State: Uttar Pradesh

Agriculture Contingency Plan for District: Badaun

1.0 District Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	Ganga, Yamuna, Doab plain hot moist semi arid eco sub-region (4.3)		
	Agro-Climatic Zone (Planning Commission)	Uppar Gangatic plain (V)		
	Agro Climatic Zone (NARP)	Mid Western plain zone (UP-4)		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Pilibhit, Jyotibaphule Nagar, Bareilly, Rampur, Bijnor, Muradabad, Shahjanpur		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		28^0 2' N	79^0 7.5' E	169 mt.
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	ZRS Ujhani, Budaun of of S.V.P.U. A & T, Meerut		
	Mention the KVK located in the district with address	K.V.K, Budaun U.P. of S.V.P.U. A & T, Meerut		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	ZRS Ujhani, Budaun, IVRI Bareilly		

1.2	**Rainfall**	**Normal RF(mm)**	**Normal Rainy days (number)**	**Normal Onset (specify week and month)**	**Normal Cessation (specify week and month)**
	SW monsoon (June-Sep):	710.8	56	3rd week June	2nd week of September
	NE Monsoon(Oct-Dec):	36.6	9	1st week of December	2nd week of January
	Winter (Jan- March)	52.7	13	-	-
	Summer (Apr-May)	21.1	6	-	-
	Annual	821.2	84	-	-

1.3	**Land use pattern of the district** (latest statistics)	Geographical area	Cultivable 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)	520.079	417.063	6.899	47.431	0.361	5.350	7.130	10.587	15.096	10.162

1. 4	**Major Soils (common names like red sandy loam deep soils (etc.,)***	**Area ('000 ha)**	**Percent (%) of total**
	Sandy loam	143.720	34.46 %
	Loam	451.310	36.28 %
	Clay loam	85.832	20.58 %
	Silt loam	34.491	8.27 %
	Others (specify):		

1.5	**Agricultural land use**	Area ('000 ha)	Cropping intensity %
	Net sown area	417.063	172.21%
	Area sown more than once	301.144	
	Gross cropped area	718.204	

1.6	**Irrigation**	Area ('000 ha)		
	Net irrigated area	375.751 ha		
	Gross irrigated area	516.519 ha		
	Rainfed area	41.312		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals		.048	0.01 %
	Tanks		-	-
	Open wells		101.306	26.96 %
	Bore wells		251.621	71.76 %
	Lift irrigation schemes	NIL		-
	Micro-irrigation		4.364	1.16 %
	Other sources (please specify)			-
	Total Irrigated Area		375.751	
	Pump sets			
	No. of Tractors			
	Groundwater availability and use*	No. of blocks/	(%) area	Quality of water (specify the

	(Data source: State/Central Ground water Department /Board)	Tehsils Block-18		problem such as high levels of arsenic, fluoride, saline etc)
	Over exploited	Wazirganj 1	3.83	Not reported
	Critical	Jannavai, Islamnagar, Ambiapur 3	5.71 4.41 5.75	do
	Semi- critical	10	-	do
	Safe	4	-	do
	Wastewater availability and use	-	-	do
	Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

1.7 Area under major field crops & horticulture (as per latest figures) (2008-09)

1.7	**Major field crops cultivated**	**Area ('000 ha)**							
		Kharif			***Rabi***				
		Irrigated	**Rainfed**	**Total**	**Irrigated**	**Rainfed**	**Total**	**Summer**	**Grand total**
	Rice	67.293	-	67.293	-	-	-	-	67.293
	Wheat	-	-	-	-	-	273.38	-	273.38
	Sugarcane	-	-	-	27.076	-	27.076	-	27.076
	Maize	-	10.471	10.471	-	-	-	-	10.471
	Bajra	-	153.241	153.241	-	-	-	-	153.241
	Urd	-	17.690	17.690	-	-	-	-	17.690
	Til	-	1.938	1.938	-	-	-	-	1.938
	G.nut	-	0.286	0.286	-	-	-	-	0.286
	Arhar	-	28.486	28.486	-	-	-	-	28.486
	Barley	-	-	-	-	0.849	0.849	-	0.849
	Mustard	-	-	-	12.023	25.285	37.308	-	37.308
	Toria	-	-	-	10.995	-	10.995	-	10.995
	Lentil	-	-	-	-	4.717	4.717	-	4.717

	Horticulture crops - Fruits	**Area ('000 ha)**		
		Total	**Irrigated**	**Rainfed**
	Mango	1.009	0.665	0.363
	Guava	2.253	1.486	0.811
	Others (specify)			
	Horticulture crops - Vegetables	**Total**	**Irrigated**	**Rainfed**

	Potato	23.119	23.119	-
	Pea	0.579	0.579	-
	Medicinal and Aromatic crops	**Total**	**Irrigated**	**Rainfed**
	Fenugreek	16.562	16.562	-
	Plantation crops	**Total**	**Irrigated**	**Rainfed**
	Poplar	2.164	2.164	-
	Eucalyptus	2.265	-	2.265
	Eg., industrial pulpwood crops etc.			
	Fodder crops	**Total**	**Irrigated**	**Rainfed**
	Sorghum	28.486	-	28.486
	Pearl millet	36.358	-	36.358
	Berseem	2.186	2.186	-
	Total fodder crop area	**67.030**	**2.186**	**64.844**
	Grazing land	-	-	-
	Sericulture etc	-	-	-
	Others (specify)	-	-	-

1.8	**Livestock**	**Male (‘000)**	**Female (‘000)**	**Total (‘000)**
	Non descriptive Cattle (local low yielding)	233.429	417.724	651.153
	Improved cattle & Crossbred cattle	5.315	15.362	20.677
	Non descriptive Buffaloes (local low yielding)	122.873	556.609	679.483
	Descript Buffaloes	52.660	238.546	291.207
	Goat	92.553	191.867	284.420
	Sheep Indi + Exotic	3.476+0.072	7.242+0.101	10.891
	Others (Camel, Pig, Yak etc.)			1545.037
	Commercial dairy farms (Number)			

1.9	**Poultry**	**No. of farms**	**Total No. of birds (‘000)**
	Commercial	0	0
	Backyard		28.414+37.105=65.519

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)	
	-	-	-	-	-	-

ii) Inland (Data Source: Fisheries Department)	**No. Farmer owned ponds**	**No. of Reservoirs**	**No. of village tanks**
	NA	NA	NA

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 5 years: 2008-09; specify years)

1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder (‘000 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)										
	Rice	135.124	2008	-	-	-	-	135.124	2008	168.905
	Wheat	-	-	873.996	3197	-	-	873.996	3197	1048.790
	Sugarcane	-	-	1714.344	63316	-	-	1714.344	63316	257.100
	Maize	19.560	1868	-	-	-	-	289.686	1868	3.912
	Pearl millet	289.686	1890	-	-	-	-	289.686	1890	162.42
	Blackgram	13.391	757	-	-	-	-	13.391	757	18.747
	Sesamum	0.293	151	-	-	-	-	0.293	151	-
	Groundnut	0.269	940	-	-	-	-	0.269	940	0.672
	Pigeonpea	29.625	1040	-	-	-	-	29.625	1040	-
	Barley	-	-	2.320	2733	-	-	2.320	2733	3.48
	Mustard	-	-	36.765	985	-	-	36.765	985	-
	Toria	-	-	10.092	918	-	-	10.092	918	-
	Lentil	-	-	6.061	1285	-	-	6.061	1285	9.091
	Others									
Major Horticultural crops (Crops to be identified based on total acreage)										
	Mango	-	-	-	-	-	-	5.312	5265	-
	Guava	-	-	-	-	-	-	24.027	1066	-

1.12	**Sowing window for 5 major field crops** (start and end of normal sowing period)	**Rice**	**Wheat**	**Sugarcane**	**Sorghum/ Pearl millet//Maize/Blackgram**	**Mustard / Toria**	**Lentil**	**Pigeonpea**	**Groundnut**
	Kharif- Rainfed	June-July	-	-	July	-	-	July	July
	Kharif-Irrigated	June-July	-	Oct	June-July	-	-	June-July	July
	Rabi- Rainfed	-	Nov	-	-	Sep-Oct	Oct-Nov	-	-
	Rabi-Irrigated	-	Nov-Dec	March-April	-	Sep-Oct	Nov-Dec	-	-

1.13	**What is the major contingency the district is prone to?** (Tick mark)	**Regular**	**Occasional**	**None**
	Drought	x	√	x
	Flood	x	√	x
	Cyclone	x	x	√
	Hail storm	x	√	x
	Heat wave	x	√	x
	Cold wave	x	√	x
	Frost	√	x	x
	Sea water intrusion	x	x	√
	Pests and disease outbreak (specify) stem borer, sheath blight Heleothis Rust wilt late blight Pyrilla etc.	√	x	x
	Others (specify) Fog	x	√	x

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: No
		Soil map as Annexure 3	Enclosed: Yes

Annexure I


BUDAUN
District Map
N
Moradabad
Bareilly
Bulandshahr
Aligarh
Etah
Sahajahanpur
Gawan
Dhanari
Islamnagar
Babrala
Kariamai
Gunnur
Behta Gosain
Wazirganj
Bilsi
Binawar
Sadullahganj
Sahaswan
BUDAUN
Kachhala
Bitroi
Ujhani
Dataganj
Jagat
Ramzanpur
Alapur
Kakrala
Hazratpur
Kakora
Usaihat
Ganga
LEGEND
District Boundary
Major Road
Railway
District Headquarter
Other Town
River
Map not to Scale
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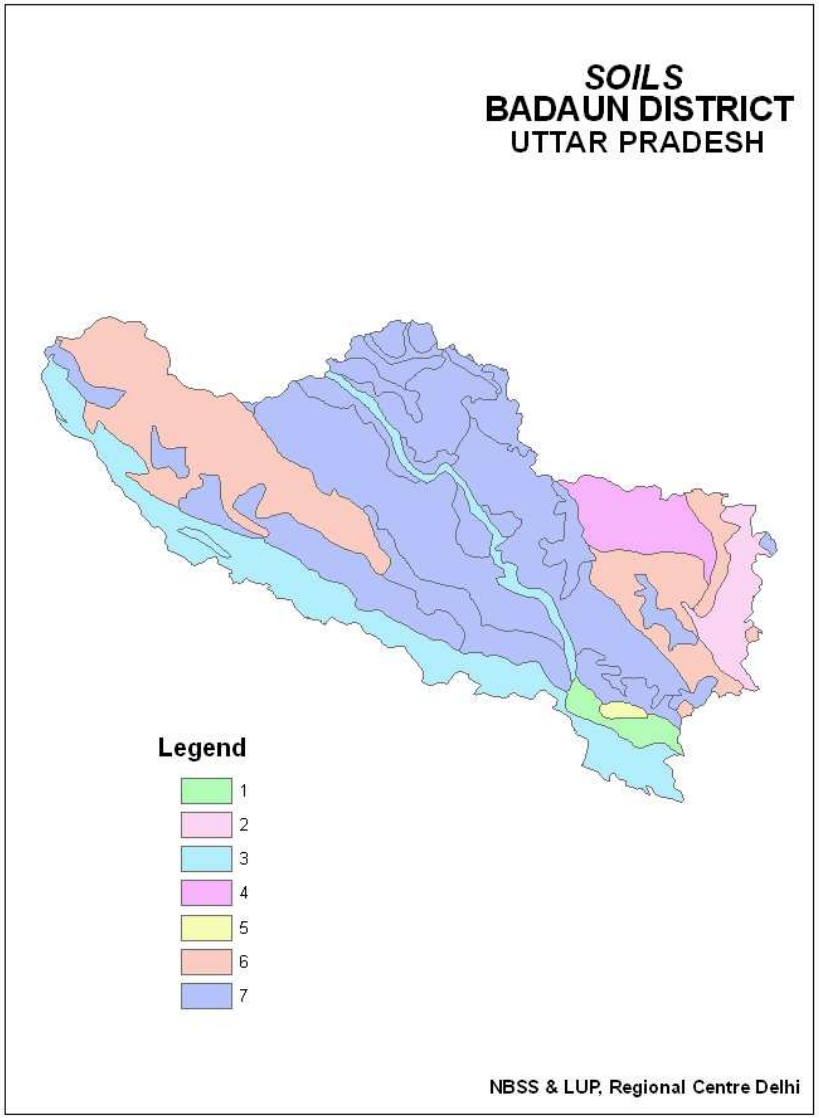

Legend	Description
1	Deep loamy soils
2	Deep loamy and sandy soils
3	Deep, fine soils and fine loamy soils
4	Deep, loamy soils and sandy skeletal soils
5	Deep, silty soils and loamy soils
6	Deep, loamy and silty soils.
7	Deep, fine (moderately saline and sodic) and loamy soils

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[a]**	**Normal Crop / Cropping system[b]**	**Change in crop / cropping system[c] including variety**	**Agronomic measures[d]**	**Remarks on Implementation[e]**
Delay by 2 weeks (Specify month)* 1st week of July	Deep soil, yellow colored alluvial loam soil	Maize/ Sorghum/ Pearl millet/ Pigeonpea	Maize: Kanchan, Navin Navjyoti, Azad utam,Surya,Meerut pili,Ganga 2,11 Samrat etc Sorghum: CSH 14, 16, CSB 13, 15, SPB 1338 etc Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451 etc. Pigeonpea: UPAS 120, ICPL 151,Pusa 33 etc.	• Conservation furrow • Inter-cultivation • Sowing with multi seed drill • Wider spacing for pigeonpea	• Seed-drill under RKVY • Supply of seed through govt. agencies *ie*. NFSM,RKVY • Re-scheduling of canal calendar
Delay by 4 weeks (Specify month) 3rd week of July	Deep soil, yellow colored alluvial loam soil	Maize/ Pearl millet / Sesamum/ Blackgram	Maize: Kanchan, Navin Navjyoti, Azad utam,Surya,Meerut pili,Ganga 2,11 Samrat etc Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451 etc. Sesamum: Pergati, shekar, TA-78, TA-12 etc. Blackgram: Narender urd-1, Pant U-30, 19, 35 etc	• Conservation furrow • Inter-cultivation • Sowing with multi seed drill	Seed-drill under RKVY Supply of seed through govt. agencies *ie*. NFSM
Delay by 6 weeks 1st week of August	Deep soil, yellow colored alluvial loam soil	Blackgram/Greengram/ Toria/ Pearl millet	Blackgram: Narender urd-1, Pant U-30, 19, 35 Greengram: Pantmoong -2, 3, Narender mung -1, 4, SML-668, PDM-11 etc. Pearl millet: Raj-171,WCC-75,Pusa 23, 322 ICMH-451 etc.	Sowing with multi seed drill	Re-scheduling of canal calendar

Condition			**Suggested Contingency measures**		
Early season drought	**Major Farming situation[a]**		**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation[e]**

Delay by 8 weeks 3rd week of August	Deep soil, yellow colored alluvial loam soil	Toria	Toria: P.T.-30, 507, 303, Bhawani, T-9 etc.	• Conservation furrow • Inter-cultivation • Sowing with multi seed drill	• Seed-drill under RKVY Supply of seed through govt. agencies *ie.* NFSM

Condition			**Suggested Contingency measures**		
Early season drought (Normal onset)	**Major Farming situation[a]**	**Normal Crop / Cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Irrigated upland	Rice: PS 4, 5, PB 1, PRH 10/ Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284/Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451/ Pigeonpea: UPAS 120, ICPL 151,Pusa 33/ Maize: Kanchan, Navin Navjyoti, Azad utam,Surya,Meerut pili,Ganga 2,11 Samrat/ Blackgram: T 9, PU 19,30,35/ **:** Pergati, shekar, TA-78, TA-12/ Groundnut	1. Thinning, weeding and gap filling in existing crop. 2. Re sowing 3. Selection/nursery sowing of short duration rice cultivar	• Inter cultivation • Conservation furrow • Thinning and weeding • Mulching	• Supply of inter cultural implements through RKVY • Farm ponds through IWSM programme • Pulse crop seeds supply through NFSM
	Irrigated lowland	Rice: PS 2,3, PB 1, Sarju 52, Pant 4, Narendra 359, Saket 4/Sorghum (Fodder): Kanpuri, UP Chari 1,2/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284			
	Un irrigated upland	Pearl millet: Local Meerut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati/Pigeonpea: UPAS 120, ICPL 151			
	Un irrigated lowland	Pigeonpea: UPAS 120, ICPL 151/Pearl millet: Local Meerut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati			
Condition			**Suggested Contingency measures**		
Mid season drought	**Major Farming**	**Normal Crop/cropping system[b]**	**Crop management**	**Soil nutrient & moisture**	**Remarks on Implementati**

(long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	situation[a]			conservation measures	on
At vegetative stage	Irrigated upland	Rice: PS 4, 5, PB 1, PRH 10/ Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284/Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451/Pigeonpea: UPAS 120, ICPL 151,Pusa 33 /Maize: Kanchan, Navin Navjyoti, Azad utam,Surya,Meerut pili,Ganga 2,11 Samrat /Blackgram: T 9, PU 19,30,35 /Sesamum: Pergati, Shekar, TA-78, TA-12 / Groundnut	1. Thinning, weeding and gap filling in existing crop. 2. Re sowing 3.Postponement of top dressing 4.Life saving irrigation	• Inter cultivation • Conservation furrow • Thinning and weeding • Mulching	• Supply of inter cultural implements through RKVY • Farm ponds through IWSM programme • Pulse crop seeds supply through NFSM • Micro/drip/ sprinkler irrigation under govt. schemes
	Irrigated lowland	Rice: PS 2,3, PB 1, Sarju 52, Pant 4, Narendra 359, Saket 4/Sorghum (Fodder): Kanpuri, UP Chari 1,2/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284			
	Un irrigated upland	Maize/Sorghum/Pearl millet Pearl millet: Local Merut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati/ Pigeonpea: UPAS 120, ICPL 151			
	Un irrigated lowland	Pigeonpea: UPAS 120, ICPL 151/ Pearl millet: Local Meerut pili			

Condition			Suggested Contingency measures		
Mid season drought (long dry spell)	**Major Farming situation[a]**	**Normal Crop/cropping system[b]**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
At flowering/ fruiting stage	Irrigated upland	Rice: PS 4, 5, PB 1, PRH 10/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284/Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451/Pigeonpea: UPAS 120, ICPL 151,Pusa 33 / Maize: Kanchan, Navin Navjyoti, Azad	1. Thinning, weeding and gap filling in existing crop. 2.Life saving irrigation 3. Weeding and weed mulching	• Conservation furrow • Thinning and weeding • Mulching	• Farm ponds through IWSM programme

		utam,Surya,Meerut pili,Ganga 2,11 Samrat / Blackgram: T 9, PU 19,30,35/ Sesamum:Pergati, Shekar, TA-78, TA-12 / Groundnut		• Urea spray or KCL spray	
	Irrigated lowland	Rice: PS 2,3, PB 1, Sarju 52, Pant 4, Narendra 359, Saket 4/Sorghum (Fodder): Kanpuri, UP Chari 1,2/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284			
	Un irrigated upland	Maize/Sorghum/Pearl millet Pearl millet: Local Meerut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati/ Pigeonpea: UPAS 120, ICPL 151			
	Un irrigated lowland	Pearl millet: Local Merut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati			

Condition			**Suggested Contingency measures**		
	Major Farming situation[a]	**Normal Crop/cropping system[b]**	**Crop management**	**Rabi crop planning**	**Remarks on Implementation**
Terminal drought (Early withdrawal of monsoon)	Irrigated upland	Rice: PS 4, 5, PB 1, PRH 10/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284/Pearl millet: Raj-171, WCC-75, Pusa 23, 322 ICMH-451/Pigeonpea: UPAS 120, ICPL 151,Pusa 33/Maize: Kanchan, Navin Navjyoti, Azad utam,Surya,Meerut pili,Ganga 2,11 Samrat /Blackgram: T 9, PU 19,30,35/Sesamum: Pergati, Shekar, TA-78, TA-12/Groundnut	1.Life saving irrigation 2. Picking/harvesting of pods/ear 3.Harvest at physiological maturity stage 4.Harvest for fodder	• Toria/mustard • Potato • Pea/gram • Berseem/Oat • Land labeling	• Farm ponds through IWSM programme • Supply of seed through ISOPM • Harvesting and threshing implements through RKVY • Supply of land lazer labeler
	Irrigated lowland	Rice: PS 2,3, PB 1, Sarju 52, Pant 4, Narendra 359, Saket 4/Sorghum (Fodder): Kanpuri, UP Chari 1,2/Sugarcane: 64, 88230, 92254, 95255, COS 767, 8432, 97284			

	Un irrigated upland	Maize/Sorghum/Pearl millet Pearl millet: Local Merut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati/ Pigeonpea: UPAS 120, ICPL 151			through CLDP or RKVY
	Un irrigated lowland	Pigeonpea: UPAS 120, ICPL 151/Pearl millet: Local Merut pili/Sesamum:T-4 ,T-12, T-13, T-78, Shekar, Pergati			

1.1.2. **Drought Irrigated situation**

Condition			**Suggested Contingency measures**		
	Major Farming situation[f]	**Normal Crop/ cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
Delayed release of water in canals due to low rainfall	Upland sandy loam soils	Rice (Basmati)-Wheat	Replace rice with maize or aerobic rice	• Use short duration varieties • Light irrigation with tube well water • Follow alternate wetting and drying schedule of irrigation in rice • Alternate Furrow irrigation • Mulching in sugarcane/maize	• Seed through KSSC and NFSM • Adequate supply of electricity/diesel should be ensured by the Govt. agencies.
		Sorghum (Fodder)/Maize-Potato/ Wheat	Pearl millet/Greengram/ Blackgram - Potato/ Wheat Rice: PS 4, 5, PB-1, PRH 10 Maize: Kanchan, Sweta, Navin, Surya Pearl millet:WCC-75,Raj-171,Pusa-23,Pusa-322		
		Sugarcane + Cucurbits – Ratoon-Wheat	No change required		
	Lowland clay loam soils	Rice-wheat	Basmati rice –Wheat Rice: PS 4, 5, PB 1, PRH 10, Kanchan, Sweta, Navin, Surya	• Use short duration varieties e.g. • Light irrigation with tube well water • Follow alternate wetting and drying schedule of irrigation in rice	• Seed through KSSC and NFSM • Adequate supply of electricity/diesel should be ensured by the
		Sorghum Fodder-Wheat	Pearl millet-Wheat Pearl millet (Fodder): WCC-75,Raj-171,Pusa-		

Condition			Suggested Contingency measures		
	Major Farming situation[f]	**Normal Crop/ cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
			23,Pusa-322	• Alternate Furrow irrigation • Mulching in sugarcane/Maize	Govt. agencies.
		Sugarcane-Ratoon-Wheat	No change required		

Condition			Suggested Contingency measures		
	Major Farming situation[f]	**Normal Crop/cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
Limited release of water in canals due to low rainfall	Upland sandy loam soils	Rice (Basmati)-Wheat	No change required	• Light irrigation with tube well water at critical stages only e.g CRI, Tillering &.Flowering stage • Follow alternate wetting and drying schedule of irrigation in rice • Alternate Furrow irrigation • Mulching in sugarcane/maize	• Adequate supply of electricity/diesel should be ensured by the Govt. agencies.
		Sorghum (Fodder)/Maize-Potato/ Wheat	No change required		
		Sugarcane + Cucurbits – Ratoon-Wheat	No change required		
	Lowland clay loam soils	Rice-wheat	No change required	• Light irrigation with tube well water at critical stages only e.g CRI, Tillering &.Flowering stage • Follow alternate wetting and drying schedule of irrigation in rice • Alternate Furrow irrigation • Mulching in sugarcane	• Supply of inter cultural implements through RKV • Adequate supply of electricity/diesel should be ensured by the Govt. agencies.
		Sorghum Fodder-Wheat	No change required		
		Sugarcane-Ratoon-Wheat	No change required		
		Sorghum Fodder	Pearl millet/ Sorghum Fodder		
		Sugarcane + Cucurbits	Sugarcane		

Condition			Suggested Contingency measures		
	Major Farming situation[f]	**Normal Crop/cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
Non release of water in canals under delayed onset of monsoon in catchment	Upland tube well irrigated canal sandy loam soil	Basmati rice	Maize/Aerobic Rice	• Limited irrigation • Alternate Furrow irrigation • Drip irrigation • Mulching	• Seed through KSSC and NFSM • Supply of inter cultural implements through RKVY •
		Sorghum/Maize	Pearl millet /Pigeonpea/Blackgram		
		Sugarcane + Cucurbits	Sugarcane		
	Lowland tube well irrigated canal clay loam soil	Rice	Pearl millet/Blackgram/ Greengram	• Limited irrigation • Alternate Furrow irrigation • Drip irrigation • Mulching • Alternate furrow irrigation	• Seed through KSSC and NFSM • Harvesting and threshing implements through RKVY
		Sorghum Fodder	Pearl millet/Sorghum Fodder		
		Sugarcane + Cucurbits	Sugarcane		
Condition			**Suggested Contingency measures**		
	Major Farming situation[f]	**Normal Crop/cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	1) Farming situation:	Cropping system 1:	NA	NA	NA

Condition			Suggested Contingency measures		
	Major Farming situation[f]	**Normal Crop/cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
Insufficient groundwater recharge due to low rainfall	Upland tube well irrigated canal sandy loam soil	Basmati rice	Maize/Aerobic Rice /Vegetable (Tomato, Brinjal, Cucrbits etc)	• Limited irrigation • Alternate Furrow irrigation • Drip irrigation	• Seed through KSSC and NFSM • Harvesting and threshing implements through RKVY
		Sorghum/Maize	Pearl millet /Pigeonpea/Blackgram		
		Sugarcane + Cucurbits	Sugarcane		

Condition			Suggested Contingency measures		
	Major Farming situation[f]	**Normal Crop/cropping system[g]**	**Change in crop/cropping system[h]**	**Agronomic measures[i]**	**Remarks on Implementation[j]**
				• Mulching	
	Lowland tube well irrigated canal clay loam soil	Rice	Pearl millet/Blackgram/ Greengram	• Limited irrigation • Alternate Furrow irrigation • Drip irrigation • Mulching • Alternate furrow irrigation	• Seed through KSSC and NFSM • Micro/drip/sprinkler irrigation under govt. schemes • Supply of inter cultural implements through RKVY
		Sorghum Fodder	Pearl millet /Sorghum Fodder		
		Sugarcane + cucurbits	Sugarcane		
Any other condition					

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

Condition	Suggested contingency measure			
Continuous high rainfall in a short span leading to water logging	**Vegetative stage[k]**	**Flowering stage[l]**	**Crop maturity stage[m]**	**Post harvest[n]**
Maize + Blackgram/Greengram/Cucurbits	Provide drainage	Provide drainage	Drain out excess water, Harvesting at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Sugarcane	Provide drainage	NA	Drain out excess water and harvest the lodged crop as early as possible	Supply to sugar mills /crusher as early as possible or shift to safer place and cover the cane with trash materials
Blackgram/ Greengram	Provide drainage	Provide drainage	Drain out excess water Harvesting at physiological maturity stage.	Safe storage against storage pest and disease
Horticulture				
Okra	Provide drainage	Provide drainage	Picking of vegetables at physiological maturity stage	Shift to safer place & dispose of produce as

				early as possible
Cucurbits	Provide drainage	Provide drainage	Drain out excess water & Harvesting at physiological maturity stage and picking of cucurbits crop.	Shift to safer place & dispose of produce as early as possible
Brinjal	Provide drainage	Provide drainage	Picking at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Tomato	Provide drainage	Provide drainage	Picking at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Mango	-	-	Spray of 2% urea + Carbendazim 0.02% solution	-
Guava	-	-	Spray of 2% urea + Carbendazim 0.02% solution	-
Heavy rainfall with high speed winds in a short span[2]				
Sugarcane	• Earthing up • Tying	NA	Drain out excess water and harvest the lodged crop as early as possible	Supply to sugar mills /crusher as early as possible or shift to safer place and cover the cane with trash materials
Maize/Sorghum	Provide drainage	Provide drainage Use Wind breaks	Drain out excess water & Harvesting at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Blackgram/Greengram	Provide drainage	Provide drainage Use Wind breaks	Drain out excess water & Harvesting at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Rice basmati	Provide drainage	Provide drainage	Drain out excess water & Harvesting at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Pigeonpea	• Provide drainage	Provide drainage	Drain out excess water & Harvesting at physiological	Shift to safer place &

	• Sowing on raised bed		maturity stage	dispose of produce as early as possible
Horticulture				
Okra	• Provide drainage • Sowing on raised bed	Provide drainage	Drain out Harvesting at physiological maturity stage	Shift to safer place & dispose of produce as early as possible
Brinjal	• Provide drainage • Sowing on raised bed	Provide drainage	Drain out Harvesting at physio-logical maturity stage	Shift to safer place & dispose of produce as early as possible
Tomato	• Provide drainage • Sowing on raised bed • Stacking	Provide drainage Use Wind breaks Stacking	Drain out Harvesting at physio-logical maturity stage Stacking	Shift to safer place & dispose of produce as early as possible
Cauliflower	• Provide drainage • Sowing on raised bed	Provide drainage	Drain out Harvesting at physio-logical maturity stage	Shift to safer place & dispose of produce as early as possible
Cucurbits	• Provide drainage • Sowing on raised bed	Provide drainage	Drain out Harvesting at physio-logical maturity stage	Shift to safer place & dispose of produce as early as possible
Mango	Use Wind breaks	Use of NAA spray	Use of NAA spray	-
Guava	Use Wind breaks	Use of NAA spray	Use of NAA spray	-
Outbreak of pests and diseases due to unseasonal rains				
Rice basmati	Need based plant protection IPDM for Rice/pluses	Need based plant protection IPDM for Rice/pluses	Do not use strong pesticide at maturity stage	Shift to safer place & dispose of produce as early as possible
Sugarcane				
Sorghum fodder				
Blackgram/Greengram				
Pigeonpea				
Horticulture				
Okra	Need based plant protection IPDM for	Need based plant protection IPDM	Do not use strong pesticide at maturity stage	Shift to safer place & dispose of produce as
Brinjal				

Tomato	Rice/pluses	for Rice/pluses		early as possible
Cucurbits				
Cauliflower				

2.3 Floods

Condition	**Suggested contingency measure[o]**			
Transient water logging/ partial inundation[1]	**Seedling / nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Rice basmati	• Re sowing of nursery • Direct sowing of rice • Sowing of nursery on raised bed	Provide drainage	Provide drainage	Shift to safer place
Sugarcane	Direct sowing	Provide drainage	Provide drainage	Shift to safer place
Sorghum fodder	Direct sowing	Provide drainage	Provide drainage	Shift to safer place
Blackgram/Greengram	Direct sowing	Provide drainage	Provide drainage	Shift to safer place
Pigeonpea	Direct sowing	Provide drainage	Provide drainage	Shift to safer place
Horticulture				
Okra	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Brinjal	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Tomato	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Continuous				

submergence for more than 2 days[2]				
Rice	• Re sowing of nursery • Direct sowing of rice • Sowing of nursery on raised bed	Provide drainage	Provide drainage	Shift to safer place
Horticulture	NA	NA	NA	NA
Okra	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Brinjal	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Tomato	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Mango	• Re sowing of nursery • Sowing of nursery on raised bed • Re transplanting	Provide drainage	Provide drainage	Shift to safer place
Sea water intrusion[3]	NA	NA	NA	NA
Crop1				
Crop2				

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

Extreme event type	**Suggested contingency measure[r]**			
	Seedling / nursery stage	**Vegetative stage**	**Reproductive stage**	**At harvest**
Heat Wave[p]				
Rice basmati	• Re sowing of nursery • Light and frequent irrigation during night	Irrigation interval should be decreased	Irrigation interval should be decreased	Light and frequent irrigation

Sugarcane	Mulching	Irrigation interval should be decreased	Irrigation interval should be decreased	Light and frequent irrigation
Sorghum fodder	Re sowing	Irrigation interval should be decreased	Irrigation interval should be decreased	Make silage
Blackgram/Greengram	• Re sowing • Mulching	Light irrigation for survival	Light irrigation for survival	Pod picking
Pigeonpea	• Re sowing • Mulching	Light irrigation for survival	Light irrigation for survival	Pod picking
Horticulture				
Okra	• Re sowing of nursery • Re transplanting • Mulching • Light watering during night	Light irrigation for survival	Light irrigation for survival	Harvesting of fruits
Brinjal	• Re sowing of nursery • Re transplanting • Mulching • Light watering during night	Light irrigation for survival	Light irrigation for survival	Harvesting of fruits
Tomato	• Re sowing of nursery • Re transplanting • Mulching of nursery beds • Light irrigation during night	Light irrigation for survival	Light irrigation for survival	Harvesting of fruits
Mango	Spray of water	Spray of water	Spray of water	-
Guava	Spray of water	Spray of water	Spray of water	-
Cold wave[q]				
Wheat	Light irrigation	Light irrigation	Light irrigation	Light irrigation
Sugarcane	• Mulching	Light irrigation for survival	--	Harvesting of cane
Horticulture				
Tomato	Grow some inter crop	Light Sprinkler irrigation	--	Harvesting of fruits
Pea	Grow some inter crop	Light Sprinkler irrigation	--	Harvesting of fruits

Potato	Grow some inter crop	Light Sprinkler irrigation	--	Harvesting
Frost				
Sugarcane	Light irrigation	Light irrigation	Light irrigation	Harvesting of cane
Pigeonpea	• Grow as inter crop • Smoke at night	• Light Sprinkler irrigation • Smoke at night	• Light irrigation for survival • Smoke at night	Smoke at night
Horticulture				
Potato	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	Harvesting
Tomato	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	De helming
Pea	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	• Light irrigation for survival • Smoke at night	Harvesting
Mango	Irrigation &Smoking during night	Irrigation &Smoking during night	Irrigation &Smoking during night	
Guava	Irrigation &Smoking during night	Irrigation &Smoking during night	Irrigation &Smoking during night	
Hailstorm				
All crops	Re sowing	Re sowing of Catch crop	Harvest for fodder	Pre Harvesting
Horticulture				
All Vegetable crops	Re sowing	Re sowing of Catch crop	Harvest for fodder	Pre Harvesting
All Fruit crops	• Use anti hail net • Spray of fungicide with 2% urea solution	• Use anti hail net • Spray of fungicide with 2% urea solution	• Use anti hail net • Spray of fungicide with 2% urea solution	• Harvest the damaged fruits • Spray of fungicide with 2% urea solution
Fog				
Sugarcane				
Pigeonpea				
Wheat				
Horticulture				

Potato				
Cauliflower				
Tomato				

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures		
	Before the event[s]	**During the event**	**After the event**
Drought			
Feed and fodder availability	• Fodder crop Insurance • Making of feed blocks • Encourage farmers to allocate some lands for cultivating perennial fodder (Napier grass, Subabul), specially on bunds and wasteland • Establishing fodder banks, encouraging fodder crops in irrigated area • Making silage or hay of excess fodder. • Statistics regarding feed/fodder availability and requirement should be updated by the concerned department. • Seed production and development of drought resistant crops like (Pearl millet**:** Raj-171, WCC-75, Pusa 23, 322 ICMH-451, Sorghum: Kanpuri, UP Chari 1, 2, etc of fodder crops. • Encourage farmers to adopt sprinkler irrigation system. • Training to the farmers and extension functionaries for production and long term storage of feed and fodder.	• Utilizing fodder from perennial trees/shrubs/fodder bank reserves for small ruminant. • Utilizing stored fodder as silage, hay, feed blocks & mixture etc. • Migration of herd /flock to other places. • Establishment of communication and linkage with other state agencies.	• Availing crop insurance • Cultivation of fast growing green fodder crops. • Development of drought resistance fodder. • Increase the no. of Fodder Banks for future use.
Drinking water	• Preserving water in the pond/tank for drinking purpose.	• Using preserved water in the tanks for drinking	• Recharge of well/ Tanks etc.

	• Excavation of bore well/creation of tanks or ponds. • De-silting of village ponds on regular basis and adopt water harvesting techniques through water shed approach. • Filling of the ponds with canal/tube well water during lean period.	• Available ground water should be used for drinking on priority basis.	
Health and disease management	• Farmers should be encouraged to avail Livestock insurance • Training to livestock owners regarding natural calamities. • Veterinary preparedness with medicines and vaccines. • Vaccination	• Conduction mass animal health camp and treating the effected animals. • Mass campaigning though different media regarding possible outbreak of diseases and their management.	• Availing insurance benefits. • Followed standard Livestock management practices. • Proper health care & treatment.
Floods			
Feed and fodder availability	• Fodder crop Insurance • Making of feed blocks • Encourage farmers to allocate some lands for cultivating perennial fodder (Napier grass, Subabul), specially on bunds and wasteland • Establishing fodder banks, encouraging fodder crops. • Making silage or hay of excess fodder and that should be stored on up land. • Statistics regarding feed/fodder availability and requirement should be updated by the concerned department. • Seed production and development of crops and their varieties of fodder crops for water logged conditions. • Training to the farmers and extension functionaries for production and long term storage of feed and fodder	• Utilizing fodder from perennial tress/shrubs/fodder bank reserves. • Use of feed mixture/block hay etc • Migration of flock /herds • Establishment of communication and linkage with other state agencies	• Availing crop insurance • Cultivation of fast growing green fodder crops

Drinking water	• Making suitable provision for safe drinking surface water including excavation of bore well/hand pump (India mark—II) at community level. • Make farmers aware not to use contaminated/ flood water for drinking purpose.	• Contaminated flood water should not be used for drinking.	• Open sources of drinking water (tank/well) should be further treated with potassium per manganate.
Health and disease management	• Live stock Insurance • Training to livestock owners regarding natural calamities. • Veterinary preparedness with medicines and vaccines. • Vaccination	• Conduction mass animal health camp and treating the effected animals. • Training to livestock owners regarding natural calamities. • Establishment of Co-ordination with other Agencies. • Use of mass media to spread expat advice	• Culling sick animals • Availing insurance benefits. • Culling unproductive livestock • Proper disposal of corpse of dead bodies to prevent the spread of contagious diseases.
Cyclone **N.A**	**N.A**	**N.A**	**N.A**
Heat wave and cold wave			
Shelter/environment management	• Avoid use of GI sheet for roofing in the animal shed • Create adequate sources for additional supply of water to protect the animals from heat waves. • Establishment of modern shelter sheds. • As far as possible grow shade trees such as Neem, Pilkhan, Karanj etc near the animal sheds. • Make provision for adequate no. of fans/coolers /heaters according to the situation, if possible	• Provide the thatches/ tarpaulins/ rags in the animal sheds to protect against direct entry of hot/ cold waves • Provide proper bedding to prevent from cold and proper ventilation to prevent from heat. • Provide drinking water to animal frequently during heat wave • Watch the forecast of weather department. • As for as possible the animal should be allowed to wallow in pounds/ canals/ river or give bath once or twice in a day during heat waves	• Repair and maintenance of additional facilities

Health and disease management	• Insure the animals • Training to livestock owners/ para-vets regarding preventive measure against extreme weather conditions • Veterinary preparedness with medicines and vaccines etc. • Vaccination against FMD &Cold	• Organize village level animal health camps • Consult veterinary officer immediately if any adverse symptoms are noticed • Use of ITKs for food supplements	• Proper after care of animals. • Availing insurance benefits. • Proper disposal of corpse of dead bodies to prevent the spread of contagious diseases.

based on forewarning wherever available

2.5.2 Poultry

	Suggested contingency measures			Convergence/ linkages with ongoing programs, if any
	Before the event[a]	**During the event**	**After the event**	
Drought				
Shortage of feed ingredients	• Making and storage of feed concentrates • Awareness regarding traditional feed banks. • Feed requirement data should be generated • Prepare the feed requirement data base of poultry farm. • Store the feed ingredients	• Use of feed concentrates/ mixture/blocks etc • Establishment of communication with other state agencies. • Use of locally available feed recourses. • Import the feed recourse form other states.	• Availing insurance • Increase the no. of feed banks for future use	
Drinking water	• Making extra facility for drinking water. • Repair & maintenance of water resources	• Frequent supply of drinking water		

Health and disease management	• Veterinary preparedness with medicines and vaccines. • Vaccination • Training to poultry Growers regarding natural calamities.	• Treatment of affected poultry birds	• Culling of flock • Availing insurance benefits • Proper disposal of corpse of dead bodies to prevent the pared of contagious diseases	
Floods				
Shortage of feed ingredients	• Sufficient quantity of feed ingredients should be stored	• Use of stored feed in balanced form • Prevent the feed from moisture.	• Cleaning of feed store & repair if any. • Moist feed should be dried &treated as per requirement	
Drinking water	• Make provision of ground water for drinking	• Use only Ground water obtained from India Mrka II or Tubewell	• Repair, maintenance and cleaning of water recourse • Sanitation of open Wells	
Health and disease management	• Veterinary preparedness with medicines and vaccines • Vaccination	• Migration of flock if required • Treatment	• Availing insurance benefits. • Culling of unproductive flock	
Cyclone	NA	NA	NA	
Shortage of feed ingredients	• Storage and making of feed concentrates • Proper feed requirement data base	• Establishment of communication with other state agencies • Use of stored feed ingredient • Import of feed from other areas	• Repair and maintenance of feed store	
Drinking water	• Make provision of ground water for drinking	• Use only Ground water obtained from India Mrka II or Tubewell	• Repair and maintenance of water recourse	
Health and disease management	• Training to poultry growers	• Treatment of injured poultry	• Culling of flock	

	regarding natural calamities. • Veterinary preparedness with medicines and vaccines.	birds.	• Availing insurance benefits. • Proper disposal of corpse of dead bodies to prevent the pared of contagious diseases.	
Heat wave and cold wave				
Shelter/environment management	• Making sufficient provision of shelter to protect live stock from heat and cold waves • Establishment of alternate resource for water supply. • Modern shelter sheds.	• Keep the birds in appropriate shelter • Provide proper bedding to prevent from cold and proper ventilated to prevent from heat • Provide drinking water to birds frequently. • Adopted proper management practices. • Watch the fore cast of weather department.	• Making of modern shelter sheds • Increase the plantation of trees	
Health and disease management	• Insurance • Veterinary preparedness with medicines and vaccines • Training to poultry growers regarding natural calamities	• Provide proper treatment as per requirement • Treatment of injured poultry	• Availing insurance benefits • Culling of unproductive flock • Proper disposal of corpse of dead bodies to prevent the pared of contagious diseases	

[a] based on forewarning wherever available

2.5.3 Fisheries/ Aquaculture

	Suggested contingency measures		
	Before the event[a]	**During the event**	**After the event**
1) Drought			
A. Capture			

Marine	–	–	–
Inland			
(i) Shallow water depth due to insufficient rains/inflow	• Adopt appropriate measures to reduce water seepage or infiltration	• Harvest the crop partially	• Re stock
(ii) Changes in water quality	• Regular observation to check the water quality and remove the pollutants if any.	• Add oxy-flow to improve oxygen • Churning of pond water	• Maintain appropriate level of water if possible • Check the water quality and remove the pollutants if any.
(iii) Any other	–	–	–
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow	• Adopt appropriate measures to reduce water seepage or infiltration from ponds • Avoid any kinds of water pollution and maintain water pH	• Ensure the Oxygen availability into ponds for the survival of fish • Avoid any kind of water pollution • Add oxy-flow to improve oxygen into ponds. • Churning of pond water	•Maintain appropriate level of water in ponds •Check the water quality and remove the pollutants if any.
(ii) Impact of salt load build up in ponds / change in water quality	• Add some fresh water from other source like cannel etc	• Add oxy-flow to improve oxygen into ponds. • Churning of pond water • Add fresh water into pond for life saving and to reduce salt load	• Add fresh water into pond for life saving and to reduce salt load • Maintain appropriate level of water in ponds • Check the water quality and remove the pollutants if any.
(iii) Any other	–	–	--
2) Floods			
A. Capture			
Marine	--	--	--
Inland			
(i) No. of boats / nets/damaged	• Boats, nets etc should be taken out from water bodies	• Close supervision of flood condition	• Damaged boat or nets should be repaired
(ii) No. of houses damaged	–	–	• Repair the damaged house.

(iii) Loss of stock	_	_	• Sanitation and proper disposal of corpse
(iv) Changes in water quality	• Increase the height of bunds.	--	--
(v) Health and diseases	--	• Treatment if possible	--
B. Aquaculture			
(i) Inundation with flood water	• Repair the bunds to prevent the inflow of water • If inflow water is not polluted then place the net at inlet and outlet • Raise the height of bunds • Plan a proper drainage system at farm • Plantation of soil binding plants at bund	• Avoid inflow of flood water from outside. • If inflow water is not polluted that can be permitted to flow through net placed at inlet and outlet of pond. • Fencing of net required in case of overflow to avoid the migration of fish	• Repair the damaged bunds • Check water quality • Change the water if it is polluted
(ii) Water contamination and changes in water quality	Liming @300 kg/ha	Stop inflow of contaminated water	• Maintain appropriate level of water in ponds • Check the water quality and remove the pollutants if any.
(iii) Health and diseases	• Liming @300 kg/ha • Vaccination	Diagnostic measures and provide appropriate medicines	• Liming and medication as per requirement • Use Cifex to control ulcerative syndromes
(iv) Loss of stock and inputs (feed, chemicals etc)	Marketable stock should be sold	Immediately remove the dead fishes from ponds and do sanitation	After sanitation add new stock
(v) Infrastructure damage (pumps, aerators, huts etc)	Damageable infrastructures should be secured	Do not supply Electricity in flood éd area	Repaire and service the damage infrastructure
(vi) Any other			
3. Cyclone / Tsunami	NA	NA	NA
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)	• Maintain appropriate level of water in ponds *i.e.* 1.75m in 2m deep ponds • Check the water quality and remove the pollutants if any	• Maintain appropriate level of water in ponds *i.e.* 1.75m in 2m deep ponds • Check the water quality and remove the pollutants if any	• Maintain appropriate level of water in ponds *i.e.* 1.75m in 2m deep ponds • Check the water quality and remove the pollutants if any
i) Health and Disease management	• Limeing@300kg/ha	• Medication as per requirement	• Remove the dead fishes from ponds and add new stocks to compensate the production
(ii) Any other			

based on forewarning wherever available