

State: **TAMIL NADU**

Agriculture Contingency Plan for District: DINDIGUL

1.0 District Agriculture profile

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1.1	Agro-Climatic/Ecological Zone			
	Agro Ecological Region / Sub Region (ICAR)	Eastern Ghats (Tamil Nadu uplands and south eastern sahayadris) and Deccan plateau, hot semiarid eco-sub region (8.1)		
	Agro-Climatic Region (Planning Commission)	Southern Plateau and Hills region (X)		
	Agro Climatic Zone (NARP)	Western zone (TN-3)		
	List all the districts or part thereof falling under the NARP Zone	Coimbatore, Erode, Karur, Tirchirapalli Madurai, Theni, Sivagangai		
	Geographic coordinates of district	Latitude	Longitude	Altitude
		10 ⁰ 3' N	77 ⁰ 15' E	926 m
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Maize Research Station, Vagarai		
	Mention the KVK located in the district	Gandhigram Rural University KVK, Gandhigram, Dindigul Dt.		
1.2	Rainfall	Average (mm)	Normal Onset (specify week and month)	Normal Cessation (specify week and month)
	SW monsoon (June-Sep):	218	1 st Week of June	1st week of October
	NE Monsoon(Oct-Dec):	418	2 nd week of October	1 st Week of December
	Winter (Jan- Feb)	45	-	-
	Summer (March-May)	155	-	-
	Annual	836	-	-

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 ('000 ha)	626.7	138.9	66.1	6.9	5.9	7.4	36.2	29.8	99.1

1.4	Major Soils	Area (thousand ha)	Percent (%) of total
	Deep black soils	220.0	26.4
	Shallow red soils	168.6	26.9
	Deep red soils	127.2	20.3
	Shallow black soils	80.8	12.9
	Moderately deep black soils	54.5	8.7
	Miscellaneous	30.8	4.8
	Moderately deep red soils	20.7	3.3
1.5	Agricultural land use	Area (thousand ha)	Cropping intensity %
	Net sown area	239.0	103.3
	Area sown more than once	7.9	
	Gross cropped area	246.8	

1.6	Irrigation	Area (thousand ha)		
	Net irrigated area	99.4		
	Gross irrigated area	105.3		
	Rainfed area	139.5		
	Sources of Irrigation	Number	Area ('000 ha)	% area
	Canals	41	5.6	5.5
	Tanks	3104	6.5	6.4
	Open wells	94088	91.5	83.1
	Bore wells	3266	3.7	3.6
	Lift irrigation	-	-	-
	Other sources	-	0.96	0.9
	Total	-	108.7	98.9
	Pumpsets	-		
	Micro-irrigation	-		
	Groundwater availability and use	No. of blocks	% area	Quality of water
	Over exploited	10	71.0	Salinity level: 34 % good, 40% moderate and 22% poor Residual Sodium Carbonate: 93% good and 7% moderate Sodium Adsorption Ratio: 95 % good and 5% moderate
	Critical	2	14.2	
Semi- critical	1	7.1		
Safe	1	7.1		
Wastewater availability and use	Data not available			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

Area under major field crops & horticulture etc.

*If break-up data (irrigated, rainfed) is not available, give total area

1.7	Major Field Crops cultivated	Area (thousand ha)					
		<i>Kharif</i>		<i>Rabi</i>		Summer	Total
		<i>Irrigated</i>	<i>Rainfed</i>	<i>Irrigated</i>	<i>Rainfed</i>		
	Maize	6.1	11.9	17.3	12.8		48.1
	Sorghum	0.4	17.6	2.0	54		25.4
	Paddy	1.5	-	15.5	0.0	2.7	19.6
	Pulses	0.1	10.5	0.1	8.8		19.4
	Groundnut	0.6	3.7	6.5	0.3		11.0
	Horticulture crops	Total area		Irrigated		Rainfed	
	Mango	14410		1942		12468	
	Banana	4845		2441		2404	
	Citrus	5110		1144		3966	
	Sapota	1730		1719		11	
	Guava	955		850		105	
	Berikai	1024		---		1024	
	Horticultural crops - Vegetables	Total area		Irrigated		Rainfed	
	Tobacco	1197		1197		----	
	Onion	2745		2745		----	
	Potato	2672		694		1978	
	Tomato	2529		2529		-----	
	Carrot	1007		392		615	
	Drumstick	1623		1612		11	

Medicinal and Aromatic crops	Total area	Irrigated	Rainfed
Kannoli poo	447	435	12
Kanvazhi kizhangu	467	403	64
Cocoa	52	15	37
Plantation crops	Total area	Irrigated	Rainfed
Coffee	10337	47	10290
Coconut	25707		
Teak	384	269	115
Eucalyptus	111	27	84
Karuvel	86	3	83
Casuarina	76	12	64
Elavan or ulagu	309	107	202
Fodder crops	Total area	Irrigated	Rainfed
Sorghum	4099	302	3797
Feeder grass	81	22	59
Total fodder crop area	4240	382	3858
Flower crops	Total area	Irrigated	Rainfed
Arali	746	746	--
Jasmine	594	594	---
Chevanthi	493	493	---
Rose	304	304	--
Pichi	286	286	---
Crossandra	233	233	---
Mullai	208	208	---
Champangi	141	141	---
Grazing land	-	-	-
Sericulture (Mulberry)	313	309	4
Others (Specify)			

1.8	Livestock	Male ('000)	Female ('000)	Total ('000)	
	Non descriptive Cattle (local low yielding)	15.3	30.1	45.5	
	Crossbred cattle	16.5	188.3	204.8	
	Non descriptive Buffaloes (local low yielding)			80.7	
	Graded Buffaloes				
	Goat			258.2	
	Sheep			266.4	
	Others (Camel, Pig, Yak etc.)			6.4	
	Commercial dairy farms (Number)				
1.9	Poultry	No. of farms	Total No. of birds ('number)		
	Commercial				
	Backyard		1488		
1.10	Fisheries (Data source: Chief Planning Officer)				
	A. Capture				
	i) Marine (Data Source: Fisheries Department)	No. of fishermen	Boats		Storage facilities (Ice plants etc.)
			Mechanized	Non-mechanized	
	ii) Inland (Data Source: Fisheries Department)	No. Farmer owned ponds		No. of Reservoirs	No. of village tanks
		35		8	3104
	B. Culture				
		Water Spread Area (ha)	Yield (t/ha)	Production ('000 tons)	
	i) Brackish water (Data Source: MPEDA/ Fisheries Department)	-	-	-	
ii) Fresh water (Data Source: Fisheries Department)	-	-	-		
Others	-	-	-		

1.11	Production and Productivity of major crops (Average of last 3 years: 2006, 07, 08)	Kharif		Rabi		Summer		Total	
		Production ('t)	Productivity (kg/ha)	Production ('t)	Productivity (kg/ha)	Production (t)	Productivity (kg/ha)	Production (mt)	Productivity (kg/ha)
1	Paddy	-	-	-	-	-	-	74.6	3800
2	Millets	-	-	-	-	-	-	175.7	2320
3	Pulses	-	-	-	-	-	-	9.1	470
4	Oilseeds	-	-	-	-	-	-	29.0	1700
5	Cotton (Bales of lint)	-	--	-	--	-	--	1986 (B)	3.0 (Bales)
6	Sugarcane (Gur)	-	-	-	-	-	-	56.3	11300
Others									
Major Horticultural crops		-	-	-	-	-	-	-	-

1.12	Sowing window for 5 major crops (start and end of sowing period)	Paddy	Millets	Pulses	Oilseeds	Cotton	Sugarcane
	Kharif- Rainfed	-	July 1 st week to Sep 1 st week	July 1 st week to Sep 1 st week	June 3 rd week to July 3 rd week	-	-
	Kharif-Irrigated	July 2 nd week (Kharif) to August 1 st week (late Kharif)	June 1 st week to Aug 1 st week	June 1 st week to Aug 1 st week	June 3 rd week to July 3 rd week	Aug 1 st week to Sep 2 nd week	-
	Rabi- Rainfed		September 3 rd week to October 3 rd week	Dec 1 st week to Jan 1 st week	-	-	-
	Rabi-Irrigated	September 2 nd week to October 2 nd week	September 3 rd week to October 3 rd week	Dec 2 nd week to Jan 2 nd week	December 1 st week to Jan 1 st week	-	November 3 rd week to December 4 th week

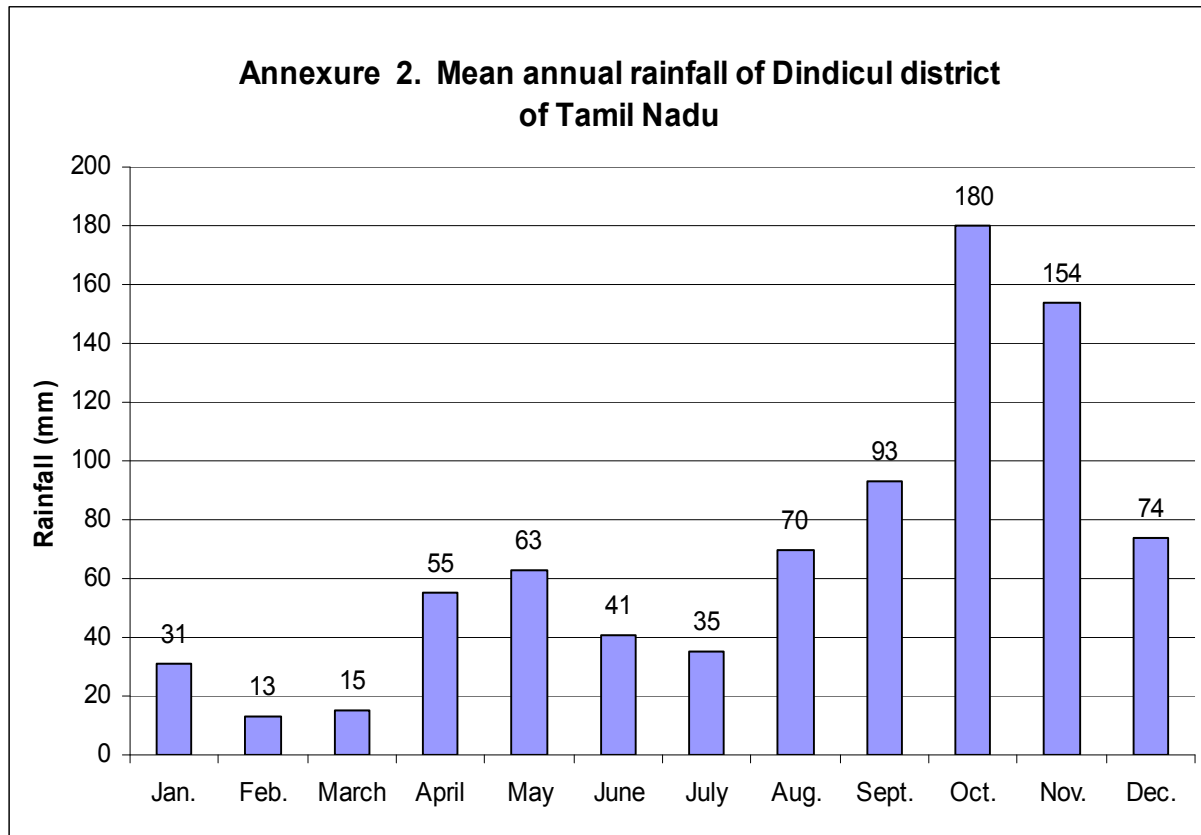
1.13	What is the major contingency the district is prone to? (Tick mark and mention years if known during the last 10 year period)	Regular	Occasional	None
	Drought	√	-	-
	Flood	-	-	√
	Cyclone	-	-	√
	Hail storm	-	-	√
	Heat wave	-	-	√
	Cold wave	-	-	√
	Frost	-	-	√
	Sea water inundation	-	-	√
	Pests and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

1.14	Include Digital maps of the district for	Location map of district within State as Annexure I	Enclosed: Yes √
		Mean annual rainfall as Annexure 2	Enclosed: Yes √
		Soil map as Annexure 3	Enclosed: Yes √

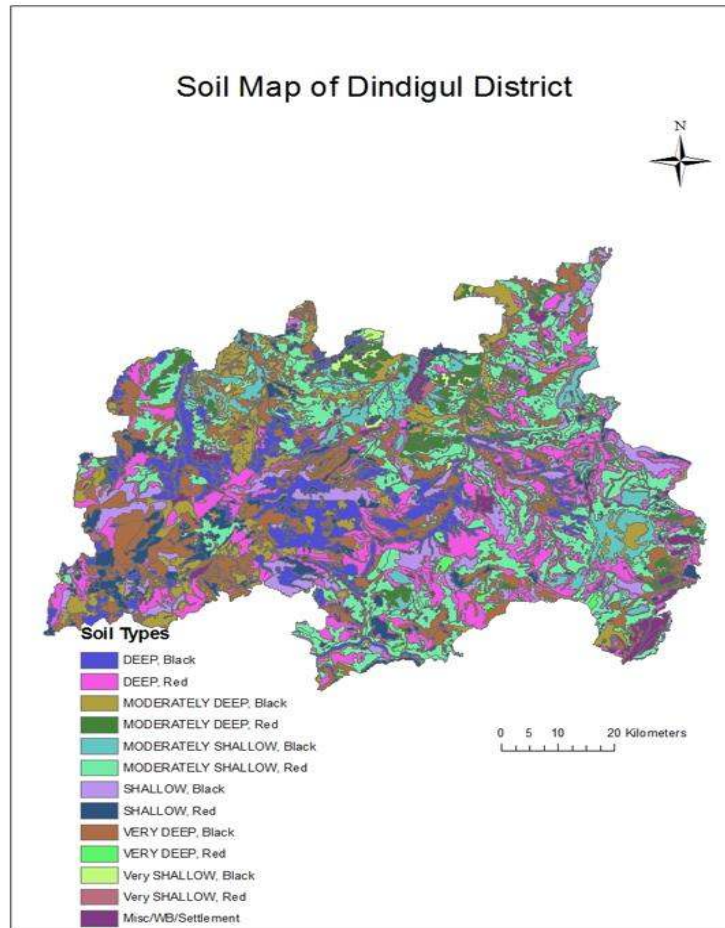
Annexure 1. Location map of Dindigul district and the blocks



Annexure 2. Mean annual rainfall of Dindicul district of Tamil Nadu



Annexure 3. Soil map of Dindigul district of Tamil Nadu



2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Kharif season Delay by 2 weeks (June 3 rd week)	Deep red and Moderately shallow red soils	Groundnut+ Pulses	No change	Mechanical sowing with tractor drawn seed drill as the sowing window is narrow Seed treatment with Thiram or Carbendazim @2g/Kg or T.Viride @4g/kg Or <i>P.Fluorescens</i> @ 10g/kg	Through state department of agriculture
		Groundnut + Maize			
		Groundnut	TMV-7, 10, VRI-2		
		Cowpea	COCT7		
		Pigeon Pea	VBN 3,		
		Black Gram	Co 5, VBN 1,2,3		
		Maize	CoRH 1, Co 1		
Delay by 4 weeks (July 1 st week)	Deep red and Moderately shallow red soils	Groundnut+ Pulses	No change	Mechanical sowing with tractor drawn seed drill as the sowing window is narrow Seed drill sowing for pulses Seed hardening-(18 hrs. soaking in water followed by 24 hrs. shade drying Thinning to retain one seedling at 30 cm	Through state department of agriculture
		Groundnut + Maize			
		Groundnut	TMV-7, 10, VRI-2		
		Cowpea	COCT7		
		Pigeon Pea	VBN 3,		
		Black Gram	Co 5, VBN 1,2,3		
		Maize	CoRH 1, Co 1		
Delay by 6 weeks (July 3 rd week)	Deep red and Moderately shallow red soils	Groundnut+ Pulses	No change	2% DAP spray	Through state department of agriculture
		Groundnut + Maize			

		Groundnut	TMV-7, 10, VRI-2	Seed drill sowing for pulses	
		Pigeon Pea	VBN 3,	Crop residue mulching Spray NAA 40 mg/lit or salicylic acid @ 100mg/lit at pre-flowering and 15days thereafter.	
		Black Gram	Co 5, VBN 1,2,3		
		Maize	CoRH 1, Co 1	Seed treatment with 3Pkts Azospirillum+ 3Pkts Phosphobacteria or 6 Azophos	
Delay by 8 weeks (Aug 1 st week)	Deep red and Moderately shallow red soils	As Above	As Above	Seed drill sowing for pulses Seed hardening-(18 hrs. soaking in water followed by 24 hrs. shade drying 2% DAP spray Seed drill sowing for pulses	Through state department of agriculture
Rabi Season					
Delay by 2 weeks (Oct 4 th week)	Deep red and Moderately shallow red soils	Maize	No Change	Crop residue mulching Spray NAA 40 mg/lit or salicylic acid @ 100mg/lit at preflowering and 15days thereafter. Seed treatment with 3Pkts Azospirillum+ 3Pkts Phosphobacteria or 6 Azophos	Through state department of agriculture
		Redgram			
		Black gram			
		cowpea			
Delay by 4 weeks (Nov 2 nd week)	Deep red and Moderately	Maize	Co1, CoHM4, CoBC 1	Seed drill sowing for pulses	Through state department of agriculture
		Redgram	APK 1, CoPH 2 AND		

	shallow red soils		CoRG 7	Crop residue mulching Spray NAA 40 mg/lit or salicylic acid @ 100mg/lit AT preflowering and 15days thereafter. Seed treatment with 3Pkts Azospirillum+ 3Pkts Phosphobacteria or 6 Azophos	
		Blackgram	VBN 1,2,3&4		
		cowpea	CoCT7		
		sunflower	TCSH1, MFSH 17, Co2, Moden		
Delay by 6 weeks (Nov 4 th week)	Deep red and Moderately shallow red soils	Maize	As Above	12.5 kg MN mixture by state dept. agri 2 % DAP spray for pulses MgSO4 5% or MgSO4@ 20 kg/ha for Mg def in Cotton	Through state department of agriculture
		Redgram			
		Blackgram			
		cowpea			
Delay by 8 weeks (Nov 4 th week)	Deep red and Moderately shallow red soils	Maize	Co1, CoHM4, CoBC 1	Seed drill sowing for pulses Crop residue mulching Spray NAA 40 mg/lit or salicylic acid @ 100mg/lit AT preflowering and 15days thereafter. Seed treatment with 3Pkts Azospirillum+ 3Pkts Phosphobacteria or 6 Azophos	Through state department of agriculture
		Redgram	APK 1, CoPH 2 AND CoRG 7		
		Blackgram	VBN 1,2,3&4		
		cowpea	CoCT7		

Condition	Major Farming situation	Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil management	Remarks on Implementation
Early season drought (Normal onset, followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.)	Deep red and Moderately shallow red soils	Groundnut	<ul style="list-style-type: none"> Initial drought will not affect the groundnut crop Re sowing of pulses Thinning to retain one seedling at 30 cm Crop residue mulching 	Intercultivation (soil mulching) Recommended doses of FYM 12.5 t/ha and Coirpith compost 12.5 t/ha	-
		Pigeon Pea			
Black Gram					
Maize					
Deep and very deep black soils	Deep and very deep black soils	Maize			
		Redgram			
		Black gram			

Condition	Major Farming situation	Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil management	Remarks on Implementation
Mid season drought (long dry spell)					
At vegetative stage	Deep red and Moderately shallow red soils	Groundnut	Earthing up, apply Gypsum after receipt of rains	Intercultivation (soil mulching) Conservation Furrow	Through state department of agriculture
		Pigeon Pea			
		Black Gram			
		Maize			
	Deep and very deep black soils	Maize	1% KCl spray	Recommended doses of FYM 12.5 t/ha and Coirpith compost 12.5 t/ha	
		Cowpea	Kaoline spray		
Black gram		Water spray			

			Use of microirrigation systems		
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Condition	Major Farming situation	Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil management	Remarks on Implementation
Mid season drought (long dry spell) At reproductive stage	Deep red and Moderately shallow red soils	Groundnut	Life saving irrigation	—	Farm ponds through DRDA programme Farm ponds through DRDA programme
		Pigeon Pea	Weeding and Weed mulching		
		Black Gram			
		Maize			
	Deep and very deep black soils	Maize	1% Kcl spray		
		Cowpea	2% DAP spray		
		Black gram	Kaoline spray		
		Redgram	Water spray		

Condition	Major Farming situation	Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil management	Remarks on Implementation
Terminal drought	Deep red and Moderately shallow red soils	Groundnut	Life saving irrigation using microirrigation system Harvest at physiological maturity stage	Transplanted rice (October month)	1.Farm ponds through DRDA programme 2.Threshing implements through RKVY 3.Groundnut digger and Stripper through RKVY
		Pigeon Pea			
		Black Gram			
		Maize			
	Deep and very deep	Maize			
		Cowpea			

	black soils	Black gram			
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2.1.2 Irrigated situation

Condition	Major Farming situation	Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delayed/ limited release of water in canals due to low rainfall	Low land tube well canal irrigated red and black soil	Paddy (sub merged condition)	SRI method of rice cultivation Maize Maize: CoRH1, CoHM 4 Sugarcane – sub surface drip fertigation Chillies – drip fertigation	Limited irrigation with mulching Alternate Furrow irrigation Drip irrigation with residue mulching	Seeds through ISOPOM and NFSM
		Groundnut	Groundnut + pigeonpea (6:1) intercropping	Sprinkler irrigation with mulching	

Condition	Suggested Contingency measures				
	Major Farming situation	Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Non release of water in canals under delayed onset of monsoon in catchment	Red soils	Groundnut	Sorghum, horsegram recommended	-	Through state department of agriculture

Condition	Suggested Contingency measures				
	Major Farming situation	Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Not applicable				

Condition	Suggested Contingency measures				
	Major Farming situation	Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Insufficient groundwater recharge due to low rainfall	Tube well red and black soil	Paddy	Maize, groundnut and vegetables (Chilli and Brinjal)	Limited irrigation Alternate Furrow irrigation Sprinkler irrigation	Seeds through Dept of horticulture, NFSM, NHM and ISOPOM

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

Condition	Suggested contingency measure			
	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest
Continuous high rainfall in a short span leading to water logging				

Paddy	--	---	Provide Drainage	Shift to safe place dry in shade and turn frequently
Millets	Provide Drainage			Safe storage against storage pest and disease
Pulses	Drainage	Tying lodged plants	Drain out	Safe storage against storage pest and disease
Oilseeds	Provide Drainage			Shift to safer place
Cotton (Bales of lint)	-do-			Shift to safe place dry in shade and turn frequently
Sugarcane	-do-			
Horticulture				
Crop1 Chilli	Drainage	Drainage		
Heavy rainfall with high speed winds in a short span				
Outbreak of pests and diseases due to unseasonal rains				
Paddy	Need based plant protection Integrated Pest and Disease Management for groundnut, paddy, pluses, sesame and sugarcane	Need based plant protection Integrated Pest and Disease Management for groundnut, paddy, pluses, sesame and sugarcane	-	Safe storage against storage pest and diseases
Millets				
Pulses				
Oilseeds				
Cotton (Bales of lint)				
Horticulture				

2.3 Floods

Condition	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Transient water logging/ partial inundation				
Continuous submergence for more than 2 days	Not applicable			
Sea water inundation				

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	Not applicable			
Cold wave	Not applicable			
Frost	Not applicable			

Hailstorm	Not applicable
Cyclone	Not applicable

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures		
	Before the event	During the event	After the event
Drought			
Feed and fodder availability	Establishment of fodder banks & Preparation of silage	Using unconventional feeds and tree Fodders & Development of Draught resistant grass varieties	Cultivation of Green fodders
Drinking water	Construction of check dam& Rain water Harvesting	Recycling of water	Recycling of water
Health and disease management	Deworming and vaccination against contagious diseases	Supplementation of mineral mixture And concentrate feed	Deworming and vaccination against contagious diseases
Floods			
Feed and fodder availability	Storage of dry fodders well above the ground level	Feeding with silage, concentrate and dry fodder	Creating drainage facility in the Fodder plots
Drinking water	Storage of water in the over head tanks	Using bore well water for drinking purpose	Disinfected water can be used for drinking purpose

Health and disease management	Deworming and vaccination against contagious diseases	Keeping the animals in a proper shed with hygienic environment	Deworming and vaccination against contagious diseases
Cyclone			
Feed and fodder availability	Cultivation and storage of green fodder	Usage of stored fodder	Usage of stored fodder
Drinking water	Creating permanent water source	Using bore well water for drinking purpose	Creating drainage facility in the Fodder plots
Health and disease management	Improving the immune status of animals	Keeping the animals in a proper shed with hygienic environment	Improving the immune status of animals
Heat wave and cold wave			
Shelter/environment management	Construction of concrete shed & Planting Of trees in the farm premises	Sprinkling of water over the shed and Animals in heat wave	Improving the immune status of animals
Health and disease management	Feeding with balanced diet	Providing ad libitum water	Improving the immune status of animals

2.5.2 Poultry

	Suggested contingency measures			Convergence/linkages with ongoing programs, if any
	Before the event	During the event	After the event	
Drought				
Shortage of feed ingredients	Storage of feed ingredients	Usage of Stored feed ingredients	Usage of Stored feed ingredients	
Drinking water	Collection of rain water	Usage of stored rain water	Usage of stored rain water	
Health and disease management	Deworming and	Following strict	Deworming and	

	vaccination against Specific diseases	hygienic measures in the farm	vaccination against Specific diseases	
Floods				
Shortage of feed ingredients	Storage of dry fodders well above the ground level	Feeding with silage, concentrate and dry fodder	Creating drainage facility in the Fodder plots	
Drinking water	Storage of water in the over head tanks	Using bore well water for drinking purpose	Disinfected water can be used for drinking purpose	
Health and disease management	Deworming and vaccination against Specific diseases	Following strict hygienic measures in the farm	Deworming and vaccination against Specific diseases	
Cyclone				
Shortage of feed ingredients	Storage of feed ingredients in a puca manner	Control of moisture in the feed ingredients	Preventive measures should be taken against Aflatoxins	
Drinking water	Creating permanent water source	Using bore well water for drinking purpose	Creating drainage facility in the farm	
Health and disease management	Improving the immune status of animals	Keeping the shed In a hygienic manner	Improving the immune status of animals	
Heat wave and cold wave				
Shelter/environment management	Construction of concrete shed & Planting Of trees in the farm premises	Sprinkling of water over the shed and birds in heat wave	Improving the immune status of animals	

Health and disease management	Feeding with balanced diet	Providing ad libitum water	Improving the immune status of animals	
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2.5.3

Fisheries/ Aquaculture

	Suggested contingency measures		
	Before the event	During the event	After the event
1) Drought			
A. Capture	-		
Marine	-		
Inland	-		
(i) Shallow water depth due to insufficient rains/inflow	Harvesting large individuals Increased Stocking-density in smaller/confined areas	Harvesting large individuals Disposable of unwanted excess stock Stocking of desirable/special individuals in brood stock ponds	Proper management of the local environment
(ii) Changes in water quality	Negligible changes in water quality	Negligible changes in water quality	Negligible changes in water quality
(iii) Any other			
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow	Harvesting of the stock	Harvesting of the stock Transferring of smaller fishes to artificial ponds (if available) for tiding over the drought	Steps to improve the quality of stocked fishes, via feed management water quality management
(ii) Impact of salt load build up in ponds / change in water quality	Harvesting of the stock	Harvesting of the stock Transferring of smaller fishes to artificial ponds (if available) for tiding over the drought with water from other source (less hardness)	Steps to improve the quality of stocked fishes, via feed management water quality management
(iii) Any other			
2) Floods			

A. Capture	-	-	-
Marine	-	-	-
Inland	Proper fencing to prevent escaping of fishes Increasing bundh height and improve bundh strength Improve land drainage to allow easy and quick flow of flood waters	In extreme conditions, controlled draining of flooded ponds Thinning of stock by harvesting of larger individuals	Repair damaged bundhs Collect and preserve existing stock
(i) Average compensation paid due to loss of human life	--		
(ii) No. of boats / nets/damaged	-		
(iii) No. of houses damaged	-		
(iv) Loss of stock	-		
(v) Changes in water quality	Negligible changes	Flood water can bring parasites, and increased turbidity – repair/correct drainage to improve quick drainage of flood waters	Turbid waters may be flushed off with fresh borewell/well water
(vi) Health and diseases	-	-	-
B. Aquaculture			
(i) Inundation with flood water	Proper fencing to prevent escaping of fishes Increasing bundh height and improve bundh strength Improve land drainage to allow easy and quick flow of flood waters	In extreme conditions, controlled draining of flooded ponds Thinning of stock by harvesting of larger individuals	Repair damaged bundhs Collect and preserve existing stock
(ii) Water continuation and changes in water quality	Negligible changes	Water can become turbid due to flood waters, reduce stock to prevent mortality	Flushing of pond water with borewell water to improve water quality
(iii) Health and diseases	-		

(iv) Loss of stock and inputs (feed, chemicals etc)	Negligible changes	Harvesting of stock Shift reserve of brood stock to ponds at elevated levels	Selling remaining stock and inundated equipment immediately to minimize losses
(v) Infrastructure damage (pumps, aerators, huts etc)	Dismantling of pumps, aerators and other equipment and shifting to safer zones	Salvaging of inundated pumps, aerators and other equipment and shifting to safer zones	Selling remaining stock and inundated equipment immediately to minimize losses
(vi) Any other			
3. Cyclone / Tsunami	Not Applicable		
A. Capture			
Marine			
(i) Average compensation paid due to loss of fishermen lives			
(ii) Avg. no. of boats / nets/damaged			
(iii) Avg. no. of houses damaged			
Inland			
B. Aquaculture			
(i) Overflow / flooding of ponds			
(ii) Changes in water quality (fresh water / brackish water ratio)			
(iii) Health and diseases			
(iv) Loss of stock and inputs (feed, chemicals etc)			
(v) Infrastructure damage (pumps, aerators, shelters/huts etc)			
(vi) Any other			

4. Heat wave and cold wave			
A. Capture			
Marine			
Inland			
B. Aquaculture			
(i) Changes in pond environment (water quality)	<ul style="list-style-type: none"> • Strengthening of pond bundh to prevent seepage • Shifting of stock to a more sheltered pond 	<ul style="list-style-type: none"> • Shifting of stock to a more sheltered pond • Improve aeration and water recycling 	<ul style="list-style-type: none"> • Shifting of stock to normal ponds to ensure proper growth
(ii) Health and Disease management	-	-	-
(iii) Any other	-	-	-