State: UTTAR PRADESH

Agriculture Contingency Plan for District: Lakhimpur kheri

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, Etawah, Kanpur, Kanpur Dehat, Unnao, Lucknow, Rae Bareilly, Fatehpur and Allahabad.		
	Geographical coordinates of district headquarters	Latitude	Latitude	Latitude(mt)
		27.57N	80.46E	
	Name and address of the concerned ZRS/ZARS/RARS/RRS/RRTTS	-		
	Mention the KVK located in the district with address	Krishi Vigyan Kendra, PO Gola, Jamunabad, Lakhimpur Kheri		
	Name and address of the nearest Agromet Field Unit(AMFU,IMD)for agro advisories in the Zone	AMFU Lucknow		

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)	921.8	49	2nd week of june	3rd week of September
	Post monsoon (Oct-Dec)	55.5	10		
	Winter (Jan-March)	57.4	9	-	-
	Pre (Apr-May)	34.0	2	-	-
	Annual	1068.7	49		

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)	772.8	524.8	164.8	78.7	0.9	3.2	5.9	3.6	31.8	4.1

1.4	Major Soils	Area(‘000 ha)	Percent(%) of total
	Deep loamy soil	157.0	30 %
	Deep, silty soils,	183.7	35 %
	Deep, silty soils associated with loamy soils slightly eroded	94.5	18%

1.5	Agricultural land use	Area(‘000 hac)	Cropping intensity (%)
	Net sown area	479.7	149.1%
	Area sown more than once	235.3	
	Gross cropped area	714.9	

1.6	Irrigation	Area(‘000 ha)		
	Net irrigation area	408.8		
	Gross irrigated area	590.9		
	Rain fed area	70.9		
	Sources of irrigation (Gross Irr. Area)	Number	Area(’000 ha)	Percentage of total irrigated area
	Canals	-	29.3	4.9
	Tanks	-	0	
	Open wells	-	0.5	0.1
	Bore wells(Tube wells)	-	561.2	95.0
	Lift irrigation schemes	-	NA	
	Micro-irrigation	-	NA	
	Other sources	-	0	
	Total Irrigated Area	-	590.9	
	No pf Pump sets (2011-12)	119468		
	No. of Tractors	19094		
	Groundwater availability and use* (Data source: State/ Central Ground water Department/ Board)	No of blocks- Tehsils-	(%)area	Quality of water
	Over exploited			
	Critical	-		
	Semi-critical	-		
	Safe			
	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		
	Sugarcane	207.6	26.4	234.0	-	-	-	-	234.0
	Wheat	0	0	0	182.7	10.4	193.0	0	193.0
	Rice	166.3	16.9	183.2	0	0	0	2.2	185.4
	Rapeseed Mustard	-	-	-	18.5	10.9	29.4	-	29.4
	Masoor	-	-	-	0.5	16.8	17.3	-	17.3
	Maize	0.3	7.7	8.0	-	-	-	-	8.0

1.8	**Livestock**	Male(000)	Female(000)	Totat(000)
	Non descriptive Cattle (local low yielding)	248.990	259.460	508.450
	Improved cattle	0.022	0.061	0.083
	Crossbred Cattle	3.771	7.368	11.139
	Non descriptive Buffaloes (local low yielding)	38.501	138.849	177.350
	Descript Buffaloes	38.092	137.374	175.466
	Goat	154.566	222.219	376.785
	Sheep			11.280
	Other (Camel,Pig, Yak etc)			32.265
	Commerical dairy farms (number)			0.000

1.9	**Sowing window for 5 major field crops**	**Rice**	**Maize**	**GroundNut**	**Urd**	**Jowar**	**Pigeon Pea**	**Wheat**	**Lentil**	**Gram**	**Sugarcane**	**Musterd**
	Kharif – Rainfed	-	First week of July to 3rd week of July	First week of July to Last week of July	2nd week of July to First week of August	First week of July to 3rd week of July	First week of July to Last week of August	-	-	-	-	-
	Kharif - Irrigated	First week of July to First week of August	First week of June to First week of July	First week of June to First week of July	-	-	-	-	-	-	2nd week of Feb to last week of March	-
	Rabi – Rainfed							-	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 2th week of Dec	-	-	First week of Oct to last week of Oct	-

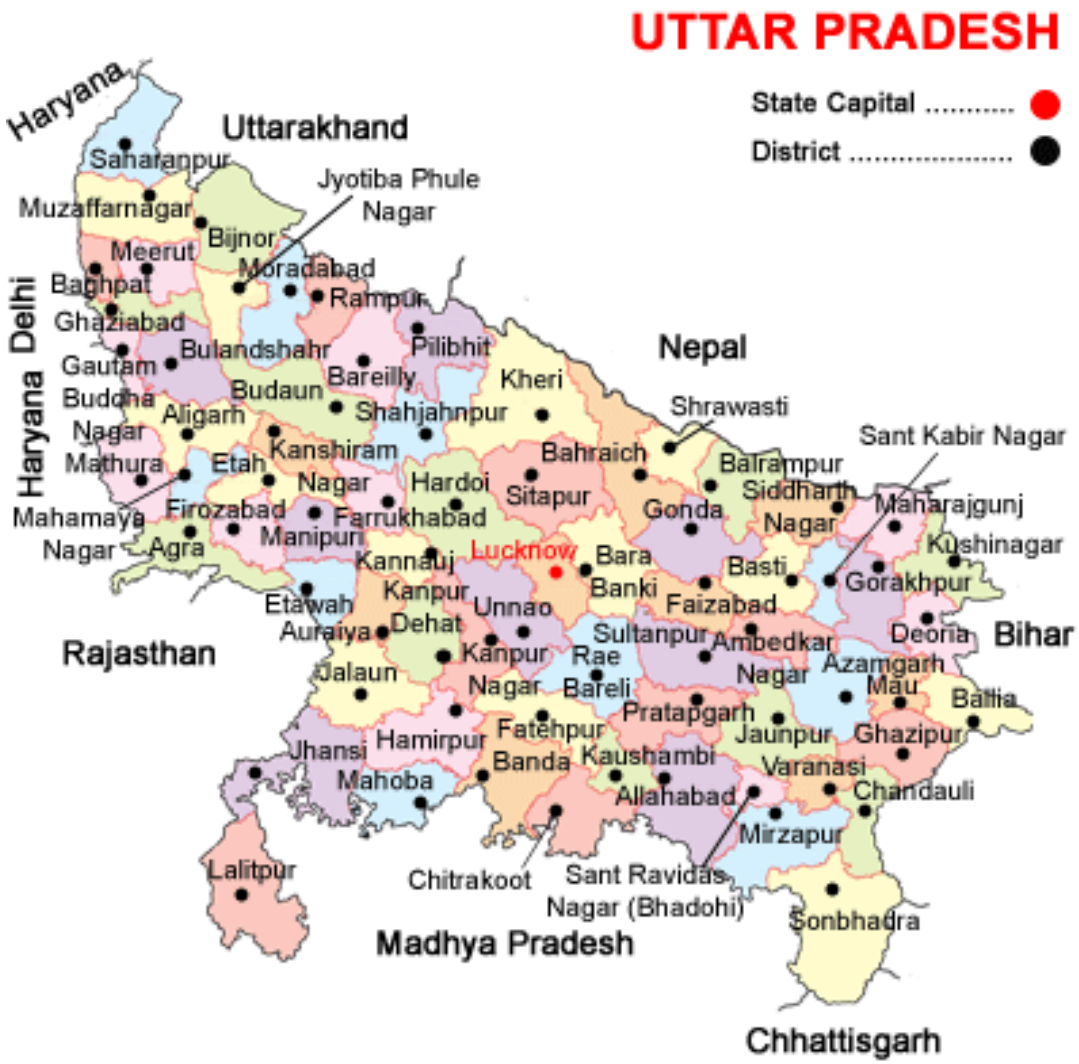
1.10	**What is the major contingency the district is prone to?**	**Regular**	**Occasional**	**None**
	Drought	-	-	
	Flood	✓	-	
	Cyclone	-	-	
	Hail storm	-	✓	
	Heat wave	-	-	
	Cold wave	-	✓	
	Frost	✓	-	
	Sea water intrusion	-	-	
	Sheath Blight, Stemborrer , Pyrilla loos smut, Heliothis, Rust etc white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

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

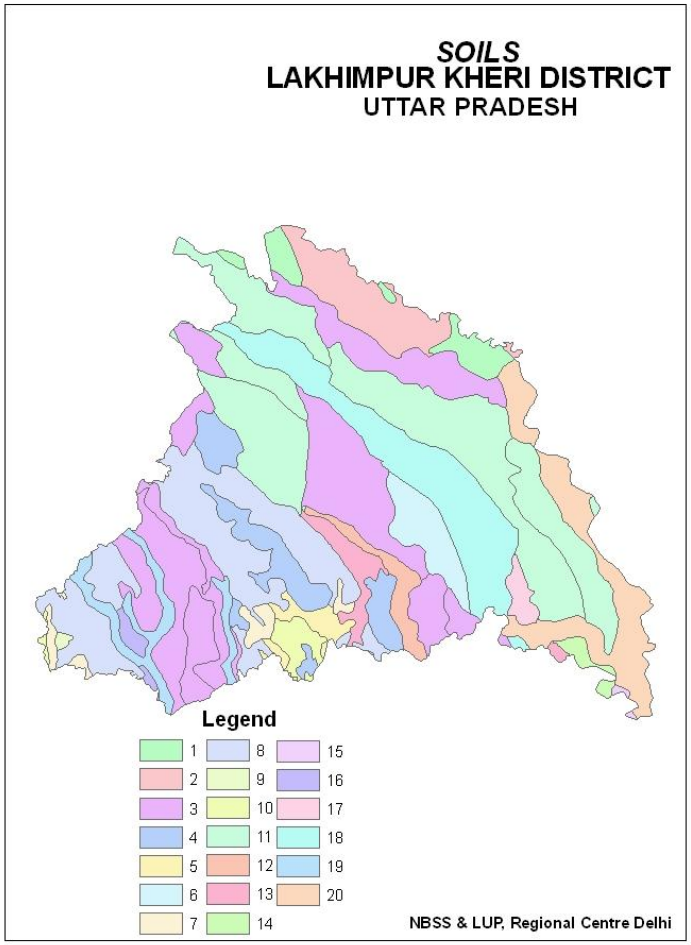
1.7	Major field crops cultivated	Area('000 ha)								
		Kharif		Rabi		Summer		Total		Crop residue as fodder ('000 tons)
		Production ('000 T)	Productivity (KG/HA)	Production ('000 T)	Productivity (KG/HA)	Production ('000 T)	Productivity (KG/HA)	Production ('000 T)	Productivity (KG/HA)	
01	Rice	379.278	2081	-	-	-	-	379.278	2081	NA
02	Wheat	-	-	640.225	3278	-	-	640.225	3278	NA
03	Maize	6.8516	803	-	-	-	-	6.816	803	NA
04	Lentil	-	-	16.672	899	-	-	16.672	899	NA
05	Rapeseed Mustard	-	-	26.212	868	-	-	26.212	868	NA
06	Sugarcane	12674.936	56171	-	-	-	-	12674.936	56171	NA

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

Annexure I
Location map of Lakhimpur Kheri district



1.14 Soil Map



SOILS OF LAKHIMPUR KHERI DISTRICT (U.P.)

Piedmont Plains (1-3% slope)

1. Deep, loamy soils and slightly eroded
2. Deep, silty soils and slightly eroded

Alluvial plain (0-1% slope)

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

Old Alluvial plain with river left out channels/Oxbows/point bars (1-3%slope)

13. Deep, loamy soils and slightly eroded associated with stratified loamy soils slightly eroded

Recent Alluvial Plain (1-3% slope)

14. Deep, silty soils and slight flooding associated with loamy soils and slight flooding
15. Deep, loamy soils, slightly eroded associated with sandy soils with slight flooding
16. Deep, silty soils, moderately saline and sodic associated with loam soils and slightly eroded

Active Flood Plain (1-3% slope)

17. Deep, stratified loamy soils with but moderately flooding
18. Deep, sandy soils with moderate flooding associated with stratified loamy soils and slight flooding
19. Deep, stratified loamy soils, with moderate flooding associated with sandy soils with moderate flooding
20. Deep, stratified loamy soils, with severe flooding associated with loamy soils with moderate flooding

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**	**Normal Crop / Cropping system**	**Change in crop / cropping system including variety**	**Agronomic measures**	**Remarks on Implementation**
Delay by 2 weeks (1st of July)	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203,	Line sowing/ Raised bed against slope	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6	Line sowing/ Raised bed 1:2	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea+Urd	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6 Urd- Azad urd-2, Azad urd-3, Sekhar-1, sekhar-2, sekhar-3,	Line sowing/ Raised bed 1:2:1	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 4 weeks (3rd weeks of July)	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203,	Line sowing/ Raised bed against slope	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6	Line sowing/ Raised bed 1:2	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea+Urd	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6 Urd- Azad urd-2, Azad urd-3, Sekhar-1, sekhar-2, sekhar-3,	Line sowing/ Raised bed 1:2:1	Linked with SDC/SAUs

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation[a]**	**Normal Crop/cropping system[b]**	**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation[e]**
Delay by 6 weeks 1st week of August)	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203,	Line sowing/ Raised bed against slope	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6	Line sowing/ Raised bed 1:2	Linked with SDC/SAUs
		Sorghum/Bajra+ Pigeon Pea+Urd	No change Jowar-CSV-13,CSV-15,CSV-23, Bundela Bajra-ICMV-221, JBV-2, ICTP-8203, Pigeon Pea -N Arhar-1, N arhar-2, Bahar, PDA-11, MA-13, MA-6 Urd- Azad urd-2, Azad urd-3, Sekhar-1, sekhar-2, sekhar-3,	Line sowing/ Raised bed 1:2:1	Linked with SDC/SAUs

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**[a]	**Normal Crop/cropping system**[b]	**Change in crop/cropping system**[c]	**Agronomic measures**[d]	**Remarks on Implementation**[e]
Delay by 8 weeks (3rd week of August)	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	Fallow	Fallow for rabi sowing Viz mustard, lentil and gram	
		Sorghum/Bajra+ Pigeon Pea	Fallow	Fallow for rabi sowing Viz mustard, lentil and gram	
		Sorghum/Bajra+ Pigeon Pea+Urd	Fallow	Fallow for rabi sowing Viz mustard, lentil and gram	

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 poor germination/crop stand etc.	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	Weeding/ Resowing	All nutrients apply at the time of sowing. Mulching.	
		Sorghum/Bajra+ Pigeon Pea	Weeding/ Resowing	All nutrients apply at the time of sowing. Mulching.	
		Sorghum/Bajra+ Pigeon Pea+Urd	Weeding/ Resowing	All nutrients apply at the time of sowing. Mulching.	

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	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	Spray 2% MOP+ 2% Urea	All nutrients apply at the time of sowing. Mulching.	
		Sorghum/Bajra+ Pigeon Pea	Spray 2% MOP	All nutrients apply at the time of sowing. Mulching.	
		Sorghum/Bajra+ Pigeon Pea+Urd	Spray 2% MOP	All nutrients apply at the time of sowing. 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	**Sandy Loam, Silty soil and** Deep, silty soils associated with loamy soils slightly eroded	Sorghum/Bajra/	Spray 2% MOP+2% Urea	Life saving irrigation if available	
		Sorghum/Bajra+ Pigeon Pea	Spray 2% MOP	Life saving irrigation if available	
		Sorghum/Bajra+ Pigeon Pea+Urd	Spray 2% MOP	Life saving irrigation if available	

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	Sandy Loam	Paddy	Inclusion of these varities Sarju-52, pant-12, NDR-359, PR-113and Hybrids.	• SRI • Provide irrigation at hair line crack stage • Weed control	Linked with SDC/SAUs
		Maize	Prefer early/short duration varieties/composites/Hybrids Azad Uttam, Azad Kamal, Tarun, Naveen and prakash, PEHM-2, PEHM-5	• Ridge and furrow planting • Irrigation at critical stages • Weed control • Ensure recommended basal dose (2/3 of RDF) and 1/3 of RDF of K at tasseling initiation stage	Linked with SDC/SAUs
		Groundnut	Prefer varieties like Kaushal, Prakash and TG-37 A,	Raised bed planting Alternate furrow irrigation, Mulching	Linked with SDC/SAUs
		Sugarcane	No change	Application of MOP, removal of lower leaves and light irrigation	Linked with SDC/SAUs

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	Sandy Loam	Paddy	No change	• SRI • Weed control • Life saving irrigation	
		Maize	No change	• Ridge and furrow planting • Life saving irrigation • Mulching	
		Groundnut	No change	• Life saving irrigation • Mulching • Spray of micro nutrient like boron	
		Sugarcane	No change	• Life saving irrigation • Spray of MOP2% • Apply lower leaves for Mulching	

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	Farming situation: Sandy Loam	Not Applicable			

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	Tube well irrigated	Not Applicable			

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**	**Flowering stage**	**Crop maturity stage**	**Post harvest**
Paddy	Repair Bunds	Repair Bunds	Drain out excess water	Drain out excess water Shifting of produce at safer place for drying
Maize	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Groundnut	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Sugarcane	Bunds repairing, Drain out excess water	Drain out excess water, Harvest Mature crop	Drain out excess water, Harvest Mature crop	Shifting of produce at safer place for drying
Heavy rainfall with high speed winds in a short span[2]				
Paddy	drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Maize	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Groundnut	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Sugarcane	Tying of sugarcane clumps	Drain out excess water, Harvest Mature crop	Drain out excess water, Harvest Mature crop	Shifting of produce at safer place for drying

Outbreak of pests and diseases due to unseasonal 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	Application of fipronil (g) @33 kg/ hac. For termite	Spray of Validamycin @2.7 ml/lt. of water solution for banded leaf and sheath blight.	-	-
Groundnut	Application of fipronil (g) @33 kg/ hac. For whitegrub	Spray of bavistin (0.05%)+ dithane M 45 (0.2%) for early and late leaf spots and rust.	-	-
Sugarcane	Spray of Chloropyriphos @6.50 lt./ hac for early shoot borar	Spray of Mancozeb(0.2%) for rust.		

2.3 Floods:

Condition	**Suggested contingency measure[o]**			
Transient water logging/ partial inundation[1]	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Paddy	Drain out excess water	Strengthening of Bunds	-	Shifting of produce at safer place for drying
Sugarcane	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of produce at safer place for drying
Continuous submergence				

for more than 2 days[2]				
Paddy	Drainage	Drainage and top dressing of urea	Drainage and top dressing of urea	Shifting of produce at safer place for drying
Sugarcane	Drainage	Drainage and top dressing of urea	Drainage and top dressing of urea	Shifting of produce at safer place for drying

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

Extreme event type	**Suggested contingency measure**[r]			
	Seedling / nursery stage	**Vegetative stage**	**Reproductive stage**	**At harvest**
Heat Wave				
Paddy	Drain out heated water from nursery	Application of life saving irrigation and MOP	Application of life saving irrigation and MOP	-
Maize	Application of life saving irrigation and mulching	Application of life saving irrigation and MOP	Application of life saving irrigation and MOP	-
Sugarcane	Light irrigation and removal of lower leaves to used as mulch	Light irrigation and removal of lower leaves to used as mulch	Light irrigation and removal of lower leaves to used as mulch	-
Horticulture				
Mango	To irrigate orchard	To irrigate orchard	To irrigate orchard	-
Guava	To irrigate orchard	To irrigate orchard	To irrigate orchard	-
Banana	To irrigate orchard	To irrigate orchard	To irrigate orchard	-
Cold wave				
Potato		Plant protection for early/late blight Provide light irrigation Fumigation	Plant protection for early/late blight Provide light irrigation Fumigation	-
Frost				
Horticulture				
Mango	Use of plant protection measures	• Adopt need based plant	Adopt need based plant protection measure	Grading

		protection measures • In less or partially damaged orchards, remove/prune damaged branches and apply Bordeaux mixture to avoid secondary infection	Spray growth regulators	and marketing

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures		
	Before the event	**During the event**	**After the event**
Floods	Minimum required quantity of hay and concentrates at house hold level should be stored for feeding the livestock a week period In case of early forewarning (EFW), harvest all the crops (Rice/maize/ground nut/black gram/green gram) that can be useful as fodder in future (store properly) Protect the stored paddy straw from inundation of flood water All the large ruminants are immunized for the endemic diseases like HS and BQ during the month of May and FMD in July Procure and stock emergency medicines and vaccines for important	Transportation of animals to elevated areas Proper hygiene and sanitation of the animal shed In severe storms, un-tether or let loose the animals Use of unconventional and locally available cheap feed ingredients for feeding of livestock. Avoid soaked and mould infected feeds / fodders to livestock Emergency outlet establishment for required medicines or feed in each village Spraying of fly repellants in animal sheds and relief camps Carryout deworming to all animals entering into relief camps Identification and quarantine of sick animals Perform ring vaccination (8 km radius) in case of any disease outbreak	Repair of animal shed Bring back the animals to the shed Deworm the animals through mass camps Cleaning and disinfection of the shed Bleach (0.1%) drinking water / water sources Encouraging farmers to cultivate short-term fodder crops like cow pea, horse gram, sunhemp etc. Proper disposable of the dead animals / carcasses by burning / deep burying (4-8 feet) with lime powder (1kg for small ruminants and 5kg for large ruminants) in pit Drying the harvested crop and fodder material and proper storage

	contagious diseases. Surveillance and disease monitoring network to be established at Joint Director (Animal Husbandry) office in the district Arrangement for transportation of animals from low lying area to safer places and also for rescue animal health workers to get involve in rescue operations	Restrict movement of livestock in case of any epidemic	
Cold wave	**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 during night	Allow for grazing between 10AM to 3PM during cold 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	Green and concentrates supplementation should be provided to all the animals. Allow the animals for grazing (normal timings)
Insurance	Insurance policy for loss of production due to drought 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	**During the event**	**After the event**
Floods			
Shortage of feed ingredients	In case of early forewarning of floods, shift the birds to safer place Storing of house hold grain like maize,	Use stored feed as supplement Don't allow for scavenging	Routine practices are followed Deworming and vaccination against RD

	broken rice, bajra etc,	Culling of weak birds	
Drinking water	Provide clean drinking water	Sanitation of drinking water	Sanitation of drinking water
Health and disease management	In case of EFW, add antibiotic powder (Terramycin/Ampicilline/ Ampiclox etc., 10g in one litre) in drinking water to prevent any disease outbreak	Prevent water logging surrounding the sheds through proper drainage facility Assure supply of electricity by generator or solar energy or biogas Sprinkle lime powder to prevent ammonia accumulation due to dampness	Sanitation of poultry house Treatment of affected birds Disposal of dead birds by burning / burying with line powder in pit Disposal of poultry manure to prevent protozoal problem Supplementation of coccidiostats in feed Vaccination against RD
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