Agriculture Contingency Plan for District: Baloda bazar
State: CHHATTISGARH

1.0 District Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	11.0 Chhattisgarh/Mahanadi Basin Agro-eco region (J3(Cd/Cm)5		
	Agro-Climatic Zone (Planning Commission)	Zone-7 Eastern plateau and hills		
	Agro Climatic Zone (NARP)	Chhattisgarh plain zone		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Raipur, Baloda bazaar, Gariyabandh, Bilaspur, Korba, Raigarh, Janjgir-champa, Kabirdham, Rajnandgaon, Durg, balod, bemetara, Dhamtari, Mahasamund, Korba (15 districts)		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		21.66N	82.16 E	253 m
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Zonal Agricultural Research Station, Raipur 492006 (C.G.)		
	Mention the KVK located in the district with address	Krishi Vigyan Kendra, DK Farm Bhatapara, Distt. – Baloda bazar (C.G.)		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	Department of Agrometeorology, College of Agriculture, IGKV, Raipur (C.G.)		

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):	1035.0	48	17 June 25th SMW, June	30 September 39th SMW, September
	NE Monsoon(Oct-Dec):	73.9	4	Post monsoon (October-December)	-
	Winter (Jan- March)	42.3	4	Winter rains	-
	Summer (Apr-May)	45.9	3	-	-
	Annual	1197.1	59	-	-

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)	467.7	280.9	25.1	31.3	32.5	-	0.1	5.7	6.5	12.5

Source: Agricultural Statistics, 2013, Commissioner of land records, Raipur, Govt. of Chhattisgarh

1. 4	**Major Soils (common names like red sandy loam deep soils (etc.,)***	**Area (‘000 ha)**	**Percent (%) of total**
	1. Entisol (Bhata-gravely)	-	-
	2. Inceptisol (Matasi-Sandyloam)	-	-
	3. Alfisols (Dorsa-clayloam)	-	-
	4. Vertisols (Kanhar-clayey)	-	-
	5. Bharri	-	-
	Total	-	-
	Others (specify):	-	-

* mention colour, depth and texture (heavy, light, sandy, loamy, clayey etc) and give vernacular name, if any, in brackets (data source: Soil Resource Maps of NBSS & LUP)

1.5	**Agricultural land use**	Area (‘000 ha)	Cropping intensity %
	Net sown area	232.9	120
	Area sown more than once	48.0	
	Gross cropped area	280.9	

1.6	**Irrigation**	Area (‘000 ha)		
	Net irrigated area	109.9		
	Gross irrigated area	116.0		
	Rainfed area	164.9		
	Sources of Irrigation	Number	Area (‘000 ha)	Percentage of total irrigated area
	Canals	25	127.740	78.8

	Tanks	3838	2.097	2.5
	Open wells	9453	1.081	1.0
	Bore wells	-	-	13.9
	Lift irrigation schemes	-	-	-
	Micro-irrigation	-	-	-
	Other sources (please specify)	-	3.862	3.8
	Total Irrigated Area	-	116.002	100
	Pump sets	21250	-	-
	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	Nil	-	-
	Critical	Nil	-	-
	Semi- critical	Nil	-	-
	Safe	15	**100**	-
	Wastewater availability and use	Nil	-	-
	Ground water quality	**Potable and suitable for irrigation as well**		
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

Source: Agriculture statistic 2013, Govt. of Chhattisgarh
Source: Agricultural Statistics, 2013, Commissioner of land records, Govt. of Chhattisgarh

1.7 Area under major field crops & horticulture (as per latest figures) (2013)

1.7	S.No.	Major field crops cultivated	Total Area ('000 ha)
	1	Rice	222.1
	2	Wheat	4.3
	3	Jowar	0.1
	4	Maize	0.1
	5	Millets	0.4
	6.	**Total Cereals**	**227.0**
	7.	Pigeonpea	0.7
	8.	Gram	2.6

	9.	GreenGram	3.5
	10.	BlackGram	1.9
	11.	HorseGram	0.1
	12.	Pea	1.9
	13.	Lentil	0.9
	14.	Lathyrus	35.2
	15.	**Total Pulses**	**44.5**
	16.	Rapeseed-mustard	0.5
	17.	Linseed	0.1
	18.	Groundnut	0.5
	19.	Seasamum	0.8
	20.	Soybean	0.3
	21.	Sunflower	0.1
	22.	Safflower	-
	23.	**Total Oilseeds**	**2.3**
	24.	Vegetables	-
	25.	Sugarcane	0.1

Source: Agricultural Statistics, 2013, Commissioner of land records, Govt. of Chhattisgarh

	S.No.	**Horticulture crops - Fruits**	**Total Area (' 000 ha)**
	1	Mango	0.1
	2	Banana	0.01
	3	Papaya	0.02
	4	Gauva	0.2
	5	Lemon	0.001
	6	Water melon	0.3
	7	Musk melon	0.1
	Total	All fruits	0.6
		Horticulture crops - Vegetables	
	1	Cauliflower	0.3
	2	Cabbage	0.2
	3	Brinjal	0.9
	4	Tomato	1.1
	5	Bhindi	0.6
	6	Potato	0.2
	7	Green Pea	0.2
	8	Leafy Vegetables	-
	9.	Onion	0.2

	10	Cucumber	-
	11	Bottel guard	-
	12	Others	5.4
	13	Spices	-
	14.	All vegetables	5.6

Source: Directorate of Horticulture, 2010, Govt. of Chhattisgarh

1.8	**Livestock**	**Male ('000)**	**Female ('000)**	**Total ('000)**
	All kinds of cattle	**-**	**-**	**522.853**
	Non descriptive Cattle (local low yielding)	-	-	-
	Improved cattle	-	-	-
	Crossbred cattle	-	-	-
	Non descriptive Buffaloes (local low yielding)	-	-	-
	Descript Buffaloes	-	-	-
	Goat	-	-	-
	Sheep	-	-	-
	Pig	-	-	
	Commercial dairy farms (Number)	-	-	-
1.9	**Poultry**	**No. of farms**	**Total No. of birds ('000)**	
	Commercial	-	112.2	
	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**		
		2364		177		7228		
	B. Culture							
				Water Spread Area (ha)		**Yield (t/ha)**	**Production ('000 tons)**	
	i) **Brackish water** (Data Source: MPEDA/ Fisheries Department)			Nil		Nil	Nil	
	ii) **Fresh water** (Data Source: Fisheries Department)			11552.0		3.803	35.848	
	Others							

Source: Agricultural Statistics, 2013, Commissioner of land records, Govt. of Chhattisgarh
Directorate of Fisheries, Govt. of Chhattisgarh
Directorate of vetenary science, 2013, Govt. of Chhattisgarh

1.11 Production and Productivity of major crops (Year 2012-13 ; specify years)

1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder (‘000 tons)
		Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
Crop 1	Rice	-	-	-	-	-	-	382.0	1720	-
Crop 2	Black Gram	0.8	430	-	-	-	-	0.8	430	-
Crop 3	Maize	0.2	1610	-	-	-	-	0.2	1610	-
Crop 4	Pigeonpea	0.6	720	-	-	-	-	0.6	720	-
Crop 5	Seasamum	-	-	-	-	-	-	-	-	-
Crop 6	Wheat	-	-	-	-	-	-	-	-	-
Crop 7	Lathyrus	-	-	17.320	490	-	-	17.320	490	-
Crop 8	Linseed	-	-	-	-	-	-			-
Crop 9	Gram	-	-	3.487	1330	-	-	3.487	1330	-
Crop 10	Greengram	-	-	-	-	-	-	-	-	
	All crops	-	-	-	-	-	-	**410.202**	-	-
Major Horticultural crops (Crops to be identified based on total acreage) – Fruits & Vegetables										
Crop 1	Papaya	-	-	-	-	-	-	0.077	-	-
Crop 2	Banana	-	-	-	-	-	-	0.161	-	-

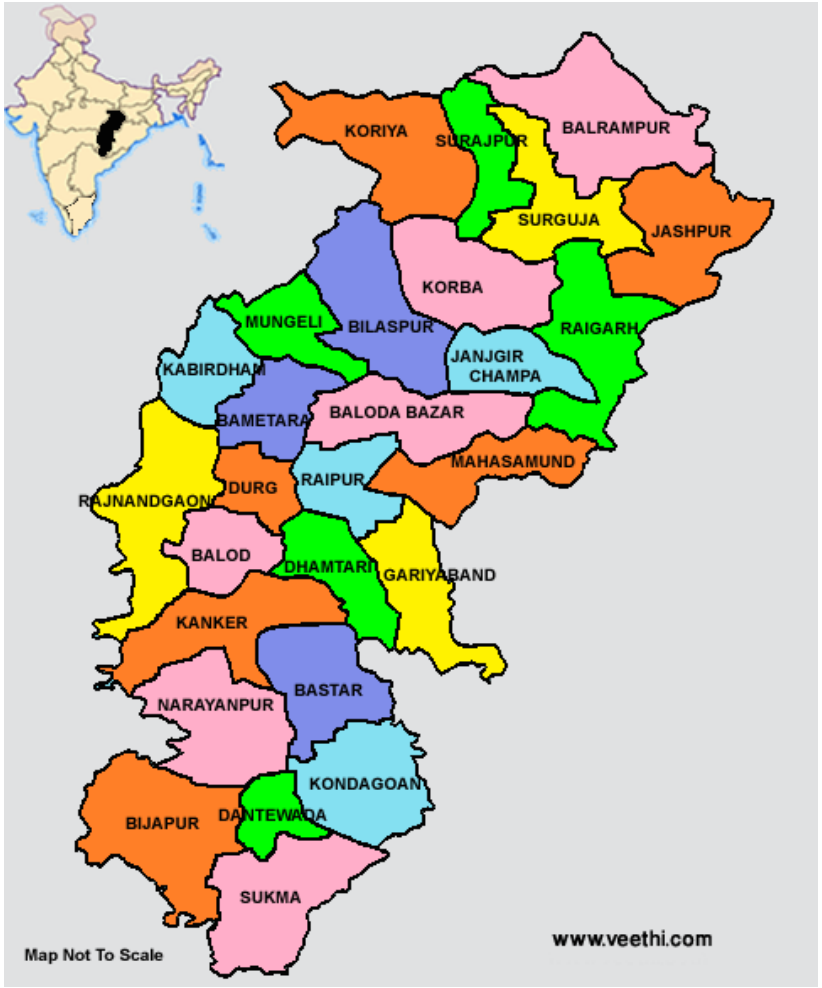
1.12	**Sowing window for 5 major field crops** (start and end of normal sowing period)	Crop 1: Rice	Crop 2:upland crops i.e. maize, sesamum, Urd, mung	Crop 3: Wheat	Crop 4: Pulses	Crop 5: oilseed
	Kharif- Rainfed	June 2nd week to July 1st week	June 2nd week to July 3rd week	-	-	-
	Kharif-Irrigated	June 2nd week to July 2nd week	-	-	-	-
	Rabi- Rainfed	-	-	4th week October to 2nd week November	2nd week October to 2nd week November	2nd week October to 2nd week November
	Rabi-Irrigated	-	-	1st week November to 2nd week December	1st week November to 4th week November	1st week November to 2nd week 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)		✓	

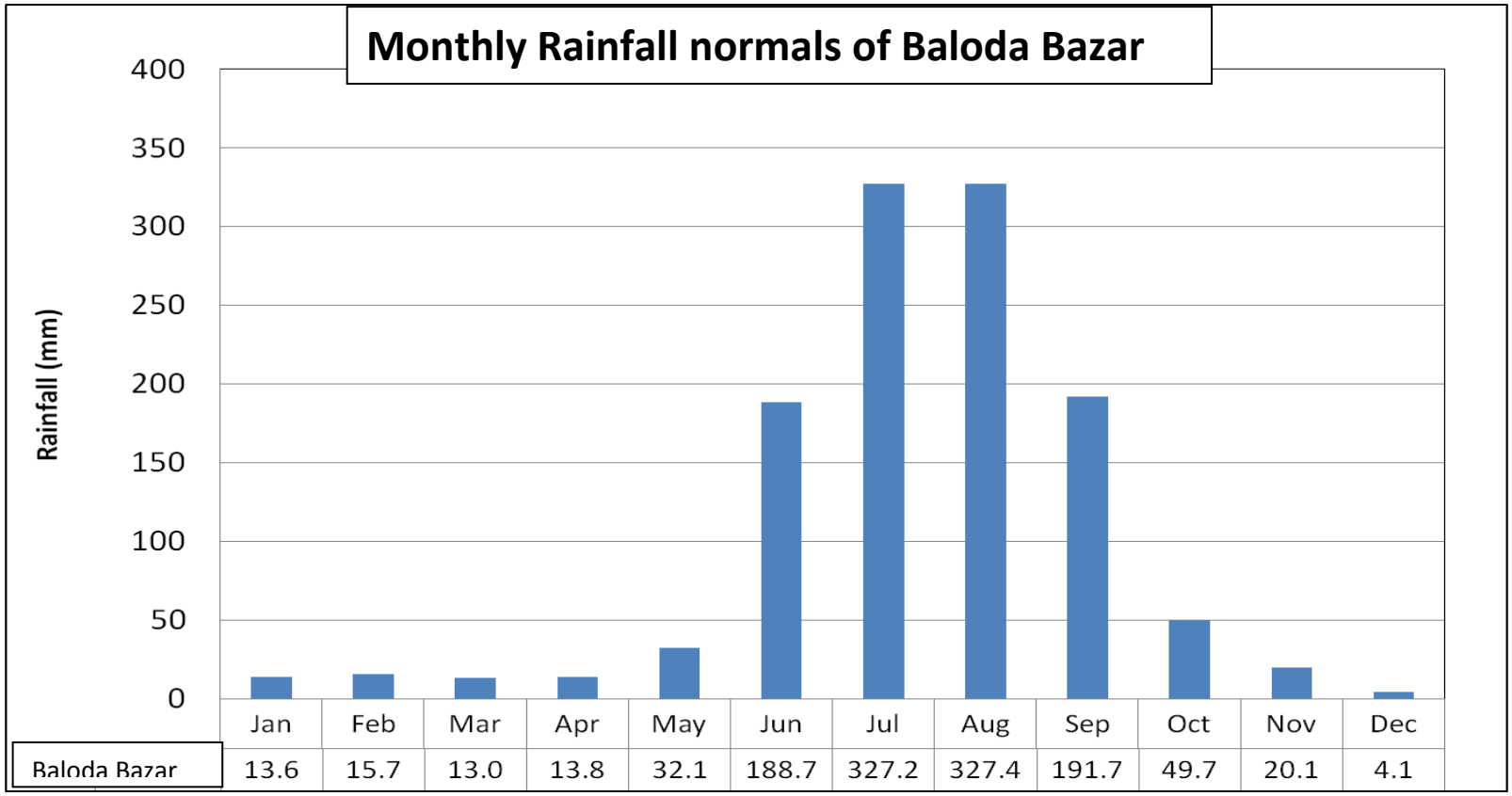
1.14	**Include Digital maps of the district for**	Location map of district within State as Annexure I	Enclosed: Yes
		Mean annual rainfall as Annexure 2	Enclosed: Yes
		Soil map as Annexure 3	Enclosed: Yes

Annexure I

Location map of Baloda Bazar district in Chhattisgarh state

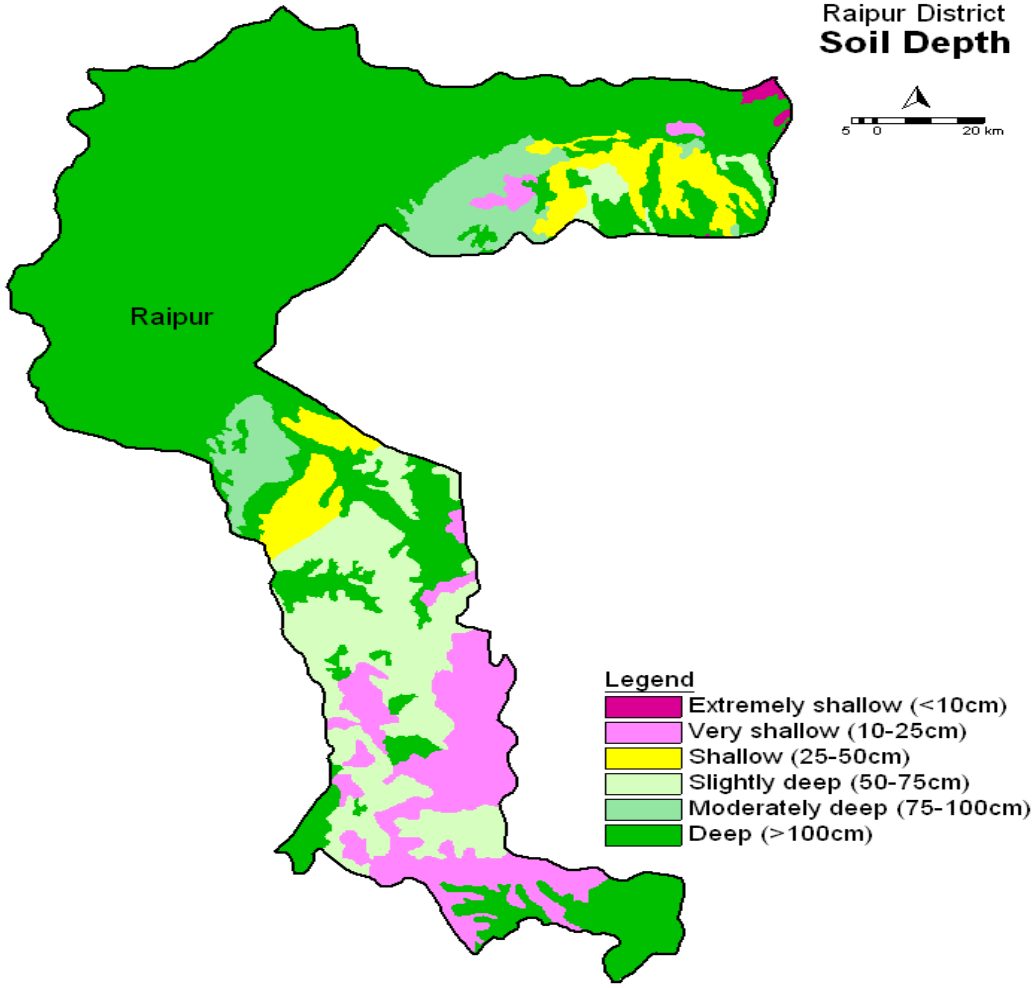


Annexure 2
Average month-wise rainfall(mm) in Baloda Bazar district



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Baloda Bazar	13.6	15.7	13.0	13.8	32.1	188.7	327.2	327.4	191.7	49.7	20.1	4.1

Soil Map



Baloda Bazar is carved out from Raipur District

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition	Major Farming situation	**Normal Crop / Cropping system**		**Suggested Contingency measures**			
				Change in crop / cropping system including variety		**Agronomic measures**	**Remarks on Implementation**
		Kharif	**Rabi**	**Kharif**	**Rabi**		
Early season drought: Delay by 2 weeks (July 1st wk)	Unbunded upland Bharri	Mung	-	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	-	Normal	-
		Urd	-		-	Normal	-
		Pigeonpea	-		-		-
		Mung	Hoursegram/ Niger	No change	-	Normal	-
		Urd	Hoursegram/ Niger	No change	-	Normal	-
		Groundnut	-	No change	-	Normal	-
		Sesamum	-	No change	-	Normal	-
		Maize	-	No change	-	Normal	-
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	-	No change	-	Normal	-

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
		Maize- Hishell, P 3785, Bio 9681, 900M, Seedtech 2324, Pro 4640, DMH 117, Pro Agro- 4212 PEM 1 , VH - 9,17HQPM-1 NMH-731NK-30, NMH-803KMH-3426					
		Rice	Hoursegram	No change	-	Normal	-
		Rice	Niger	No change	-	Normal	-
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari		No change	-	1. Direct dry seeding in line technique suggested for better crop yield and double cropping 2. Line sowing to avoid mortality of germinating seed in case drought follows after scanty rainfall events 3. Promote application of post emergence herbicide for timely weed management and avoiding biasi operation	Linkage with RKVY for supply of tractor and animal drawn seed drill for line sowing
			-	No change	-		
	Shallow Lowland Alfisols (Dorsa-clayloam or Vertisols (Kanhar-clayey)	Rice- Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona		No change	-		
		Rice	Lathyrus/ linseed/gram/ mung (relay)	No change	-		
		Rice	Lentil	No change	-		
		Rice	Gram	No change	-		
		Rice	Linseed	No change	-		

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
		Rice	Safflower	No change	-		
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Fallow	No change	-		
		Rice	Lathyrus/ linseed/gram/ mung (relay)	No change	-		
		Rice	Wheat	No change	-		
		Rice	Mung	No change	-		
Early season drought: **Delay by 4 weeks (July 3rd wk)**	Unbunded upland Bharri	Mung	-	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	-	25 % higher seed rate	-
		Urd	-		-	-do-	-
		Pigeonpea					
		Mung	Hoursegram/ Niger	-	-	-do-	-
		Urd	Hoursegram/ Niger	-	-	-do-	-
		Groundnut	-	Erect variety GG-5/G-20	-	-do-	-
		Sesamum	-	-	-	-do-	-

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
	Bundeded upland Bharri	Rice - Purnima, Danteshwari, Samleshwari, Annada Maize- Hishell, P 3785, Bio 9681, 900M, Seedtech 2324, Pro 4640, DMH 117, Pro Agro- 4212 PEM 1 , VH - 9,17HQPM-1 NMH-731NK-30, NMH-803KMH-3426	-	Rice- Tulsi, Indira barani dhan-1, Annda	-	-	-
		Rice	Hoursegram	Groundnut	-	-	-
		Rice	Niger	Sesamum/ soybean(Indira soy9, JS93-05, JS335, JS80-21)	-	-	-
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	Rice- MTU1010, Samleshwari, Danteshwari, Indira barani dhan-1	-	• Direct dry seeding in line technique suggested for better crop yield and double cropping • Line sowing to avoid mortality of germinating seed in case drought follows after scanty rainfall events • Promote application of post emergence herbicide for timely weed	• Linkage with RKVY for supply of tractor and animal drawn seed drill for line sowing • Linkage with MNREGA for WC measures: Digging of shallow dug
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice- Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari,	-	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni,	-		

Condition	Major Farming situation	**Normal Crop / Cropping system**		**Suggested Contingency measures**			
				Change in crop / cropping system including variety		**Agronomic measures**	**Remarks on Implementation**
		Kharif	**Rabi**	**Kharif**	**Rabi**		
		Indira Sona		Samleshwari		management and avoiding biasi operation	wells and renovation of existing WHSs
		Rice	Lathyrus/ linseed/gram/ mung (relay)	Rice-Chandrahasni IR64, Mahamaya, Bambleshwari, karma masuri	Coriander (leaf), toria, Lathyrus/ linseed/ mung (relay)		
		Rice	Lentil	-	Lentil		
		Rice	Gram	-	Gram		
		Rice	Linseed	-	Linseed		
		Rice	Safflower	-	Coriander (leaf), toria		
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Fallow	Rice-Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari	Fallow		
		-	Lathyrus/ linseed/gram/ mung (relay)	-	Coriander (leaf), toria, Lathyrus/ linseed/ mung (relay)		
		-	Wheat	-	Wheat		
		-	Mung	-	Mung		
Early season drought: **Delay by 6 weeks (Aug. 1st wk)**	Unbunded upland Bharri	Mung	-	Hoursegram/ Niger	-	25 % higher seed rate	-
		Urd	-	Hoursegram/ Niger	-	-do-	-
		Mung	Hoursegram/ Niger	Mungbean (Pusa Vishal,HUM	-	-do-	-
		Urd	Hoursegram/		-	-do-	-

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
			Niger	1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)			
		Groundnut	-	Urd (TU94-2, Pant-U31, KU 96-3, TAU2)	-	-do-	-
		Sesamum	-	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12)	-	-do-	-
	Bundeded upland Bharri	Rice Purnima, Danteshwari, Samleshwari, Annada Maize- Hishell, P 3785, Bio 9681, 900M, Seedtech 2324, Pro 4640, DMH 117, Pro Agro- 4212	-	Rice- Purnima, Tulsi, Indira barani dhan-1, Aditya, Anjali	-	Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation	-

Condition	Major Farming situation	**Normal Crop / Cropping system**		**Suggested Contingency measures**			
				Change in crop / cropping system including variety		**Agronomic measures**	**Remarks on Implementation**
		Kharif	**Rabi**	**Kharif**	**Rabi**		
		PEM 1 , VH - 9,17HQPM-1 NMH-731NK-30, NMH-803KMH-3426					
		Rice	Hoursegram	Pigeonpea	-	Mixed or intercropping of pigeonpea and mung (4:2)	-
		Rice	Niger	Sesamum	-	Mixed or intercropping of sesamum and mung (4:2)	-
				Groundnut		-do-	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	Rice- Purnima, Danteshwari, Samleshwari, Annada	-	• Direct dry seeding in line technique suggested for better crop yield and double cropping • Promote direct seeding or rice and discourage transplanting • Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • Line sowing to avoid mortality of germinating seed in case drought follows after scanty rainfall events • Promote application of post emergence herbicide for timely weed management and avoiding biasi operation • Increase 25percent seed rate of rabi crops. • Seed rate of wheat may be	• Linkage with RKVY for supply of tractor and animal drawn seed drill for line sowing • Linkage with MNREGA for WC measures: Digging of shallow dug wells and renovation of existing WHSs • Utilize harvested rain water of WHS in crop production by adopting drip system or sprinklers that may be
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice- Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	-	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-		
		Rice	Lathyrus/ linseed/gram/ mung (relay)	Rice- IR64, Chandrahasni Bambleshwari, karma masuri	Coriander (leaf), toria, linseed/ mung (relay)		
		Rice	Lentil	-	Lentil		
		Rice	Gram	-	Gram		
		Rice	Linseed	-	Linseed		
		Rice	Safflower	-	Coriander (leaf), toria		
	Bahra lowland	Rice- Swarna,	Fallow	Rice-	Fallow		

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
	Vertisols (Kanhar-clayey)	Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244		Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari		increased from one-and half to two times • Sowing of rabi crops adopting zero tillage technique	converged from micro irrigation scheme of Agriculture Department
		-	Lathyrus/ linseed/gram/ mung (relay)	-	Coriander (leaf), toria, Lathyrus/ linseed/ mung (relay)		
		-	Wheat	-	Wheat		
		-	Mung	-	Mung		
Early season drought: **Delay by 8 weeks (Aug. 3rd wk)**	Unbunded upland Bharri	Mung	-	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	Hoursegram/ Niger	Sowing in line or broadcasting in September	-
		Urd	-		Hoursegram/ Niger	Sowing in line or broadcasting in September	-
		Pigeonpea	-		-	-	-
		Mung	Hoursegram/ Niger	Mung	-	25 % higher seed rate	-
		Urd	Hoursegram/ Niger	Mung	-	25 % higher seed rate	-

Condition	Major Farming situation	**Normal Crop / Cropping system**		**Suggested Contingency measures**			
				Change in crop / cropping system including variety		**Agronomic measures**	**Remarks on Implementation**
		Kharif	**Rabi**	**Kharif**	**Rabi**		
		Groundnut	-	Mung	-	25 % higher seed rate	-
		Sesamum	-	Mung	-	25 % higher seed rate	-
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	-	Mung(pusa vishal, , Hum1,)	-	Mixed or intercropping of pigeonpea and mung (4:2) or sesamum and mung (4:2)	-
		Rice	Hoursegram	-	Hoursegram	Sowing in line or broadcasting in September	-
		Rice	Niger	-	Niger/mung	Sowing in line or broadcasting in September	-
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	Rice- Purnima, Danteshwari, Samleshwari, Annada	-	• Promote direct Line seeding of rice and discourage transplanting • Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • Promote application of post emergence herbicide for timely weed management and avoiding biasi operation • Increase 25percent seed rate of rabi crops. • Seed rate of wheat increased from one-and half to two times • Sowing of rabi crops adopting zero tillage technique	• Linkage with RKVY for supply of tractor and animal drawn seed drill for line sowing • Linkage with MNREGA for WC measures: Digging of shallow dug wells and renovation of existing WHSs • Utilize harvested rain water of WHS in crop
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice- Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	-	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-		
		Rice	Lathyrus/ linseed/gram/ mung (relay)	Rice- IR64, Chandrahasni Bambleshwari, karma masuri	-		
		Rice	Lentil		Lentil		
		Rice	Gram		Gram		

Condition	Major Farming situation	Normal Crop / Cropping system		Suggested Contingency measures			
				Change in crop / cropping system including variety		Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		
		Rice	Linseed		Linseed		production by adopting drip system or sprinklers that may be converged from micro irrigation scheme of Agriculture Department
		Rice	Safflower		Fieldpea/ Coriander (leaf)/ toria		
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Fallow	Rice- Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari	Fallow		
			Lathyrus/ linseed/gram/ mung (relay)				
			Wheat		Wheat		
			Mung		Mung/ Fieldpea /Coriander (leaf)/ toria		

Normal onset of monsoon, mid season-vegetative stage and terminal drought

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			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.	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	▪ Gap filling ▪ Resowing in line when very poor population	• Inter tilling for soil mulch • Mulching with paddy straw or use plastic mulch or other locally available material • Compartmental bunding, Ridge and Furrows, Tied ridges	• Linkage with RKVY / NFSM / state seed corporation for timely supply of seed of suitable varieties of upland crops and rice
		Mung /Urd and rabi Hoursegram/ Niger			
		Groundnut /Sesamum			
	Bundeded upland	Rice Purnima, Danteshwari,			

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
	Bharri	Samleshwari, Annada		to conserve rainwater during kharif for regular sowing of rabi crops	
		Rice and rabi Hoursegram/ Niger			
		Mung(pusa vishal, Hum1)			
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	• Gap filling or • Resowing of dry seed		
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	• Gap filling • Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • Sowing of relatively early varieties like IR64, Chandrahasni Bambleshwari, karma masuri		
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- lentil/gram/linseed/ safflower/ fieldpea			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	• Gap filling • Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • Sowing of relatively early varieties like Mahamaya, swarna sub1, Jaldubi, masuri		
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice-wheat/ mung			
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period): **At vegetative stage**	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	Weeding and protection against sucking pests	• Inter tilling for soil mulch • Mulching with paddy straw or use plastic mulch or other locally available material	• Linkage with Agriculture Department /RKVY for supply of interculture implements for interculture in
		Mung /Urd and rabi Hoursegram/	Weeding and protection		

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Crop management	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
		Niger	against sucking pests		upland crops
		Groundnut /Sesamum	Avoid top dressing of urea		
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada			
		Rice and rabi Hoursegram/ Niger			
		Mung(pusa vishal, Hum1)	Weeding and protection against insect and pests		
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	• Weeding and protection against insect and pests • Avoid top dressing of urea • Supplemental irrigation from water harvesting structures using micro irrigation i.e. drip and sprinklers	• Compartmental bunding, Ridge and Furrows, Tied ridges to conserve rainwater during kharif for regular sowing of rabi crops • Sowing of rabi crops adopting zero tillage technique	• Linkage with micro irrigation scheme of Agriculture Department for supply of drip system and sprinklers
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona			
		Rice- Lathyrus/ linseed/gram/ fieldpea mung (relay)			
		Rice-lentil/ gram/ linseed/ safflower			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- wheat/ mung			
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period): At flowering/ fruiting stage	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	Weeding and protection against insect and pests	Mulching Inter tilling	• Linkage with Agriculture Department /RKVY for supply of interculture implements for interculture in upland crops
		Mung /Urd and rabi Hoursegram/ Niger			
		Groundnut /Sesamum			
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada			

Condition	Major Farming situation	**Normal Crop / Cropping system**	**Suggested Contingency measures**		
			Crop management	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
		Rice and *rabi* Hoursegram/ Niger			
		Mung (Pusa vishal, Hum-1)			
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR-64, IR-36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	• Weeding and protection against insect and pests • Supplemental irrigation from water harvesting structures using micro irrigation i.e. drip and sprinklers	• Compartmental bunding, Ridge and Furrows, Tied ridges to conserve rainwater during kharif for regular sowing of *rabi* crops • Increase 25percent seed rate of *rabi* crops. • Seed rate of wheat increased from one-and half to two times • Sowing of *rabi* crops adopting zero tillage technique	• Linkage with micro irrigation scheme of Agriculture Department for supply of drip system and sprinklers
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona			
		Rice- Lathyrus/ linseed/gram/ fieldpea mung (relay)			
		Rice-lentil/ gram/ linseed/ safflower			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- wheat/ mung			
Terminal drought (Early withdrawal of monsoon)	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	Harvest mature plants Thin out plant population	Mulching Inter tilling	• Linkage with Agriculture Department /RKVY for supply of interculture implements for interculture in upland crops
		Mung /Urd and rabi Hoursegram/ Niger			
		Groundnut /Sesamum			
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Life saving irrigation if available		
		Rice and rabi Hoursegram/ Niger			
		Mung (pusa vishal, Hum1)	Harvest mature plants Thin out plant population		

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	• Weeding and protection against insect and pests • Supplemental irrigation from water harvesting structures using micro irrigation i.e. drip and sprinklers	• Compartmental bunding, Ridge and Furrows, Tied ridges to conserve rainwater during kharif for regular sowing of rabi crops • Seed rate of wheat increased from one-and half to two times • Sowing of rabi crops adopting zero tillage technique	• Linkage with micro irrigation scheme of Agriculture Department for supply of drip system and sprinklers
	Shallow Lowland Alfisols (Dorsa-clay loam) to Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona			
		Rice- Lathyrus/ linseed/gram/ fieldpea mung (relay)			
		Rice-lentil/ gram/ linseed/ safflower			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- wheat/ mung			

2.1.2 Drought - Irrigated situation

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delayed release of water in canals due to low rainfall	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	No change	-	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for construction of shallow tube wells and WHS including farm ponds for conjunctive use of water in canal
		Mung /Urd and rabi Hoursegram/ Niger	No change	-	
		Groundnut /Sesamum	No change	-	
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Mung(pusa vishal, pragya, Hum1,	-	

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
		Rice and rabi Hoursegram/ Niger	pairimung) Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	command • Compartmental bunding, Ridge and Furrows, Tied ridges to conserve rainwater during kharif for regular sowing of rabi crops
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	• Direct seeding of rice preferably in line • In case of failure of crop or poor crop stand then Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • If seedlings raised for transplanting then it should be done with rainwater or from other sources of water • Weed control by herbicide and avoid biasi operation	
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- lentil/gram/linseed/ safflower/ fieldpea			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice-wheat/ mung			
Limited release of water in canals due to low rainfall	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	No change	-	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for construction of shallow tube wells and WHS including farm ponds for conjunctive use of water in canal command • Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes
		Mung /Urd and rabi Hoursegram/ Niger	No change	-	
		Groundnut /Sesamum	No change	-	
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Mung(pusa vishal, pragya, Hum1, pairimung) Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	
		Rice and rabi Hoursegram/ Niger		-	
	Midland Inceptisol	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1,	Rice- Indira barani dhan-1, Samleshwari,	• Direct seeding of rice	

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
	(Matasi-Sandy loam)	Chandrahasni, Samleshwari	Danteshwari, purnima	preferably dry seeding in line • In case of failure of crop or poor crop stand then Sowing of sprouted seed (*lai-chaupa*)adopting lehi method of rice cultivation • Avoid transplanting of rice • Weed control by herbicide and avoid biasi operation	for supply of micro irrigation systems
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari		
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- lentil/gram/linseed/ safflower/ fieldpea			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Rice- Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari		
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice-wheat/ mung			
Non release of water in canals under delayed onset of monsoon in catchment	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	No change	-	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for construction of shallow tube wells and WHS including farm ponds for conjunctive use of water in canal command • Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for supply of micro irrigation systems
		Mung /Urd and rabi Hoursegram/ Niger	No change	-	
		Groundnut /Sesamum	No change	-	
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Mung(pusa vishal, pragya, Hum1, pairimung) Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	
		Rice and rabi Hoursegram/ Niger		-	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	Rice- Purnima, Danteshwari, Samleshwari, Annada	• Direct seeding of rice preferably dry seeding in line • Avoid transplanting of rice	
	Shallow Lowland Alfisols	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV	Rice- MTU1010, IR64, IR 36, Indira Barani		

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
	(Dorsa-clay loam) or Vertisols (Kanhar-clayey)	R2, Bamleshwari, Indira Sona	Dhan 1, Chandrahasni, Samleshwari	• Weed control by herbicide and avoid biasi operation • Supplemental irrigation from WHS using drip and sprinklers • Adopt zero tillage technique for sowing of rabi crops	
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- lentil/gram/linseed/ safflower/ fieldpea			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Rice- Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari		
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice-wheat/ mung			
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	No change	-	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for construction of shallow tube wells and WHS including farm ponds for conjunctive use of water in canal command • Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for supply of micro irrigation systems
		Mung /Urd and rabi Hoursegram/ Niger	No change	-	
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Mung(pusa vishal, pragya, Hum1, pairimung) Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	
		Rice and rabi Hoursegram/ Niger		-	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	Rice- Purnima, Danteshwari, Samleshwari, Annada	• Direct seeding of rice preferably dry seeding in line • Avoid transplanting of rice • Weed control by herbicide and avoid biasi operation • Supplemental	
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari		
		Rice- Lathyrus/ linseed/gram/ mung (relay)	-		

Condition	Major Farming situation	**Normal Crop / Cropping system**	**Suggested Contingency measures**		
			Change in crop/cropping system	**Agronomic measures**	**Remarks on Implementation**
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Rice- Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari	irrigation from WHS using drip and sprinklers • Adopt zero tillage technique for sowing of *rabi* crops	
		Rice- Lathyrus/ linseed/gram/ mung (relay – Pragya, Pairy Mung)			
Insufficient groundwater recharge due to low rainfall	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM 1, HUM-16, BM 4, HUM 12) / Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1) Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan)	No change	-	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for construction of shallow tube wells and WHS including farm ponds for conjunctive use of water in canal command • Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes for supply of micro irrigation systems
		Mung /Urd and rabi Hoursegram/ Niger	No change	-	
		Groundnut /Sesamum	No change	-	
	Bundeded upland Bharri	Rice- Purnima, Danteshwari, Samleshwari, Annada	Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	
		Rice and rabi Hoursegram/ Niger		-	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	• Direct seeding of rice preferably dry seeding in line • Avoid transplanting • Weed control by herbicide and avoid biasi operation • Supplemental irrigation from WHS using drip and sprinklers	
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona			
		Rice- Lathyrus/ linseed/gram/ mung (relay)			
		Rice- lentil/gram/linseed/ safflower/ fieldpea			
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244			
		Rice- Lathyrus/ linseed/gram/ mung (relay- Pragya, Pairymung)			
		Rice-wheat/ mung/ potato			

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

Condition	Suggested contingency measure			
	Vegetative stage	**Flowering stage**	**Crop maturity stage**	**Post harvest**
Continuous high rainfall in a short span leading to water logging or heavy rainfall coupled with high speed winds in a short span				
Urd/ mung/ maize	Drain out excess water	Earthing up in maize	Picking of matured pods, Harvesting and drying of cobs	To cover produce with plastic sheet or shift produces to farm shed
Groundnut/ sesamum/pigeon pea	Drain out excess water	Earthing in groundnut Drain out excess water	Drain out excess water, Harvesting and drying of plants	To cover produce with plastic sheet or shift produces to farm shed
Rice	Drain excess water	Drain excess water	Drain excess water Harvest the crop and put on bunds	To cover produce with plastic sheet or shift produces to farm shed
Rabi oilseed and pulses	Drain excess water	Drain excess water	Drain excess water Harvest the crop and put on bunds	To cover produce with plastic sheet or shift produces to farm shed
Wheat	Surface drainage	Surface drainage	Surface drainage	To cover produce with plastic sheet or shift produces to farm shed To supply tarpaulin to farmers through RKVY/NFSM
Horticulture				
Tomato/ brinjal	Surface drainage, earthing and fertilizer application after water drain out	Surface drainage, earthing and fertilizer application after water drain out	Surface drainage, picking up matured fruits	-
Coriander	Surface drainage	Surface drainage	Surface drainage	To cover produce with plastic sheet or shift produces to farm shed To supply tarpaulin to farmers through RKVY/NFSM
Garlic/ Onion	Surface drainage	Surface drainage	Surface drainage	To cover produce with plastic sheet or shift produces to farm shed To supply tarpaulin to farmers through RKVY/NFSM
Outbreak of pests and diseases due to unseasonal rains				
Urd/ mung/ maize	Spraying of contact insecticide for control of caterpillar/ color rot	Spraying of contact insecticide for control of pest	-	-
Groundnut/ sesamum/pigeon pea	Spraying of contact insecticide for control of caterpillar/ color rot	Spraying of contact insecticide for control of pest	-	-

Rice	Spraying of insecticide for control of stem borer	Spraying of insecticide for control of pest like gundhibug	-	-
Rabi oilseed and pulses	Spraying of insecticide for control of aphid	Spraying of insecticide for control of insect	-	-
Wheat	Spraying of insecticide for control of stem borer	-	-	-
Horticulture				
Tomato/ brinjal	Spraying of contact insecticide for control of caterpillar Stacking for protecting fungal diseases	Spraying of contact insecticide for control of caterpillar/ fruit borer Stacking for protecting fungal diseases	Harvest the fruit	-
Coriander	Harvest the leaves	Harvest the leaves	-	-
Garlic/ Onion	-	-	-	-
Mango	-	Spray 0.2% wettable sulphur for protection against PM	Harvest at pre maturity stage	Unripe fruit may be used for pickles.
Citrus	Control citrus canker by Copper Oxy chloride 0.5 % & streptocycline 100 ppm	Control citrus canker by Copper Oxy chloride 0.5 % & streptocycline 100 ppm	Control citrus canker by Copper Oxy chloride 0.5 % & streptocycline 100 ppm, collect mature fruits	-

2.3 Floods

Condition	**Suggested contingency measure**			
	Seedling / nursery stage	**Vegetative stage**	**Reproductive stage**	**At harvest**
Transient water logging/ partial inundation[1]				
Urd/ mung/ maize	Surface drainage	Surface drainage	Surface drainage	-
Groundnut/ sesame/pigeon pea	Surface drainage	Surface drainage	Surface drainage	-
Rice	Surface drainage	After draining apply urea	Drain excess water	-
Rabi oilseed and pulses	Surface drainage	Surface drainage	Surface drainage	-
Wheat	Surface drainage	Surface drainage	Surface drainage	-
Horticulture				
Tomato/ brinjal	Surface drainage	Surface drainage	Surface drainage	-
Coriander	Surface drainage	Surface drainage	Surface drainage	-
Garlic/ Onion	Surface drainage	Surface drainage	Surface drainage	-

Mango	Surface drainage	Surface drainage	Surface drainage	-
Citrus	Surface drainage	Surface drainage	Surface drainage	-
Continuous submergence for more than 2 days[2]				
Urd/ mung/ maize	Surface drainage	Surface drainage	Surface drainage	-
Groundnut/ sesame/pigeon pea	Surface drainage	Surface drainage	Surface drainage	-
Rice	Surface drainage	After draining apply urea	Drain excess water	-
Rabi oilseed and pulses	Surface drainage	Surface drainage	Surface drainage	-
Wheat	Surface drainage	Surface drainage	Surface drainage	-
Horticulture				
Tomato/ brinjal	Surface drainage	Surface drainage	Surface drainage	-
Coriander	Surface drainage	Surface drainage	Surface drainage	-
Garlic/ Onion	Surface drainage	Surface drainage	Surface drainage	-
Mango	Surface drainage	Surface drainage	Surface drainage	-
Citrus	Surface drainage	Surface drainage	Surface drainage	-

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