops (Crops to be identified based on total acreage)

<p>| Rice              | -      | -    | -      | -     | -                                  | -                   | -                     | -                     | -                   | -                     |
| Oilseed (specify) | -      | -    | -      | -     | -                                  | -                   | -                     | -                     | -                   | -                     |
| Maize             | -      | -    | -      | -     | -                                  | -                   | -                     | -                     | -                   | -                     |
| Pulses            | -      | -    | -      | -     | -                                  | -                   | -                     | -                     | -                   | -                     |</p>
<table>
<thead>
<tr>
<th>(specify)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginger</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7309</td>
</tr>
<tr>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
</tbody>
</table>

**Major Horticultural crops (Crops to be identified based on total acreage)**

<table>
<thead>
<tr>
<th>Crop</th>
<th></th>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>22804.25</td>
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<td>Pineapple</td>
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<td>5074.4</td>
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<td>Banana</td>
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<td>--</td>
<td>-</td>
<td>-</td>
<td>10999.5</td>
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<td>Litchi</td>
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<td>290</td>
</tr>
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<td>Mango</td>
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<td>441</td>
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</tbody>
</table>

**1.12 Sowing window for 5 major field crops**

<table>
<thead>
<tr>
<th>Sowing window for 5 major field crops (start and end of normal sowing period)</th>
<th>Rice</th>
<th>Maize</th>
<th>Mustard</th>
<th>Potato</th>
<th>Pulses (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kharif- Rainfed</td>
<td>June-August</td>
<td>February-April</td>
<td>-</td>
<td>-</td>
<td>August-September</td>
</tr>
<tr>
<td>Kharif-Irrigated</td>
<td>June-August</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rabi- Rainfed</td>
<td>February-March</td>
<td>September-October</td>
<td>October-November</td>
<td>October-December</td>
<td>October-November</td>
</tr>
<tr>
<td>Rabi-Irrigated</td>
<td>February-March</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Summer-irrigated</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Summer-rainfed</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
</tbody>
</table>

**1.13 What is the major contingency the district is prone to? (Tick mark)**

<table>
<thead>
<tr>
<th>Contingency</th>
<th>Regular*</th>
<th>Occasional</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Cyclone</td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Hail storm</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Heat wave</td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Cold wave</td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Frost</td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Event</td>
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<td>------------------------------</td>
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<td></td>
</tr>
<tr>
<td>Sea water intrusion</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Snowfall</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Landslides</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Pests and disease outbreak</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Others (like fog, cloud</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bursting etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*When contingency occurs in six out of 10 years*

### 1.14 Include Digital maps of the district for

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
<th>Enclosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location map of district within State</td>
<td>within State as Annexure I</td>
<td>Yes</td>
</tr>
<tr>
<td>Mean annual rainfall</td>
<td>as Annexure 2</td>
<td>Yes</td>
</tr>
<tr>
<td>Soil map</td>
<td>as Annexure 3</td>
<td>No</td>
</tr>
</tbody>
</table>
Annexure I

Location map of Lohit in Arunachal Pradesh
Annexure-II:

MEAN ANNUAL RAINFALL OF LOHIT DISTRICT

Fig. Average Rainfall map of Lohit-District

Legend: Series 1
2.0 Strategies for weather related contingencies  
2.1 Drought  
2.1.1 Rainfed situation

<table>
<thead>
<tr>
<th>Condition</th>
<th>Major Farming situation</th>
<th>Normal Crop/cropping system</th>
<th>Change in crop/cropping system</th>
<th>Agronomic measures</th>
<th>Remarks on Implementation</th>
</tr>
</thead>
</table>
| Early season drought (delayed onset) | Delay by 2 weeks  
( June 3rd week) | Medium rainfall  
Sandy loam soil,  
plain lands | Rice | Grow medium duration rice varieties like Satya, Basundhara etc  
Prefer drought tolerant varieties of  
Paddy crop i.e. Luit, Kapilee,  
Vandana, Anjali etc | • Adopt closure row spacing,  
• Adopt In-situ rain water conservation, summer ploughing,  
interculture, tillage practices  
• Apply full P, K and 50% N of  
recommended dose along with well decomposed organic matter for early seedling vigor, | Supply of seeds through Dept. of Agri, ATMA |
| | | Maize | Novjot, Nabin | • Adopt In-situ rain water conservation, summer ploughing,  
interculture, tillage practices |  |
| | Medium rainfall,  
black soils | Rice | Grow medium duration rice varieties like Satya, Basundhara etc  
Prefer drought tolerant varieties of  
Paddy crop i.e. Luit, Kapilee,  
Vandana, Anjali etc | • Use of bulky organic manures with  
full P, K and 20% N of  
recommended dose for basal application.  
• Maintain more plant population for  
direct seeded rice.  
• In-situ rain water conservation,  
harvesting of runoff for recycling  
and ground water recharge by  
elevating the bunds | Breeder seed from  
AAU Jorhat,  
Supply of seeds through Dept. of Agril,  
ATMA etc |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Major Farming situation</th>
<th>Crop/cropping system</th>
<th>Change in crop/cropping system</th>
<th>Agronomic measures</th>
<th>Remarks on Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early season drought (delayed onset)</td>
<td>Medium rainfall Sandy loam soil, plain lands</td>
<td>Rice</td>
<td>Grow medium duration rice varieties like Satya, Basundhara etc Prefer drought tolerant varieties of Paddy crop i.e. Lui, Kapilee, Vandana, Anjali etc</td>
<td>• When the mortality of seedlings is less than 50% gap filling should be done. • In-situ rain water conservation, summer ploughing, interculture, tillage practices, weed control. • Apply life saving irrigation to maintain nursery</td>
<td>Supply of seeds through Dept pf Agri, ATMA</td>
</tr>
<tr>
<td>Delay by 4 weeks (July 1st week)</td>
<td>Maize</td>
<td>Sesame: Gouri, Vinayak, St 1683</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medium rainfall, black soils</td>
<td>Rice</td>
<td>Prefer drought tolerant varieties of Paddy crop i.e. Lui, Kapilee, Vandana, Anjali etc Sujata, Durga, PDM-11&amp; 54</td>
<td>• Nursery can be raised for transplanting after application of bulky organic manures with full P,K and 50% N of recommended dose for basal application. • Maintain more plant population in direct seeded rice. • When the mortality of seedlings is less than 50%, gap filling should be done. • In-situ rain water conservation by elevating the bund.</td>
<td>Supply of seeds through Dept pf Agri, ATMA</td>
</tr>
<tr>
<td>Condition</td>
<td>Major Farming situation</td>
<td>Crop/cropping system</td>
<td>Change in crop/cropping system</td>
<td>Agronomic measures</td>
<td>Remarks on Implementation</td>
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<td>--------------------------</td>
</tr>
<tr>
<td>Early season drought (delayed onset)</td>
<td>Medium rainfall Sandy loam soil, plain lands</td>
<td>Rice</td>
<td>Varietal substitutions with short duration and drought tolerant varieties of the sole crops i.e. Luit, Kapilee, Satya, basundhara etc. Alternate crops such as Pigeonpea, Greengram, Cowpea should be grown</td>
<td>• Withhold N fertilizer (top dressing) application up to receipt of rainfall. • Crop field should be kept weed free • In rainfed situation apply full dose of P, K and reduce nitrogen application by 40% of the recommended dose as basal along with well decomposed organic manure for early seedling vigor • Close the drainage hole and check seepage loss in direct sown med</td>
<td>Supply of seeds through Dept.pf Agri, ATMA</td>
</tr>
<tr>
<td>Delay by 6 weeks (July 3rd week)</td>
<td>Medium rainfall</td>
<td>Sesame - fallow Gouri, Vinayak, St 1683</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>Medium rainfall Black soils</td>
<td>Rice</td>
<td>Rice</td>
<td>Varietal substitutions with short duration and drought tolerant varieties of the sole crops i.e. Luit, Kapilee, Satya, basundhara etc.</td>
<td>• Nitrogen application should be reduced by 40 % in basal. Full recommended dose of P and K should be applied. • Close the drainage hole and check seepage loss in direct sown rice. • Timely Weeding</td>
<td>Supply of seeds through Dept.pf Agri, ATMA</td>
</tr>
<tr>
<td>Condition</td>
<td>Major Farming situation</td>
<td>Normal Crop/cropping system</td>
<td>Change in crop/cropping system</td>
<td>Agronomic measures</td>
<td>Remarks on Implementation</td>
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<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Early season drought (delayed onset)</td>
<td>Medium rainfall Sandy loam soil, plain lands</td>
<td>Rice</td>
<td>Grow non paddy crops</td>
<td>• Use Closure spacing of rice 15 X 15 cm with 4-5 seedlings per hill.</td>
<td>Supply of seeds through Dept pf Agri, ATMA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rice</td>
<td>In the event of late arrival of southwest monsoon the pulses like Cowpea Blackgram, Greengram, Pigeonpea etc</td>
<td>• Withhold N fertilizer application till receipt of rainfall.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maize</td>
<td>Blackgram: USJD 113, KU 301</td>
<td>• Apply full P, K and 50 % N at the time of transplanting.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sesame: Gouri, Vinayak, St 1683</td>
<td>• Close the drainage hole and check the seepage loss in direct sown rice regularly.</td>
<td></td>
</tr>
<tr>
<td>Delay by 8 weeks (August 1st week)</td>
<td>Medium rainfall Black soils</td>
<td>Rice</td>
<td>Grow short duration rice varieties like Luit, Kapilee, Vandana</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Rice</td>
<td>Grow pulses like blackgram, greengram, pigeonpea etc</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blackgram</td>
<td>USJD 113, KU 301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Major Farming situation</td>
<td>Normal Crop/cropping system</td>
<td>Crop management</td>
<td>Soil nutrient &amp; moisture conservation measure</td>
<td>Remarks on Implementation</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Early season drought (normal onset)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/ crop stand etc.</td>
<td>Medium rainfall Sandy loam soil, plain lands</td>
<td>Rice Maize Pigeonpea</td>
<td>• Re-sow the crop if the mortality is more than 50%.</td>
<td>• Application of organic matter and FYM.</td>
<td>Supply of seed drills and intercultural implements through RKVY.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Adjust the plant population by gap filling.</td>
<td>• Apply recommended dose of fertilizers.</td>
<td>Supply seeds from ATMA, RKVY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Complete hoeing weeding and earthing up at 20 DAS for moisture conservation.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium rainfall Black soils</td>
<td>Rice Maize Pigeonpea</td>
<td></td>
<td>• Re-sow the crop if the mortality is more than 50%.</td>
<td>• Application of organic matter and FYM.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Adjust the plant population by gap filling.</td>
<td>• Apply recommended dose of fertilizers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Application of organic matter and FYM.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Complete hoeing weeding and earthing up at 20 DAS for moisture conservation in groundnut and vegetable crops.</td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Major Farming situation</td>
<td>Normal Crop/cropping system</td>
<td>Crop management</td>
<td>Soil nutrient &amp; moisture conservation measure</td>
<td>Remarks on Implementation</td>
</tr>
<tr>
<td>-----------</td>
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<td>-----------------------------------------------</td>
<td>--------------------------</td>
</tr>
</tbody>
</table>
| Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period) |  |  | Foliar application of nutrients 2% Urea or 2% DAP |  | • Remove weeds  
• Strengthen the field bunds & close the holes  
• Inter-cultivation (Soil mulching).  
• Organic mulching with previous crop residues.  
• Follow ridge and furrow method of planting  
• Follow strip cropping in rolling topography for moisture conservation.  
• Provide life saving irrigation.  |
| At vegetative stage | Medium rainfall Sandy loam soil, plain lands | Rice  
Maize  
Pigeonpea |  |  | Provide inputs from RKVY |
| Medium rainfall Black soils | Rice  
Maize  
Pigeonpea | Foliar application of nutrients like 2% Urea or 2% DAP or 1% KNO₃ |  |  |

<table>
<thead>
<tr>
<th>Condition</th>
<th>Major Farming situation</th>
<th>Crop/cropping system</th>
<th>Crop management</th>
<th>Soil nutrient &amp; moisture conservation measure</th>
<th>Remarks on Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid season drought (long dry spell, consecutive 2 weeks rainless (&gt;2.5 mm) period)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>At reproductive</td>
<td>Medium rainfall Sandy</td>
<td>Rice Mustard</td>
<td>Foliar application of 2% urea at pre-flowering and</td>
<td>Provide irrigation at flowering and grain filling stage.</td>
<td>Provide inputs from RKVY</td>
</tr>
</tbody>
</table>
### 2.1.2 Drought- Irrigated situation

<table>
<thead>
<tr>
<th>Condition</th>
<th>Major Farming situation</th>
<th>Normal Crop/cropping system</th>
<th>Crop management</th>
<th>Rabi Crop planning</th>
<th>Remarks on Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed/ limited release of water in canals due to low rainfall</td>
<td>Canal irrigated Sandy loam soils</td>
<td>Rice-Fallow Rice – Mustard</td>
<td>Rice – Fallow Rice – Niger</td>
<td>Limited &amp; life saving irrigation Provide alternate furrow irrigation, drip irrigation, mulching, Irrigation in root zone</td>
<td>Seeds through ATMA, RKVY</td>
</tr>
<tr>
<td>Condition</td>
<td>Suggested Contingency Measures</td>
<td></td>
<td></td>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>Lack of inflows into tanks due to insufficient/delayed onset of monsoon</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Major Farming situation</td>
<td>Normal Crop/cropping system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in crop/cropping system</td>
<td>Agronomic measures</td>
<td></td>
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<tr>
<td>Remarks on Implementation</td>
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<tr>
<td>Insufficient ground water recharge due to low rainfall</td>
<td></td>
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</tr>
<tr>
<td>Sandy loam to light black soils (Borewell)</td>
<td>Rice-Vegetable</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Short duration varieties of rice like Satya, Basundhara, and short duration varieties of vegetables</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Seeds through ATMA, RKVY</td>
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</tr>
</tbody>
</table>

### 2.2 Unusual rains (untimely, unseasonal etc) (for both rainfed and irrigated situations)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Suggested contingency measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous high rainfall in a short span leading to water logging</td>
<td></td>
</tr>
<tr>
<td>Paddy</td>
<td>Provide drainage</td>
</tr>
<tr>
<td>Greengram, Potato, Mustard</td>
<td>Provide drainage</td>
</tr>
<tr>
<td>Maize</td>
<td>Provide drainage</td>
</tr>
<tr>
<td>Sesame</td>
<td>Provide drainage</td>
</tr>
<tr>
<td>Horticulture</td>
<td>Provide drainage</td>
</tr>
<tr>
<td>Orange</td>
<td>Provide drainage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post harvest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>Shifting to a safer place</td>
</tr>
<tr>
<td>Greengram, Potato, Mustard</td>
<td>Dry in shade in a well ventilated space</td>
</tr>
<tr>
<td>Maize</td>
<td></td>
</tr>
<tr>
<td>Sesame</td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td></td>
</tr>
<tr>
<td>Plant</td>
<td>Earthing up of plant base/root zone</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>Pineapple</td>
<td>Provide drainage (Earthing up of plant base/root zone)</td>
</tr>
<tr>
<td>Ginger</td>
<td>Provide drainage (Earthing up of plant base/root zone)</td>
</tr>
<tr>
<td>Brinjal</td>
<td>Provide drainage (Earthing up of plant base/root zone)</td>
</tr>
<tr>
<td>Chilli</td>
<td>Provide drainage (Earthing up of plant base/root zone)</td>
</tr>
</tbody>
</table>

**Heavy rainfall with high speed winds in a short span**

<table>
<thead>
<tr>
<th>Horticulture</th>
<th>Providing wind breaks and drain out.</th>
<th>Providing wind breaks and drain out.</th>
<th>Drain out. Harvesting at physiological maturity stage.</th>
<th>Shift to safer place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>Providing wind breaks and drain out.</td>
<td>Providing wind breaks and drain out.</td>
<td>Drain out. Harvesting at physiological maturity stage.</td>
<td>Shift to safer place</td>
</tr>
<tr>
<td>Pineapple</td>
<td>Providing wind breaks and drain out.</td>
<td>Providing wind breaks and drain out.</td>
<td>Drain out. Harvesting at physiological maturity stage.</td>
<td>Shift to safer place</td>
</tr>
<tr>
<td>Ginger</td>
<td>Providing wind breaks and drain out.</td>
<td>Providing wind breaks and drain out.</td>
<td>Drain out. Harvesting at physiological maturity stage and Harvest for vegetable purpose</td>
<td>Shift to safer place</td>
</tr>
<tr>
<td>Brinjal</td>
<td>Providing wind breaks and drain out.</td>
<td>Providing wind breaks and drain out.</td>
<td>Drain out. Harvesting at tender stage for vegetable purpose</td>
<td>Shift to safer place</td>
</tr>
<tr>
<td>Chilli</td>
<td>Providing wind breaks and drain out.</td>
<td>Providing wind breaks and drain out.</td>
<td>Drain out. Harvesting at tender stage for vegetable purpose</td>
<td>Safe storage against storage pest and disease</td>
</tr>
<tr>
<td>Crop</td>
<td>Pests and Diseases</td>
<td>Pesticides Used</td>
<td>Management Measures</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Paddy</td>
<td>Outbreak of pests and diseases due to unseasonal rains</td>
<td>Spray tricyclazole against blast, Chloropyriphos, Regent against stem borer, Monocrotophos against Swarming caterpillar</td>
<td>Malathion spray against Gundhi bug</td>
<td>Sun drying / disinfection of gunny bags with malathion or heat treatment to manage stored grain pests</td>
</tr>
<tr>
<td>Greengram, Potato, Mustard</td>
<td></td>
<td>Spray Dimethoate against aphid</td>
<td>Wrapping of cobs against bird damage</td>
<td>Store in clean godown, disinfection of gunny bags / storage structure with malathion</td>
</tr>
<tr>
<td>Maize</td>
<td></td>
<td>Spraying of systemic insecticide against borers</td>
<td>Spray of Carbufuran dust against capsule borer</td>
<td>Store in clean godown, disinfection of gunny bags / storage structure with malathion</td>
</tr>
<tr>
<td>Sesame</td>
<td></td>
<td>Application of malathion against Flea beetle</td>
<td>Spray of Endosulfan against pod borer</td>
<td>Disinfection of storage structure to manage stored grain pests</td>
</tr>
<tr>
<td>Horticulture</td>
<td>Orange, Pineapple, Ginger, Brinjal, Chilli</td>
<td>Spraying malathion against beetle, hand collection of egg mass, Soil drenching of COC &amp; streptocycline against wilting</td>
<td>Application of Triazophos against YMV, Alternatively against fruit borers/ leaf curl virus, Spraying of Profenophos against fruit borers, Metalaxyl against Anthracnose</td>
<td>Segregation of infested fruits &amp; destruction</td>
</tr>
</tbody>
</table>


### 2.3 Floods

<table>
<thead>
<tr>
<th>Condition</th>
<th>Suggested contingency measure*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transient water logging/partial inundation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Paddy</strong></td>
<td></td>
</tr>
<tr>
<td>Seedling / nursery stage</td>
<td>Use Submergence tolerant varieties like Jalashree, Jalkanwari, Drainage of the Nursery bed, If not possible go for re-sowing, Dapog method of nursery, SRI method of cultivation</td>
</tr>
<tr>
<td><strong>Pulses</strong></td>
<td>Provide drainage, if heavy mortality re-sow the crop</td>
</tr>
<tr>
<td><strong>Horticulture/Plantation crops</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Ginger</strong></td>
<td>Early planting/ seedling</td>
</tr>
<tr>
<td><strong>Brinjal</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chilli</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Okra</strong></td>
<td></td>
</tr>
<tr>
<td><strong>French bean</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Continuous submergence for more than 2 days</strong></td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
### Horticulture / Plantation crops

<table>
<thead>
<tr>
<th>Crop</th>
<th>1. Drain out of stagnating water and making field bunds. 2. Re-planting or re-sowing in new areas.</th>
<th>1. Drain out of stagnating water. 2. Re-planting or re-sowing including seed availability. 3. Earthing up of plant base/root zone</th>
<th>2. Drain out of stagnating water. 2. Re-planting or re-sowing including seed availability.</th>
<th>Shift to safer place.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brinjal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chilli</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French bean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea water intrusion</td>
<td>Not Applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 2.4 Extreme events: Heat wave / Cold wave / Frost / Hailstorm / Cyclone

<table>
<thead>
<tr>
<th>Extreme event type</th>
<th>Suggested contingency measure’</th>
<th>Seedling / nursery stage</th>
<th>Vegetative stage</th>
<th>Reproductive stage</th>
<th>At harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Wave</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold wave</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frost</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hailstorm</td>
<td>Resow the crop if heavy damage, Gap filling to maintain optimum population</td>
<td>Stacking where possible, provision for wind break</td>
<td>Stacking where possible, provision for wind break</td>
<td>Harvest at physiological maturity of the crops</td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td>Providing thatch grass roof. Re-planting</td>
<td>Re-planting</td>
<td>Direct seeding including seed availability</td>
<td>Shift to safer place</td>
<td></td>
</tr>
<tr>
<td>Orange Pineapple</td>
<td>Providing thatch grass roof. Re-planting</td>
<td>Re-planting</td>
<td>Direct seeding including seed availability</td>
<td>Shift to safer place</td>
<td></td>
</tr>
<tr>
<td>Cyclone</td>
<td>Resow the crop if heavy damage, Gap filling to maintain optimum population</td>
<td>Stacking where possible, provision for wind break</td>
<td>Stacking where possible, provision for wind break</td>
<td>Harvest at physiological maturity of the crops</td>
<td></td>
</tr>
<tr>
<td>Sand deposition or heavy siltation</td>
<td>Not Applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

<table>
<thead>
<tr>
<th>Suggested contingency measures</th>
<th>Before the event</th>
<th>During the event</th>
<th>After the event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drought</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed and fodder availability</td>
<td>Insurance</td>
<td>Utilizing fodder and feed from perennial trees and Fodder and feed bank of village from silos.</td>
<td>Availing Insurance Culling unproductive livestock</td>
</tr>
<tr>
<td></td>
<td>Encourage the villagers/farmers to cultivate perennial fodder on low laying/irrigated areas on community basis. Establishing fodder and feed banks at village level. Making of silage/hay from extra fodder</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Preservation of water in the tank for drinking purpose Excavation of Bore wells</td>
<td>Using water from reserved tanks for only drinking purpose</td>
<td>Preserve drinking water for future</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drinking water</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Awareness to all the Veterinary sub centers, Dispensary to prepare for the event with medicines and vaccines</td>
<td>Conducting Health Camp at village level regularly conducting veterinary health camp</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Floods</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed and fodder availability</td>
<td>1. Storage of Hay, paddy straw in village level at maximum level. 2. Grow tree fodder locally available. For eg. Dimaroo, Malalia, Jackfruit leaves, etc. 3. Establishing fodder and feed banks at village level. 4. Supply of conc. Feed at village level.</td>
<td>1. Used hay, paddy straw from storage. 2. use tree fodders. 3. use agricultural by product as conc. feed. 4. Supply concentrated feed to the villagers.</td>
<td>Do not allow the animals to grazing in flood affected area. Give treatment to the flood affected fodders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>Make aware the villager to preserve drinking water in the tanks at high land</td>
<td>Do not allow the animals to drink flood water. Use water from preserve tanks</td>
<td>Do not allow to drink stagnant flood water. Give treatment to the village pond, well from</td>
</tr>
<tr>
<td>Event Type</td>
<td>Task Description</td>
<td>Veterinary Dept.</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Make awareness programme for Mass Vaccination at least three months before flood against FMD, Swine Fever. Prepare Veterinary DPPT with Medicines and Stuff</td>
<td>Organized Veterinary Health Camp at village level. Engage extra stuff (Technical person) on flood duties.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regularly organized Veterinary health camp at least one month after flood.</td>
<td></td>
</tr>
<tr>
<td>Cyclone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed and fodder availability</td>
<td>Preserve feed and fodder at village level</td>
<td>Do not allow the animals for free grazing. Use storage feed and fodder.</td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>Preserve drinking water in tanks</td>
<td>Use preserve water</td>
<td></td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Awareness to the Veterinary sub center/ Dispensary to prepare with medicine</td>
<td>Veterinary health camp</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat wave and cold wave</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter/environment management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and disease management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snowfall</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landslides</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* based on forewarning wherever available
### 2.5.2 Poultry

<table>
<thead>
<tr>
<th></th>
<th>Suggested contingency measures</th>
<th>Convergence/linkages with ongoing programs, if any</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before the event</td>
<td>During the event</td>
</tr>
<tr>
<td><strong>Drought</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortage of feed ingredients</td>
<td>Procure feed ingredients from unaffected area and storage for use at village level.</td>
<td>Use feed ingredients from storage</td>
</tr>
<tr>
<td>Drinking water</td>
<td>Preserve drinking water in tanks</td>
<td>Use water from preserve tanks.</td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Prepare Veterinary sub center/ dispensary with medicine and vaccines</td>
<td>Health camp</td>
</tr>
<tr>
<td><strong>Floods</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortage of feed ingredients</td>
<td>Prepare feed storage room at high land or Chang Ghar. Make one common feed storage room at high land where flood cannot affect (in village wise)</td>
<td>Use the feed ingredient after sun drying</td>
</tr>
<tr>
<td>Drinking water</td>
<td>Preserve drinking water in tanks</td>
<td>Use preserve water from tanks. Treatment to drinking water before use</td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Prepare Vaccine and medicine for flood in all Veterinary sub dispensary</td>
<td>Health camp Free treatment</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>Cyclone</strong></td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Shortage of feed ingredients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and disease management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heat wave and cold wave</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter/environment management</td>
<td>Prepare shelter shed with all precautionary measure at village level</td>
<td>Shift the birds to shelter shed</td>
</tr>
<tr>
<td>Health and disease management</td>
<td>Prepare medicine and vaccines etc. at village. Veterinary sub center/ dispensary.</td>
<td>Organized health camp</td>
</tr>
<tr>
<td>Snowfall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake, Landslides etc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* based on forewarning wherever available

### 2.5.3 Fisheries/ Aquaculture

<table>
<thead>
<tr>
<th></th>
<th>Suggested contingency measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before the event*</td>
</tr>
<tr>
<td><strong>1) Drought</strong></td>
<td>NA</td>
</tr>
<tr>
<td>A. Capture</td>
<td></td>
</tr>
<tr>
<td>Marine</td>
<td></td>
</tr>
<tr>
<td>Inland</td>
<td>NA</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(i) Shallow water depth due to insufficient rains/inflow</td>
<td></td>
</tr>
<tr>
<td>(ii) Changes in water quality</td>
<td></td>
</tr>
<tr>
<td>(iii) Any other</td>
<td></td>
</tr>
</tbody>
</table>

**B. Aquaculture**

<table>
<thead>
<tr>
<th>(i) Shallow water in ponds due to insufficient rains/inflow</th>
<th>Secondary water source like river/deep tube well/well/ rain water harvest tank to be developed</th>
<th>Fill up water from the secondary source and apply fertilizer to maintain water productivity.</th>
<th>Stop intake of water from the secondary source</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii) Impact of salt load build up in ponds / change in water quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Any other</td>
<td>Training and awareness to the Govt. official and farmer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**2) Floods**

<table>
<thead>
<tr>
<th>NA</th>
<th></th>
</tr>
</thead>
</table>

**A. Capture**

<table>
<thead>
<tr>
<th>Marine</th>
<th>NA</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Inland</th>
<th>NA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Loss of stock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Changes in water quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Health and diseases</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B. Aquaculture**

<table>
<thead>
<tr>
<th>(i) Inundation with flood water</th>
<th>Try to sell out the stock</th>
<th>Make the stock empty</th>
<th>Again fill the new stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii) Water contamination and changes in water quality</td>
<td>–</td>
<td>Take proper water quality management</td>
<td>Drain out the water partially if possible and fill up from secondary water resource.</td>
</tr>
<tr>
<td>(iii) Health and diseases</td>
<td>Maintain the water quality</td>
<td>Use medicine if required</td>
<td>Take suggestion from expert and then apply medicine</td>
</tr>
<tr>
<td>(iv) Loss of stock and inputs (feed, chemicals etc)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v) Infrastructure damage (pumps, aerators, shelters etc)</td>
<td></td>
<td></td>
<td>Contact the concerned Dept. For any kind of compression and loan</td>
</tr>
<tr>
<td>(vi) Any other</td>
<td>Training and awareness to the farmers and FEO, Field staff</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Cyclone / Tsunami

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Capture</td>
<td>NA</td>
</tr>
<tr>
<td>Marine</td>
<td></td>
</tr>
<tr>
<td>Inland</td>
<td></td>
</tr>
<tr>
<td>B. Aquaculture</td>
<td></td>
</tr>
</tbody>
</table>

| (i) Overflow / flooding of ponds | Maintain the duke and drainage system properly | Use nets side of pond dykes and drainage canal | Drainage or outlet system should be properly |
| (ii) Changes in water quality (fresh water / brackish water ratio) | – | Pond water quality should be checked, if required exchange the water | Use lime if required or exchange the water. |
| (iii) Health and diseases | – | Exchange the water or use medicine | Take the suggestion of expert |
| (iv) Loss of stock and inputs (feed, chemicals etc) | Try to sell out the stock | Make the stock empty | Again fill up with new stock |
| (v) Infrastructure damage (pumps, aerators, shelters/huts etc) |  |  | Contact the concerned dept. For concession of loan |
| (vi) Any other | Awareness through training, leaflet, radio talk, etc. |  |  |

4. Heat wave and cold wave

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Capture</td>
<td>NA</td>
</tr>
<tr>
<td>Marine</td>
<td>Inland</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>(i) Changes in pond environment (water quality)</td>
<td>Management of water quality to be done and arrangement of secondary source of water should be done</td>
</tr>
<tr>
<td>(ii) Health and Disease management</td>
<td>Provide proper sanitation</td>
</tr>
<tr>
<td>(iii) Any other</td>
<td>Awareness to FEO, Field staff, villagers for the event</td>
</tr>
</tbody>
</table>

* based on forewarning wherever available