

State: ANDHRA PRADESH

Agriculture Contingency Plan for District: VISAKHAPATNAM

1.0 District Agriculture profile					
1.1	Agro-Climatic/Ecological Zone				
	Agro Ecological Sub Region (ICAR)	Eastern coastal plain, hot sub- humid to semi arid eco region (12.2, 18.4)			
	Agro-Climatic Region (Planning Commission)	East coast plain and hill region (XI)			
	Agro Climatic Zone (NARP)	North Coastal Zone (AP-2)			
	List all the districts or part thereof falling under the NARP Zone	Plain mandals Visakhapatnam, Vizianagaram and Srikakulam districts			
	Geographic coordinates of district	Latitude	Longitude		Altitude
		18 ^o 7' N	83 ^o 25' E		73m
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Regional Agricultural Research Station, Anakapalle-531001			
	Mention the KVK located in the district	Bhagavatula Charitable Trust (B.C.T), Haripuram, Yelamanchili-531005			
1.2	Rainfall	Normal RF(mm)	Normal Rainy days (no)	Normal Onset (specify week and month)	Normal Cessation (specify week and month)
	SW monsoon (June-Sep): 712.0	644	36	1 st week of June	2 nd week of October
	NE Monsoon(Oct-Dec): 297.0	281	10	3 rd week of October	4 th week of December
	Winter (Jan- Feb) 22.0	22	2	-	-
	Summer (Mar-May) 171.0	137	6	-	-
	Annual 1202.0	1084	54	-	-

1.3	Land use pattern of the district (latest statistics)	Geographical Area	Forest area	Land under non-agricultural use	Permanent pastures	Cultivable wasteland	Land under Misc. tree crops and groves	Barren and uncultivable land	Current fallows	Other fallows
	Area	1116.1	441.2	103.1	2.8	10.9	34.1	130.4	53.4	28.2

1.4	Major Soils (common names like shallow red soils etc.,)	Area ('000ha)	Percent (%) of total
	Red clay loams	144.5	48.0
	Red sandy loams	96.7	32.0
	Coastal sandy soils	68.6	2.0
	Clay loams	40.6	13.0
	Alluvial soils	13.3	5.0
	Others (specify):	-	
1.5	Agricultural land use	Area	Cropping intensity %
	Net sown area	304.0	123.9
	Area sown more than once	72.6	
	Gross cropped area	376.6	

1.6	Irrigation	Area ('000 ha)		
	Net irrigated area	100.5		
	Gross irrigated area	133.9		
	Rainfed area	203.4		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals		43.1	41.1
	Tanks		28.6	27.2
	Open wells		5.1	5
	Bore wells		13.6	13.0
	Lift irrigation		0.2	0.2
	Micro-irrigation		-	
	Other sources		18.0	18
	Total Irrigated Area		133.8	
	Pump sets			
	No. of Tractors			
	Groundwater availability and use* (Data source: State/Central Ground water Department /Board)	No. of blocks/ Tehsils	(% area)	
	Over exploited			
	Critical			
	Semi- critical			
	Safe			
	Wastewater availability and use			
	Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

Area under major field crops & horticulture etc. (2008-09)

1.7		Major Field Crops cultivated	Area ('000 ha)					
			<i>Kharif</i>		<i>Rabi</i>		Summer	Total
			<i>Irrigated</i>	<i>Rainfed</i>	<i>Irrigated</i>	<i>Rainfed</i>		
1	Paddy	78.3	29.3	1.8	-	-	109.4	
2	Sugarcane		12.3	27.7	-	-	40	
3	Ragi	-	21.5	0.3		-	21.8	
4	Maize	0.2	5.9	1.3	-	-	7.4	
5	Groundnut	-	5.5	2.0	-	-	7.5	
		Horticulture crops – Fruits	Total area					
1	Cashew			33.4				
2	Mango			19.9				
3	Guava			0.1				
		Horticultural crops – Vegetables	Total area					
1	Beans			4.7				
2	Brinjal			3.4				
3	Tomato			2.4				
4	Chillies			2.3				
5	Gourds			2.0				

	Plantation crops	Total area					
1	Coconut	8.3					
2	Arecanut	1.8					
3	Turmeric	1.1					
1.8	3	Turmeric	1.1	Total (number)			
	Non descriptive Cattle (local low yielding)	231.2	193.8	425.1			
	Crossbred cattle	39.4	114.4	153.9			
	Non descriptive Buffaloes (local low yielding)	110.8	368.9	479.7			
	Graded Buffaloes						
	Goat			333.0			
	Sheep			262.6			
	Others (Camel, Pig, Yak etc.)			22.82			
	Commercial dairy farms (Number)						
1.9	Poultry	No. of farms	Total No. of birds (number)				
	Commercial		4586532				
	Backyard		1768821				
1.10	Fisheries (Data source: Chief Planning Officer)						
	A. Capture						
	i) Marine (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)	
		17450	466	1079 / 511	387/222361	511 / 8	12 / 12

	ii) Inland (Data Source: Fisheries Department)	No. Farmer owned ponds	No. of Reservoirs	No. of village tanks
		21	16	145
	B. Culture			
		Water Spread Area (ha)	Yield (t/ha)	Production ('000 tons)
	i) Brackish water (Data Source: MPEDA/ Fisheries Department)	231	0.001	0.2
	ii) Fresh water (Data Source: Fisheries Department)	3	0.1	0.4
	Others		-	61.3

1.11	Production and Productivity of major crops	Kharif		Rabi		Summer		Total		Crop residue as fodder (tons)
		Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
1	Paddy	230	2400	10	2800	-	-	240	2414	
2	Sugarcane	236	55000	-	-	-	-	237	55000	
3	Ragi	36	1200	2	1600	-	-	38	1226	
4	Groundnut	8	1300	5	1600	-	-	12	1593	
5	Maize	17	2400	15	6500	-	-	32	3533	

1.12	Sowing window for 5 major field crops (start and end of normal sowing period)	Paddy	Sugarcane	Groundnut	Ragi	Maize	Sesamum
	Kharif- Rainfed	2 nd FN June- 2 nd FN July	-	1 st FN June – 1 st FN July	2 nd FN July to Aug 1 st FN	2 nd FN June – 2 nd FN July	2 nd FN April – 2 nd FN May
	Kharif-Irrigated	1 st FN July – 1 st FN Aug	2 nd FN May – 2 nd FN July	1 st FN June – 1 st FN July	-	1 st FN June – 2 nd FN July	--
	Rabi- Rainfed	-	-	-		-	--
	Rabi-Irrigated	Dec 1 st FN – 1 st FN Jan	2 nd FN of Dec to 2 nd FN of Jan (early varieties), 1 st FN of Feb to 2 nd FN of March- Mid late	1 st FN Nov to 2 nd FN Dec		2 nd FN Oct – 2 nd FN Jan	2 nd FN Dec – 1 st FN Jan (Rice fallows)

1.13	What is the major contingency the district is prone to? (Tick mark and mention years if known during the last 10 year period)	Regular	Sporadic	None
	Drought			
	Flood		√	
	Cyclone		√	
	Hail storm			
	Heat wave			
	Cold wave			
	Frost			
	Sea water intrusion			

	Pests and diseases (specify)	√		
	Others			

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

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Early season drought (delayed onset)	Rainfed light soils	Ragi, Groundnut, Bajra	No change	-	--
		Maize, Blackgram			
		Ragi + Redgram			
Rainfed medium soils	Groundnut/ Maize, Groundnut + Redgram				
	Green gram/Ragi/Redgram				
	Jowar, Rainfed Sugarcane				

Condition	Major Farming	Normal Crop/cropping Situation	Suggested Contingency measures		
Early season	Major Farming	Normal Crop/cropping Situation	Change in crop/cropping	Agronomic measures	Remarks on

drought (delayed onset)	situation		Situation		Implementation
Delay by 4 weeks (Specify month) July 1 st week	Rainfed light soils	Maize	No change		
		Groundnut, Bajra			
		Blackgram			
		Ragi + Redgram			
	Rainfed medium soils	Maize, Groundnut	No change		
		Redgram + Groundnut			
		Ragi + Redgram			
		Maize + Redgram			
	Rainfed sugarcane				

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Early season drought (delayed onset) Delay by 6 weeks (Specify month) July 3 rd week	Rainfed light soils	Maize	Maize		-
		Groundnut, Bajra	Ragi		
		Blackgram	Redgram		
		Ragi + Redgram	Ragi + Redgram		
		Maize	Blackgram, Cowpea, Fodder jowar		
	Rainfed medium soils	Maize	Rainfed rice		
		Groundnut	Blackgram		
		Redgram + Groundnut	Maize		
		Maize + Redgram	Ragi + Redgram		
		Rainfed sugarcane	Fodder jowar		

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Early season drought (delayed onset) Delay by 8 weeks (Specify month) August 2 nd week	Rainfed light soils	Maize	Ragi	-	
		Groundnut, Bajra	Jowar	-	
		Blackgram	Cowpea		
		Ragi + Redgram	Redgram, Cluster bean, fodder jowar	Adopt closer spacing for Redgram	
	Rainfed medium soils	Maize	Ragi, Blackgram	-	
		Groundnut	Maize	-	
		Redgram + Groundnut	Redgram(closer spacing)	-	
		Maize + Redgram	Maize +Redgram	-	
		Rainfed sugarcane	Fodder jowar	-	

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measues	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.	Rainfed light soils	Maize	If germination fails go for resowing	-	
		Groundnut		-	
		Bajra		-	
		Blackgram		-	
		Ragi +Redgram		-	
	Rainfed medium soils	Maize, Groundnut		-	
		Redgram + Groundnut		-	
		Ragi + Redgram		-	
		Maize + Redgram		-	
		Rainfed Sugarcane		-	

Condition	Major Farming situation ^a	Normal Crop/cropping Situation ^b	Suggested Contingency measures		
			Crop management ^c	Soil nutrient & moisture conservation measues ^d	Remarks on Implementation ^e
Mid season drought (long dry					

spell, consecutive 2 weeks rainless (>2.5 mm) period)					
At vegetative stage	Rainfed light soils	Maize		Frequent intercultivation	Foliar spray of urea 2% or DAP 2%.
		Groundnut			
		Bajra			
		Blackgram			
		Ragi + Redgram			
	Rainfed medium soils	Maize, Groundnut			
		Redgram + Groundnut			
		Ragi + Redgram			
		Maize + Redgram			
		Rainfed Sugar cane			

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Mid season drought (long dry spell)					
At reproductive stage	Rainfed light soils	Maize		Frequent intercultivation	Foliar spray of urea 2% or DAP 2%.
		Groundnut			
		Bajra			
		Blackgram			
		Ragi + Redgram			
	Rainfed medium soils	Maize, Groundnut			
		Redgram + Groundnut			
		Ragi + Redgram			
		Maize + Redgram			
		Rainfed Sugar cane			

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Crop management	Rabi Crop planning	Remarks on Implementation
Terminal drought	Rainfed light soils	Maize	Frequent intercultivation Foliar spray of urea 2% or DAP 2%.	-	-
		Groundnut			
		Bajra			
		Blackgram			
		Ragi + Redgram			
	Rainfed medium soils	Maize, Groundnut			
		Redgram + Groundnut			
		Ragi + Redgram			
		Maize + Redgram			
		Rainfed Sugar cane			

2.1.2 Irrigated situation

Condition	Major Farming situation	Normal Crop/cropping Situation	Suggested Contingency measures		
			Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Delayed release of water in canals due to low rainfall	Irrigated wet lands	Rice	Transplanting of aged seedlings. Direct seeding with short duration varieties.	Selection of medium , short/ long duration	

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping Situation	Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Limited release of water in canals due to low rainfall	Irrigated wet lands	Rice	Rice/ go for IDcrops	Alternate wetting and drying is suggested Irrigate fully at PI to grain formation stage.	
	Irrigated uplands	rice	Vegetables, Maize.		

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping Situation	Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Non release of water in canals under delayed onset of monsoon in catchment	Irrigated wet lands	Rice planting with over aged seedlings	Maize, upland rice,		
	Irrigated uplands	Rice	Redgram+maize Ragi+redgram		

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping Situation	Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Irrigated wet lands	Rice	Growing rice as rainfed crop initially and later converted to wet (aerobic rice)	Selection of medium duration drought tolerant varieties viz., Vasundara, Naveen, Rasi, MTU1010	
	Irrigated uplands	Sugarcane/ maize/ groundnut	Vegetables , maize, ragi		

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping Situation	Change in crop/cropping Situation	Agronomic measures	Remarks on Implementation
Insufficient groundwater recharge due to low rainfall	1.Irrigated wet lands	Direct sowing of rice (upland rice)	Greengram-ragi, Greengram-jowar	-	-

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping Situation	Change in crop/cropping Situation	Agonomic measures	Remarks on Implementation
Any other condition (specify)	Waterlogged areas and Ava area	Long duration rice varieties like Ramasagaralu, Srikakulam sannalu	Growing improved varieties like CN-540, PLA-1100	-	-

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

	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest
Continuous high rainfall in a short span leading to water logging				
1. Sugarcane	<ol style="list-style-type: none"> 1. Drain out excess water 2. Apply 20 kg of urea as booster dose + 10Kg MOP immediately after receding of excess water 3. Take up suitable preventive measures in anticipation of pests and diseases outbreaks. 	-	<ol style="list-style-type: none"> 1. Drain out excess water. 2. Propping the crop with bamboo poles. 	
2. Groundnut	<ol style="list-style-type: none"> 1. Drain out excess water 2. Apply 5 kg of urea as booster dose immediately after receding of excess water 3. Take up suitable preventive measures in anticipation of pests and diseases outbreaks. 	<ol style="list-style-type: none"> 1. Drain out excess water 2. Apply 5 kg of N as booster Dose immediately after receipt of excess water 3. Take up suitable preventive measures in anticipation Of pests and diseases outbreaks 	<ol style="list-style-type: none"> 1. Drain the excess water as Early as possible 2. Allow the crop to dry completely Before harvests. 	<ol style="list-style-type: none"> 1. Drying in inverted wind rows 2. Keeping the plants in bunches by placing pod up to drain excess water. 3. Pricking of pods and drying in thin layers.
3 . Ragi	<ol style="list-style-type: none"> 1. Drain out excess water as early as possible. 2. Apply 20 Kg urea +10 kg MOP/acre after draining excess Water. 3. Take up gap filling either with available nursery or by 	<ol style="list-style-type: none"> 1. Drain out excess water as early as possible. 2. Take up suitable plant protection measures in anticipation of pest & disease out breaks. 	<ol style="list-style-type: none"> 1. Drain the excess water as Early as possible 2. Take up suitable plant Protection measures in Anticipation of pest & disease Out breaks. 	<ol style="list-style-type: none"> 1. Drain out water and spread sheaves loosely in field or field bunds where there is no water stagnation. 2. Spray common salt at 5% on panicles to prevent

	splitting the tillers from the surviving hills. 4. Take up proper weed control measures. 5. Take up suitable plant protection measures in anticipation of pest & disease out breaks.			germination and spoilage of straw from moulds. 3. . Ensure proper grain moisture before storing.
4. Maize	<ol style="list-style-type: none"> 1. Drain out excess water as early as possible. 2. 20 Kg urea +10 kg MOP /acre after draining excess Water. 3. Take up Intercultivation and at optimum soil moisture condition to loosen and aerate the soil and to control weeds. 4. Provide anchorage 5. Earthen up the crop for anchorage. 6. To spray KNO₃ 1% support nutrition. 7. Take up timely control measures for Pink stem Borer, sheath blight and Turicum leaf blight. 	<ol style="list-style-type: none"> 1. Drain the excess water as early as possible. 3. To spray Urea 2% to support nutrition. 4. Take up timely control measures for sheath blight and post flowering stalk rots. 	<ol style="list-style-type: none"> 1. Drain the excess water as early as possible. 2. Allow the crop to dry completely before harvesting. 	<ol style="list-style-type: none"> 1. Harvest the cobs after they are dried up properly. Dry the grain to optimum moisture condition before storing .
Horticulture crops – Fruits				
Cashew	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • .Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Harvest the mature fruits as soon as possible • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Separate seed from the fruits and dry the seeds separately. • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible or use for the preparation of processed products..

Mango	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Drench the plants with COC 0.3% to prevent wilts. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the mature produce in a clear sunny day' • After harvest ,spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Spray Dithane M-45 3.0% or bavistin 1.0% against Anthracnose 	<ul style="list-style-type: none"> • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible.
Guava	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Drench the plants with COC 0.3% to prevent wilts 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the mature produce as soon as possible. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Horticultural crops – Vegetables				
Beans	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature

	<p>MOP + 30 kg Urea per acre as soon as possible.</p> <ul style="list-style-type: none"> • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • .Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • .In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<p>times.</p> <ul style="list-style-type: none"> • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. 	<p>once.</p> <ul style="list-style-type: none"> • Spray COC 30 g in 10 liters of water once. 	<p>produce as soon as possible.</p> <ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Brinjal	<ul style="list-style-type: none"> • .Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the marketable fruits in a clear sunny day' • Spray captan or mancozeb 0.3% to prevent fruit rot 	<ul style="list-style-type: none"> • Store the harvested fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible.

Tomato	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the marketable fruits in a clear sunny day' • Spray captan or mancozeb 0.3% to prevent fruit rot 	<ul style="list-style-type: none"> • Store the harvested fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible.
Chillies	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g + 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drenching in the affected patches with COC 3 g per litre to avoid spread of diseases. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g + 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drench the affected patches with COC 3 g per litre to avoid wilt and root rot 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the matured fruits in a clear sunny day. • Spray Propiconazole 0.1% or COC 0.3% against Die back and fruit rot. • Drench the affected patches with COC 3 g per litre to avoid wilt and root rot diseases. 	<ul style="list-style-type: none"> • Dry the pods on concrete floor immediately after the appearance of sunlight (or). • Use poly house solar driers for quick drying • Grade the pods and market as soon as possible. • Do not store such produce for long periods.

Gourds	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • 2.Spray Urea 2% solution 2-3 times. • 3. Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray mancozeb 25g in 10 liters of water, 2-3 times against leaf spots. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Spices & Plantation crops				
Areca nut and Coconut	<ul style="list-style-type: none"> • Planting should be done on mounts or bunds • Drainage system, suited to local conditions may be provided to remove surplus water from root zone • Relief drains [shallow] channels are opened at places where water accumulates and connected with main drain to remove water from the surface 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Apply booster dose of NPK fertilizers 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • .Apply booster dose of NPK fertilizers • Harvest the mature nuts as soon as possible. 	<ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be market • Market the nuts as soon as possible.
Turmeric	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ followed by Ferrous Sulphate 0.5% + Citric Acid 0.1 % solution 2-3 times. • Topdressing of booster dose of 40 kg MOP + 50 kg Urea along with 250 kg of Neem Cake per acre as soon as possible. • Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ solution 2-3 times. • Spray Propiconazole 1 ml per liter of water, 2-3 times against the occurrence of leaf spots.- 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the rhizomes when field comes to normal 	<ul style="list-style-type: none"> • Dry the rhizomes on concrete floor or use boilers (if available) for processing immediately • Grade and separate the rotten and mould affected rhizomes. • Pack the dried

	<p>leaf spots.</p> <ul style="list-style-type: none"> • Soil drenching with COC 3 g per litre to check the Rhizome rot disease. • In case of severe damage (considered as complete economical loss or if inundation is more than for four days), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 			<p>material in gunny bags disinfected with safe insecticides</p> <ul style="list-style-type: none"> • Store in a well ventilated rooms
Heavy rainfall with high speed winds in a short span				
1. Ragi	<ol style="list-style-type: none"> 1. Drain out the excess water from the field as early as possible. 2. Apply 20 Kg urea +10 kg MOP /acre after draining excess Water. 3. Take up gap filling either with available nursery Or by splitting the tillers from the surviving hills. 4. Take up timely plant protection measures for Pest and disease incidence. 	<ol style="list-style-type: none"> 1. Drain out the excess water from the field as early as possible. 2. Lift the lodged hills tie them together to keep them erect. 3. Take up timely plant protection measures for pest and disease incidence. 	<ol style="list-style-type: none"> 1. Drain out the excess water from the fields as early as possible. 2. Lift the lodged hills tie them together to keep them erect. 3. Harvest the crop as soon as the Field condition permits. 4. Take up timely plant protection measures for pest and disease incidence. 	<ol style="list-style-type: none"> 1. Drain out the excess water from the field as early as possible. 2. Dry the sheaves on elevated areas like field bunds and drying floors and dry the grain to optimum moisture content to store the grain.
2. Groundnut	<ol style="list-style-type: none"> 1. Drain out the excess water from the fields as early as possible. 2. Apply 4-5 kg urea/acre after draining excess Water. 3. To spray 2% Urea to support nutrition. 4. Take up proper weed control measures. 5. Take up timely plant protection measures for possible pest & disease out breaks. 	<ol style="list-style-type: none"> 1. Drain out the excess water from the fields as early as possible. 2. . To spray 2% Urea to support nutrition. 3. Take up timely plant protection measures for possible pest & disease out breaks 	<ol style="list-style-type: none"> 1. Drain out the excess water from the fields as early as Possible. 2. Harvest the crop as soon as the Field condition permits. 	<ol style="list-style-type: none"> 1. Dry the produce under sun before sending to market.
3 . Maize-	<ol style="list-style-type: none"> 1. Drain out the excess water from the 	<ol style="list-style-type: none"> 1. Drain out the excess water from the fields as early as 	<ol style="list-style-type: none"> 1. Drain the excess water from 	<ol style="list-style-type: none"> 1. Harvest the cobs after they are dried up

	<p>field as early as possible.</p> <p>2. Take up inter cultivation and at optimum soil moisture condition to loosen and aerate the soil and to control weeds.</p> <p>3. Earthing up for better anchorage.</p> <p>4. Apply 20 kg N +10 kg K/acre after draining excess Water.</p> <p>5. To spray KNO₃ 1% to support nutrition.</p> <p>6. Take up timely plant protection measures For possible pest and disease out breaks.</p>	<p>possible.</p> <p>2. . To spray KNO₃ 1% to support nutrition.</p> <p>3. Take up timely plant protection measures for possible pest & disease out breaks.</p>	<p>the fields as early as possible.</p> <p>2. Allow the crop to dry completely before harvesting.</p>	<p>properly. Dry the grain to optimum moisture condition before storing .</p>
Horticulture crops – Fruits				
Cashew	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • .Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Harvest the mature fruits as soon as possible • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Separate seed from the fruits and dry the seeds seperately. • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible or use for the preparation of processed products..
Mango	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the mature produce in a clear sunny day' • After harvest ,spray 	<ul style="list-style-type: none"> • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible.

	<p>per litre to prevent insect pest damage.</p> <ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Drench the plants with COC 0.3% to prevent wilts.1 	<p>Phosphomidon 2 ml per litre to prevent insect pest damage.</p> <ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<p>Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage.</p> <ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Spray Dithane M-45 3.0% or bavistin 1.0% against Anthracnose 	
Guava	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Drench the plants with COC 0.3% to prevent wilts 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the mature produce as soon as possible. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Horticultural crops – Vegetables				
Beans	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • .Gap filling may be taken up if the plants 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray COC 30 g in 10 liters of water once. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed.

	<p>are two weeks old and sowing window is still available for the crop.</p> <ul style="list-style-type: none"> .In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	leaf spots.		<ul style="list-style-type: none"> Market the produce as soon as possible.
Brinjal	<ul style="list-style-type: none"> .Drain the excess water as soon as possible Spray Urea 2% solution 2-3 times. Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> Drain the excess water as soon as possible Spray Urea 2% solution 2-3 times. Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> Drain the excess water as soon as possible Harvest the marketable fruits in a clear sunny day' Spray captan or mancozeb 0.3% to prevent fruit rot 	<ul style="list-style-type: none"> Store the harvested fruits in well ventilated place temporarily before it can be marketed. Market the fruits as soon as possible.
Tomato	<ul style="list-style-type: none"> Drain the excess water as soon as possible Spray Urea 2% solution 2-3 times. 	<ul style="list-style-type: none"> Drain the excess water as soon as possible Spray Urea 2% solution 2-3 	<ul style="list-style-type: none"> Drain the excess water as soon as possible Harvest the marketable 	<ul style="list-style-type: none"> Store the harvested fruits in well ventilated place

	<ul style="list-style-type: none"> • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • fruits in a clear sunny day' • Spray captan or mancozeb 0.3% to prevent fruit rot 	<ul style="list-style-type: none"> • temporarily before it can be marketed. • Market the fruits as soon as possible.
Chillies	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g + 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drenching in the affected patches with COC 3 g per litre to avoid spread of diseases. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g + 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drench the affected patches with COC 3 g per litre to avoid wilt and root rot 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the matured fruits in a clear sunny day. • Spray Propiconazole 0.1% or COC 0.3% against Die back and fruit rot. • Drench the affected patches with COC 3 g per litre to avoid wilt and root rot diseases. 	<ul style="list-style-type: none"> • Dry the pods on concrete floor immediately after the appearance of sunlight (or). • Use poly house solar driers for quick drying • Grade the pods and market as soon as possible. • Do not store such produce for long periods.
Gourds	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • 2.Spray Urea 2% solution 2-3 times. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature

	<p>MOP + 30 kg Urea per acre as soon as possible.</p> <ul style="list-style-type: none"> • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 	<ul style="list-style-type: none"> • 3. Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Spray mancozeb 25g in 10 liters of water, 2-3 times against leaf spots. 	<p>produce as soon as possible.</p> <ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Spices & Plantation crops				
Areca nut and Coconut	<ul style="list-style-type: none"> • Planting should be done on mounts or bunds • Drainage system, suited to local conditions may be provided to remove surplus water from root zone • Relief drains [shallow] channels are opened at places where water accumulates and connected with main drain to remove water from the surface 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Apply booster dose of NPK fertilizers 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Apply booster dose of NPK fertilizers • Harvest the mature nuts as soon as possible. 	<ul style="list-style-type: none"> • Store the produce in well ventilated place temporarily before it can be market • Market the nuts as soon as possible.
Turmeric	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ followed by Ferrous Sulphate 0.5% + Citric Acid 0.1 % solution 2-3 times. • Topdressing of booster dose of 40 kg MOP + 50 kg Urea along with 250 kg of Neem Cake per acre as soon as possible. • Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of leaf spots. • Soil drenching with COC 3 g per litre to check the Rhizome rot disease. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ solution 2-3 times. • Spray Propiconazole 1 ml per liter of water, 2-3 times against the occurrence of leaf spots.- 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Harvest the rhizomes when field comes to normal 	<ul style="list-style-type: none"> • Dry the rhizomes on concrete floor or use boilers (if available) for processing immediately • Grade and separate the rotten and mould affected rhizomes. • Pack the dried material in gunny bags disinfected with safe insecticides • Store in a well

	<ul style="list-style-type: none">• In case of severe damage (considered as complete economical loss or if inundation is more than for four days), and the contingency period is between June to August, sowing of best alternative crop must be taken up.			ventilated rooms
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2.3 Floods

Condition	Suggested contingency measure			
Transient water logging/ partial inundation ¹	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
1. Rice	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Apply booster dose of 0.2 kgN/40 sq.m. 3. spray micro nutrients like Zn, Fe two to three times at 4-5 days interval. 4. Take up proper weed control measures. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up gap filling either with available nursery or by splitting the tillers from the surviving hills. 3. Apply a booster dose of 20 kg Urea + 10Kg MOP / acre. 4. spray Znso₄ 0.2% if it is less than 45 days after transplanting. 5. Take up need based plant protection measures. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up need based plant protection measures. 	<ol style="list-style-type: none"> 1. Drain out water. Spread sheaves loosely in field or field bounds where there is no water stagnation. 2. Spray common salt at 3% on panicles to prevent germination and spoilage of straw from moulds. 3. Thresh after drying the sheaves properly. 4. Ensure proper grain moisture before storing.
2. Pulses	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up the gap filling at the earliest. 3. Take up weed control either mechanically through weedicides. 4. Apply 4-5 kg N/acre after draining excess water. 5. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up weed control either mechanically through weedicides. 3. Apply 4-5 kg N/acre after draining excess water. 4. To spray KNO₃ 2% 5. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Apply 4-5 kg N/acre after draining excess water. 3. To spray KNO₃ 2% to support nutrition. 4. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Harvest the crop after the fields are dried up.
3. Maize	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up weed control either mechanically through weedicides. 3. Inter cultivation and earthing up to be done. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up weed control either mechanically through weedicides. 3. Inter cultivation and earthing up to be done. 4. Apply 20 kg urea +10 kg MOP/acre 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Cob picking to be done after they are dried fully.

	4. Apply 20 kg urea +10 kg MOP/acre after draining excess water. 5. Take up plant protection measures against possible pests and disease incidence.	after draining excess water. 5. Take up plant protection measures against possible pests and disease incidence.		
Horticulture crops – Fruits				
Cashew	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Diamithoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Diamithoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Diamithoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Mango	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. • Drench the seedlings with COC 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature fruits as soon as possible. • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible.

	<p>of diseases.</p> <ul style="list-style-type: none"> • Drench the seedlings with COC 3.0% against root rot 	3.0% against root rot	<p>insect pest damage.</p> <ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Spray Dithane M-45 3.0% or bavistin 1.0% against Anthracnose
Guava	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • 1 Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Horticultural crops – Vegetables				
Beans	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray COC 30 g in 10 liters of water once. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.

Brinjal	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Soil drenching with COC 3g or redomil 2g in 1 lit of water to prevent damping off 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray COC 30 g in 10 liters of water once. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • .Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Tomato	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Soil drenching with COC 3g or redomil 2g in 1 lit of water to prevent damping off 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray Dithane M-45 25g or captan 30 g in 10 liters of water, 2-3 times against leaf blight 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray Dithane M-45 25g or captan 30 g in 10 liters of water, 2-3 times against leaf blight 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • .Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Chillies	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray COC 30 g+ 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Soil drenching with COC 3g or redomil 2g in 1 lit of water to prevent damping off 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g+ 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g+ 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Dry the pods on concrete floor/ tarpaulins. • Spray any drying oil after the pods are free from surface moisture for quick drying. • use poly house solar driers for quick drying • remove the pest and disease infected pods. • Market the produce as soon as possible

			<ul style="list-style-type: none"> • Spray planofix 1ml in 4.5 lit of water to prevent flower drop. 	
Gourds		<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, go for resowing 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution once. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.
Spices & Plantation crops				
Areca nut and Coconut	<ul style="list-style-type: none"> • Planting should be done on mounts or bunds • Drainage system, suited to local conditions. may be provided to remove surplus water from root zone • Relief drains [shallow] channels are opened at places where water accumulates and connected with main drain to remove water from the surface 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Apply booster dose of NPK fertilizers 	<ul style="list-style-type: none"> • .Drain the excess water as soon as possible • .Apply booster dose of NPK fertilizers 	<ul style="list-style-type: none"> • Harvest the mature nuts as soon as possible. • Market the produce as soon as possible.

Turmeric		<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ solution 2-3 times. • Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of leaf spots. • Soil drenching with COC 3g or redomil 2g in 1 lit of water to prevent rhizome rot • Spray ferrous sulphate 20g + citric acid 5g in 10 lit of water twice at weekly intervals 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% or 1% KNO₃ solution 2-3 times. • Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of leaf spots. • Soil drenching with COC 3g or redomil 2g in 1 lit of water to prevent rhizome rot • Spray ferrous sulphate 20g + citric acid 5g in 10 lit of water twice at weekly intervals 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Dry the rhizomes on concrete floor immediately after the appearance of sunlight. Mix thoroughly and periodically for quick and uniform drying of surface moisture. • Use boilers and polishers for processing • Remove and separate the rotten and mould affected rhizomes. • Cook and dry the rhizomes as soon as possible.
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2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone

Extreme event type	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Heat Wave				
Paddy , Sugarcane, Pulses and other crop	Irrigation	Irrigation	Irrigation	-
Cold wave	-	-	-	-
Frost	-	-	-	-
Hailstorm	-	-	-	-
Cyclone				
1. Rice	1. To drain out the excess water at the earliest.	1. To drain out the excess water at the earliest.	1. To drain out the excess water at the earliest..	1. Drain out water spread sheaves

	<p>2. Apply booster dose of 0.2 kg N/40 sq.m.</p> <p>3. Spray micro nutrients like Zn,Fe 2-3 times at 4-5 days interval.</p> <p>4. Take up proper weed control measures.</p>	<p>2. Apply booster dose of 20 kg urea/acre.</p> <p>3. Spray ZnSo₄ 0.2 % if it is less than 45 days after transplanting.</p> <p>4. Take up need based plant protection measures.</p>	<p>2. Take up need based plant protection measures.</p> <p>3. Lodged plants to be lifted and tied together To make them stand erect.</p>	<p>loosely in field or field bunds where there is no water stangation.</p> <p>2. Spray common salt at 5% to prevent germination of seed and spoilage of straw from moulds.</p> <p>3. Thresh after drying the sheaves properly.</p> <p>4. Ensure proper grain moisture before storing.</p>
2. Sugarcane	Drain out the excess water at the earliest.	<p>To drain out the excess water at the earliest.</p> <p>Propping Booster dose of fertilizer application.</p>	-	To drain out the excess water at the earliest.
3. Groundnut	Drain out the excess water at the earliest.	<p>Drain out the excess water at the earliest.</p> <p>Booster dose of fertilizer application.</p>	<p>Drain out the excess water at the earliest.</p> <p>Booster dose of fertilizer application.</p>	Drain out the excess water at the earliest.
4. Black gram	<p>1. To drain out the excess water at the earliest.</p> <p>2. Take up weed control either mechanically or through weedicides.</p>	<p>1. To drain out the excess water at the earliest.</p> <p>2. Take up weed control either mechanically through weedicides.</p> <p>3. Apply 4-5 kg N/acre after draining excess water.</p> <p>4. To spray 2% Urea to support nutrition.</p> <p>5. Take up plant</p>	<p>1. To drain out the excess water at the earliest.</p> <p>2. Apply 4-5 kg urea/acre after draining excess water.</p> <p>3. To spray 2% Urea to support nutrition.</p> <p>4. Take up plant protection measures against possible pests and disease incidence.</p>	<p>1. Drain out the excess water at the earliest.</p> <p>2. Harvest the crop after the fields are dried up.</p>

		protection measures against possible pests and disease incidence.		
5. Maize	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Inter cultivation and earthing up to be done. 3. Apply 20 kg N +10 kg K/acre after draining excess water. 4. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up weed control either mechanically or through weedicides. 3. Inter cultivation and earthing up to be done. 4. Apply 20 kg urea +10 kg MOP/acre after draining excess water. 5. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. To drain out the excess water at the earliest. 2. Take up plant protection measures against possible pests and disease incidence. 	<ol style="list-style-type: none"> 1. Drain out the excess water at the earliest. 2. Cob picking to be done after they are dried fully.
Horticulture crops – Fruits				
Cashew	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • .Spray Carbendazim 1 g per litre to prevent spread of diseases. • Provide support to the young plants 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Tress fallen on ground may be lifted and earthed up • Broken and damaged branches may be pruned and applied with Bordeaux paste • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Tress fallen on ground may be lifted and earthed up • Broken and damaged branches may be pruned and applied with Bordeaux paste • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible.

		<ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. 		
Mango	<ul style="list-style-type: none"> • Spray Carbendazim 1 g or COC 3g per litre to prevent spread of diseases. • If the damage is severe, go for resowing 	<ul style="list-style-type: none"> • Trees fallen on ground may be lifted and earthed up • .Manuring and plant protection measures have to be taken up. • .Broken and damaged branches may be pruned and applied with Bordeaux paste 	<ul style="list-style-type: none"> • Tress fallen on ground may be lifted and earthed up • .Manuring and plant protection measures have to be taken up. • .Broken and damaged branches may be pruned and applied with Bordeaux paste 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature fruits as soon as possible. • Collect the fallen fruits and sell immediately or go for preparation of processed products. • If to store, store the produce in well ventilated place temporarily before it can be marketed. • Broken and damaged branches may be pruned and applied with Bordeaux paste
Guava	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Dimethoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<ul style="list-style-type: none"> • Wind damaged branches should be pruned using disinfected secateurs and cut ends must be smeared with Bordeaux paste • Drain the excess water as soon as 	<ul style="list-style-type: none"> • Wind damaged branches should be pruned using disinfected secateurs and cut ends must be smeared with Bordeaux paste • Drain the excess water as soon as possible • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Diamithoate 2 ml or Phosphomidon 2 ml 	<ul style="list-style-type: none"> • Wind damaged branches should be pruned using disinfected secateurs and cut ends must be smeared with Bordeaux paste • Drain the excess water as

	<ul style="list-style-type: none"> • Provide support to the young plants. 	<p>possible</p> <ul style="list-style-type: none"> • Spray 1% KNO₃ or Urea 2% solution 2-3 times. • Spray Imidacloprid 0.3 ml or Diamithoate 2 ml or Phosphomidon 2 ml per litre to prevent insect pest damage. • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<p>per litre to prevent insect pest damage.</p> <ul style="list-style-type: none"> • Spray Carbendazim 1 g per litre to prevent spread of diseases. 	<p>soon as possible.</p> <ul style="list-style-type: none"> • Harvest the mature fruits as soon as possible. • Store the fruits in well ventilated place temporarily before it can be marketed. • Market the fruits as soon as possible. • The unmarketable fruits may be utilized for processing
Horticultural crops – Vegetables				
Beans		<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling must be done immediately • If damage is more ,go 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • If damage is more ,go for replanting 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature pods as soon as possible. • Store the pods in well ventilated place temporarily before it can be marketed. • Market the pods as soon as possible. • Spray Dithane M-45 2.5 g in 11

		for resowing with the same crop or grow alternate crops.		of water on the standing crop to prevent spread of diseases
Brinjal	<ul style="list-style-type: none"> • Grow nursery on raised beds. • Drench the nursery beds with COC 3 g per litre to prevent damping off • If damage is more go for replanting 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Gap filling must be done immediately • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • .If damage is more go for replanting 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Gap filling must be done immediately • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 12 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. • Market the produce as soon as possible. • Collect the fruits and sell immediately or go for preparation of processed products.
Tomato	<ul style="list-style-type: none"> • Grow nursery on raised beds. • Drench the nursery beds with COC 3 g per litre to prevent damping off. • If damage is more go for resowing 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Gap filling must be done immediately • Spray Urea 2% solution 2-3 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature fruits as soon as possible. • Store the fruits in well ventilated place

		<p>times.</p> <ul style="list-style-type: none"> • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. • If damage is more ,go for replanting 	<ul style="list-style-type: none"> • Spray COC 30 g in 10 liters of water, 2-3 times against leaf spots. 	<p>temporarily before it can be marketed.</p> <ul style="list-style-type: none"> • Market the fruits as soon as possible.
Chillies	<ul style="list-style-type: none"> • Grow nursery on raised beds. • Spray COC 30 g+ 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drench the nursery beds with COC 3 g per litre to prevent damping off 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Gap filling must be done immediately • If damage is more go for replanting Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as soon as possible. • Spray COC 30 g+ 1g Streptocycline in 10 liters of water, 2-3 times against the Bacterial Leaf Spot and Chaenophora blight. • Drench the Nursery beds with COC 3 g per 	<ul style="list-style-type: none"> • Uprooted plants may be lifted and earthed up • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 15 kg MOP + 30 kg Urea per acre as possible. • Spray Propiconazole 1ml per litre once. • Drench the Nursery beds with COC 3 g per litre to prevent damping off 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Dry the pods on concrete floor/ tarpaulins immediately • use poly house solar driers for quick drying • Remove the pest and disease infected pods.

		litre to prevent damping off		
Gourds		<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots. • Gap filling may be taken up if the plants are two weeks old and sowing window is still available for the crop. • In case of severe damage (considered as complete economical loss), and the contingency period is between June to August, go for resowing 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Spray Urea 2% solution 2-3 times. • Topdressing of booster dose of 10 kg MOP + 30 kg Urea per acre as soon as possible. • Spray mancozeb 25 g in 10 liters of water, 2-3 times against leaf spots. 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible. • Harvest the mature produce as soon as possible. • Store the produce in well ventilated place temporarily before it can be marketed. Market the produce as soon as possible.
Horticulture crops - Flowers				
Spices & Plantation crops				
Areca nut and Coconut	<ul style="list-style-type: none"> • Planting should be done on mounts or bunds • Drainage system suited to local 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible 	<ul style="list-style-type: none"> • Drain the excess water as soon as possible • Hanging bunches may be provided with supports wherever possible .Apply 	<ul style="list-style-type: none"> • Twisted leaves may be cut and removed

	<p>conditions. may be provided to remove surplus water from root zone</p> <ul style="list-style-type: none"> Relief drains [shallow] channels are opened at places where water accumulates and connected with main drain to remove water from the surface 	<ul style="list-style-type: none"> Twisted leaves may be cut and removed .Apply booster dose of NPK fertilizers .The palms have fallen with root system still having contact with the soil ,they need to be brought to position and provided with soil mound and support 	<p>booster dose of NPK fertilizers</p> <ul style="list-style-type: none"> .The palms have fallen with root system still having contact with soil they need to be brought to position and provided with soil mound and support 	<ul style="list-style-type: none"> Hanging bunches may be provided with supports wherever possible Harvest the mature nuts as soon as possible. Market the produce as soon as possible.
<p>Turmeric</p>		<ul style="list-style-type: none"> Drain the excess water as soon as possible Spray Urea 2% or 1% KNO₃ followed by Ferrous Sulphate 0.5% + Citric Acid 0.1 % solution 2-3 times. Topdressing of booster dose of 40 kg MOP + 50 kg Urea along with 250 kg of Neem Cake per acre as soon as possible. Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of leaf spots. Soil drenching with COC 3 g per litre to check the Rhizome rot disease. 	<ul style="list-style-type: none"> Drain the excess water as soon as possible Spray Urea 2% or 1% KNO₃ followed by Ferrous Sulphate 0.5% + Citric Acid 0.1 % solution 2-3 times. Topdressing of booster dose of 40 kg MOP + 50 kg Urea along with 250 kg of Neem Cake per acre as soon as possible. Spray Propiconazole 1 ml per litre of water, 2-3 times against the occurrence of leaf spots. Spray M-45 @2.5 g per litre of water or bavistin 1 g per litre of water, 2-3 times against the occurrence of leaf spots. 	<ul style="list-style-type: none"> Drain the excess water as soon as possible. Harvest the rhizomes when field comes to normal Use boilers and polishers for processing Remove and separate the rotten and mould affected rhizomes. Cook and dry the rhizomes as soon as possible.

		<ul style="list-style-type: none"> In case of severe damage (considered as complete economical loss or if inundation is more than for four days), and the contingency period is between June to August, sowing of best alternative crop must be taken up. 		
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2.5 contingency strategies for livestock, poultry & fisheries

General contingency plans

Before the event^s	During the event	After the event
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Feed and fodder availability		
<ol style="list-style-type: none"> 1. Conserving fodder/crop residues/ forest grass by silage / hay making either by individual or on community basis 2. Preparing complete diets and storing in strategic locations 3. Organize procurement of dry fodders / feed ingredients from surplus areas 4. Establish fodder banks and feed banks 5. Livestock relief camps during floods/cyclones must be planned in the vicinity of relief camps for people 6. Capacity building and preparedness 	<ol style="list-style-type: none"> 1. Organise relief camps 2. Supply silage / hay to farmers with productive stock on subsidized rates 3. Segregate old, weak and unproductive stock and send for slaughter 4. Supply mineral mixture to avoid deficiencies 5. Dry fodder must be offered to the livestock in little quantities for number of times 6. Concentrate feed or complete feed must be offered to only productive and young stock only 	<ol style="list-style-type: none"> 1. Capacity building to stakeholders on drought / cyclone / flood mitigation in livestock sector 2. Promote fodder cultivation. 3. Flushing the stock to recoup 4. Avoid soaked and mould infected feeds / fodders to livestock 5. Replenish the feed and fodder banks 6. Promote fodder preservation techniques like silage / hay making
Drinking water		

<ol style="list-style-type: none"> 1. Construct drinking water tanks in herding places, village junctions and in relief camp locations 2. Plan for sufficient number of tanks for water transportation 3. Identify bore wells, which can sustain demand. 4. Procure sufficient quantities of water Sanitizers 	<ol style="list-style-type: none"> 1. Regular supply of clean drinking water to all tanks 2. Cleaning the tanks in regular intervals 3. Keep the livestock away from contaminated flood/cyclone/stagnated waters 3. Add water sanitizers 	<ol style="list-style-type: none"> 1. Hand over the maintenance of the structures to panchayats 2. Sensitize the farming community about importance of clean drinking water
Health and disease Management		
<ol style="list-style-type: none"> 1. Procure and stock emergency medicines and vaccines for important endemic diseases of the area 2. All the stock must be immunized for endemic diseases of the area 3. Carry out deworming to all young stock 4. Keep stock of bleaching powder and lime 5. Carry out Butax spray for control of external parasites 6. Identify the Clinical staff and trained paravets and indent for their services as per schedules 7. Identify the volunteers who can serve in need of emergency 	<ol style="list-style-type: none"> 1. Keep close watch on the health of the stock 2. Sick animals must be isolated and treated Separately. 3. Carry out deworming and spraying to all animals entering into relief camps 4. Clean the animal houses regularly and apply disinfectants. 5. Safe and hygienic disposal of dead animal carcasses 6. Organize with community daily lifting of dung from relief camps 	<ol style="list-style-type: none"> 1. keep close surveillance on disease outbreak. 2. Undertake the vaccination depending on need 3. Keep the animal houses clean and spray disinfectants

2.5.1 Detailed contingent strategies for Livestock

	Suggested contingency measures		
	Before the event	During the event	After the event
Drought			
Feed and Fodder availability	<p>Establishment of silvi-pastoral system in CPRs with <i>Stylosanthus hamata</i> and <i>Cenchrus ciliaris</i> as grass with <i>Leucaena leucocephala</i> as tree component (or suggest suitable similar system to your district)</p> <p>Top dressing of N in 2-3 split doses @ 20-25 kg N/ha in common property resources (CPRs) like temple lands, panchyat lands or private property resources (PPRs) like waste and degraded lands with the monsoon pattern for higher biomass production</p> <p>Promote cultivation of short duration fodder</p>	<p>Harvest and use biomass of dried up crops (Rice, Maize, Bajra, Horse gram, Groundnut, black gram, sun hemp) material as fodder.</p> <p>Harvest the tree fodder (Neem, Subabul, Acasia, Pipal etc) and unconventional feeds resources available and use as fodder for livestock (LS).</p> <p>Available feed and fodder should be cut from CPRs and stall fed in order to reduce the energy requirements of the animals</p> <p>UMMB, hay, concentrates and vitamin & mineral mixture should be transported to the</p>	<p>Concentrates supplementation should be provided to all the animals.</p> <p>The farmers may be advised to practice “flushing the stock” to recoup</p> <p>Short duration fodder crops of should be sown in unsown and crop failed areas where no further routine crop sowing is not possible</p> <p>Supply of quality seeds of fodder varieties and motivating the farmers to cultivate at least 10% of their</p>

	<p>crops of sorghum/bajra/maize(UP chari, MP chari, HC-136, HD-2, GAIN T BAJRA, L-74, K-677, Ananad/African Tall, Kisan composite, Moti, Manjari, B1-7 and also sunhemp</p> <p>Chopping of fodder should be made as mandatory in every village through supply and establishment of good quality chaff cutters.</p> <p>Establishment of backed yard cultivation of para grass with drain water from bath room/washing area</p> <p>Harvesting and collection of perennial vegetation particularly grasses which grow during monsoon</p> <p>Proper drying, baling and densification of harvested grass from previous season</p> <p>Creation of permanent fodder, feed and fodder seed banks in all drought prone villages</p>	<p>needy areas from the reserves at the district level initially and latter stages from the near by districts. Hay should be enriched with 2% Urea molasses solution or 1% common salt solution and fed to LS</p> <p>Herd should be split and supplementation should be given only to the highly productive and breeding animals</p> <p>Provision of emergency grazing/feeding (Cow-calf camps or other special arrangements to protect high productive & breeding stock)</p> <p>Motivate the farmers to mix the dry fodder with available kitchen waste while feeding</p> <p>Arrangements should be made for mobilization of small ruminants across the villages where no drought exits with subsidized road/rail transportation and temporary shelter provision for the shepherds</p> <p>Unproductive livestock should to be culled during severe drought</p> <p>Create transportation and marketing facilities for the culled and unproductive animals</p> <p>Supply silage and or hay on subsidized rates to the farmers having high productive stock</p> <p>Subsidized loans should be provided to the livestock keepers.</p>	<p>land holding for fodder production</p>
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<p>Cyclone</p>	<p>Harvest all the possible wetted grain (rice/maize/bajra etc) and sugar cane tops and use as animal feed.</p> <p>Motivate the farmers to store a minimum quantity of hay (25-50 kg) and concentrates (10-25 kg) per animal in farmer's / LS keepers house/ shed for feeding the animals during cyclone.</p> <p>Stock of anti-diarrheal drugs and electrolytes should be made available for emergency transport</p> <p>Don't allow the animals for grazing in case of early forewarning (EFW) of cyclone</p> <p>Incase of EFW of severe cyclone, shift the animals to safer places.</p>	<p>Treatment of the sick, injured and affected animals through arrangement of mobile emergency veterinary hospitals / rescue animal health workers.</p> <p>Diarrhea out break may happen. Health camps should be organized</p> <p>In severe cases un-tether or let loose the animals</p> <p>Arrange transportation of highly productive animals to safer place</p> <p>Spraying of fly repellants in animal sheds</p>	<p>Repair of animal shed</p> <p>Deworm the animals through mass camps</p> <p>Vaccinate against possible disease out breaks like HS, BQ, FMD and PPR</p> <p>Proper dispose of the dead animals / carcasses by burning / deep burying (4-8 feet) with lime powder (1kg for small ruminants and 5kg for large ruminants) in pit</p> <p>Bleach / chlorinate (0.1%) drinking water or water resources</p> <p>Collect drowned crop material, dry it and store for future use</p> <p>Sowing of short duration fodder crops in unsown and water logged areas when crops are damaged and no chance to replant</p> <p>Application of urea (20-25kg/ha) in the inundated areas and CPR's to enhance the bio mass production.</p>
<p>Floods</p>	<p>In case of early forewarning (EFW), harvest all the crops (Maize, Rice, Bajra, Groundnut) that can be useful as fodder in future (store properly) and also sugar cane tops</p> <p>Don't allow the animals for grazing if severe floods are forewarned</p>	<p>Transportation of animals to elevated areas</p> <p>Stall feeding of animals with stored hay and concentrates</p> <p>Proper hygiene and sanitation of the animal shed</p> <p>In severe floods, un-tether or let loose the</p>	<p>Repair of animal shed</p> <p>Bring back the animals to the shed</p> <p>Cleaning and disinfection of the shed</p> <p>Bleach (0.1%) drinking water / water sources</p>

	<p>Motivate the farmers to store a minimum required quantity of hay (25-50kg) and concentrates (25kgs) per animals in farmer / LS keepers house / shed for feeding animals during floods</p> <p>Arrangement for transportation of animals from low lying area to safer places and also for rescue animal health workers to get involve in rescue operations</p>	<p>animals</p> <p>Emergency outlet establishment for required medicines or feed in each village</p> <p>Spraying of fly repellants in animal sheds</p>	<p>Deworming with broad spectrum dewormers</p> <p>Vaccination against possible disease out breaks like HS, BQ, FMD and PPR</p> <p>Proper disposale of the dead animals / carcasses by burning / deep burying (4-8 feet) with lime powder (1kg for small ruminants and 5kg for large ruminants) in pit</p> <p>Drying the harvested crop material and proper storage for use as fodder.</p>
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Andhra Pradesh Contingency plans for FISHERIES / AQUACULTURE

	Suggested Contingency Measures		
1) Drought	Before the event	During the event	After the event
A. Capture			
Marine	No intervention	No intervention	No intervention
Inland			
(i) Shallow water depth due to insufficient rains / inflow	Stocking of advanced fingerlings in half or even less than the normal stocking density or stocking of common carp seed	Immediate harvesting or decreasing the density commensurate with the water quantity.	De weeding and deepening of tank to ensure retention of water for a longer period and provision of employment under MGNREGP
(ii) Changes in water quality	Regular monitoring of water quality parameters and application of geolites, soil probiotics, etc to maintain water quality	Immediate harvesting or changing the water quality by application of sanitisers.	Removal of top layer, deep ploughing of tank and application of lime
(iii) Any other			
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains / inflow	Crop holiday or going for stocking of yearlings by reducing the density according to availability of water	Harvesting of fish and leaving the pond fallow till next season	Removal of top layer, deep ploughing of tank and application of lime
(ii) Impact of salt load build up in ponds / changes water quality	Stocking of salinity tolerant fish / shrimp, application of geolites and other buffers	Frequent change of water with fresh water	Frequent draining of the pond with fresh water, removal of top layers
(iii) Any other			

2) Floods			
A. Capture			
Marine	No intervention	No intervention	No intervention
Inland			
(i) Average compensation paid due to loss of human life	Shifting the people from low lying areas to relief camps	Deployment of specially trained persons for rescue operations by providing life bouys, jackets, ropes, boats, etc	Payment sufficient ex-gratia to the families
(ii) No. of boats / nets damaged	Shifting and relocating boats and nets to safer places when warnings are issued, to avoid fishing, etc	Shifting and relocating boats and nets to safer places	Assessment of damages to boats and nets and provision of boats and nets for restoration of livelihoods
(iii) No. of houses damages	Avoidance of construction of houses in flood prone ares, construction of pucca houses at elevated places,	Shifting of people by relief boats to the relief camps	Assessment of damages to houses and provision of compensation in case of partial damage and sanction house under existing schemes
(iv) Loss of stock	Avoidance of surface species like catla, silver carp since they are vulnerable in tanks prone to floods, erection of nets across the spill way or just beyond it	Erection of nets at spill ways	Taking up compensatory stocking

(v) Changes in water quality		When dissolved oxygen levels go down, aerators, recirculation of water, etc are to be attempted to maintain DO levels, going for partial harvest, etc	
(vi) Health and disease	Sometimes there may be heavy accumulation of nutrients and organic matter.	There may be break out of Hemorrhagic septicemia. Addition of antibiotics like Chloro Tetra Cycline or Oxy Tetra Cycline to the feed to control the disease	Removal of weeds, top layer of soil, deep ploughing of tank and application of lime, exposing to sun light
B. Aquaculture			
(i) Inundation with flood water	Raising and rivetting the bunds, construction of spill way to release excess water, erection of nets to avoid escape of fish	Continuous pumping of excess water, erection of nets low lying areas	Strengthening of bunds, excavating channels along the sides of the ponds for free escape of water
(ii) Water contamination and changes in water quality		When dissolved oxygen levels go down, aerators, recirculation of water, etc are to be attempted to maintain DO levels, going for partial harvest, etc	
(iii) Health and disease	Sometimes there may be heavy accumulation of nutrients and organic matter.	There may be break out of Hemorrhagic septicemia. Addition of antibiotics like Chloro Tetra Cycline or Oxy Tetra Cycline to the feed to control the disease	Removal of weeds, top layer of soil, deep ploughing of tank and application of lime, exposing to sun light

(iv) Loss of stock and inputs (feed, chemicals, etc)	Advance erection of nets, strengthening of bunds where they are prone to breaches, harvesting or reducing the density	Suspension of feeding, application of organic manures	Compensatory stocking, assessment of values and payment of subsidy on inputs
(v) Infrastructure damage (pumps, aerators, huts, etc.)	Insuring pond, accessories, etc., Shifting of aerators, pumps soon after warnings are issued	Relocating pumps, aerators to elevated places	Assessment of damages and provision of them on subsidy
(vi) Any other			
3) Cyclone / Tsunami			
A. Capture			
Marine			
(i) Average compensation paid due to loss of fishermen lives	Avoidance of fishing, preventing fishermen from venturing into sea, carrying of safety equipment and VHF sets, shifting fishermen from vulnerable areas to relief camps, etc	To ensure the return of fishing boats on long voyages, provision of information on such boats to coast Guard	Payment sufficient ex-gratia to the families
(ii) Average no. of boats / nets damaged	Avoidance of fishing when warnings are issued, shifting of boats and nets to safe places	Shifting and relocating boats and nets to safer places	Assessment of damages to boats and nets and provision of boats and nets for restoration of livelihoods

(iii) Average no. of houses damages	Avoidance of houses in Coastal Regulation Zone, designing of houses to withstand impact of turbulent wind and water	Shifting of people by relief boats to the relief camps	Assessment of damages to houses and provision of compensation in case of partial damage and sanction house under existing schemes
Inland	Erection of protective nets across the surplus weir to prevent fish loss due to overflows	Continuous monitoring to prevent or minimise escape of fish along with surplus water	Compensatory stocking of seed
B. Aquaculture			
(i) Overflow / flooding in ponds	The design of the pond must be in such a manner as to bail out surplus water and to prevent loss of standing crop	Continuous monitoring to prevent or minimise escape of fish along with surplus water	Compensatory stocking of seed
(ii) Changes in water quality (fresh water / brackish water ratio)	Recirculation water to replenish and ensure sufficient dissolved oxygen levels in the pond. Maintenance of salinity levels by pumping in water from creeks.	Continuation of the same process.	Restoration of physical and chemical parameters
(iii) Health and disease	Removal of stress causing factors to maintain the health of the animal	Removal of stress causing factors to maintain the health of the animal	Restoration of physical and chemical parameters
(iv) Loss of stock and inputs (feed, chemicals, etc)	Preventive nets must be erected to minimise loss of stock	Continuation of the same process.	Compensatory stocking of seed

(v) Infrastructure damage (pumps, aerators, huts, etc.)	Pumps, aerators, etc must be protected by moving them to safe locations	To avoid use of aerators, pumps and other appliances	Overhauling of the equipment to prevent from being damaged
(vi) Any other			
4) Heat and Cold wave conditions			
A. Capture			
Marine	Avoidance of fishing	Avoidance of fishing	No intervention
Inland	Monitoring dissolved oxygen levels	Monitoring dissolved oxygen levels	No intervention
B. Aquaculture			
(i) Changes in water quality (fresh water / brackish water ratio)	Reduction of biomass by partial harvest in the event of heat as the DO levels will be very low.	Avoidance of fishing	Compensatory stocking of seed and restoration of all physical and chemical parameters
(ii) Health and disease	Removal of stress causing factors to maintain the health of the animal	Removal of stress causing factors to maintain the health of the animal	Compensatory stocking of seed and restoration of all physical and chemical parameters
(iii) Any other			