

State: Madhya Pradesh

Agriculture Contingency Plan for Sheopur Kalan District

1.0 District Agriculture profile					
1.1	Agro-Climatic/Ecological Zone				
	Agro Ecological Sub Region (ICAR)	Madhya Bharat plateau and Bundelkhand uplands			
	Agro-Climatic Zone (Planning Commission)	Agro climatic zone 8.1 ; Region: Gird			
	Agro Climatic Zone (NARP)	Zone VII -Gird			
	List all the districts or part thereof falling under the NARP Zone	Morena, Bhind, Gwalior(1/2 W), Shivpuri and Guna			
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude	
		22 ^o 43 ' N	76 ^o 54 E	618 m	
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Zonal Agricultural Research Station (RVSKVV), Near Commissioner office A-B Road , Morena - 476001 (M. P.) RARS, College of Agriculture, Gwalior (M. P.)			
	Mention the KVK located in the district	KVK, MP seed & Farm Development Corporation, Seed processing Centre Campus, Baroda, Sheopur Dist.			
1.2	Rainfall	Average (mm)	Normal Onset (specify week and month)	Normal Cessation (specify week and month)	Normal Cessation (specify week and month)
	SW monsoon (June-Sep):		2 nd week of June	3 rd week of September	
	NE Monsoon(Oct-Dec):		-	-	
	Winter (Jan- March)		-	-	-
	Summer (Apr-May)		-	-	-
	Annual	944.0	-	-	-

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 (old fallow)
	Area ('000 ha)	666.6	157.5	292.2	39.3	37.2	39.9	0.0	86.6	8.3	5.6

Source – Directorate of Farmers welfare and Agriculture, Development of Madhya Pradesh, Bhopal, Agriculture Statistics 2009.

1.4	Major Soils (common names like red sandy loam deep soils (etc.,))*	Area ('000 ha)	Percent (%) of total
	1. Deep soils	149.20	22.68
	2. Medium deep soil	84.40	12.88
	3. Shallow soil	425.40	64.44

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	157.5	126
	Area sown more than once	41.6	
	Gross cropped area	199.1	

1.6	Irrigation	Area ('000 ha)		
	Net irrigated area	113.1		
	Gross irrigated area	117.8		
	Rainfed area	44.4		
	Sources of Irrigation	Number	Area ('000 ha) Gross	Percentage of total irrigated area
	Canals	2	60.5	51.4
	Tanks	12	1.1	-
	Open wells	3155	9.6	8.4
	Bore wells	8345	35.8	34.1
	Lift irrigation schemes	11512	46.5	
	Micro-irrigation			
	Other sources (please specify)		6.1	5.1
	Total Irrigated Area		117.8	
	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		19%	
	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 (as per latest figures) (year 2006-07)

1.7	S.No.	Major field crops cultivated	Area ('000 ha)								
			<i>Kharif</i>			<i>Rabi</i>			Summer	Grand total	
				Irrigated	Rainfed	Total	Irrigated	Rainfed	Total		
	1	Pearl millet			16.8	16.8					16.8
	2	Soybean			14.8	14.8					14.8
	3	Rape & mustard					6.61	1.5	8.1		8.1
	4	Wheat					3.8	-	3.8		3.8
5	Chick pea					3.0	2	6.0		6.0	
	Others										

	S.No.	Horticulture crops - Fruits	Area ('000 ha)		
			Total	Irrigated	Rainfed
	1	Mango	0.020		
	2	Guava	0.400		
	3				
	4	Others(Papaya, ber, anwala)			
	5	-			
	Others				
		Horticulture crops - Vegetables	Total	Irrigated	Rainfed
	1	Potato	0.200		-
	2	Onion	0.100		-
	3	Tomato	0.100		-

		Horticulture crops - Spices			-
		Chilly	0.100		
		Coriander	6.500		Others (specify)
		Garlic	0.300		
		Medicinal and Aromatic crops	Total	Irrigated	Rainfed
	1	Basil	0.010		
	Others (specify)				
		Flowers			
		Mari Gold	0.015		
		Rose	0.005		
		Plantation crops	Total	Irrigated	Rainfed
	1	Sagwan			
	2	popular			
	3	Eucalyptus			
	4				
	5				
	Others (Specify)	Eg., industrial pulpwood crops etc.			
		Fodder crops	Total	Irrigated	Rainfed
		Total fodder crop area			
		Grazing land			
		Sericulture etc			
		Others (specify)			

1.8	Livestock	Male ('000)	Female ('000)	Young stock	Total ('000)
	Non descriptive Cattle (local low yielding)	50.8	66.0	59.9	176.7
	Crossbred cattle				
	Non descriptive Buffaloes (local low yielding)	1.6	50.8	46.0	98.4
	Graded Buffaloes				
	Goat			114.7	
	Sheep			15.0	
	Others Horses, Pig, Yak etc.)			4.4	
	Commercial dairy farms (Number)				
1.9	Poultry	No. of farms	Total No. of birds ('000)		
	Commercial				
	Backyard				

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	
		21		41		244	
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: 2004, 05, 06, 07, 08; specify years)

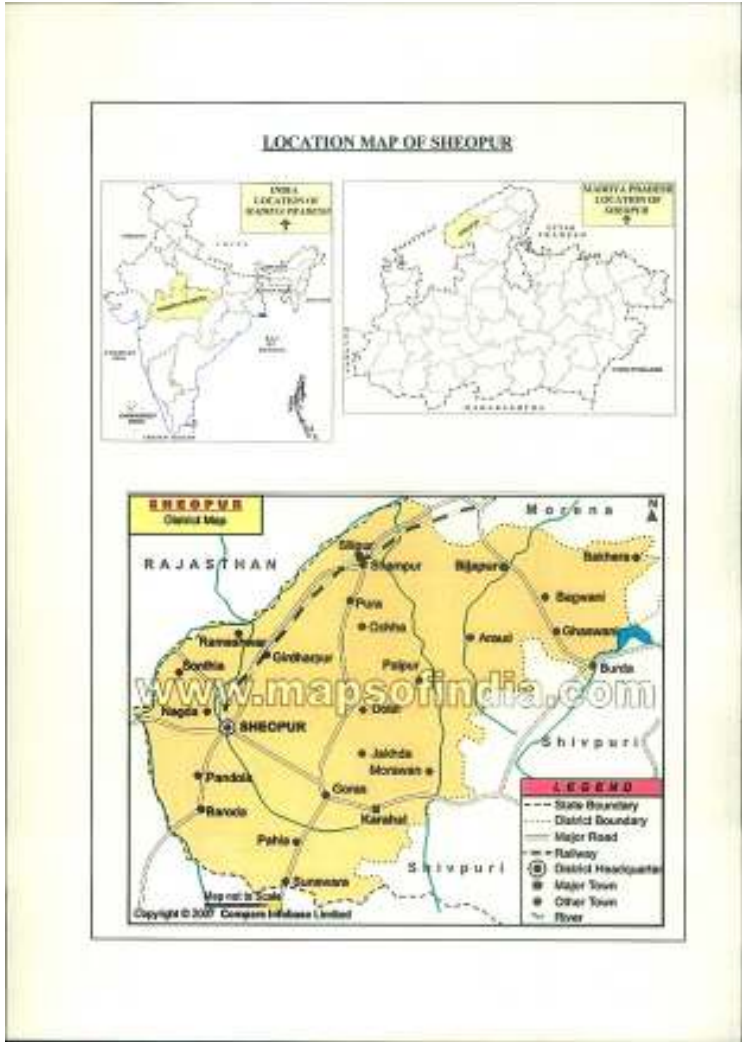
1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder ('000 tons)
		Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
Crop 1	Pearl millet	26.2	1409					26.2	1409	
Crop 2	Soybean	23.1	1262					23.1	1262	
Crop 3	Rape & mustard			97.4	1263			97.4	1263	
Crop 4	Wheat			90.7	2393			90.7	2393	
Crop 5	Chick pea			8.2	1242			8.2	1242	
Others										
Major Horticultural crops (Crops to be identified based on total acreage)										
Crop 1	Mango									
Crop 2	Guava									
Crop 3	Lime									
Crop 4	Potato									
Crop 5	onion									
Others	garlic									

1.12	Sowing window for 5 major field crops (start and end of normal sowing period)	Crop 1: Soybean	2: pearl millet	Rape & mustard	4: Chickpea	5: wheat
	Kharif- Rainfed	20June-5July	20June-5July		-	-
	Kharif-Irrigated		1-15 June	-	-	-
	Rabi- Rainfed	-	-	-	25 Sept -5Oct.	5 Oct.-15Oct.
	Rabi-Irrigated	-	-	-	15Oct.-15 Nov.	5 Oct.-15 Nov.

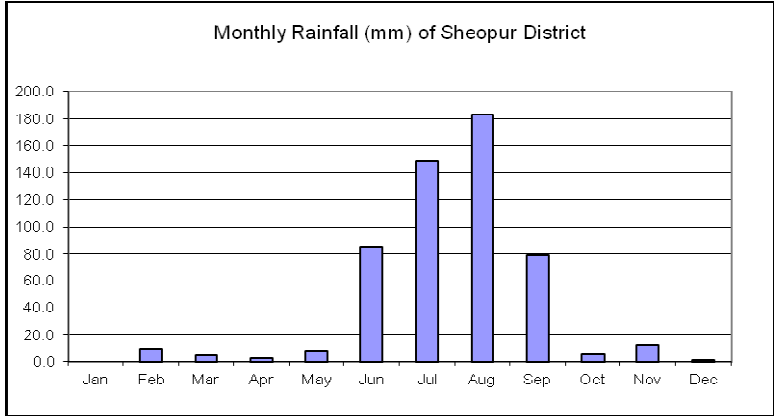
1.13	What is the major contingency the district is prone to? (Tick mark)	Regular	Occasional	None
	Drought	-	yes*	-
	Flood	-	*	-
	Cyclone	-	-	-
	Hail storm	-	*	-
	Heat wave	*	-	-
	Cold wave	*	-	-
	Frost	-	*	-
	Sea water intrusion	-	-	-
	Pests and disease outbreak (specify)	*	-	-
	Others (specify)			

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

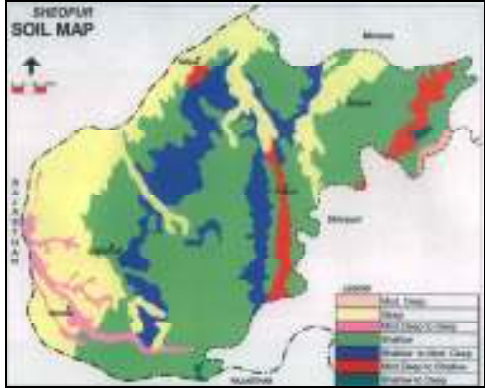
Annexure I
Location map



Annexure II
Mean annual rainfall



Annexure III
Soil Map



(Source: NBSS&LUP, Amravati Road, Nagpur)

2.0 Strategies for weather related contingencies

2.1 Drought

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
Delay by 2 weeks	Shallow soils	Pearlmillet	JBV-2, 3,4 and HHB-67,	<ul style="list-style-type: none"> Ridge & Furrow sowing Seed treatment with Thirum + Corbidizim mixture @3gm/kg of seed Apply FYM, biofertilizer Timely weed control 	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean	JS 93-05, JS 95-60		
		Green gram	JM-721		
	Deep soils	Pearlmillet	JBV-2, 3,4 and HHB-67,		
		Soybean	JS 93-05, JS 95-60		
		Pigeon pea	ICPL-87-119		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
Delay by 4 weeks	Shallow soils	Pearlmillet	JBV-2, 3,4 and HHB-67,	Increasing seed rate Fallow field cultivation Practices for control of weeds and moisture conservation	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean	JS 93-05, JS 95-60		
		Green gram	JM-721		
	Deep soils	Pearlmillet	JBV-2, 3,4 and HHB-67,		
		Soybean	JS 93-05, JS 95-60		
		Pigeon pea	ICPL-87-119		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
Delay by 6 weeks	Shallow soils	Pearlmillet	Fallow- Toria /Mustard	Organic mulch Supplemental irrigation of farm pond water	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean	Fallow -Early potato		
		Green gram	Fallow- Toria /Mustard		
	Deep soils	Pearlmillet	Fallow -Early potato		
		Soybean			
		Pigeon pea			

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
Delay by 8 weeks	Shallow soils	Pearlmillet	Fallow –wheat (Tall)	Increase seed rate by 10% Frequent interculture to control weeds and to conserve moisture during fallow	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean	Fallow –Mustarded		
		Green gram	Toria		
	Deep soils	Pearlmillet	Fallow –wheat (Tall)		
		Soybean	Early potato		
		Pigeon pea	Fallow –Mustarded		

***Matrix for specifying condition of early season drought due to delayed onset of monsoon (2, 4, 6 & 8 weeks) compared to normal onset (2.1.1)**

Normal onset (Month and week)	Month and week for specifying condition of early season drought due to delayed onset of monsoon			
	Delay in onset of monsoon by			
	2 wks	4 wks	6 wks	8 wks
June 1 st wk	June 3 rd wk	July 1 st wk	July 3 rd wk	Aug 1 st wk
June 2 nd wk	June 4 th wk	July 2 nd wk	July 4 th wk	Aug 2 nd wk
June 3 rd wk	July 1 st wk	July 3 rd wk	Aug 1 st wk	Aug 3 rd wk
June 4 th wk	July 2 nd wk	July 4 th wk	Aug 2 nd wk	Aug 4 th wk
July 1 st wk	July 3 rd wk	Aug 1 st wk	Aug 3 rd wk	Sep 1 st wk
July 2 nd wk	July 4 th wk	Aug 2 nd wk	Aug 4 th wk	Sep 2 nd wk

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Crop management	Soil nutrient and moisture conservation measures	Remarks on Implementation
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Shallow soils	Pearlmillet	Transplant per millet seedlings if gaps are more	Intercultural operation for conservation of moisture ,	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean			
		Green gram			
	Deep soils	Pearlmillet			
		Soybean			
		Pigeon pea			

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop / Cropping system	Crop management	Soil nutrient and moisture conservation measures	Remarks on Implementation
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period At vegetative stage)	Shallow soils	Pearlmillet	Transplant per millet seedlings if gaps are more	Intercultural operation for conservation of moisture , Mulching , Supplemental irrigation	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean			
		Green gram			
	Deep soils	Pearlmillet			
		Soybean			
		Pigeon pea			

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop / Cropping system	Crop management	Soil nutrient and moisture conservation measures	Remarks on Implementation
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period At flowering/ fruiting stage)	Shallow soils	Pearlmillet	-	Mulching Top dressing of nitrogen of 20-30kg N after relief of dry spell Supplemental irrigation	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
		Soybean			
		Green gram			
	Deep soils	Pearlmillet			
		Soybean			
		Pigeon pea			

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
	Shallow soils	Pearlmillet Soybean Green gram	Harvesting of crops at physiological maturity stage.	Supplemental irrigation	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
	Deep soils	Pearlmillet Soybean Pigeon pea			

2.1.2 Drought - Irrigated situation

Condition			Suggested Contingency measures		
Delayed release of water in canals due to low rainfall	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
	Shallow soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold	<ul style="list-style-type: none"> Organic mulch Irrigation at critical growth stages Increase seed rate by (10%). 	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
	Deep soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold		

Condition			Suggested Contingency measures		
Limited release of water in canals due to low rainfall	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
	Shallow soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold	<ul style="list-style-type: none"> Organic mulch Irrigation at critical growth stages Give irrigation using own source of available water plus tank water (conjunctive use) 	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
	Deep soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold		

Condition			Suggested Contingency measures		
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
	Shallow soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold	<ul style="list-style-type: none"> • Organic mulch • Irrigation at critical growth stages • (sprinkler if feasible) • Increase seed rate by 50% 	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
	Deep soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold		

Condition			Suggested Contingency measures		
Insufficient groundwater recharge due to low rainfall	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system ^c including variety	Agronomic measures	Remarks on Implementation
	Shallow soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold	<ul style="list-style-type: none"> • Mulching • Interculture • Irrigation at critical crop growth stages • Give irrigation using own source of available water plus tank water (conjunctive use) 	Link seed farms of department of agriculture SAU, NSC, MPSC for support of good quality seed
	Deep soils	Wheat Chick Pea Rape & Mustard	MP-4010, JW-173 JG-412, Jaki-92-18, Vishal JM-1,2,3 and Pusa bold		

2.2 Unusual rains (untimely, un seasonal 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 harvestⁿ
Pearl millet	Drain excess water Transplant seedlings raised from community nurseries	Drain excess water Ridge and furrow system of irrigation Top dressing 10-20g of N/ha at optimum moisture	Drain excess water Harvest at clear sunny day	dry the produce up to 10-12%moisture level before storage
Soybean	Drain excess water Gap filling with seeds if damage is severe			
wheat				
Mustard				
Chickpea				
Horticulture				
Fruits (Mango and Guava)	Proper nutrition and protect of trees from insect pest and disease .Proper application of irrigation	Immediate made provision of drainage of water *Application n-fertilizers just after drainage , if need apply plant hormones	Fruit harvest at proper stage . Care from insect pest and disease . proper nutrition and irrigation .	Grading , shorting and produce placed in proper way to avoid rotten .
Vegetables (Potato, Tomato and onion)	Proper nutrition and protect of crops from insect pest and disease .Proper application of irrigation	Immediate made provision of drainage of water *Application n-fertilizers just after drainage , if need apply growth hormones and micronutrient.	Crop harvest at proper stage according to market need . Care from insect pest and disease . proper nutrition and irrigation .	Stored properly .Timely send to market to avoid quality deteriorations
Heavy rainfall with high speed winds in a short span²				
pearlmillet	Drain excess water Transplant seedlings raised from community nurseries	Drain excess water Ridge and furrow system of irrigation Top dressing 10-20g of	Drain excess water Harvest at clear sunny day	dry the produce up to 10-12%moisture level before storage

		N/ha at optimum moisture		
Soybean	Drain excess water Gap filling with seeds if damage is severe	-----do----	- do -	- do -
wheat	- do -	- do -	- do -	- do -
Mustard	- do -	- do -	- do -	- do -
chickpea	- do -	- do -	- do -	- do -
Horticulture				
Fruits (Mango and Guava)	- do -	- do -	- do -	- do -
Vegetables (Potato, Tomato and onion)	- do -	- do -	- do -	- do -
Outbreak of pests and diseases due to unseasonable rains				
Pearlmillet	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation .	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	
Soybean	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	
wheat	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	
Mustard	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	

chickpea	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	
Horticulture				
Fruits (Mango and Guava)	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	
Vegetables (Potato, Tomato and onion)	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	Clean cultivation .Proper monitoring , Used of light trap , Pheromone trap ,Used control measure according to situation	

2.3 Floods: Not occur in the district

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
Frost : some time (Occurring)				
Heat wave :some time (Occurring				

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

Drought	Suggested contingency measures		
	Before the event ^s	During the event	After the event
Feed and fodder availability	Adoption of fodder bank. Use of surplus fodder for silage. Urea treatment : 4 kg Urea + 75 litter of water solution spray on 100 fodder Insurance	Use of reserve fodder . Use of stored silage. Balance ration Use of chaffed fodder . Transportation of fodder from ad joining districts if excess there Use unconventional feeds as a source of roughage, use urea treated roughage, Use urea molasses block as a source of nitrogen and energy. Use low quality processed with mild acid and alkali treatment	Feeding green feed/ fodder and conventional feed. Regularly Sprinkling of water on live stock body . Use of wet <i>bhusa</i> . Availing the insurance. Separation of unproductive livestock
Drinking water	Provision of hygienic supply of water Storage of water in the tank for drinking Excavations of bore wells .	Judicious use of stored water . Use of potassium permanganate 1ppm , Heat treatment of Water before use.	Ensure the cleanlinell of drinking water Water treated with quick lime
Health and disease management	Deworming , regular vaccination of HS , BQ and FMD provision of mineral mixture	Treatment of sick animal through camp. Isolation of sick animals	Culling of sick animal Vaccination & deworming

Floods			
Feed and fodder availability	Adoption of fodder bank Hay and silage making Insurance. Repair of animal shed Shifting of animals from the flood area	Use unconventional feeds Use of reserve fodder Balance ration Use of chaffed fodder Use roughages processed with mild acid and alkali Transportation excess fodder from adjoining district	Regularly Sprinkling of water on live stock body . Feeding green feed/ fodder and conventional feed Use of wet bhusa. Availing the insurance. ----Separation of unproductive livestock
Drinking water	Ensure availability of clean hygienic water Water be treated with quick lime lime	Clean water Water after boiling / alum treatment	Ensure the cleanliness of drinking water
Health and disease management	Regular vaccination of HS , BQ and FMD provision of mineral mixture preparation of water proof shed provision of dry fodder ,Deworming	Treatment of sick animal through camp. solation of sick animals. Treatment of sick animals in houses	Culling of sick animal Use antidote in poisoning case
Cyclone	(Not occur in the district) NA		NA
Cold wave			
Shelter/environment management	House of animal should be N-S direction Plan of proper housing , Collection of waste gunny bags for shelter	Availability of full sun rays in animal shed, keep animal body warm Use of gunny bags to cover the windows during night hours	Adopt curative measures to obtain the milk production level Keep environment uniformly to recover animal
Health and disease management	Ensure storage of antibiotics, B-complex, liver tonic, anti-inflammatory drugs, anti-stress drugs, vaccines etc for the event Storage for balanced ration	Treatment of sick animals Balanced ration Use of warm water Inhalation of <i>Eucalyptus</i> water	Vaccination & deworming Culling of sick animals
Heat wave			
Shelter/environment management	Provision of proper shade Provision of trees Reflector paints over roof , two times bathing of animals	Provision of cold water Keep environment uniformly to recover animal	Vaccination & deworming
Health and disease management	Ensure storage of antibiotics, B-complex, liver tonic, anti-inflammatory drugs, anti-stress drugs, vaccines etc for the event -Use suitable drugs depending on condition.	Vaccination & deworming	

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	<ul style="list-style-type: none"> Insurance of birds 	Keep watch on mortality and adopt measures	Materialized the benefit of insurance	
Shortage of feed ingredients	-Storage of food ingredients	Mineral mixture feeding, use unconventional feed in feeding of poultry ration, use animal protein source like fish meal, silk worm pupa, blood meal by products of slaughter house etc, ration should be made from locally available feed ingredients.	Feeding high quality balance feed	
Drinking water	-Storage of Sanitized drinking water	Judicious use of stored water	Fresh drinking water	
Health and disease management	Deworming, Vaccination Deticking of shed Provision of rapid growing strain	Use of high weight gain breeding stock Treatment of sick birds	Vaccination and deworming Culling of sick birds	
Floods				
Shortage of feed ingredients	-Storage of poultry feed -- Storage of mineral mixture	Use of stored feed Offer dry feed Avoid dampness in feed to minimize the chances of aflotoxins	Open the curtain for proper aeration and drying of litter. Optimum feeding to maintain egg production and proper weight	
Drinking water	Storage of clean drinking water			
Health and disease management	Provision of Vaccination Deworming	Proper Vaccination and deworming, use anti fungal and liver tonic during feeding and drinking	Culling of sick birds Vaccination and deworming	
Cyclone: Not occur in the district				
Shortage of feed ingredients	-	-	-	
Drinking water	-	-	-	

Health and disease management	-	-	-	
Heat wave and cold wave				
Shelter/environment management	Repair of sheds Use of sprinklers for maintenance of temperature Storage of local available food grains/feed ingredients	Down the curtain of windows Lighting in the shed in cold condition Maintain the temperature of shed	Feeding high quality balance feed	Culling of sick birds
Health and disease management	Deworming Vaccination	Vaccination and deworming, use anti stress drugs and liver tonic during feeding and drinking.	Vaccination and deworming	
		Deworming		
		Deticking		

^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	<ul style="list-style-type: none"> All the fish should be marketed Shifting of small sized fishes to i small storage water bodies such as Plastic or cemented structures 	-Harvesting of fish -Shifting of small sized fishes to in small storage water bodies such as Plastic or cemented structures -Provision of net-shed over the tank -Dry ponds should be treated with lime	<ul style="list-style-type: none"> - Safe disposal of first event of runoff for storage of only clean water Waste ware should be protected by net for stay of fishes in the tank. After onset of monsoon and ponds fill with water seedling the fish seed
(ii) Impact of heat and salt load build up in ponds / change in water quality	Apply the lime to neutralize the concentrated water	Apply the lime to neutralize the concentrated water	<ul style="list-style-type: none"> - Safe disposal of first event of runoff for storage of only clean water Waste ware should be protected by net for stay of fishes in the tank. After onset of monsoon and ponds fill with water seedling the fish seed
(iii) Any other	-	-	-
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow			
(ii) Impact of salt load build up in ponds / change in water quality			
(iii) Any other			
2) Floods			
A. Capture			
Marine			

Inland			
(i) Average compensation paid due to loss of human life			
(ii) No. of boats / nets/damaged			
(iii) No. of houses damaged			
(iv) Loss of stock			
(v) Changes in water quality			
(vi) Health and diseases			
B. Aquaculture			
(i) Inundation with flood water	Keeps net in west wear of ponds	Protect the fish to flow with runoff water	
(ii) Water contamination and changes in water quality	Lime treatment should be done.	Lime treatment and KMnO ₄ treatment 2 ppm	No seedling of new fish seed
(iii) Health and diseases	Lime treatment should be done.	Lime treatment and KMnO ₄ treatment 2 ppm	No seedling of new fish seed
(iv) Loss of stock and inputs (feed, chemicals etc)	Manufactured feed should be given in ponds	Manufactured feed should be given in ponds	Natural feed should be available in ponds
(v) Infrastructure damage (pumps, aerators, huts etc)	Dust and debris should be clean in west wear.	Continuous Dust and debris cleans in west wear.	-
(vi) Any other			
3. Cyclone / Tsunami : No any possibilities of event in the district			
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	Net-shed	-	-
B. Aquaculture			
(i) Changes in pond environment (water quality)	Showering of water by pump for proper O ₂ in water	Showering of water by pump for proper O ₂ in water	-
(ii) Health and Disease management	KMnO ₄ treatment 2 ppm	KMnO ₄ treatment 2 ppm	-
(iii) Any other	-	-	-

^a based on forewarning wherever available