State: Uttar Pradesh

Agriculture Contingency Plan for District: Faizabad

1.0 District Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	Eastern Plain, Hot Subhumid (moist) Eco-sub region (13.1)		
	Agro-Climatic Zone (Planning Commission)	Middle Gangetic Plain Region (IV)		
	Agro Climatic Zone (NARP)	Eastern Plain Zone (UP-9)		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Faizabad,Ambedkarnaagr,Sultanpur,Barabanki,Gazipur,Ballia,Mau,Azamgarh,Jaunpur,Varanasi, Bhadohi		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		26’^{o}47’ N	82^{o}12’ E	339 ft
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Directorate of Research, SAU, Kumarganj		
	Mention the KVK located in the district with address	KVK, Masodha(ICAR)		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	-		

1.2	**Rainfall**	**Normal RF(mm)**	**Normal Onset**	**Normal Cessation**
	SW monsoon (June-Sep):	860.4	3rd week of June	1st week of October
	NE Monsoon(Oct-Dec):	49.9		
	Winter (Jan- February)	29.8	-	-

	Summer (March-May)	30.8	-	-
	Annual	970.8	-	-

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)	260.9	171.01	2.4	36.06	2	4.13	9.76	3.58	21.79	10

1. 4	**Major Soils (common names like red sandy loam deep soils (etc.,)***	**Area ('000 ha)**	**Percent (%) of total**
	Silty Loam soils	293.2	65
	Silty Loam(Bhat) soils	135.3	30
	Alluvial soils	22.5	5

*Source ATMA, SREP Agriculture Dept. Sultanpur

1.5	**Agricultural land use**	Area ('000 ha)	Cropping intensity %
	Net sown area	171.016	163%
	Area sown more than once	91.79	
	Gross cropped area	262.845	

1.6	**Irrigation**	Area ('000 ha)		
	Net irrigated area	-		
	Gross irrigated area	-		
	Rainfed area	-		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals			

	Tanks			
	Open wells			
	Bore wells			
	Lift irrigation schemes			
	Micro-irrigation			
	Other sources (please specify)			
	Total Irrigated Area			
	Pump sets			
	No. of Tractors			
	Groundwater availability and use* (Data source: State/Central Ground water Department /Board)	No. of blocks/ Tehsils	(%) area	Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc)
	Over exploited			
	Critical			
	Semi- critical			
	Safe			
	Wastewater availability and use			
	Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

1.7 Area under major field crops & horticulture

1.7	**Major field crops cultivated**	**Area ('000 ha)**							
		Kharif			***Rabi***				
		Irrigated	**Rainfed**	**Total**	**Irrigated**	**Rainfed**	**Total**	**Summer**	**Grand total**
	Rice	63.39	18.84	82.2	-	-	-	-	-
	Maize	0	1.423	1.42	-	-	-	-	-
	Pigeonpea	0	0.24	0.2	-	-	-	-	-

	Wheat	-	-	-	78.10	1.13	79.2	-	-
	Pea	-	-	-	2.3	0.07	2.4	-	-
	Chickpea	-	-	-	0	1.40	1.4	-	-

	Horticulture crops - Fruits	**Area ('000 ha)**		
		Total	**Irrigated**	**Rainfed**
	Mango	-	-	-
	Guava	-	-	-
	Aonla	-	-	-
	Papya	-	-	-
	Banana	-	-	-
	Horticulture crops - Vegetables	-	-	-
	Medicinal and Aromatic crops	-	-	-
	Plantation crops	-	-	-
	Eg., industrial pulpwood crops etc.	-	-	-
	Fodder crops	-	-	-
	Total fodder crop area	-	-	-

	Grazing land	-	-	-
	Sericulture etc	-	-	-
	Others (specify)	-	-	-

1.8	**Livestock**	**Male ('000)**	**Female ('000)**	**Total ('000)**
	Non descriptive Cattle (local low yielding)			-
	Improved cattle			-
	Crossbred cattle(Cow)			327.3
	Non descriptive Buffaloes (local low yielding)			225.99
	Descript Buffaloes			
	Goat			147.95
	Sheep			13.93
	Others (Camel, Pig, Yak etc.)			10.70
	Commercial dairy farms (Number)			
1.9	**Poultry**	**No. of farms**	**Total No. of birds ('000)**	
	Commercial			
	Backyard			
		Total	**162.345**	

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**
	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)	95.70	0.5	0.049
	Others			

1.11 Production and Productivity of major crops

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	189.21	2301	-	-	-	-	189.21	2301	-
	Maize	13.5	954	-	-	-	-	13.5	954	-
	Pigeon pea	2.224	926	-	-	-	-	2.224	926	-
	Wheat	-	-	218.54	2758	-	-	218.54	2758	-
	Pea	-	-	2.30	938	-	-	2.30	938	-
Others	Chickpea	-	-	1.45	1033	-	-	1.45	1033	-
Major Horticultural crops (Crops to be identified based on total acreage)										
Crop 1	-	-	-		-	-		-	-	-

1.12	**Sowing window for 5 major field crops** (start and end of normal sowing period)	**Rice**	**Maize**	**Pigeon pea**	**Wheat**	**Pea**
	Kharif- Rainfed	2nd week of June-3rd week of July	1st week of June-4th week of June	-	-	-
	Kharif-Irrigated	4th week of June-2nd week of August	3rd week of June-2nd week of July	-	-	-
	Rabi- Rainfed	-	-	2nd week of October-2nd week of November	1st week of October-3rd week of October	2nd week of October-2nd week of November
	Rabi-Irrigated	-	-	2nd week of November-4th week of December		-

1.13	**What is the major contingency the district is prone to?** (Tick mark)	**Regular**	**Occasional**	**None**
	Drought		✓	
	Flood		✓	
	Cyclone			✓
	Hail storm			✓
	Heat wave		✓	
	Cold wave		✓	
	Frost		✓	
	Sea water intrusion			✓
	Pests and disease outbreak (specify)	✓	✓	

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

Annexure I

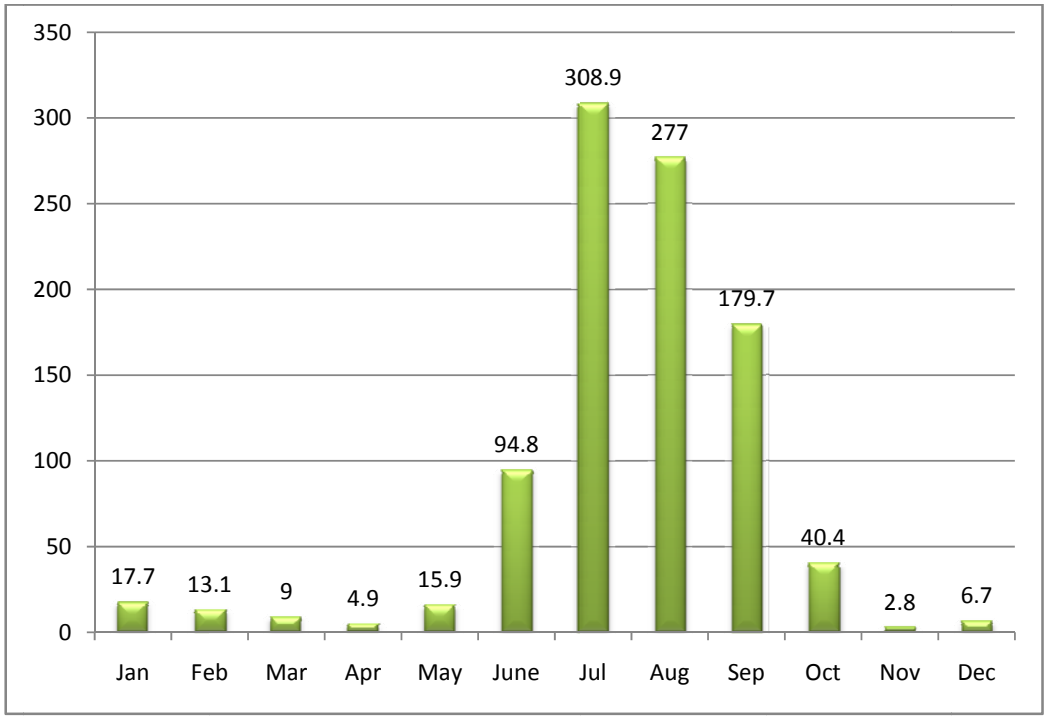
Agroclimatic Zones of U.P.

1. Bhabhar and Tarai Zone
2. Western Plain Zone
3. Mid Western Plain zone
4. South Western Plain Zone
5. Central Plain Zone
6. Bundelkhand Zone
7. North Eastern Plain Zone
8. Eastern Plain Zone
9. Vidhya Zone

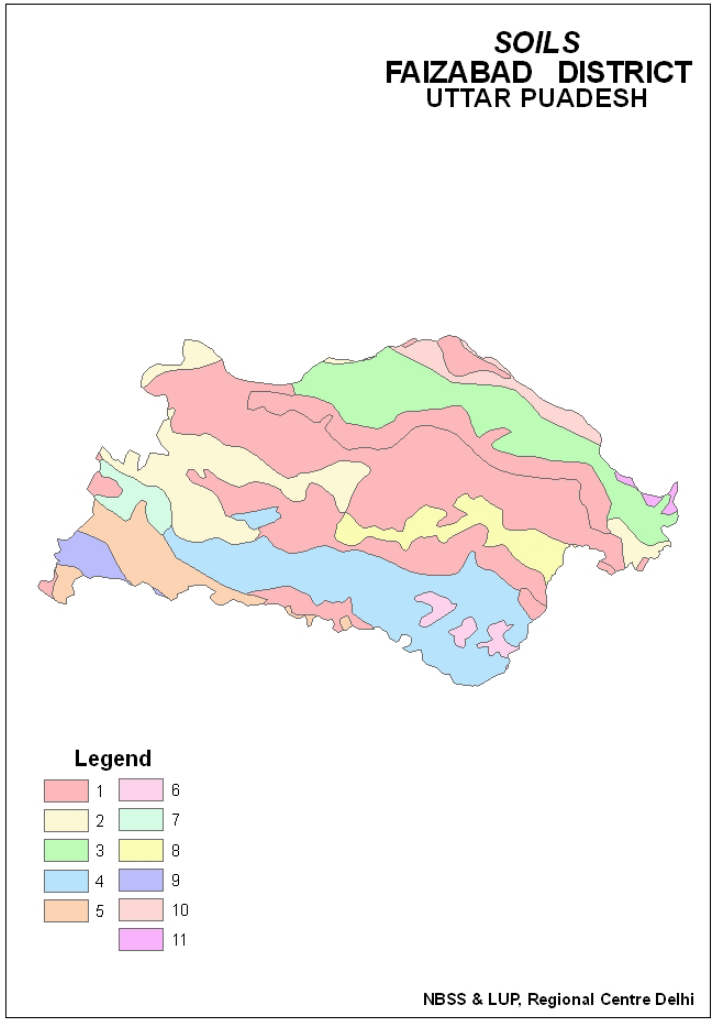

UTTAR PRADESH
Saharanpur
Muzaffarnagar
Bijnor
Baghpat
Meerut
Jyotiba Phule Nagar
Ghaziabad
Moradabad
Rampur
Pilibhit
Bareilly
Bulandshahr
Budaun
Kheri
Aligarh
Shahjahanpur
Shrawasti
Mathura
Hathras
Etah
Bahraich
Balrampur
Farrukhabad
Sitapur
Hardoi
Siddharthnagar
Maharajganj
Firozabad
Mainpuri
Agra
Gonda
Sant Kabir Nagar
Kannauj
Barabanki
Kushinagar
Etawah
Lucknow
Basti
Auraiya
Faizabad
Gorakhpur
Unnao
Kanpur Dehat
Kanpur Nagar
Ambedkar Nagar
Deoria
Sultanpur
Raebareli
Jalaun
Azamgarh
Mau
Ballia
Fatehpur
Pratapgarh
Jaunpur
Jhansi
Hamirpur
Ghazipur
Banda
Kaushambi
Mahoba
Varanasi
Allahabad
Chitrakoot
Chandauli
Mirzapur
Lalitpur
Sonbhadra

Annexure II

Mean annual rainfall (mm)



Annexure III



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

Recent Alluvial Plain (1-3% slope)

9. Deep, loamy soils, slightly eroded associated with silty soils and slightly eroded

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

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 week of July**	Deep loamy soils	Rice	No change Transplanting/Direct seeding of Medium and Short duration varieties of Paddy Such as NDR-97, NDR-359,NDR-80,NDR-118, Barami Deep etc.	Raise Staggered rice nursery should be grown at 15 days interval in small areas at least two times SRI system of paddy nursery/transplanting are suggested	-
	Silt loam soils	Maize	Not Change	Intercropping/ mixed cropping of maize/sorghum/ Pearlmillet with long duration varieties of Pigeonpea	
		Pigeon Pea	Not Change	Sowing on raised beds Intercropping with maize/Greengram/Blackgram	

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 week of July**	Deep loamy soils	Rice	Direct seedling of short duration varieties of paddy such as NDR-97, NDR-80, NDR-118, Saket-4.	• Transplanting of paddy with 3-4 seedlings/hill to increasing the plant population 60 hills/m^2, instead of 50 hills/$m^{2.}$ • Pruning of overaged paddy seedlings for better establishment and optimum plant stand. • Thinning of over aged paddy seedlings for better establishment and optimum plant stand. • Foliar spraying of 2.5 kg Urea + 2.5 kg Potash as to increase the drought tolerance. Mulching with straw/ Grass cover.	
	Shallow silt loam soils	Maize	Maize-Prakash, Sartaj, Naveen, Tarun.	Intercropping/ mixed cropping of maize/sorghum/ Pearlmillet with long duration varieties of Pigeonpea	
		Pigeonpea	No change	Sowing on raised beds Intercropping with Maize/Blackgram/Greengram	

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 **1st week of August**	Deep loamy soils	Rice	Rice-Wheat Paddy: Short duration varieties of paddy such as NDR-97, NDR-80,NDR-118, Pant Dhan-12 should be transplanted/direct seeding.	Direct seeding of rice In case of late transplanting of rice(beyond 20th July) planting should be dense by increasing the number of seedlings/hill from 2 to 3 to 3 to 4. Adopt SRI system of nursery raising Weeding and interculture Foliar spraying of 2.5 kg Urea + 2.5 kg Potash as to increase the drought tolerance in nursery / standing crops Life saving irrigation in transplanted rice	Supply of seed through govt. agencies i.e. NFSM, RKVY Seed drill under RKVY
	Shallow silt loam soils	Maize	Greengram/ Blackgram Greengram: T-44, Pant mung-1, Narendra mung-1 Blackgram : Narendra urd-1,Pant urd-25	Intercropping/ mixed cropping of Greengram/ Blackgram/ maize/sorghum/ Pearlmillet with long duration varieties of pigeonpea	
		Pigeon pea	Varieties -Bahar, PDA-11, Pusa		

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 **3rd week of August**	Deep loamy soils	Rice-Wheat	Preference should be given for sowing of Pearlmillet and Sesame Pearlmillet: Pusa 322, 323(Hybrid) and WCC-75, Raj-171(Composite) Sesame: - Type-4, Type-78, Type-12 Greengram : T-44, Pant mung-1, Pant mung-2, Samrat, Malviya, Janpriya, Malviya jyoti, Narendra mung-1 Blackgram : Narendra urd-1,Pant urd-25, Pant urd-19, Uttara, Type-9	Direct sowing In case of late transplanting of rice(beyond 20th July) planting should be dense by increasing the number of seedlings/hill from 2 to 3 to 3 to 4. Foliar praying of 2.5 kg Urea + 2.5 kg Potash as to increase the drought tolerance in nursery / standing crops Life saving irrigation in transplanted rice	-
	Shallow silt loam soils	Maize		Intercropping/ mixed cropping of Greengram/ Blackgram/maize/sorghum/ Pearlmillet with long duration varieties of pigeonpea Land preparation for sowing of early rabi crops like potato,toria,lahi and mustard	
		Pigeonpea	September Pigeonpea Varieties Bahar, PDA-11, Pusa-9 should be done till Ist week of September.	-	

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.	Deep loamy soils	Rice	After seeding of rice if there is break of monsoon by 7 to 10 days and if seedling mortality is observed then re-sowing with the same variety Gap filling/transplanting in rice Using “Sanda” method, plant polulation can be maintainted with sufficient number of tillers in late drought condition as to minimize the production losses	Weeding at critical stages Foliar praying of 2.5 kg Urea + 2.5 kg Potash as to increase the drought tolerance in nursery / standing crops Life saving irrigation Proper electricity monitoring/rostering system should be ensured in area for regular supply of electricity for pumping of water for life saving irrigation	
	Shallow silt loam soils	Maize	Ridge sowing Gap filling/ Thinning to maintain optimum plant population	Leaf mulching to conserve the soil moisture	
		Pigeonpea	Ridge sowing Gap filling/ Thinning to maintain optimum plant population	Leaf mulching to conserve the soil moisture	

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 measues**	**Remarks on Implementation**
At vegetative stage	Deep loamy soils	Rice	Gap filling/transplanting in rice	Weeding as to conserve the residual soil moisture Leaf mulching to conserve the soil moisture Foliar praying of 2.5 kg Urea + 2.5 kg Potash as to increase the drought tolerance in nursery / standing crops Life saving irrigation from the stored water during the rainy season.	
	Shallow silt loam soils	Maize/ Greengram / Blackgram	Thinning to maintain proper distance between the plants. Frequent interculture	Foliar spraying of 2% MOP to increase the resistance to drought Leaf mulching to conserve the soil moisture Conservation furrow Life saving irrigation	
		Pigeon pea	Earthing up in Pigeonpea Foliar spraying of 2% urea to boost up the growth		

Condition			Suggested Contingency measures		
Mid season drought (long dry spell)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Soil nutrient & moisture conservation measues**	**Remarks on Implementation**
At flowering/ fruiting stage	Deep loamy soils	Rice	Intercultural operations Foliar spraying of 2% urea to boost up the growth	Weeding as to conserve the residual soil moisture Leaf mulching to conserve the soil moisture Foliar spray of 2.5 kg urea +2.5 kg Potash in standing crop. Mulching Life saving irrigation from the stored water during the rainy season.	
	Loam soils	Maize/ Greengram / Blackgram/ Pigeon pea	Thinning to maintain proper distance between the plants. Frequent interculture Earthing up in Pigeonpea Foliar spraying of 2% urea to boost up the growth	Foliar spraying of 2% MOP to increase the resistance to drought Leaf mulching to conserve the soil moisture Conservation furrow Life saving irrigation	

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**
		Rice	Foliar spray of 2.5 kg Potash 2.5 kg urea as to create drought tolerance Alternate management of irrigation should be ensured for provide life saving irrigation	In case of fallow land sowing of Toria, Type-9, PT 303 and Ageti Rai should be sown in Ist week of September while Bhawani variety can be sown in 2nd week of September.	
		Maize Blackgram/ Greengram	Harvesting of intercrop at physiological maturity (Maize, Blackgram and Greengram) Earthing up of Pigeonpea Harvesting of green cobs (maize) and sell in market and remaining portion will be used for fodder. Life saving irrigation to pigeonpea if possible.	Better pulverization should be made for conservation of soil moisture following by planking for sowing of early rabi crops like toria and potato etc.. Toria variety- type-9, type-36, PT-303, PT-30 and ageti Rai should be sown in 1st week of September while Bhawani variety can be sown in 2nd week of September.	
		Pigeonpea			

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	Not applicable				
Limited release of water in canals due to low rainfall	Not applicable				
Non release of water in canals under delayed onset of monsoon in catchment	Not applicable				
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Not applicable				
Insufficient groundwater recharge due to low rainfall	Sandy clay loam soils	Rice – Wheat / Pea/ Lentil	Rice should be replaced with pulses (green gram & black gram), oilseeds (Sesame) in *Kharif* and wheat by Chickpea & lentil in *Rabi* season.	Direct seeding in small beds. .	

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**
Rice	Provide drainage	Proper bunding, drain out excess water	Harvesting at physiological maturity	Shift to safer place
Wheat	Provide drainage	Drain out excess water	Harvesting at physiological maturity	Shift to safer place
Pigeonpea	Provide drainage and	Make inter-row furrow to	Harvesting at physiological	Shift to safer place

	Practice of sowing on ridges	Drain out excess water	maturity	
Heavy rainfall with high speed winds in a short span[2]	-	-	-	-
Outbreak of pests and diseases due to unseasonal rains				
Rice, Wheat, Chickpea, Pigeonpea, Pearl millet	Need based plant protection (integrated pest and disease management)	Need based plant protection (integrated pest and disease management	Need based plant protection (integrated pest and disease management	Safe storage against stored grain pest and diseases

2.3 Floods

Condition	**Suggested contingency measure[o]**			
Transient water logging/ partial inundation[1]	**Seedling / nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Rice	• Arrangement of Drainage channel • Drainage of water from the rice fields	• Removal of excess water	• Foliar spray of 5% urea	-
Maize	• Drainage of water • Creation of surface drains at appropriate places to avoid water logging			
Continuous submergence for more than 2 days[2]				
Rice	• Drainage of excess water through drainage channel • Transplanting of deep water rice –Madhupur, Jalmagn, Jalpriya, Jalnidhi, Awarodhi	• Just after finishing of floods, topdressing of urea could be ensured in the field	• Foliar spray of 5% urea	• Preference should be given for planting of Autumn Sugarcane in the month of October so that their grand growth completed to the maximum . Extent prior to floods. • Planting of Sugarcane on raised beds instead of flat bed. • Emphasis could be given for

				cultivation of Toria, Blackgram, Greengram /Sunflower
Sea water intrusion	**Not applicable**			

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				
Rice	Provide watering Light and frequent irrigation during night	• Provide light irrigation • Irrigation interval should be decreased	Irrigation interval should be decreased	-
Wheat	-	-	Provide light irrigation	Harvesting at physiological maturity
Pigeonpea	• Mulching	• Irrigation interval should be decreased	• Irrigation interval should be decreased	-
Cold wave				
Wheat	Provide light irrigation	Provide light irrigation	Provide light irrigation	-
Pigeonpea	Mulching	Light irrigation for survival	Light irrigation for survival	Harvesting at physiological maturity
Frost				
Wheat	Light irrigation	Light irrigation for survival	Light irrigation for survival	-
Pigeonpea	• Grow as inter crop • Smoke generation to create heat during night time	• Light Sprinkler irrigation • Smoke generation to create heat during night time	• Light irrigation for survival • Smoke generation to create heat during night time	-
Hailstorm	Not Applicable			
Cyclone	Not Applicable			

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	Storage of straw and silage in silo pit according to population of animal	Properly distribution of stored feeding materials.	Sowing of seasonal fodder crops for regular fodder availability.
Drinking water	Maintenance and inspection of tubewells, hand pumps, ponds, tanks etc.	Filling of water tanks, ponds etc.	Regular watch of various resources of water and health of animals.
Health and disease management	Vaccination of animals against FMD, HS, BQ and de-worming	Health camp by veterinarians.	Health camp by veterinarians
Floods			
Feed and fodder availability	Increase the area of fodder crops according to population and their storage	Availability of safe place for the animals	Sowing of rabi fodder crops –berseem, Lucerne, oat & other rabi crops
		Distribution stored feed and fodders according to the population affected areas	
Drinking water	Arrangement of clean drinking water in sufficient amount	Provide need and clean drinking water	Drain of infected stored water and supply of fresh water for drinking
Health and disease management	Vaccination of animal and availability of veterinary medicines	Organize heath camp regularly	Proper treatment of affected animal, vaccination and dewarmig
Cyclone	-NA	-NA	-NA

Feed and fodder availability	-		
Drinking water	-		
Health and disease management	-		
Heat wave and cold wave			
Shelter/environment management	Shelter house/farm house should not face directly sunlight . Ensured the availability of drinking water and as well as electrolytes	Proper availability of shelter, drinking water and feeds & fodders as per need of animals	Provide shelter belts of good quality of materials
Health and disease management		Routine health checkup by veterinarian doctors	Routine health checkup by veterinarian doctors

[s] 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	-	-	-	-
Drinking water	Deep tubewell provide clean drinking water	Provide the drinking water	Provide the drinking water	
Health and disease management	Vaccination against infectious diseases	Vaccination	Vaccination against infectious diseases such as Ranikhet, infections, coryza, IBD, ILT	
Floods		-		

Shortage of feed ingredients				
Drinking water	Inspection of established tubewell & other water resources	Vaccination	Vaccination against infectious diseases such as Ranikhet, infections, coryza, IBD, ILT	
Health and disease management	Vaccination against infection diseases	Vaccination		
Cyclone	-NA-			
Shortage of feed ingredients	-NA-			
Drinking water	-NA-			
Health and disease management	-NA-			
Heat wave and cold wave				
Shelter/environment management	Arrangement of proper shelter and coolar/heater to maintain the proper temp. of the shelter house	Maintenance of surrounding temp,. and prevent the birds from direct exposure of heat/cold waves	Health check up	
Health and disease management	Vaccination	Vaccination	Vaccination	
			Availability of clean water	

[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	-NA-	-NA-	
Inland	Arrangement for alternative water resources	Sell the produce at minimum acceptable size to the consumer	Lime Application
(i) Shallow water depth due to insufficient rains/inflow	Stocking of Air breathing		
(ii) Changes in water quality	Turbidity	Increased water temperature	
(iii) Any other		Decrease dissolve oxygen	
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow	Arrange for alternative water resources	Minimum disturbance to the fish i.e. minimum fishing activities	Maintain the pond properly by liming, manuring and fertlization
(ii) Impact of salt load build up in ponds / change in water quality	-		
(iii) Any other	-		
2) Floods			
A. Capture			
Marine			
Inland	Harvest the large size fish	Protect the escape of fish	Manage the inlet, outlet structures along with pond land
(i) No. of boats / nets/damaged			
(ii) No.of houses damaged			

(iii) Loss of stock			
(iv) Changes in water quality			
(v) Health and diseases			
B. Aquaculture			
(i) Inundation with flood water		Stocking of fish sped for a period of 1-2 month	
(ii) Water contamination and changes in water quality	Liming	Lime+alum	Harvesting and selling fish seeds
(iii) Health and diseases		Lime+alum	
(iv) Loss of stock and inputs (feed, chemicals etc)			Netting of fish+$KmnO_4$ application
(v) Infrastructure damage (pumps, aerators, huts etc)			
(vi) Any other			
3. Cyclone / Tsunami			
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	Make 2.5 m high nylon net boundary on the band of pond	Check for outlet to remain open	Close outlet and open inlet

(ii) Changes in water quality (fresh water / brackish water ratio)		Close inlet and divert water receiving channel	Treatment of water with Alum and $KmnO_4$
(iii) Health and diseases			Feeding, liming, manuring and fertilization of ponds
(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)			
(ii) Health and Disease management			
(iii) Any other			

[a] based on forewarning wherever available