

**STATE: ARUNACHAL PRADESH**

**AGRICULTURE CONTINGENCY PLAN FOR DISTRICT: CHANGLANG**

<b>1.0 District Agriculture profile*</b>				
<b>1.1</b>	<b>Agro-Climatic/Ecological Zone</b>			
	Agro Ecological Sub Region (ICAR)	16.3 Arunachal Pradesh (Subdued Eastern Himalayas), warm to hot, perhumid eco-subregion (C1A10)		
	Agro-Climatic Zone (Planning Commission)	Eastern Himalayan Region		
	Agro Climatic Zone (NARP)	Per Humid Hyper thermic Foothills		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	<b>Whole district</b>		
	Geographic coordinates of district headquarters	<b>Latitude</b>	<b>Longitude</b>	<b>Altitude</b>
		26°40' - 27°40' North	95°11' - 97°10' East	200 - 4500 Metre above MSL
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	ICAR Complex, Arunachal Pradesh Centre, Basar		
	Mention the KVK located in the district with full address	Krishi Vigyan Kendra Changlang, Terit Nagar, Adjacent to World War-II cemetery Jairampur, District Changlang, P.O. Jairampur, Arunachal Pradesh -792121 <b>Ph. 03786-255301 / 9436222149</b>		
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.			

**Statistical Hand Book of changlang, Office of the Deputy Commissioner, changlang,**

<b>1.2</b>	<b>Rainfall</b>	<b>Normal RF(mm)</b>	<b>Normal Rainy days (number)</b>	<b>Normal Onset ( specify week and month)</b>	<b>Normal Cessation (specify week and month)</b>
	SW monsoon (June-Sep):	1830.1	NA		
	NE Monsoon(Oct-Dec):	212.9	NA		
	Winter (Jan- February)	102.5	NA	-	-
	Summer (March-May)	902.7	NA	-	-
	Annual	3048.2	NA	-	-

<b>1.3</b>	<b>Land use pattern of the district (latest statistics)</b>	<b>Geographical Area (ha)</b>	<b>Cultivable area ( 000 ha)</b>	<b>Forest area (000 ha)</b>	<b>Land under non-agricultural use ( 000 ha)</b>	<b>Permanent pastures</b>	<b>Cultivable wasteland ( 000 ha)</b>	<b>Land under Misc. tree crops and groves ( 000 ha)</b>	<b>Barren and uncultivable land</b>	<b>Current fallows</b>	<b>Other fallows</b>
	<b>Area (*000 ha)</b>	466.2	32.09	NA	3.85	1.48	1.55	2.91	21.01	2.56	8.26

\*Source: Directorate of Economics and Statistics, Ministry of Agriculture, Govt.of.India. (Data provided for the year 2011)

<b>1.4</b>	<b>Major Soils (common names like red sandy loam deep soils (etc.,))*</b>	<b>Area ('000 ha)**</b>	<b>Percent (%) of total geographical area</b>
	1. Black Soil	NA	--
	2. Alluvial Soil	Exact data not available	<b>Present in the river valley and other pockets of low lying areas</b>
	3. Sandy Soil	Exact data not available	A considerable portion of soils belong to sandy soil
	4. Acid Soil	Exact data not available	Most soils are acidic in reaction
	5. Red Soil	NA	--

Detail survey/study report is not available

<b>1.5</b>	<b>Agricultural land use</b>	Area ('000 ha)	Cropping intensity %
	Net sown area	16.82	151.01%
	Area sown more than once	8.58	
	Gross cropped area	25.4	

\*Source: Directorate of Economics and Statistics, Ministry of Agriculture, Govt.of.India. (Data provided for the year 2011-12)

<b>1.6</b>	<b>Irrigation</b>	Area ('000 ha)
	Net irrigated area	7.965
	Gross irrigated area	7.965
	Rainfed area	10.401

Source: Directorate of Economics and Statistics, Ministry of Agriculture, Govt.of.India. (Data provided for the year 2008-09)

	<b>Sources of Irrigation</b>	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals			
	Tanks			

	Open wells			
	Bore wells			
	Lift irrigation schemes			
	Micro-irrigation	83	2,145	
	Other sources (Spring water well)			
	Total Irrigated Area			
	Pump sets			
	No. of Tractors			
	<b>Groundwater availability and use* (Data source: State/Central Ground water Department /Board)</b>	<b>No. of blocks/ Tehsils</b>	<b>(%) area</b>	<b>Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc)</b>
	Over exploited	NA	NA ( Data not available)	
	Critical	NA	NA	
	Semi- critical	NA	NA	
	Safe	NA	NA	
	Wastewater availability and use	NA	NA	
	Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

**Statistical Hand Book of changlang, Office of the Deputy Commissioner, changlang District, Arunachal Pradesh**

<b>1.6. a.</b>	<b>Fertilizer and Pesticides use</b>	Type	Total quantity (tonnes)
1	Fertilizers*	Urea	NA
		DAP	NA
		Potash	NA
		SSP	NA
		Other straight fertilizers (specify)	( the farmers hardly use chemical fertilizers in field crops)
		Other complex fertilizers (specify)	
2	Chemical Pesticides*	Insecticides	NA

	Fungicides	NA
	Weedicides	NA
	Others (specify)	-

\* If break up is not available, indicate total quantity used in the district for any recent year, mention here the year and source of statistic

### 1.7 Area under major field crops & horticulture (as per latest figures) (Specify year 2011-12)

1.7	S.No.	Major field crops cultivated	Area ('000 ha)							Grand total
			Kharif			Rabi			Summer	
			Irrigated	Rainfed	Total	Irrigated	Rainfed	Total		
1	Paddy	NA	NA	NA	NA	NA	NA	NA	15.26	
2	Maize	NA	NA	NA	NA	NA	NA	NA	1.24	
3	Oilseed	NA	NA	NA	NA	NA	NA	NA	4.55	
4	Pulses	NA	NA	NA	NA	NA	NA	NA	0.905	
5	Others (Millets)	NA	NA	NA	NA	NA	NA	NA	2.21	

	S.No.	Horticulture crops - Fruits	Area ('000 ha)		
			Total	Irrigated	Rainfed
	1	Orange	0.316	NA	0.316
	2	Pineapple	0.063	NA	0.063
	3	Banana	0.076	NA	0.076
	4	Litchi	0.007	NA	0.007
		<b>Horticulture crops – Vegetables</b>	<b>Total</b>	<b>Irrigated</b>	<b>Rainfed</b>
	1	Tapioca	0.016	NA	0.016
	2	Colocasia	NA	NA	NA
	3	Ginger	0.122	NA	0.122
	Others (specify)	<b>Vegetables</b>	<b>1.497</b>	0.311	1.186
	1	<b>Medicinal and Aromatic crops</b>	<b>Total</b>	<b>Irrigated</b>	<b>Rainfed</b>
	Others (specify)		0.057	NA	0.057
	1	<b>Plantation crops</b>	<b>Total</b>	<b>Irrigated</b>	<b>Rainfed</b>
	Others		0.361	NA	0.361

	(Specify)				
	Others (Specify)	Eg., industrial pulpwood crops etc.			
		<b>Fodder crops</b>	<b>Total</b>	<b>Irrigated</b>	<b>Rainfed</b>
		<b>Total fodder crop area</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
		<b>Grazing land, reserve areas etc</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
		<b>Availability of unconventional feeds/by products eg., breweries waste, food processing, fermented feeds bamboo shoots, fish etc</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
		<b>Sericulture etc Other agro enterprises (mushroom cultivation etc specify)</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
		<b>Others (specify)</b>			

Based on data obtained from DHO office, Changlang

<b>1.8</b>	<b>Livestock</b>	<b>Male ('000)</b>	<b>Female ('000)</b>	<b>Total ('000)</b>
	Indigenous cattle	37.38	36.57	73.95
	Improved / Crossbred cattle	0.77	1.09	1.86
	Buffaloes (local low yielding)	NA	NA	NA
	Improved Buffaloes	NA	NA	NA
	Goat	19.04	27.77	46.81
	Sheep	NA	NA	1.52
	Pig	16.53	16.91	33.44
	Mithun	NA	NA	NA
	Yak	NA	NA	NA
	Others (Horse, mule, donkey etc., specify)			
	Commercial dairy farms (Number)			

Source: Livestock census(Data provided for the year 2007)

<b>1.9</b>	<b>Poultry</b>	<b>No. of farms</b>	<b>Total No. of birds ('000)</b>
	Commercial	NA	NA
	Backyard	--	178.54
<b>1.10</b>	<b>Fisheries</b>		
	<b>A. Capture</b>		

	i) <b>Marine</b> (Data Source: Fisheries Department)	No. of fishermen	Boats		Nets		Storage facilities (Ice plants etc.)
			Mechanized	Non-mechanized	Mechanized (Trawl nets, Gill nets)	Non-mechanized (Shore Seines, Stake & trap nets)	
	ii) <b>Inland</b> (Data Source: Fisheries Department)	No. Farmer owned ponds		No. of Reservoirs		No. of village tanks	
		349		-		NA	
<b>B. Culture</b>							
			Water Spread Area (ha)		Yield (t/ha)	Production ('000 tons)	
	i) <b>Brackish water</b> (Data Source: MPEDA/ Fisheries Department)						
	ii) <b>Fresh water</b> (Data Source: Fisheries Department , 20012-13)		47.672		2.48	0.119	
	<b>Others (River/Stream)</b>						

### 1.11 Production and Productivity of major crops (2011-12)

1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder ('000 tons) Productivity (Q/ha)
		Production ('000 t)	Productivity (Q/ha)	Production ('000 t)	Productivity (Q/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (Q/ha)	
<b>Major Field crops (Crops to be identified based on total acreage)</b>										
Crop 1	Rice	-		-		-		49.030	32.13	NA
Crop 2	Oilseed	-		-		-		3.502	7.70	NA
Crop 3	Maize	-		-		-		1.370	11.00	NA
Crop 4	Pulses	-		-		-		0.970	10.72	NA
Crop 5	Ginger	-		-		-		0.534	72.00	NA

Others										
<b>Major Horticultural crops (Crops to be identified based on total acreage)</b>										
Crop 1	Orange	-		-		-		12.850	40.66	NA
Crop 2	Pineapple	-		-		-		0.380	59.92	NA
Crop 3	Banana	-		-		-		0.751	97.91	NA
Crop 4	Litchi	-		-		-		0.687	91.47	NA
Crop 5	Papaya	-		-		-		1.272	41.36	NA
Others	Mango							0.0244	46.47	NA

Based on data obtained from DHO office, Changlang

<b>1.12</b>	<b>Sowing window for 5 major field crops</b> (start and end of normal sowing period)	Crop 1: Rice	2: Maize	3: Mustard	4: Potato	5: Pulses
	Kharif- Rainfed	June-Aug	-	-	-	Aug-Sept
	Kharif-Irrigated	-	-	-	-	-
	Rabi- Rainfed	-	Sept-Oct	Oct-Nov	Oct-Dec	Oct-Nov
	Rabi-Irrigated	-	-	-	-	-
	Summer-irrigated	-	-	-	-	-
	Summer-rainfed	April-May	Feb-Apr	-	-	-

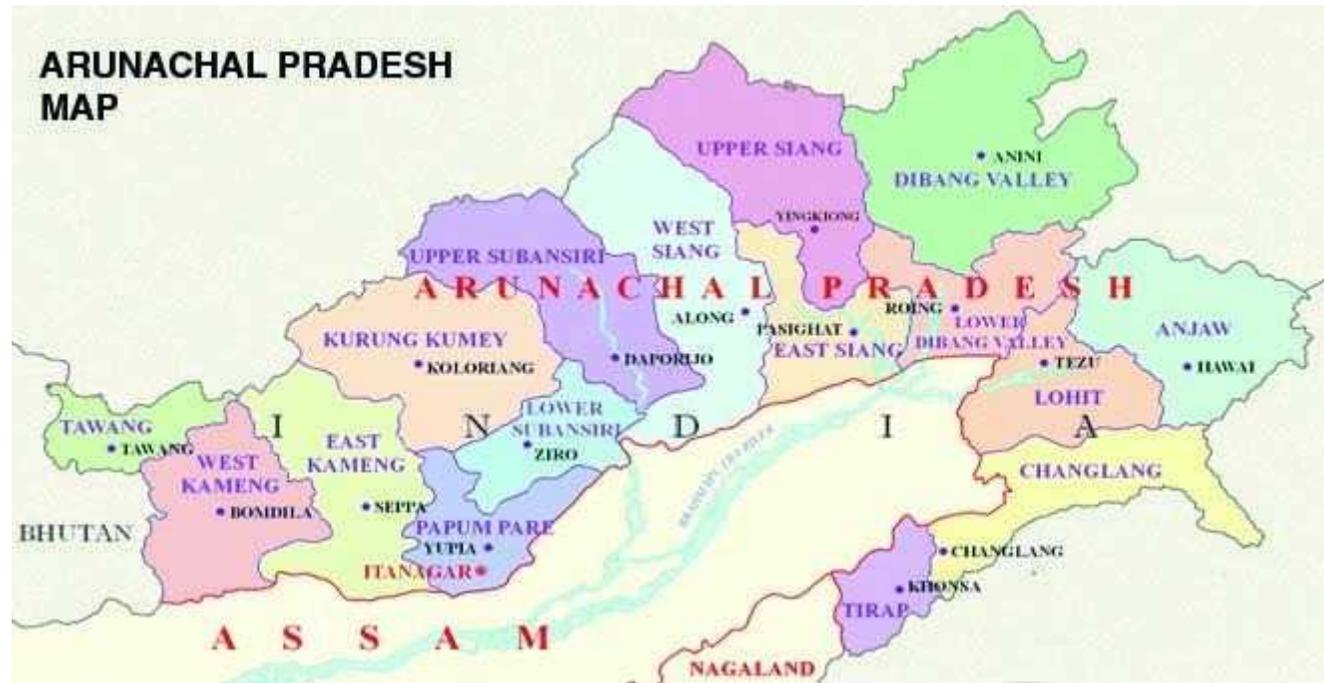
<b>1.13</b>	<b>What is the major contingency the district is prone to? (Tick mark)</b>	<b>Regular*</b>	<b>Occasional</b>	<b>None</b>
	Drought			
	Flood			
	Cyclone			
	Hail storm			
	Heat wave			
	Cold wave			

	Frost			
	Sea water intrusion			
	Snowfall			
	Landslides			
	Earthquake			
	Pests and disease outbreak (specify)			
	Others (like fog, cloud bursting etc.)			

\*When contingency occurs in six out of 10 years

<b>1.14</b>	<b>Include Digital maps of the district for</b>	Location map of district within State as Annexure I	Enclosed: <b>Yes</b>
		Mean annual rainfall as Annexure 2	Enclosed: <b>No</b>
		Soil map as Annexure 3	Enclosed: <b>No</b>

LOCATION MAP OF CHANGLANG DISTRICT



## 2.0 Strategies for weather related contingencies

### 2.1 Drought (Rainfed situation)

#### Drought-Pre-Monsoon (Last week of March to First week of April) Normal

Condition	Major Farming situation	Normal Crop / Cropping system <sup>b</sup>	Suggested Contingency measures		
			Change in crop /cropping system including variety	Agronomic measures	Remarks on Implementation
Delay by 2 weeks ( 2 <sup>nd</sup> to 3 <sup>rd</sup> week of April)	Very gently sloping upland - deep fine loamy soils (< 500 m)	Maize	<ul style="list-style-type: none"> <li>Short duration crops/varieties like RCM-1-75, RCM-1-76</li> <li>Maize + groundnut/soy a bean/rice bean inter cropping.</li> </ul>	<ul style="list-style-type: none"> <li>Conservation of pre-monsoon soil moisture through soil/straw/grass mulching practices</li> <li>Hydropriming/ seed soaking in water for 24hr and followed by shade drying before sowing.</li> <li>Application of organic manure before sowing.</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Millets (finger/fox tail millet)	<ul style="list-style-type: none"> <li>Short duration crops/varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-16, Meera)</li> </ul>		Schemes from Line Deptt. /RKVY/ ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<ul style="list-style-type: none"> <li><u>Bottle gourd</u> <ul style="list-style-type: none"> <li>Punjab Round, Pusa Sandesh, Narendra Shishir, Punjab Komal.</li> <li><u>Chilli</u></li> </ul> </li> <li>Kashi Anmol, Arka Lohit, Kashi Early, IIHR -Sel. 132</li> </ul>	<ul style="list-style-type: none"> <li><u>Bottle gourd</u> <ul style="list-style-type: none"> <li>Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha)</li> <li>Raise crop on ridge-furrow or raised bed planting system</li> <li>Conservation of soil moisture through soil/straw/grass mulching practices.</li> </ul> </li> <li><u>Chilli</u> <ul style="list-style-type: none"> <li>Raise crop on ridge-furrow raised bed planting system</li> <li>Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha) to enhance water holding capacity of soil</li> <li>Conservation of soil moisture through</li> </ul> </li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA

				<ul style="list-style-type: none"> <li>soil/straw/grass mulching practices.</li> <li>▪ Do not allow weeds to grow during plant's early growth stage.</li> <li>▪ Mixed cropping of various vegetable crops.</li> </ul>	
<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Short duration crops/varieties like RCM-1-75, RCM-1-76, Allrounder, HQPM-1, DA-61 A</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conservation of pre-monsoon soil moisture through soil/straw/grass mulching practices</li> <li>▪ Maize + groundnut/soya bean/rice bean inter cropping.</li> <li>▪ Hydropriming/ seed soaking in water for 24hr and followed by shade drying before sowing.</li> <li>▪ Application of organic manure before sowing.</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA	
	Millets (finger/fox tail millet)	Short duration crops/varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-16, Meera)		Schemes from Line Deptt. /RKVY/ ATMA	
	Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<p><u>Bottle gourd</u></p> <ul style="list-style-type: none"> <li>▪ Punjab Round, Pusa Sandesh, Narendra Shishir, Punjab Komal.</li> </ul> <p><u>Chilli</u></p> <ul style="list-style-type: none"> <li>▪ Kashi Anmol, Arka Lohit, Kashi Early, IIHR -Sel. 132</li> </ul>	<p><u>Bottle gourd</u></p> <ul style="list-style-type: none"> <li>▪ Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha)</li> <li>▪ Raise crop on ridge-furrow or raised bed planting system</li> <li>▪ Conservation of soil moisture through soil/straw/grass mulching practices.</li> </ul> <p><u>Chilli</u></p> <ul style="list-style-type: none"> <li>▪ Raise crop on ridge-furrow raised bed planting system</li> <li>▪ Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha) to enhance water holding capacity of soil</li> <li>▪ Conservation of soil moisture through soil/straw/grass mulching practices.</li> <li>▪ Do not allow weeds to grow during plant's early growth stage.</li> <li>▪ Mixed cropping of various vegetable crops.</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA	
<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Short duration crops/varieties like RCM-1-75, RCM-1-76,</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conservation of pre-monsoon soil moisture through soil/straw/grass mulching practices</li> <li>▪ Hydropriming/ seed soaking in water for 24hr and followed by shade drying before sowing.</li> <li>▪ Application of organic manure before sowing.</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA	

			<p>Allrounder, HQPM-1, DA-61 A</p> <ul style="list-style-type: none"> <li>Maize + groundnut/soya bean/ rice bean inter cropping.</li> </ul>		
		Millets (finger/fox tail millet)	Short duration crops/varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-16, Meera)		Schemes from Line Deptt. /RKVY/ ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<p><u>Bottle gourd</u></p> <ul style="list-style-type: none"> <li>Punjab Round, Pusa Sandesh, Narendra Shishir, Punjab Komal.</li> <li><u>Chilli</u></li> <li>Kashi Anmol, Arka Lohit, Kashi Early, IIHR -Sel. 132</li> </ul>	<p><u>Bottle gourd</u></p> <ul style="list-style-type: none"> <li>Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha)</li> <li>Raise crop on ridge-furrow or raised bed planting system</li> <li>Conservation of soil moisture through soil/straw/grass mulching practices.</li> <li><u>Chilli</u></li> <li>Raise crop on ridge-furrow raised bed planting system</li> <li>Use of organic manures (FYM 5 tones/ha or vermicompost 1 ton/ha) to enhance water holding capacity of soil</li> <li>Conservation of soil moisture through soil/straw/grass mulching practices.</li> <li>Do not allow weeds to grow during plant's early growth stage.</li> <li>Mixed cropping of various vegetable crops.</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA

**Normal onset of pre- monsoon**

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (Normal onset )					
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Very gently sloping upland - deep fine loamy soils (< 500 m)	Maize	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population, re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<ul style="list-style-type: none"> <li>▪ Gap filling with available seedlings.</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Protected cultivation to be promoted
	Very gently sloping lowland - deep fine loamy soils (< 500 m)	Maize	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population, re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Vegetable	<ul style="list-style-type: none"> <li>▪ Gap filling with available seedlings.</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Protected cultivation to be promoted Promoted rain water harvesting structure

<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population, re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
	Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ If the germination is less than 30% of optimum plant population re sowing should be done</li> <li>▪ Gap filling to be done to maintain optimum plant density</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
	Vegetable	<ul style="list-style-type: none"> <li>▪ Gap filling with available seedlings.</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Protected cultivation to be promoted Promoted rain water harvesting structure

<b>Condition</b>	<b>Major Farming situation</b>	<b>Normal Crop /cropping system</b>	<b>Suggested Contingency measures</b>		
			<b>Crop management</b>	<b>Soil nutrient &amp; moisture conservation measures</b>	<b>Remarks on Implementation</b>
<b>Mid season drought (long dry spell, consecutive 2 weeks rainless (&gt;2.5 mm) period)</b>					
<b>Vegetative stage</b>	<b>Very gently sloping upland - deep fine loamy soils (&lt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
	<b>Very gently</b>	Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available</li> </ul>	Schemes from Line

	<b>sloping lowland - deep fine loamy soils (&lt; 500 m)</b>		<ul style="list-style-type: none"> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>sources</li> <li>▪ Mulching with locally available material</li> </ul>	Deptt. /RKVY/ ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
	<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Vegetable crops (Bottle gourd, Chilli, beans, okra, brinjal)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Prefer Drip/sprinkler irrigation</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA

Condition	Major Farming situation	Normal Crop /cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
<b>Mid season drought (long dry spell, consecutive 2 weeks rainless (&gt;2.5 mm) period)</b>					
<b>Reproductive stage</b>	<b>Very gently sloping upland - deep fine loamy soils (&lt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available</li> </ul>	Schemes from Line Deptt. /RKVY/

		Vegetables	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	ATMA Schemes from Line Deptt. /RKVY/ ATMA
<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>		Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Vegetables	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Maize	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Vegetables	<ul style="list-style-type: none"> <li>▪ Weeding</li> <li>▪ Interculture</li> <li>▪ Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide irrigation from the available sources</li> <li>▪ Mulching with locally available material</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA

<b>Condition</b>	<b>Major Farming situation</b>	<b>Normal Crop/cropping system</b>	<b>Suggested Contingency measures</b>		
			<b>Crop management</b>	<b>Kharif Crop planning</b>	<b>Remarks on Implementation</b>
<b>Terminal drought (Early withdrawal of monsoon)</b>	<b>Very gently sloping upland - deep fine loamy soils (&lt; 500 m)</b>	Maize	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Planning for nursery sowing of Paddy.</li> <li>▪ Preparation of fields for Sesamum, Black gram</li> </ul>	Schemes from Line Deptt./RKVY/ATMA
		Millet (finger/fox tail millet)	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Planning for nursery sowing of Paddy.</li> <li>▪ Preparation of fields for</li> </ul>	Schemes from Line Deptt./RKVY/ATMA

				Sesamum, Black gram	
		Vegetables	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>		Maize	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
		Millet (finger/foxtail millet)	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
		Vegetables	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
		Maize	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>		Millet (finger/foxtail millet)	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
		Vegetables	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA
		Maize	▪Harvest at physiological maturity	▪Planning for nursery sowing of Paddy. ▪Preparation of fields for Sesamum, Black gram	Schemes from Line Deptt./RKVY/ATMA

## 2.2 Drought-Normal onset of Monsoon (1st week of June) Normal

Condition	Major Farming situation	Normal Crop / Cropping system	Change in crop /cropping system including variety	Suggested Contingency measures	
				Agronomic measures	Remarks on Implementation
Early season drought (delayed onset)					
<b>Delay by 2 weeks ( 3<sup>rd</sup> week of June)</b>	<b>Very gently sloping upland - deep fine loamy soils</b>	Millet (finger/foxtail millet)	Varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-		Schemes from Line Deptt./RKVY/ATMA

	(< 500 m)		16,Arjuna, Prasad)		
		Maize	<ul style="list-style-type: none"> <li>Maize varieties like Naveen, Navjyot</li> </ul>	<ul style="list-style-type: none"> <li>Application of organic manure before sowing.</li> </ul>	Schemes from Line Deptt./RKVY/ATMA
	<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>	WRC/TRC (Paddy)	<ul style="list-style-type: none"> <li>Rice vars. Megha Rice 1 and Megha Rice 2, CAU R-1</li> </ul>	<ul style="list-style-type: none"> <li>Spacing of 20x10 cm and 3-4 seedlings/hill</li> <li>Weeding is to be done 30 and 45 days after transplanting.</li> </ul>	Schemes from Line Deptt./RKVY/ATMA
	<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Millet (finger/ foxtail millet)	Short duration crops/varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-16, Meera)		Schemes from Line Deptt./RKVY/ATMA

**Note:** Generally the delay in onset of monsoon by 4 weeks is not applicable.

#### Normal onset of monsoon

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop /cropping system including variety	Agronomic measures	Remarks on Implementation
Early season drought (Normal onset)					
<b>Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.</b>	<b>Very gently sloping upland - deep fine loamy soils (&lt; 500 m)</b>	Millet (finger/ foxtail millet)		<ul style="list-style-type: none"> <li>Provide irrigation from the available sources</li> <li>Gap filling</li> <li>Weeding</li> <li>Foliar application of 1% MOP</li> <li>Application of organic manure, wherever possible</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA
		Maize	<ul style="list-style-type: none"> <li>Maize varieties like Naveen, Navjyot</li> </ul>	<ul style="list-style-type: none"> <li>Application of organic manure before sowing.</li> <li>Gap filling</li> <li>Weeding</li> <li>Foliar application of 1% MOP</li> <li>Application of organic manure, wherever possible</li> </ul>	Schemes from Line Deptt. /RKVY/ ATMA

	<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>	WRC/TRC (Paddy)	<ul style="list-style-type: none"> <li>Short duration vars. RCM-9, RCM-10, RCM 11, CAU-R-1, TTB-404, TTB-303, Mulagavaru, Kanaklata.</li> </ul>	<ul style="list-style-type: none"> <li>Spacing of 20x10 cm and 2-3 seedlings/hill</li> <li>Weeding is to be done 30 and 45 days after transplanting.</li> <li>Weeding to be done</li> <li>Foliar application of 1% MOP</li> <li>Application of organic manure, wherever possible</li> <li>Timely plant protection of measures for leaf folder, caseworm, sheath blight</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
	<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Millet (finger/foxtail millet)	<ul style="list-style-type: none"> <li>Varieties of finger millet (VR-708, GPU-67), foxtail millet (SR-16, Arjuna, Prasad) Gap filling</li> </ul>	<ul style="list-style-type: none"> <li>Weeding</li> <li>Foliar application of 1% MOP</li> <li>Application of organic manure, wherever possible</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA

Condition	Major Farming situation	Normal Crop /cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
<b>Mid season drought (long dry spell, consecutive 2 weeks rainless (&gt;2.5 mm) period)</b>					
<b>Vegetative stage</b>	<b>Very gently sloping upland - deep fine loamy soils (&lt; 500 m)</b>	Millet (finger/foxtail millet)	<ul style="list-style-type: none"> <li>Weeding</li> <li>Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>Provide irrigation from the available sources</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
		Maize	<ul style="list-style-type: none"> <li>Weeding</li> <li>Interculture</li> <li>Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>Provide irrigation from the available sources</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
			<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	
	<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>	WRC/TRC (Paddy)	<ul style="list-style-type: none"> <li>Weeding to be done</li> <li>Foliar application of 1% MOP</li> <li>Timely plant protection of measures for Sheath blight, caseworm, leaf folder and stem borer</li> </ul>	<ul style="list-style-type: none"> <li>Provide irrigation from the available sources</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA
<b>Moderately steep slope – shallow to</b>	Millet (finger/foxtail millet)	<ul style="list-style-type: none"> <li>Weeding</li> <li>Foliar application of 1% MOP</li> </ul>	<ul style="list-style-type: none"> <li>Provide irrigation from the available sources</li> </ul>	Schemes from Line Deptt. /RKVY/ATMA	

	medium deep loamy soils (> 500 m)				ATMA
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Condition			Suggested Contingency measures		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm)period)	Major Farming situation	Normal Crop /cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Reproductive stage	Very gently sloping upland - deep fine loamy soils (< 500 m)	Millet (finger/foxtail millet)	▪ Foliar application of 1% MOP	▪ Provide irrigation from the available sources	Schemes from Line Deptt. /RKVY/ATMA
		Maize	▪ Foliar application of 1% MOP	▪ Provide irrigation from the available sources	Schemes from Line Deptt. /RKVY/ATMA
	Very gently sloping lowland - deep fine loamy soils (< 500 m)	WRC/TRC (Paddy)	▪ Foliar application of 1% MOP ▪ Timely plant protection of measures for gundhi bug	▪ Provide irrigation from the available sources	Schemes from Line Deptt. /RKVY/ATMA
	Moderately steep slope – shallow to medium deep loamy soils (> 500 m)	Millet (finger/foxtail millet)	▪ Foliar application of 1% MOP	▪ Provide irrigation from the available sources	Schemes from Line Deptt. /RKVY/ATMA

Condition			Suggested Contingency measures		
Terminal drought (Early withdrawal of monsoon)	Major Farming situation	Normal Crop/cropping system	Crop management	Rabi Crop planning	Remarks on Implementation
	Very gently sloping upland - deep fine	Millet (finger/foxtail millet)	▪ Harvest at physiological maturity	▪ Planning for zero tillage cultivation of pea, toria etc. ▪ Preparation for cole crops	Schemes from Line Deptt./RKVY/ATMA

	<b>loamy soils (&lt; 500 m)</b>				
		Maize	▪Harvest at physiological maturity	▪Planning for zero tillage cultivation of pea, toria etc. ▪Preparation for cole crops	Schemes from Line Deptt. /RKVY/ATMA
	<b>Very gently sloping lowland - deep fine loamy soils (&lt; 500 m)</b>	WRC/TRC (Paddy)	▪Harvest at physiological maturity	▪Planning for zero tillage cultivation of pea, toria etc. ▪Preparation for cole crops	Schemes from Line Deptt./RKVY/ATMA
	<b>Moderately steep slope – shallow to medium deep loamy soils (&gt; 500 m)</b>	Millet (finger/foxtail millet)	▪Harvest at physiological maturity	▪Planning for zero tillage cultivation of pea, toria etc. ▪Preparation for cole crops	Schemes from Line Deptt. /RKVY/ATMA

### 2.1.2 Drought-irrigated situation : NA in this district

### 2.2 Unusual rains (untimely, unseasonal etc) (for both rainfed and irrigation situation)

Condition	Suggested contingency measure			
	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest
<b>Continuous high rainfall in a short span leading to water logging</b>				
paddy	Drainage of excess water from the field	Immediate provision of drainage system	<ul style="list-style-type: none"> <li>▪ Drain out excess water</li> <li>▪ Harvest at physiological maturity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting to a safer place</li> <li>▪ Dry in shade and in well ventilated space</li> </ul>
Maize	Provide drainage	Provide drainage	<ul style="list-style-type: none"> <li>▪ Drain out excess water</li> <li>▪ Harvest at physiological maturity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting to a safer place</li> <li>▪ Dry in shade and in well ventilated space</li> </ul>
Millet	Drainage of excess water	Immediate provision of drainage system	<ul style="list-style-type: none"> <li>▪ Drain out excess water</li> <li>▪ Harvest at physiological maturity</li> </ul>	Proper drying
<b>Horticulture</b>				

Orange	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and leaching loss</li> <li>▪ If there is physical damage, pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection.</li> <li>▪ Proper nutrient management to be followed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ .Provide proper drainage</li> <li>▪ Foliar application of micronutrient/multiplex @ 0.2% should be done to prevent flower drop</li> <li>▪ Control aphids and mealy bugs etc</li> </ul>	<ul style="list-style-type: none"> <li>▪ If there is physical damage, pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Harvesting can be delayed upto 60-75 days by spraying pre-harvest chemical i.e. 2-4D at 20ppm + GA at 10ppm + 0.2% Kcl on maturing fruits.</li> <li>▪ Harvesting can be delayed. In citrus even after full maturity, the fruits can be left on the tree for 2-3 weeks without deterioration which facilitates prolong harvesting.</li> <li>▪ While picking, the stem end should be cut close to the fruit without damaging the rind. Hence avoiding fungal infection.</li> <li>▪ Collect the good fruits and store them. Damaged fallen fruits to be disposed off</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fruits are to be stored in well aerated farm shed or house to avoid loses.</li> <li>▪ Storing at 8 – 10 0 C with 85 – 90 % RH is preferred.</li> </ul>
Apple	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and leaching loss</li> <li>▪ If there is physical damage, pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Nutrient management to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Half moon terraces to be done to prevent nutrient loss</li> <li>▪ Pruning of damaged brances and application of Bordeaux Paste to be done</li> <li>▪ Nutrient management along with foliar application micronutrient to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spray 2,4,5-T @ 20ppm or 2,4,5-TCPA @ 15ppm to inhibit fruit drop</li> <li>▪ Collect the good fruits and store them. Damaged fallen fruits to be separated and disposed off</li> <li>▪ Necessary to maintain adequate drainage</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stored the fruits for 4-8 months at -1.1 to 0°C and 85-90 % RH.</li> <li>▪ Spray growth regulators Like Alar @ 1000 ppm to improve storability</li> </ul>
Pineapple	<ul style="list-style-type: none"> <li>▪ Make trenches/furrows in between ridges to facilitate drainage of excess water</li> <li>▪ Remove the excess suckers to maintain the quality of plant</li> <li>▪ Nutrient management to be followed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Application of Ethephon 2mg in 100-140mg,Bentoniteor NAA @ 25ppm or 2, 4-D @5-10 ppm should be applied for uniform flower induction.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Spraying of insecticides and fungicide</li> <li>▪ Fruits can be protected with locally available material to protect the mature fruit from unusual rains</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store fruits in well aerated farm shed or house to avoid loses.</li> <li>▪ Pineapples can be stored at a temperature of 7.5-12°C and RH 70-90% for 4 weeks.</li> </ul>
Kiwifruit	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Half moon terraces to be done to prevent nutrient loss</li> </ul>	<ul style="list-style-type: none"> <li>▪ Heavy pruning should not done as the fruit will be affected by rain</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stored the fruits at 0 to 4°C and 80-90 % RH.</li> <li>▪ Spray growth regulators</li> </ul>

	<p>leaching loss</p> <ul style="list-style-type: none"> <li>▪ If there is physical damage, pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Nutrient management to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pruning of damaged branches and application of Bordeaux Paste to be done</li> <li>▪ Nutrient management along with foliar application micronutrient to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drain out excess water</li> </ul>	<p>Like Alar @ 1000 ppm to improve storability</p>
Banana	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done along with application of micronutrient</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping to be done</li> <li>▪ Bagging to be done to protect the bunch from unusual rains.</li> <li>▪ Denavelling to be done to improve the bunch weight (removal of male bud)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store the fruits/ bunch in well aerated farm shed or house to avoid loses.</li> <li>▪ Storing at 10 – 12° C with 70 – 80 % RH</li> </ul>
Large cardamom	<ul style="list-style-type: none"> <li>▪ It grows luxuriantly in moist and humid climate. So continuous rain is not a problem during its vegetative growth.</li> <li>▪ Provide adequate drainage</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rain during flowering is detrimental. So water logging should be avoided.</li> <li>▪ Proper drainage system should be followed.</li> <li>▪ Shade regulation may be taken up providing 50-60% shade.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting can be delayed</li> <li>▪ Proper drainage system should be followed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Collect and dry the produce in fuel kiln overnight at 50°-60°C or in drier for 14-18 hours at 45°-50°C</li> </ul>
Ginger	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dry weather before harvesting is necessary. So harvesting can be delayed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to a drier place.</li> <li>▪ Drying to remove excess moisture of produce.</li> </ul>
Turmeric	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dry weather before harvesting is necessary. So harvesting can be delayed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to a drier place.</li> <li>▪ Drying to remove excess moisture of produce.</li> </ul>
Vegetables (cucurbits)	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spray maleic hydrazine (MH) and 2, 4-5 tri-iodobenzoic acid</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fruits to be harvested immediately without causing</li> </ul>	<ul style="list-style-type: none"> <li>▪ The fruits can be stored for 2-3 weeks at 15-</li> </ul>

	<p>water.</p> <ul style="list-style-type: none"> <li>▪ Earthing up to be done at proper soil moisture condition followed by manuring</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Staking should be properly followed. Rainy season crops can be trained on a bower made of bamboos and sticks.</li> </ul>	<p>(TIBA) @ 50ppm for Sex expression. Boron @ 3ppm and calcium @ 20ppm is also effective.</p> <ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up followed by manuring</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Take up proper plant protection measures</li> </ul>	<p>injury to fruits</p> <ul style="list-style-type: none"> <li>▪ Remove all damaged fruit</li> <li>▪ Take up appropriate plant protection measures</li> </ul>	<p>20°C and RH 75% in a well-ventilated chamber</p>
<b>Heavy rainfall with high speed winds in a short span</b>				
<b>Horticulture</b>				
Orange	<ul style="list-style-type: none"> <li>▪ Earthing up of young plants to avoid uprooting due to wind.</li> <li>▪ Provide proper drainage facilities.</li> <li>▪ Staking to avoid falling off of plants</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and leaching loss</li> <li>▪ Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Proper nutrient management to be followed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Wind break around the orchard to protect crop from wind damage</li> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be followed along with foliar spray of micronutrient</li> <li>▪ Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Propping heavy bearing tree and weak tree by bamboo pole.</li> <li>▪ Harvesting can be delayed upto 60-75 days by spraying pre-harvest chemical i.e. 2-4D at 20ppm + GA at 10ppm + 0.2% KCl on maturing fruits.</li> <li>▪ Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fruits are to be stored in well aerated farm shed or house to avoid loses.</li> <li>▪ Pack the fruit in perforated polythene bag, boxes, crates, etc. and store at temperature of 10-11°C &amp; 92 % RH.</li> </ul>
Apple	<ul style="list-style-type: none"> <li>▪ Earthing up of young plants to avoid uprooting due to wind.</li> <li>▪ Provide proper drainage facilities.</li> <li>▪ Staking to be done to avoid falling off of plants.</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and leaching loss</li> <li>▪ Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Proper nutrient management to be followed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Wind break around the orchard</li> <li>▪ Maintain the half moon terraces to avoid soil nutrient loss</li> <li>▪ Proper nutrient management to be followed along with foliar application of micronutrient</li> <li>▪ Prune out all damage branches with appropriate plant protection measures</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvest ripe fruits</li> <li>▪ Propping heavy bearing tree and weak tree by bamboo pole.</li> <li>▪ Use of plant bio-regulators to delay ripening with Daminozide or Alar @ 1000ppm sprayed before 60 days before harvest.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store fruits for 4-8 months at -1.1 to 0°C and 85-90 % RH.</li> </ul>

Pineapple	<ul style="list-style-type: none"> <li>▪ Earthing up plants for better development and anchorage.</li> <li>▪ Make trenches/furrows in between ridges to facilitate drainage of excess water.</li> <li>▪ Nutrient management to be followed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Earthing up to prevent uprooting.</li> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be followed</li> <li>▪ Spray NAA @ 25ppm or 2, 4-D @ 5-10 ppm should be applied for uniform flower induction.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fruits can be protected with locally available material to protect the mature fruit from unusual rains</li> <li>▪ Spraying of insecticides and fungicide</li> <li>▪ Earthing up plants for better development and anchorage.</li> <li>▪ Make trenches/furrows in between ridges to facilitate drainage of excess water</li> </ul>	<ul style="list-style-type: none"> <li>▪ .Store fruits in well aerated farm shed or house to avoid loses.</li> <li>▪ Pineapples can be stored at a temperature of 7.5-12°C and RH 70-90% for 4 weeks.</li> </ul>
Kiwifruit	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Support the plant using T-Bar system</li> <li>▪ In steep slopes, prepare half moon terraces to prevent soil erosion and leaching loss</li> <li>▪ If there is physical damage, pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>▪ Nutrient management to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Half moon terraces to be done to prevent nutrient loss</li> <li>▪ Pruning of damaged branches and application of Bordeaux Paste to be done</li> <li>▪ Nutrient management along with foliar application micronutrient to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Heavy pruning should not done as the fruit will be affected by rain</li> <li>▪ Drain out excess water</li> <li>▪ Maintain the plant using T-Bar trellis supporting system</li> <li>▪ Nutrient management along with foliar application micronutrient to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stored the fruits at 0 to 4°C and 80-90 % RH.</li> <li>▪ Spray growth regulators Like Alar @ 1000 ppm to improve storability</li> </ul>
Banana	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done along with application of micronutrient</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping to be done</li> <li>▪ Bagging to be done to protect the bunch from unusual rains.</li> <li>▪ Denavelling to be done to improve the bunch weight (removal of male bud)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store the fruits/ bunch in well aerated farm shed or house to avoid loses.</li> <li>▪ Storing at 10 – 12° C with 70 – 80 % RH</li> </ul>
Large cardamom	<ul style="list-style-type: none"> <li>▪ For newly planted crops, staking should be provided.</li> <li>▪ Provide adequate drainage</li> <li>▪ Spraying of insecticides and fungicid</li> <li>▪ Follow proper nutrient management</li> <li>▪ Earthing up to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Proper drainage system should be followed.</li> <li>▪ Follow proper nutrient management</li> <li>▪ Earthing up to prevent uprooting.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity stage or can be delayed</li> <li>▪ Proper drainage system should be followed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Collect the harvest and dry the produce in fuel kiln overnight at 50°-60°C or in drier for 14-18 hours at 45°-50°C</li> </ul>
Ginger	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity stage.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to a drier place.</li> <li>▪ Drying to remove excess moisture of produce (moisture level 10%)</li> </ul>

	<p>from surrounding areas.</p> <ul style="list-style-type: none"> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<p>areas.</p>		
Turmeric	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dry weather before harvesting is necessary. So harvesting can be delayed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to a drier place.</li> <li>▪ Drying to remove excess moisture of produce.</li> </ul>
Vegetables (cucurbits)	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up to be followed</li> <li>▪ Ensure proper staking of crop wherever required</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spray maleic Hydrazide @ 50ppm aqueous solution at 2 and 4 leaf stages to stimulate vine growth, giving more female flowers.</li> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Wind break around the orchard to protect crop from wind damage</li> <li>▪ Earthing up and propping to prevent uprooting.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fruits to be harvested immediately without causing injury to fruits</li> <li>▪ Remove all damaged fruit</li> <li>▪ Take up appropriate plant protection measures</li> </ul>	<ul style="list-style-type: none"> <li>▪ The fruits can be stored for 2-3 weeks at 15-20°C and RH 75% in a well-ventilated chamber.</li> </ul>
<b>Outbreak of pests and diseases due to unseasonal rains : NA</b>				
Paddy (Blast)	<ul style="list-style-type: none"> <li>▪ Use trap crops for prediction of disease.</li> <li>▪ Removal and destruction of weed hosts in the field bunds and channels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Mancozeb @ 2g/lt or spraying of Carbendazim @ 1 g/lt.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drain out excess water to avoid flooded conditions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sun drying to prevent spoilage and sprouting of the harvested grains.</li> </ul>
Paddy (Brown Spot)	-Do-	-Do-	-Do-	-Do-
Paddy (Bacterial leaf blight)	<ul style="list-style-type: none"> <li>▪ Destruction of weed hosts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of streptomycin and tetracycline.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drain out excess water to avoid flooded conditions.</li> </ul>	-Do-
Paddy (Yellow Stem Borer)	<ul style="list-style-type: none"> <li>▪ Collection and destruction of egg masses.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Chloropyriphos 20 EC @ 0.02 %.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage.</li> </ul>	-Do-
Paddy (Gall Midge)	<ul style="list-style-type: none"> <li>▪ Removal of alternate host plants including weeds and grasses and destruction of infected plants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Providing proper drainage system.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage.</li> </ul>	-Do-
Maize (Stalk rot)	<ul style="list-style-type: none"> <li>▪ Removal of accumulated water around the stalks by proper drainage.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rouging of affected plant and its destruction.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of streptocycline @ 0.020 %.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sun drying of the harvested cob to prevent spoilage.</li> </ul>

<b>Horticulture</b>				
Orange (Citrus Leaf miner)	<ul style="list-style-type: none"> <li>▪ Spraying of Fenvalerate and Cypermethrin for controlling leaf minor.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Fenvalerate and Cypermethrin for controlling leaf minor.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage and proper handling of the produce.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool place in crates, boxes etc</li> </ul>
Orange (Citrus butterfly)	<ul style="list-style-type: none"> <li>▪ Hand picking of caterpillars and pupae in the nursery.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Neem formulation to control citrus butterfly.</li> </ul>	Do	<ul style="list-style-type: none"> <li>▪ Store in cool place in crates, boxes etc</li> </ul>
Orange (Powdery mildew in citrus)	<ul style="list-style-type: none"> <li>▪ Spraying of wettable sulphur and carbendazim to control powdery mildews.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of wettable sulphur, bavistin (0.1 %) and calixin (0.1 %).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of wettable sulphur and carbendazim to control powdery mildews.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool place in crates, boxes etc.</li> </ul>
Tomato	<ul style="list-style-type: none"> <li>▪ Removal of accumulated water by proper drainage.</li> <li>▪ Destroy the heavily infested/infected plant parts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Sulfex @ 2 g/lit of water.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage and proper handling.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool/dry place packed in crates, boxes etc.</li> </ul>
Brinjal	<ul style="list-style-type: none"> <li>▪ Removal of accumulated water by proper drainage.</li> <li>▪ Destroy the heavily infested/infected plant parts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Sulfex @ 2 g/lit of water.</li> <li>▪ Soil dranching with captan/Tiram @ 2/lit of water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage and proper handling of the produce.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool/dry place packed in crates, boxes etc.</li> </ul>
Cabbage	<ul style="list-style-type: none"> <li>▪ Removal of accumulated water by proper drainage.</li> <li>▪ Destroy the badly infested/infected plant parts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Sulfex @ 2 g/lit of water.</li> <li>▪ Soil dranching with captan/Tiram. @ 2/lit of water</li> <li>▪ Streptocycline spray</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage and proper handling of the produce.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool/dry place</li> </ul>
Cucurbits	<ul style="list-style-type: none"> <li>▪ Manual collection &amp; destruction of eggs/grubs/larvae.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of carbaryl against leaf eating caterpillars, Metalaxyl against Powdery mildew, Carbendazim against leaf spot &amp; blight</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying of Malathion against fruit fly.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool/dry place</li> </ul>
Large Cardamom	<ul style="list-style-type: none"> <li>▪ Proper drainage.</li> <li>▪ Uprooting and destruction of Chirke and Foorkey infected cardamom plants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Removal of affected plant from the field.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvesting at the right stage and proper handling of the produce.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quick drying of harvested capsule.</li> </ul>
Ginger (Soft rot)	<ul style="list-style-type: none"> <li>▪ Removal of accumulated water in the field by proper drainage.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Removal and destruction of affected plants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spraying with Blitox – 50 (3 g/lit) or Dithane – Z-78 (2.5 g / lit).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store in cool/dry place</li> </ul>

### 2.3 Floods

Condition	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Transient water logging/partial inundation				
Rice	<ul style="list-style-type: none"> <li>▪ Drainage of the Nursery bed.</li> <li>▪ Re -sowing if not possible</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drainage of excess water.</li> <li>▪ Gap filling In partially damaged</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drainage of excess water. If flood comes during</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drainage of excess water. If flood comes during</li> </ul>

		field by redistributing the tillers. ▪ Management of pests & diseases	reproductive stage, emphasis should be given on forthcoming rabi crops. ▪ Utilization of residual soil moisture and use of recharged soil profile for growing pulses	reproductive stage, emphasis should be given on forthcoming rabi crops. ▪ Utilization of residual soil moisture and use of recharged soil profile for growing pulses
<b>Horticulture/Plantation crops</b>				
Banana	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping or staking should be done</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide proper drainage</li> <li>▪ Nutrient management to be done</li> <li>▪ Propping to be done</li> </ul>	<ul style="list-style-type: none"> <li>▪ Store the fruits/ bunch in well aerated farm shed or house to avoid loses.</li> <li>▪ Storing at 10 – 12° C with 70 – 80 % RH</li> </ul>
Ginger	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Application of fungicide and insecticides</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity stage or can delay harvesting</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to drier place.</li> </ul>
Turmeric	<ul style="list-style-type: none"> <li>▪ Provide proper drainage channels to avoid stagnation of water</li> <li>▪ Earthing up to be done at proper soil moisture level</li> <li>▪ Nutrient management to be followed</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Spraying of insecticides and fungicide</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of drainage to remove excess water.</li> <li>▪ Earthing up should be followed by manuring.</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Application of fungicide and insecticides</li> </ul>	<ul style="list-style-type: none"> <li>▪ Harvest at physiological maturity stage or can delay harvesting</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shifting of the produce to drier place</li> </ul>
Vegetables (cucurbits)	<ul style="list-style-type: none"> <li>▪ Proper drainage of the nursery bed, If not possible go</li> </ul>	<ul style="list-style-type: none"> <li>▪ Proper drainage of the nursery bed, If not possible go for re–</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drainage of excess water. If flood comes during</li> </ul>	<ul style="list-style-type: none"> <li>Shifting of the produce to drier place and store fruits in a well-</li> </ul>

	for re-sowing. <ul style="list-style-type: none"> <li>▪ Raised bed method should be followed in the nursery.</li> <li>▪ Earthing up to be followed</li> <li>▪ Ensure proper staking of crop wherever required</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> </ul>	sowing. <ul style="list-style-type: none"> <li>▪ Earthing up to be followed</li> <li>▪ Ensure proper staking of crop wherever required</li> <li>▪ Field bunding to prevent entry of water from surrounding areas.</li> <li>▪ Follow appropriate nutrient management practices</li> </ul>	reproductive stage, emphasis should be given on forthcoming rabi crops <ul style="list-style-type: none"> <li>▪ Growing of cole crops or winter vegetables after receding flood water and adoption of integrated farming system to obtain more income and to compensate the loss during kharif vegetables.</li> </ul>	ventilated chamber
<b>Continuous submergence for more than 2 days<sup>2</sup></b>				
Crop1	NA	NA	NA	NA
<b>Horticulture / Plantation crops</b>				
Crop1 (specify)	NA	NA	NA	NA
<b>Sea water intrusion<sup>3</sup></b>				
Crop1	NA	NA	NA	NA

#### 2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone: Not Applicable

Extreme event type	Suggested contingency measure <sup>r</sup>			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
<b>Horticulture</b>				
<b>Heat Wave<sup>p</sup></b>				
Orange	NA	NA	NA	NA
Apple	NA	NA	NA	NA
Pineapple	NA	NA	NA	NA
Kiwifruit	NA	NA	NA	NA
Banana	NA	NA	NA	NA
Large Cardamom	NA	NA	NA	NA
Ginger	NA	NA	NA	NA
Turmeric	NA	NA	NA	NA
<b>Horticulture</b>				
<b>Cold wave<sup>q</sup></b>				
Orange	NA	NA	NA	NA
Apple	NA	NA	NA	NA
Pineapple	NA	NA	NA	NA

Kiwifruit	NA	NA	NA	NA
Banana	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net.</li> <li>Maintain the seedling in polyhouse</li> </ul>	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net</li> </ul>	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net</li> <li>Protect the bunch by bagging with polyethylene bag or jute bag</li> </ul>	NA
Large Cardamom	NA	NA	NA	NA
Ginger	NA	NA	NA	NA
Turmeric	NA	NA	NA	NA
<b>Horticulture</b>				
<b>Frost</b>				
Orange	NA	NA	NA	NA
Apple	NA	NA	NA	NA
Pineapple	NA	NA	NA	NA
Kiwifruit	NA	NA	NA	NA
Banana	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net.</li> <li>Maintain the seedling in polyhouse</li> </ul>	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net</li> </ul>	<ul style="list-style-type: none"> <li>Protect the plant by construction of wind brakes made of shade net</li> <li>Protect the bunch by bagging with polyethylene bag or jute bag</li> </ul>	NA
Large Cardamom	NA	NA	NA	NA
Ginger	NA	NA	NA	NA
Turmeric	NA	NA	NA	NA
<b>Horticulture</b>				
<b>Hailstorm</b>				
Orange	<ul style="list-style-type: none"> <li>Nursery raising under polyhouse.</li> </ul>	<ul style="list-style-type: none"> <li>Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>Nutrient management to be followed along with foliar spray of micronutrient</li> </ul>	<ul style="list-style-type: none"> <li>Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>Nutrient management to be followed along with foliar spray of micronutrient</li> </ul>	<ul style="list-style-type: none"> <li>Harvest ripe fruit</li> </ul>
Apple	<ul style="list-style-type: none"> <li>Nursery raising under polyhouse.</li> </ul>	<ul style="list-style-type: none"> <li>Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>Nutrient management to be</li> </ul>	<ul style="list-style-type: none"> <li>Pruning of damage branches and application of Bordeaux paste should be done to prevent secondary infection</li> <li>Nutrient management to be</li> </ul>	<ul style="list-style-type: none"> <li>Harvest ripe fruit</li> </ul>

		followed along with foliar spray of micronutrient	followed along with foliar spray of micronutrient	
Pineapple	NA	▪ Shade regulation may be followed	NA	▪ Harvest and value addition
Kiwifruit	▪ Nursery raising under polyhouse	▪ Nutrient management to be followed along with foliar spray of micronutrient	▪ Nutrient management to be followed along with foliar spray of micronutrient	▪ Harvest ripe fruits
Banana	▪ Nursery raising under polyhouse	▪ Follow nutrient management	▪ Bagging the fruit bunch with polyethylene bag or jute bag	▪ Harvest the mature bunch
Large Cardamom	▪ Nursery raising under polyhouse.	▪ Shade regulation may be followed by planting trees providing 50-60% shade. Ultis cum large cardamom plantation is highly recommended	NA	NA
Ginger	▪ Nursery raising under polyhouse.	▪ Shade regulation may be followed	NA	NA
Turmeric	▪	▪		
Vegetables (cucurbits)	▪ Nursery raising under polyhouse. ▪ Provide shade to protect from damage or resowing of the crops	▪ Polyhouse cultivation & proper irrigation	▪ Polyhouse cultivation & proper irrigation ▪ Proper crop management for the succeeding years	▪ Picking of fruits at right edible stage depends upon individual varieties and marketing requirements. Fruits are harvested, packed in baskets and transported to markets.
<b>Horticulture</b>				
<b>Cyclone</b>	NA	NA	NA	NA
Orange	NA	NA	NA	NA
Apple	NA	NA	NA	NA
Pineapple	NA	NA	NA	NA
Kiwifruit	NA	NA	NA	NA
Banana	NA	NA	NA	NA
Large Cardamom	NA	NA	NA	NA
Ginger	NA	NA	NA	NA
Turmeric	NA	NA	NA	NA
<b>Sand deposition or heavy siltation</b>				
Specify crop /horticulture/plantation	NA	NA	NA	NA

## 2.5 Contingent strategies for Livestock, Poultry & Fisheries

### 2.5.1 Livestock

	Suggested contingency measures		
	Before the event <sup>s</sup>	During the event	After the event
<b>Drought</b>			
Feed and fodder availability	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories.</li> <li>▪ Awareness on fodder cultivation &amp; identification of locally available, natural fodder of area.</li> <li>▪ Excess fodder may be stored as hay/silage or converted into feed block in the flush season, for lean period.</li> <li>▪ Stacking of paddy straws.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of unconventional feed/fodders resources.</li> <li>▪ Grazing in the peri peri of forest areas.</li> <li>▪ Feeding according to body weight requirement</li> <li>▪ Improvement of the poor quality roughages (urea treatment, soaking, poultry litter(&gt; 37%).</li> <li>▪ Use of feed additives to improve digestibility.</li> <li>▪ use of stored Hay and Silage</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avail the benefits of schemes under drought, from state or central for feeds and fodder.</li> <li>▪ Supplementary feeding of livestock to regain the general physiological imbalanced.</li> <li>▪ Proper irrigation of fodder plot and cultivation of leguminous fodders to meet the demand of green fodders</li> </ul>
Drinking water	<ul style="list-style-type: none"> <li>▪ Construction of water harvesting structures.</li> <li>▪ Harvesting rain water &amp; water from natural source</li> <li>▪ Developing watershed areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of stored water from water harvesting structure.</li> <li>▪ Fetching water from watershed areas and natural stream/river.</li> <li>▪ Avail subsidy water supply through tankers from sate or central Govt.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Submitting a memorandum to sate or central Govt. regarding amount of water shortfall during drought and action to be initiate accordingly.</li> <li>▪ Construction of permanent water harvesting structure with a planning to fulfill the water requirement during drought.</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> <li>▪ Proper ventilation system of Housing to reduce heat stress.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ selective culling of disease animal</li> <li>▪ Submitting a memorandum to sate or central Govt. regarding the loss of animal due to Drought and remedies to be taken accordingly for future.</li> <li>▪ Mini vaccine unit could be establish for covering a perimeter 30-50 km.</li> </ul>
<b>Floods</b>			
Feed and fodder availability	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories.</li> <li>▪ Awareness on fodder cultivation &amp;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoid feeding of damp feeds and fodders</li> <li>▪ Storage of feeds and fodder in high raised platform.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Submitting a reports, damage caused by flood to feed and standing fodder</li> <li>▪ Supplementary feeding of livestock to regain</li> </ul>

	<p>identification of locally available, natural fodder of the area.</p> <ul style="list-style-type: none"> <li>▪ Excess fodder may be stored as hay/silage or converted into feed block in the flush season, for lean period.</li> <li>▪ Stacking of paddy straws.</li> <li>▪ Installation of feed block machines and creating feed/fodder block banks to be used in emergency.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of unconventional feed/fodders resources (water hyacinth)</li> <li>▪ Shifting of livestock to high raised areas.</li> <li>▪ Use of feed additives to improve digestibility.</li> <li>▪ Provision of UMB etc.</li> <li>▪ Use of stored Hay and Silage</li> </ul>	<p>the general physiological imbalanced.</p> <ul style="list-style-type: none"> <li>▪ Proper irrigation of folder plot and cultivation of leguminous fodders to meet the demand of green fodders.</li> <li>▪ Avail the benefits of schemes under flood, from state or central for feeds and fodder.</li> </ul>
Drinking water	<ul style="list-style-type: none"> <li>▪ Storage of safe drinking water in community tanks / water harvesting structures which is not prone to seepage of flood water.</li> <li>▪ Installation of large sized sand filters with charcoal.</li> <li>▪ Tying up with PHED Deptt. of neighboring district to supply water at needy time.</li> <li>▪ Creating awareness amongst public how to conserve water and judiciously use in flood situation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chlorination of the drinking water and use of sand filter</li> <li>▪ Incorporation of aquatic plants in feeds as a supplementary source of water</li> <li>▪ If possible supply of fresh drinking water from nearby district.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cleaning of water storage tanks, canals and drainage system.</li> <li>▪ Cleaning and disinfection of water source with suitable water purifying agent, available in the area as per the recommended dose.</li> <li>▪ Relief for damaged tanks and community pipe line for reconstruction.</li> <li>▪ Avoid shallow source of water</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Vaccination of FMD, BQ and HS.</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> <li>▪ Construction of shelters in high raised areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>
<b>Cyclone</b>	NA	NA	NA
Feed and fodder availability	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories.</li> <li>▪ Proper storage of feeds and fodder in well constructed house</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoid feeding grazing in open field</li> <li>▪ Animal should be confined in well construct house.</li> <li>▪ Use of feed additives to improve</li> </ul>	<ul style="list-style-type: none"> <li>▪ Submitting a reports, damage caused by cyclone of standing fodder</li> <li>▪ Avail the benefits of schemes under flood, from state or central for feeds and fodder.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Planting of trees as a wind break in farm area</li> <li>▪ Excess fodder may be stored as hay/silage or converted into feed block in the flush season, for lean period.</li> <li>▪ Stacking of paddy straws.</li> </ul>	<ul style="list-style-type: none"> <li>digestibility.</li> <li>▪ Provision of UMB etc.</li> <li>▪ Use of stored Hay and Silage</li> </ul>	
Drinking water	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Storage of safe drinking water in community tanks / water harvesting structures</li> <li>▪ Creating awareness amongst public how to conserve water and judiciously use in flood situation.</li> <li>▪ Tying up with PHED Deptt. of neighboring district to supply water at needy time.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chlorination of the drinking water and use of sand filter</li> <li>▪ Provide fresh potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cleaning of water storage tanks, canals and drainage system.</li> <li>▪ Cleaning and disinfection of water source with suitable water purifying agent, available in the area as per the recommended dose.</li> <li>▪ Relief for damaged tanks and community pipe line for reconstruction.</li> <li>▪ Avoid shallow source of water</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ selective culling of injured animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ selective culling of injured animal</li> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>
<b>Heat wave</b>			
<b>Cattle</b>			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to heat wave</li> <li>▪ reduce upto 20% of the ration</li> <li>▪ provide nutretical</li> <li>▪ Adlib provision of potable water</li> <li>▪ Avoid movement of animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adlib provision of potable water</li> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> <li>▪ provide nutretical</li> </ul>

	<p>areas.</p> <ul style="list-style-type: none"> <li>▪ Increase the concentrate feed amount and reduce the roughage diet.</li> <li>▪ Adlib provision of potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sprinkling of water during the extreme heat to the animal</li> <li>▪ Breeding should be done in morning hours.</li> </ul>	
Health and disease management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming and vaccination</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Life saving treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ Oral supplementation of electrolyte and medicines</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
Mithun			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Increase the concentrate feed amount and reduce the roughage diet.</li> <li>▪ Adlib provision of potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to heat wave</li> <li>▪ reduce upto 20% of the ration</li> <li>▪ provide nutretical</li> <li>▪ Adlib provision of potable water</li> <li>▪ Avoid movement of animal</li> <li>▪ Sprinkling of water during the extreme heat to the animal</li> <li>▪ Breeding should be done in morning hours.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adlib provision of potable water</li> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> <li>▪ provide nutretical</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ selective culling of injured animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ selective culling of injured animal</li> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>		
Goat/Sheep			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Increase the concentrate feed amount and reduce the roughage diet.</li> <li>▪ Adlib provision of potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to heat wave</li> <li>▪ reduce upto 20% of the ration</li> <li>▪ provide nutretical</li> <li>▪ Adlib provision of potable water</li> <li>▪ Avoid movement of animal</li> <li>▪ Sprinkling of water during the extreme heat to the animal</li> <li>▪ Breeding should be done in morning hours.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adlib provision of potable water</li> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> <li>▪ provide nutretical</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ selective culling of injured animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ selective culling of injured animal</li> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>
Pig			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Increase the concentrate feed amount and reduce the roughage diet.</li> <li>▪ Adlib provision of potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to heat wave</li> <li>▪ reduce upto 20% of the ration</li> <li>▪ provide nutretical</li> <li>▪ Adlib provision of potable water</li> <li>▪ Avoid movement of animal</li> <li>▪ Sprinkling of water during the extreme heat to the animal</li> <li>▪ Breeding should be done in morning hours.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adlib provision of potable water</li> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> <li>▪ provide nutretical</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ selective culling of injured animal</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<p>accordingly.</p> <ul style="list-style-type: none"> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ selective culling of injured animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>
<b>Cold wave</b>			
<b>Cattle</b>			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Feed balance ration to withstand the cold wave prior to occurrence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to cold wave</li> <li>▪ provide extra bedding materials</li> <li>▪ feed extra ration along with mineral and vitamin supplements to withstand cold wave</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
<b>Mithun</b>			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Feed balance ration to withstand the cold wave prior to occurrence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to cold wave</li> <li>▪ provide extra bedding materials</li> <li>▪ feed extra ration along with mineral and vitamin supplements to withstand cold wave</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> </ul>
Health and disease	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1. Mass awareness cum Health camp and</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1. Mass awareness cum Health camp and</li> </ul>

management	<ul style="list-style-type: none"> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<p>symptomatically prompt treatment accordingly.</p> <ul style="list-style-type: none"> <li>▪ 2. Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<p>symptomatically prompt treatment accordingly.</p> <ul style="list-style-type: none"> <li>▪ 2. Immediate attention to the ailing animals.</li> <li>▪ 3. Sanitization of the shed and surrounding areas.</li> <li>▪ 4. selective culling of animal</li> <li>▪ 5. Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
<b>Pig</b>			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Feed balance ration to withstand the cold wave prior to occurrence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to cold wave</li> <li>▪ provide extra bedding materials</li> <li>▪ feed extra ration along with mineral and vitamin supplements to withstand cold wave</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<p>Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</p> <ul style="list-style-type: none"> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<p>Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</p> <ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
<b>Goat/Sheep</b>			
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Feed balance ration to withstand the cold wave prior to occurrence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to cold wave</li> <li>▪ provide extra bedding materials</li> <li>▪ feed extra ration along with mineral and vitamin supplements to withstand cold wave</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> </ul>
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines,</li> </ul>	<p>Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</p>	<p>Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</p> <ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> </ul>

	<ul style="list-style-type: none"> <li>vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
<b>Snowfall</b>	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>
<b>Earthquake</b>	NA	NA	NA
<b>Landslides</b>	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ immediate rescue operation</li> <li>▪ Shifting of livestock to safe areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to landslides and remedies to be taken accordingly for future.</li> </ul>

<sup>s</sup> based on forewarning wherever available

### 2.5.2 Poultry

	Suggested contingency measures			Convergence/linkages with ongoing programs, if any
	Before the event	During the event	After the event	

<b>Drought</b>				
Shortage of feed ingredients	<ul style="list-style-type: none"> <li>▪ Awareness on maize, pea and oil seed cultivation for use of poultry feed</li> <li>▪ Procurement of feed ingredients in bulk.</li> <li>▪ Installation of feed mixing plant</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of stored feed</li> <li>▪ Use of feeds from the local resources</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Availing insurance for the crop loss.</li> <li>▪ Availing subsidiary schemes from line deptt.</li> </ul>	Schemes from Line Deptt./RKVY/ATMA
Drinking water	<ul style="list-style-type: none"> <li>▪ Construction of water harvesting structures.</li> <li>▪ Harvesting rain water &amp; water from natural source</li> <li>▪ Developing watershed areas.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provision of potable water</li> <li>▪ Use of stored water from water harvesting structure.</li> <li>▪ Fetching water from watershed areas and natural stream/river.</li> <li>▪ Avail subsidy water supply through tankers from state or central Govt.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Submitting a memorandum to state or central Govt. regarding amount of water shortfall during drought and action to be initiated accordingly.</li> <li>▪ Construction of permanent water harvesting structure with a planning to fulfill the water requirement during drought.</li> </ul>	
Health and disease management	<ul style="list-style-type: none"> <li>▪ Regular deworming and vaccination against viral disease.</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> <li>▪ Proper ventilation system of Housing to reduce heat stress.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to reduce heat stress</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ selective culling of bird</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of poultry due to Drought and remedies to be taken accordingly for future.</li> </ul>	
<b>Floods</b>				
Shortage of feed ingredients	<ul style="list-style-type: none"> <li>▪ Awareness on maize, pea and oil seed cultivation for use of poultry feed</li> <li>▪ Procurement of feed ingredients in bulk and store in raised floor.</li> <li>▪ Installation of feed mixing plant</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of stored feed</li> <li>▪ Use of feeds from the local resources</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Availing insurance for the crop loss.</li> <li>▪ Availing subsidiary schemes from line deptt.</li> </ul>	

Drinking water	<ul style="list-style-type: none"> <li>▪ Storage of safe drinking water in community tanks / water harvesting structures which is not prone to seepage of flood water.</li> <li>▪ Installation of large sized sand filters with charcoal.</li> <li>▪ Tying up with PHED Deptt. of neighboring district to supply water at needy time.</li> <li>▪ Creating awareness amongst public how to conserve water and judiciously use in flood situation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chlorination of the drinking water and use of sand filter</li> <li>▪ Supply of fresh drinking water from nearby district.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cleaning of water storage tanks</li> <li>▪ Relief for damaged tanks and community pipe line for reconstruction.</li> </ul>	
Health and disease management	<ul style="list-style-type: none"> <li>▪ Regular deworming and vaccination against viral disease.</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> <li>▪ Proper ventilation system of Housing to reduce heat stress.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to reduce heat stress</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ selective culling of bird</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of poultry due to Drought and remedies to be taken accordingly for future.</li> </ul>	
<b>Cyclone</b>				
Shortage of feed ingredients	NA	NA	NA	NA
Drinking water	NA	NA	NA	NA
Health and disease management	NA	NA	NA	NA
<b>Heat wave</b>				
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Advance early warning system through Agromet advisories for preparedness to combat the situation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the animal in protected shelter</li> <li>▪ prevent them direct expose to heat wave</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adlib provision of potable water</li> <li>▪ Analysis of the present experience and remodeling of housing structure.</li> </ul>	

	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Increase the concentrate feed amount and reduce the roughage diet.</li> <li>▪ Adlib provision of potable water</li> </ul>	<ul style="list-style-type: none"> <li>▪ reduce upto 20% of the ration</li> <li>▪ provide nutretical</li> <li>▪ Adlib provision of potable water</li> <li>▪ Avoid movement of animal</li> <li>▪ Misting of water during the extreme heat to the animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ provide nutretical</li> </ul>	
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ selective culling of injured animal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ selective culling of injured animal</li> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to flood and remedies to be taken accordingly for future.</li> </ul>	
<b>Cold wave</b>				
Shelter/environment management	<ul style="list-style-type: none"> <li>▪ Good shelter with well ventilation and bedding materials</li> <li>▪ Construction of shelters in wind shed areas.</li> <li>▪ Feed balance ration to withstand the cold wave prior to occurrence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confine the bird in protected shelter</li> <li>▪ provide extra light to keep them warm</li> <li>▪ prevent them direct expose to cold wave</li> <li>▪ provide extra bedding materials</li> <li>▪ feed extra ration along with mineral and vitamin supplements to withstand cold wave</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp;</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of the present experience and remodeling of housing structure.</li> </ul>	

		Don'ts from experts.		
Health and disease management	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load and vaccination to protect viral disease</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to cold wave and remedies to be taken accordingly for future.</li> </ul>	
Snowfall	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load and vaccination to protect against viral disease</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each village to combat the situation if arise.</li> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to state or central Govt. regarding the loss of animal due to snow fall and remedies to be taken accordingly for future.</li> </ul>	NA
Earthquake, Landslides etc	<ul style="list-style-type: none"> <li>▪ Ensure livestock insurance</li> <li>▪ Deworming to reduce worm load and vaccination to protect against viral disease</li> <li>▪ Stocking of veterinary medicines, vitamin and mineral supplements.</li> <li>▪ Training of paravets and identifying key man in each</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Supplementary feeding of vitamin and mineral to improve general body health.</li> <li>▪ immediate rescue operation</li> <li>▪ Shifting of livestock to safe areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mass awareness cum Health camp and symptomatically prompt treatment accordingly.</li> <li>▪ Immediate attention to the ailing animals.</li> <li>▪ Sanitization of the shed and surrounding areas.</li> <li>▪ selective culling of animal</li> <li>▪ Submitting a memorandum to</li> </ul>	NA

	<p>village to combat the situation if arise.</p> <ul style="list-style-type: none"> <li>▪ Providing available communication and transportation facilities in every dispensary / clinic for consultations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regular radio/TV telecast to follow the instruction of Do &amp; Don'ts from experts</li> </ul>	<p>state or central Govt. regarding the loss of animal due to landslides and remedies to be taken accordingly for future.</p>	
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<sup>a</sup> based on forewarning wherever available