State: Uttar Pradesh

Agriculture Contingency Plan for District: Kanpur Nagar

1.0 District Agriculture profile				
1.1	Agro-Climatic/ Ecological Zone			
	Agro-Ecological Sub Region(ICAR)	Central Plain Zone		
	Agro-Climatic Zone (Planning Commission)	Upper Gangetic Plain Region		
	Agro-Climatic Zone (NARP)	UP-4 Central Plain Zone		
	List all the districts falling the NARP Zone* (^ 50% area falling in the zone)	Lakhimpur- Kheri, Sitapur, Hardoi, Farrukhabad,Kannauj Etawah, Kanpur, Kanpur Dehat, Unnao, Lucknow, Rae Bareilly, Fatehpur and Allahabad.		
	Geographical coordinates of district headquarters	Latitude	Longitude	Altitude (mt)
		26.28 N	80.20 E	
	Name and address of the concerned ZRS/ZARS/RARS/RRS/RRTTS			
	Mention the KVK located in the district with address	CSA Kanpur		
	Name and address of the nearest Agromet Field Unit(AMFU,IMD)for agro advisories in the Zone	CSA Kanpur		

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)	713.1	45	3nd week of June	4rd week of September
	Post monsoon (Oct-Dec)	38.1	10		
	Winter (Jan-March)	37.1	10	-	-
	Pre monsoon (Apr-May)	13.2	2	-	-
	Annual	801.5	67	-	-

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 in (,000 ha)	301.3	234.8	5.6	42.4	3.7	8.9	3.1	14.8	25.0	8.7

1.4	Major Soils	Area(‘000 ha)	Percent(%) of total
	Deep, loamy soils and slightly eroded	91.0	30%
	Deep, loamy soils with silty soils	54.5	18%
	Deep, fine soils moderately saline and sodic	42.0	14%

1.5	Agricultural land use	Area(‘000 hac)	Cropping intensity (%)
	Net sown area	188.9	113.3 %
	Area sown more than once	77.1	
	Gross cropped area	266.0	

1.6	Irrigation	Area(‘000 ha)		
	Net irrigation area	151.3		
	Gross irrigated area	177.2		
	Rain fed area	37.7		
	Sources of irrigation (Gross Irr. Area)	Number	Area(’000 ha)	Percentage of total irrigated area
	Canals	-	34.9	19.7
	Tanks	-	0.02	
	Open wells	-	0.1	0.1
	Bore wells (Tube wells)	-	141.9	80.0
	Lift irrigation schemes	-	NA	
	Micro-irrigation	-	NA	
	Other sources	-	0.2	0.1
	Total Irrigated Area	-	177.2	
	Pump sets (2011-12)	42320		
	No. of Tractors	6182		
	Groundwater availability and use* (Data source: State/ Central Ground water Department/ Board)	No of blocks- Tehsils-	(%)area	Quality of water
	Over exploited	0		
	Critical	1		
	Semi-critical	3		
	Safe	0		
	Waste water availability and use			
	Ground water quality			
*over-exploited groundwater utilization> 100%; critical: 90-100%; semicritical:70-90%; safe:<70%				

1.7 Area under major field crops & (As per latest figures 2011-12)

1.7	Major field crops cultivated	Area('000 ha)							
		Kharif			Rabi			Summer	Total
		Irrigated	Rain fed	Total	Irrigated	Rain fed	Total		
01	Rice	33.4	0	33.4	-	-	-	-	33.4
02	Maize	0.2	20.9	21.1	-	-	-	-	21.1
03	Sorghum	0.1	12.5	12.6	-	-	-	-	12.6
04	Wheat	-	-	-	102.8	0.2	103.0	-	103.0
05	Gram	-	-	-	1.0	15.6	16.6	-	16.6
06	Rapeseed Mustard	-	-	-	7.3	6.9	14.2	-	14.2

	Horticulture crops -Fruits	Area ('000 ha)		
		Total	Irrigated	Rainfed
	Mango	0.1	0.1	-
	Guava	0.1	0.1	-
	Horticulture crops -Vegetables			
	Potato	11.5	11.5	-
	Onion	0.4	0.4	-
	Pea	1.1	1.1	-

	Major Fodder crops	Area(ha)	Total
	Kharif	8976	8976
	Rabi	1974	1974
	Summer	362	362
	Total	11312	11312

1.8 Production and productivity of major crops (Average of last 5 years)

1.8	Major field crops cultivated	Area('000 ha)								
		Kharif		Rabi		Summer		Total		Crop residue as fodder ('000 tons)
		Production ('000 t)	Productivity (Kg/ha)	Production ('000t)	Productivity (Kg/ha)	Production ('000 t)	Productivity (Kg/ha)	Production ('000tT)	Productivity (Kg/ha)	
	Rice	75.5	2286	-	-	-	-	75.5	2286	NA
	Maize	29.3	1444	-	-	-	-	29.3	1444	NA
	Juar	15.6	1285	-	-+	-	-	15.6	1285	NA
	Wheat	-	-	317.1	3107	-	-	317.1	3107	NA
	Gram	-	-	21.2	1294	-	-	21.2	1294	NA
	Rapeseed Mustard	-	-	14.8	1059	-	-	14.8	1059	NA

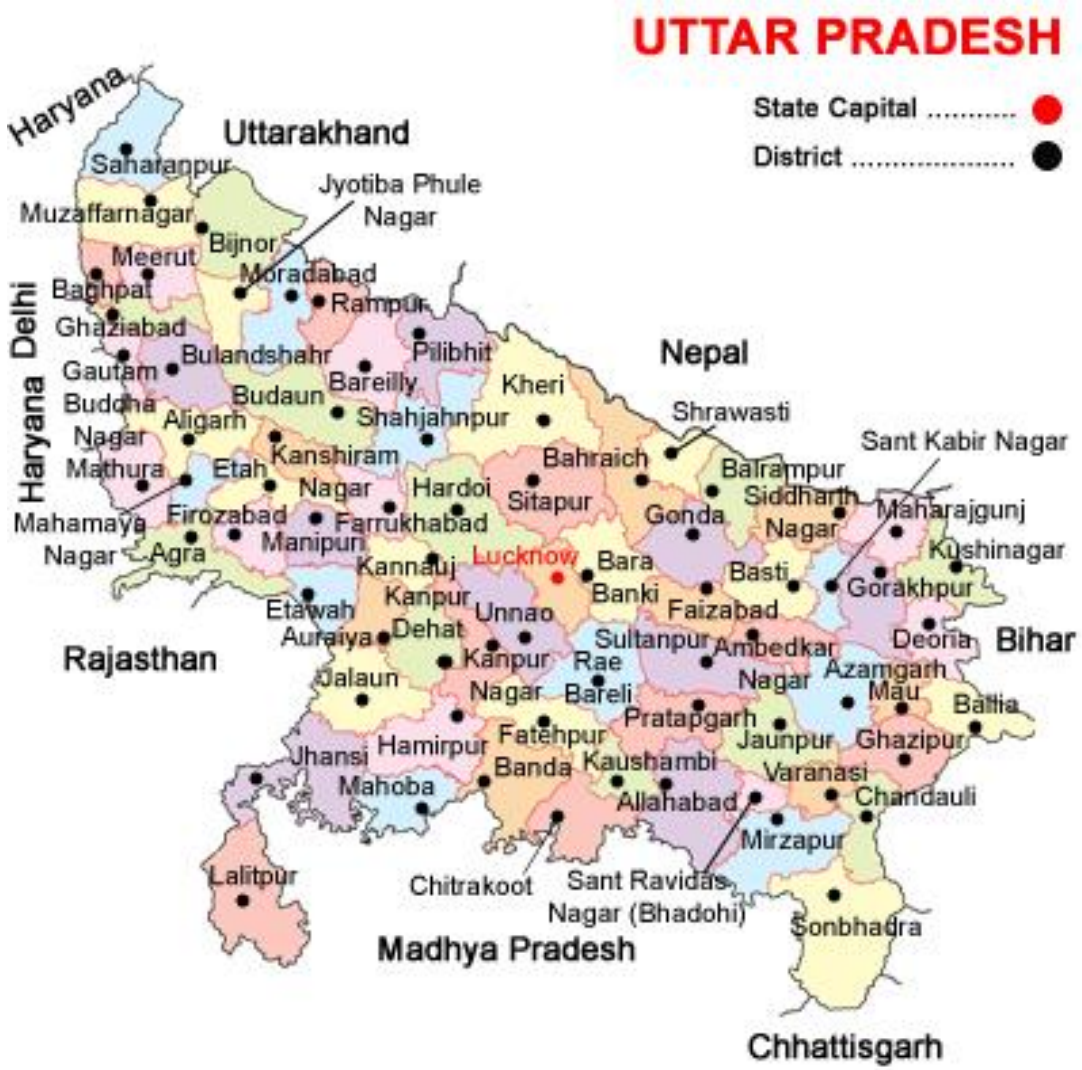
1.9	Livestock(year 2007)	Male(000)	Female(000)	Total (000)
	Non descriptive Cattle (local low yielding)	78.931	83.336	162.267
	Improved cattle	0.018	0.024	0.042
	Crossbred Cattle	8.309	18.270	26.579
	Non descriptive Buffaloes (local low yielding)	22.998	73.932	96.930
	Descript Buffaloes	49.100	188.254	237.354
	Goat	84.078	158.325	242.403
	Sheep			6.959
	Other (Camel,Pig, Yak etc)			186.254
	Commerical dairy farms (number)			0.000

1.10	**Sowing window for 5 major field crops**	**Pearl millet**	**Maize**	**Rice**	**Urd**	**Sorghum**	**Pigeon Pea**	**Wheat**	**Pea**	**Gram**	**Mustard**
	Kharif – Rainfed	2nd week of July to last week of July	3rd week of June to First week of July	-	2nd week of July to First week of August	First week of July to 2nd week of July	First week of July to Last week of July	-	-	-	-
	Kharif - Irrigated	-	-	3rd week of June to Last week of July	2nd week of July to First week of August	First week of July to 2nd week of July	-	-	-	-	-
	Rabi –Rain fed							Last week of Oct to 2nd week of Nov	First week of Oct to last week of Oct	First week of Oct to last week of Oct	First week of Sep to 2nd week of Oct
	Rabi - Irrigated							2nd week of Nov to last week of Dec	-	-	-

1.11	What is the major contingency the district is prone to?	Regular	Occasional	None
	Drought		✓	
	Flood		✓	
	Cyclone			√
	Hail storm			√
	Heat wave		✓	
	Cold wave		✓	
	Frost		✓	
	Sea water intrusion			√
	Sheath Blight, Stemborrer , Pyrilla loos smut, Heliothis, Rust etc white grub.		✓	

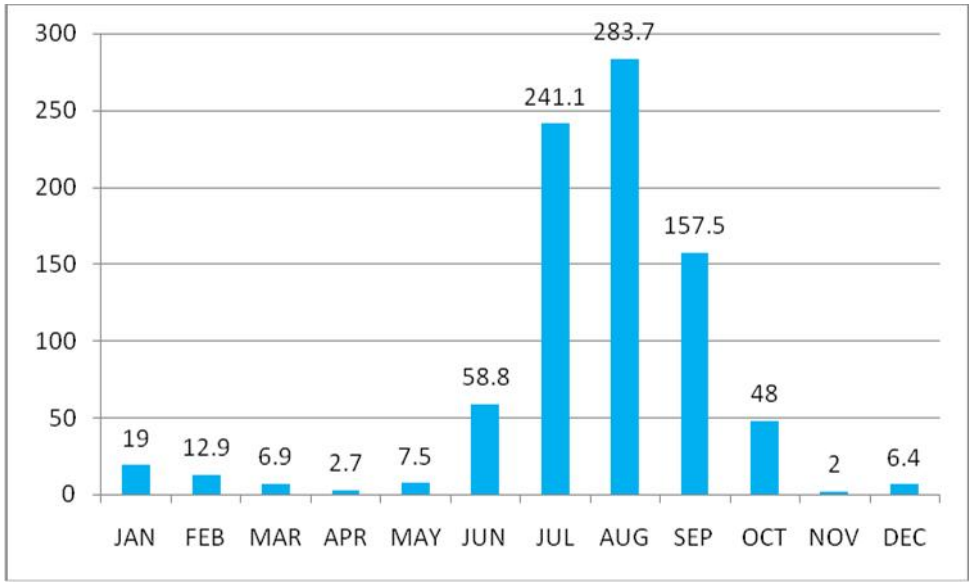
1.14	Include Digital maps of the district for	Location map of district within State as Annexure I	Enclosed: Yes
		Mean annual rainfall as Annexure 2	Enclosed: Yes
		Soil map as Annexure 3	Enclosed: Yes

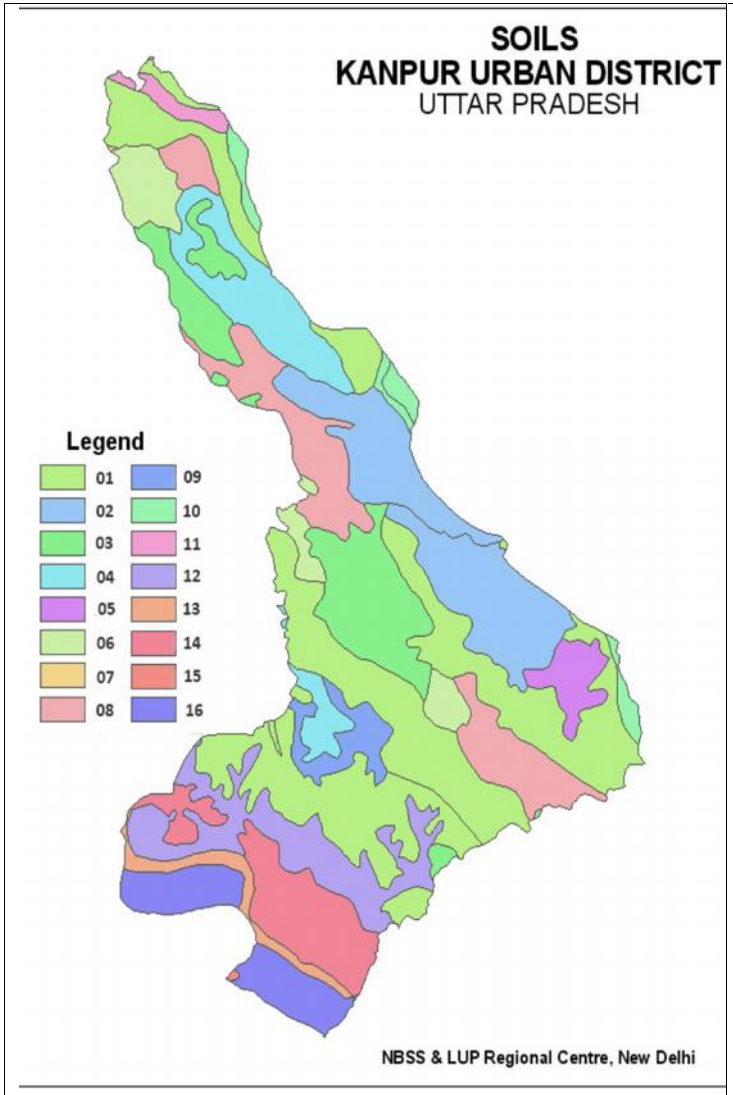
Annexure I
Location map of Kanpur Nagar district



Annexure 2

Average Month-wise rainfall (mm) in Kanpur Nagar District





SOILS OF KANPUR NAGAR DISTRICT (U.P.)

Alluvial plain (0-1% slope)

1. Deep, loamy soils and slightly eroded .
2. Deep, loamy soils and slightly eroded associated with silty soils .
3. Deep, fine soils moderately saline and sodic associated with loamy soils, slightly eroded .
4. Deep, fine soils and slightly eroded associated with loamy soils slightly saline and moderately sodic .
5. Deep, fine soils and slightly eroded associated with loamy soils .
6. Deep, silty soils with moderately salinity and sodicity associated with loamy soils with moderate salinity and sodicity and water logging .
7. Deep, silty soils associated with loamy soils slightly eroded .
8. Deep, loamy soils and slightly eroded associated with silty soils slightly saline/sodic and moderately sodic.
9. Deep, silty soils and slightly eroded associated with fine soils .

Active Flood Plain (1-3% slope)

10. Deep, sandy soils with moderate flooding associated with stratified loamy soils and slight flooding .
11. Deep, stratified loamy soils, with severe flooding associated with loamy soils with moderate flooding .

Ravinous land (3-5% slope)

12. Deep, silty soils and severely eroded associated with loamy soils severely eroded.
13. Deep, loamy soils and severely eroded .
14. Deep, loamy soils, very severely eroded associated with silty soils, very severely eroded

Very gently sloping uplands with hummocks (1-3%slope)

15. Deep, fine soils, slightly eroded associated with fine smectitic soils and slightly eroded.

Ravinous Land (5-10% slope)

16. Deep, fine smectitic soils and are moderately eroded associated with fine soils moderately eroded.

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rain fed situation

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop / Cropping system**	**Change in crop / cropping system including variety**	**Agronomic measures**	**Remarks on Implementation**
Delay by 2 weeks (1st week of July)	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	Sorghum: **Composite-** Varsha, CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid**- CSH-9, 16,14,18,13 and CSH-23	No change	Use medium maturing varieties, Thinning, Interculture, Mulching	Linked with SDC/ SAUs
		Pearl millet,- **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid**- Pusa-23 & 322 and ICMH-451	No change	Use medium maturing varieties, Thinning, Interculture, Mulching	Linked with SDC/ SAUs
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	No Change	Ridge Planting Thinning, Inter-culture,	Linked with SDC/ SAUs
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	No change	Manual weeding, Line sowing	Linked with SDC/ SAUs
		Maize **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybride**- Ganga-11, HQPM-5 and Prakash, JH-3459	No change	Use medium maturing varieties, Thinning, Interculture, Mulching	Linked with SDC/ SAUs
Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
		Sorghum **Composite-** Varsha,	No change	Use 10-15% more seed	Linked with SDC/

Delay by 4 weeks (July 3rd week)	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid-** CSH-9, 16,14,18,13 and CSH-23		Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	SAUs
		Pearl millet: **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451	No change	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	No change	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	No change	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	Replace by Pearl millet/Sorghum	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delay by 6 weeks (Aug. 1st week)	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	Sorghum: **Composite-** Varsha, CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid-** CSH-9, 16,14,18,13 and CSH-23	Replace by Pearl millet/Urd	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
		Pearl millet: **Composite-**	No change	Use 10-15% more seed	Linked with SDC/

		ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451		Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	SAUs
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	Replace with Pearl millet or Urd	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	No change	Use 10-15% more seed Use medium maturing varieties, Inter-culture, Mulching Spray of 2% MOP	Linked with SDC/ SAUs
Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delay by 8 weeks (Aug. 3rd week)	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	Pearl millet,- **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybride-** Pusa-23 & 322 and ICMH-451	Fallow	Moisture conservation and preparation for rabi sowing	-
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	Fallow	Moisture conservation and preparation for rabi sowing	-

Condition			**Suggested Contingency measures**		
Early season drought **(Normal onset)**	**Major Farming situation**	**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	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils	Sorghum :**Composite-** Varsha, CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid-** CSH-9, 16,14,18,13	• Life saving irrigation Re sowing if plant population less than 70%	Mulching , Manual weeding	

poor germination/crop stand etc.	moderately saline and sodic	and CSH-23			
		Pearl millet: **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451	• Life saving irrigation Re sowing if plant population less than 70%	Mulching , Manual weeding	
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	• Life saving irrigation Re sowing if plant population less than 70%	Mulching , Manual weeding	
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	• Life saving irrigation Re sowing if plant population less than 70%	Mulching , Manual weeding	
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	• Life saving irrigation Re sowing if plant population less than 70%	Mulching , Manual weeding	
Condition			**Suggested Contingency measures**		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
At vegetative stage	Deep, loamy soils and slightly eroded,	Sorghum :**Composite-** Varsha, CSV-13, CSV-15,SPB-1388	Life saving irrigation if available	Spray of 2%MOP. Live Mulching	

	Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	and Vijeta **Hybrid-** CSH-9, 16,14,18,13 and CSH-23			
		Pearl millet,- **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451	Life saving irrigation if available	Spray of 2%MOP. Live Mulching	
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	Life saving irrigation if available	Spray of 2%MOP. Mulching	
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	Life saving irrigation if available	Spray of 2%MOP. Mulching	
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	Life saving irrigation if available	Spray of 2%MOP. Live Mulching	
Condition			**Suggested Contingency measures**		
Mid season drought (long dry spell)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
At flowering/ fruiting stage	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic	Sorghum: **Composite-** Varsha, CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid-** CSH-9, 16,14,18,13 and CSH-23	Life saving irrigation	Spray 2% solution of Urea and 2%MOP. Mulching	
		Pearl millet,- **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451	Life saving irrigation	Spray 2% solution of Urea and 2%MOP. Mulching	
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	Life saving irrigation	Spray 2%MOP. Mulching	

		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	Life saving irrigation	Spray 2%MOP. Mulching	
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	Life saving irrigation	Spray 2% solution of Urea and 2%MOP. Mulching	
Condition			**Suggested Contingency measures**		
Terminal drought (Early withdrawal of monsoon)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Rabi Crop planning**	**Remarks on Implementation**
	Deep, loamy soils and slightly eroded, Deep loamy soils with silty soils, Deep, fine soils moderately saline and sodic sandy soils and eroded	Sorghum: **Composite-** Varsha, CSV-13, CSV-15,SPB-1388 and Vijeta **Hybrid-** CSH-9, 16,14,18,13 and CSH-23	If crop not reviving use the crop as fodder.	Prepare Field for rabi sowing	
		Pearl millet: **Composite-** ICMB-155, WCC-75,ICTP-8203 and Raj-171 **Hybrid-** Pusa-23 & 322 and ICMH-451	If crop not reviving use the crop as fodder.	Prepare Field for rabi sowing	
		Pigeon Pea – Narendra arhar-1, Narendra arhar-2, Azad,	Life saving irrigation Spray 2%MOP		
		Urd- Uttara, Azad-2, Azad-3, Pant-U-35, Pant U-40	If crop not reviving use the crop as fodder. If 75% mature than harvest.	Prepare Field for rabi sowing	

2.1.2 Drought - Irrigated situation

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delayed release of water in canals due to low rainfall	Deep, fine soils moderately saline and sodic, Deep, loamy soils And Deep, loamy soils associated with sandy soils and eroded	Paddy: (Transplanted) Govind, Narendra-118,97 , Ashwani, **(**Early) Saket-4, Ratna, Pant-12, Narendra-80, 2026 **(**Medium) Sarjoo-52, Pant-4, Narendra-359, 2026,2064	No change	• Direct seeded/ Drum seeded rice • Use early maturing varieties ie. Saket-4, Ratna, Pant-12, Narendra-80, 2026 NDR-118 • Transplant 3-4 seed lings / hill • Wet and dry irrigation, weed management	Linked with SDC/SAU's
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	No change	Use short duration varieties. Irrigation at Critical stage Ridge planting	Linked with SDC/SAU's
Condition			**Suggested Contingency measures**		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Limited release of water in canals due to low rainfall	Deep, fine soils moderately saline and sodic, Deep, loamy soils And Deep, loamy soils associated with sandy soils and eroded	Paddy: (Transplanted) Govind, Narendra-118,97 , Ashwani, **(**Early) Saket-4, Ratna, Pant-12, Narendra-80, 2026 **(**Medium) Sarjoo-52, Pant-4, Narendra-359, 2026,2064	No change	• Direct seeded/ Drum seeded Paddy/ SRI • Use early maturing varieties ie. Saket-4, Ratna, Pant-12, Narendra-80, 2026 NDR-118 • Transplant 3-4 seed lings / hill • Wet and dry irrigation, weed management • Ensure application of MOP	Linked with SDC/SAU's
		Maize: **Composite-** Naveen,	No change	Use short duration varieties.	Linked with

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
		Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459		Irrigation at Critical stage Ridge planting Weed management Ensure application of MOP	SDC/SAU's

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal 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	Deep, fine soils moderately saline and sodic, Deep, loamy soils And Deep, loamy soils associated with sandy soils and eroded	Paddy: (Transplanted) Govind, Narendra-118,97 , Ashwani, **(**Early) Saket-4, Ratna, Pant-12, Narendra-80, 2026 **(**Medium) Sarjoo-52, Pant-4, Narendra-359, 2026,2064	Replace by sorghum/ Pearl millets/Pigeon Pea/Til	• Light irrigation at critical stage, • Ridge planting/line sowing, • 10-15% increase seed. • Weed managment	Linked with SDC/SAU's
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	Replace by sorghum/ Pearl millets/Pigeon Pea/Til	• Light irrigation at critical stage, • Ridge planting/line sowing, • 10-15% increase seed. • Weed management	Linked with SDC/SAU's

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Lack of inflows into tanks due to	Deep, fine soils moderately saline	Not applicable			

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
insufficient /delayed onset of monsoon	and sodic, Deep, loamy soils And Deep, loamy soils associated with sandy soils and eroded				

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Insufficient groundwater recharge due to low rainfall	Deep, fine soils moderately saline and sodic, Deep, loamy soils And Deep, loamy soils associated with sandy soils and eroded	Paddy: (Transplanted) Govind, Narendra-118,97 , Ashwani, **(**Early) Saket-4, Ratna, Pant-12, Narendra-80, 2026 **(**Medium) Sarjoo-52, Pant-4, Narendra-359, 2026,2064	Replace by Sorghum/ Pearl millets/Pigeon Pea/Til	• Light irrigation at critical stage, • Ridge planting/line sowing, • 10-15% increase seed. • Weed management	Linked with SDC/SAU's
		Maize: **Composite-** Naveen, Azad uttam, Pragati,Gaurav and KH-510 **Hybrid-** Ganga-11, HQPM-5 and Prakash, JH-3459	Replace by Sorghum/ Pearl millets/Pigeon Pea/Til	• at critical stage, • Ridge planting/line sowing, • 10-15% increase seed. • Weed management	Linked with SDC/SAU's

2.2 Unusual rains (untimely, un seasonal etc) (for both Rain fed and irrigated situations)

Condition	**Suggested contingency measure**			
Continuous high rainfall in a short span leading to water logging	**Vegetative stage**	**Flowering stage**	**Crop maturity stage**	**Post harvest**
Paddy	Bunding around the field	Bunding around the field	Drain out excess water	Shift to safer place
Maize	Drainage	Drainage	Drainage	Shift to safer place
Sorghum	Drainage	Drainage	Drainage	Shift to safer place
Pearl millet	Drainage	Drainage	Drainage	Shift to safer place
Pigeon pea	Drainage	Drainage	Drainage	Shift to safer place
Urdbean	Drainage	Drainage	Drainage	Shift to safer place
Heavy rainfall with high speed winds in a short span				
Paddy	Bunding around the field	Bunding around the field	Drain out excess water	Shift to safer place
Maize	Drainage	Drainage	Drainage	Shift to safer place
Sorghum	Drainage	Drainage	Drainage	Shift to safer place
Pearl millet	Drainage	Drainage	Drainage	Shift to safer place
Pigeon pea	Drainage	Drainage	Drainage	Shift to safer place
Outbreak of pests and diseases due to un seasonal rains				
Paddy	Spray of Chloropyriphos 2.5 lt./ hac for termite and For stemborer (Cartap @25 kg/ hac)	Dusting of Methyl parathion @15 kg/hac for Gandhi Bug and Chlorothalonil @2ml/lt of water for false smut.	-	-
Maize	Spray of Chloropyriphos 2.5 lt./ hac	Spray of Validamycin @2.7 ml/lt. of water solution for banded leaf	-	-

	for termite and For stemborer (Cartap @25 kg/ hac)	and sheath blight.		
Sorghum	Spray of Chloropyriphos 2.5 lt./ hac for termite and For stemborer (Cartap @25 kg/ hac)	Spray of Carbandazim (0.05%)+ dithane M 45 (0.2%) for early and late leaf spots and rust.	-	-
Pearl millet	Spray of Chloropyriphos @3.50 lt./ hac for early shoot borar	Spray of Mancozeb(0.2%) for rust.	-	-
Pigeon pea	Spray of Chloropyriphos 2.5 lt./ hac for termite	Spray of Chloropyriphos 2.5 lt./ hac Or Monocrtophos @1.25lt/hac for control podborar	-	-
Urdbean	Spray of Chloropyriphos 2.5 lt./ hac for termite	Spray of Dimethoate 1.00 lt./ hac Or imidachlorpide @250 ml/hac for control of thrips/	-	-

2.3 Floods : Not applicable

Condition	**Suggested contingency measure**			
Transient water logging/ partial inundation[1]	**Seedling / nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Horticulture	Not applicable			
Field crops				
Continuous submergence for more than 2 days				
Sea water intrusion				

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

Extreme event type	Suggested contingency measure			
	Seedling / nursery stage	**Vegetative stage**	**Reproductive stage**	**At harvest**
Heat Wave				
Rice	Remove ponded water and apply irrigation at evening	-	-	-
Cold wave	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**
Heat & Cold wave	In villages which are chronically prone to heat waves the following permanent measures are suggested i) Plantation of trees like Neem, Pipal, Subabul around the shed ii) Spreading of husk/straw/coconut leaves on the roof of the shed iii) Water sprinklers / foggers in the animal shed **iv)** Application of white reflector paint on the roof to reduce thermal radiation effect **Cold wave :** Covering all the wire meshed walls / open area with gunny bags/ polyethylene sheets with a mechanism for lifting during the day time and closing	Allow the animals preferably early in the morning or late in the evening for grazing during heat waves Allow for grazing between 10AM to 3PM during cold waves Feed green fodder/silage / concentrates during day time and roughages / hay during night time in case of heat waves Add 25-50 ml of edible oil in concentrates per kg and fed to the animal during cold waves Apply / sprinkle lime powder (5-10g per square feet) in the animal shed during cold waves to neutralize ammonia accumulation Put on the foggers / sprinklers during heat weaves and heaters during cold waves in case of	Green and concentrates supplementation should be provided to all the animals. Allow the animals for grazing (normal timings) Bleach (0.1%) drinking water / water sources Provide clean drinking water

	during night	high productive animals In severe cases, vitamin 'C' (5-10ml per litre) and electrolytes (Electral powder @ 20g per litre) should be added in water during severe heat waves and provision of wholesome clean drinking water at least 3 times in a day	
Insurance	Insurance policy for loss of production due to heat wave or cold wave may be developed Encouraging insurance of livestock	Listing out the details of the dead animals and loss of production in high yielders	Submission for insurance claim and availing insurance benefit Purchase of new productive animals

2.5.2 Poultry

	Suggested contingency measures		
	Before the event[a]	**During the event**	**After the event**
Heat wave			
Shelter/environment management	Provision of proper shelter with good ventilation	In severe cases, foggers/water sprinklers/wetting of hanged gunny bags should be arranged Don't allow for scavenging during mid day	Routine practices are followed
Health and disease management	Deworming and vaccination against RD and fowl pox	Supplementation of house hold grain Provide cool and clean drinking water with electrolytes and vit. C (5-10 ml per litre) In hot summer, add anti-stress probiotics in drinking water or feed (Reestobal etc., 10-20ml per litre)	Routine practices are followed
Cold wave			

Shelter/environment management	Provision of proper shelter Arrangement for brooding Assure supply of continuous electricity	Close all openings with polythene sheets In severe cases, arrange heaters Don't allow for scavenging during early morning and late evening	Routine practices are followed
Health and disease management	Arrangement for protection from chilled air	Supplementation of grains Antibiotics (Ampicilline/ Ampiclox etc., 10g in one litre) in drinking water to protect birds from pneumonia	Routine practices are followed