State: CHHATTISGARH

Agriculture Contingency Plan for District: Balod

1.0	District Agriculture profile							
1.1	Agro-Climatic/Ecological Zone							
	Agro Ecological Sub Region (ICAR)	11.0 Chhattisgarh/M	ahanadi Basin Agro-eco region (J3(Cd/Cm)5				
	Agro-Climatic Zone (Planning Commission)	Zone-7 Eastern plate	au and hills region					
	Agro Climatic Zone (NARP)	Chhattisgarh plain zo	Chhattisgarh plain zone					
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Raipur, Bilaspur, Korba, Raigarh, Janjgir-champa, Kabirdham, Rajnandgaon, Durg, Balod, Baloda Bazar, Bemetara, Dhamtari, Mahasamund, Korba (15 districts)						
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude				
	neadquarers	20.73 N	81.20E	323 m				
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	ZARS, Raipur	ZARS, Raipur					
	Mention the KVK located in the district with address	Krishi Vigyan Kendra, Anjora, Durg (C.G.)						
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	Department of Agro	Department of Agrometeorology, College of Agriculture, IGKV, Raipur (C.G.)					

1.2	Rainfall	Normal RF(mm)	Normal Rainy days	Normal Onset	Normal Cessation
			(number)	(specify week and month)	(specify week and
					month)
	SW monsoon (June-Sep)	923.0	48	2 nd week of June	4 th week of September
	NE Monsoon(Oct-Dec)	66.4	4	4 Post monsoon	
				(October-December)	
	Winter (Jan- March)	18.2	4	Winter rains	-
	Summer (Apr-May)	20.4	3	-	-
	Annual	1027.9	59	-	-

1.3	Land use	Geographical	Cultivable	Forest	Land under	Permanent	Cultivable	Land	Barren and	Current	Other
	pattern of the	area	area	area	non-	pastures	wasteland	under	uncultivable	fallows	fallow
	district (latest				agricultural			Misc. tree	land		S
	statistics)				use			crops and			
								groves			
	Area ('000 ha)	352.7	255.8	24.9	31.8	19.	-	0.1	5.0	3.3	4.2

^{*}Agricultural statistic Chhattisgarh 2013

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	•	-

^{*} 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)

Source: Agricultural Statistics, 2010, Directorate of Agriculture, Govt. of Chhattisgarh

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	176.8	143
	Area sown more than once	79.0	
	Gross cropped area	255.8	

1.6	Irrigation	Area ('000 ha)	Area ('000 ha)						
	Net irrigated area	89.7							
	Gross irrigated area	104.2							
	Rainfed area	151.5	151.5						
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area					
	Canals	32	67.499						

Tanks	183	4.808	
Open wells	462	0.931	
Bore wells	11505	28.711	
Lift irrigation schemes		=	
Micro-irrigation			
Other sources (please specify)		0.646	
Total Irrigated Area		102.595	
Pump sets	12544		
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 i	rrigation as well

Source: Directorate of Agriculture, 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)

S		Major field crops cultivated				Area ('000	ha)			
		Carervateu		Kharif		Rabi				
			Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Summer	Grand total
1		Rice	96.0	81.2	177.2	-	-	-	_	177.2
2		Wheat	-	-	-	2.1	1.5	3.6	_	3.6
3		Jowar	-	0.01	0.01	-	0.002	0.002	-	0.01
4		Maize	-	0.1	0.1	-	-	-	-	0.1
5		Millets	-	1.3	1.3	-	-	-	_	1.3
6.		Total Cereals	-	-	17 8.6	-	-	3.6	-	182.2
7.		Pigeonpea	-	0.6	-	-	-		_	0.6
8.		Gram	-	-	-	-	-	7.9	_	7.9
9.		GreenGram	-	0.2	-	-	-	-	_	0.2
10	0.	BlackGram	-	2.4	-	-	-	-	_	2.4
1	1.	HorseGram	-	0.4	-	-	-	-	-	0.4
1.	2.	Pea	-	0.5	-	-	-	-	-	0.5
1.	3.	Lentil	-	0.8	-	-	-	-	-	0.8
14	4.	Lathyrus	-	50.6	-	-	-	-	-	50.6
1:	5.	Total Pulses	-	55.4	-	-	-	-	-	63.3
10	6.	Rapeseed-mustard	-	-	-	-	1.118	1.118	-	1.118
1	7.	Linseed	-	-	-	-	4.276	4.276	-	4.276
13	8.	Groundnut	-	0	-	-	-	-	-	0
19	9.	Seasamum	-	0.3	-	-	-	-	-	0.3
20	0.	Soybean	-	0.1	-	-	-	-	-	0.1
2	1.	Sunflower	-	0.02	-	-	-	-	-	0.02
2	2.	Safflower	-	0.1	-	-	-	-	-	0.1
2	3.	Total Oilseeds	-	0.5	-	-	-	-	-	0.5
2	4.	Vegetables	-	-	-	-	-	-	-	-
2:	5.	Sugarcane	-	-	-	-	-	-	-	0.3
2	6	All Crops	-	-	-	=	-	-	-	_

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

S.No.	Horticulture crops - Fruits		Area (' 000 ha)	
		Total	Irrigated	Rainfed
1	Mango	0.1	-	-
2	Banana	0.01	-	-
3	Papaya	0.01	-	-
4	Gauva	0.01	-	-
5	Lemon	-	-	-
6	Water melon	0	-	-
7	Musk melon	-	-	-
8	Ber	-	-	-
9	Aonla	-	-	-
10	Others	-	-	-
Total	All fruits	0.1	-	-
	Horticulture crops -	Total	Irrigated	Rainfed
	Vegetables			
1	Cauliflower	0.2	-	-
2	Cabbage	0.1	-	-
3	Brinjol	0.5	-	-
4	Tomato	0.5	-	-
5	Bhindi	0.5	-	-
6	Potato	0	-	-
7	Green Pea	0	-	-
8	Leafy Vegetables	-	-	-
9.	Onion	0.01	-	-
10	Cucumber	-	-	-
11	Bottel guard	-	-	-
12	Others	1.6	-	-
13	Spices	0.3	-	-
14.	All vegetables	3.4	-	-
	Medicinal and Aromatic crops	-	-	-
	Plantation crops	-	-	_

Source: Directorate of Horticulture, 2013, Govt. of Chhattisgarh

1.11 Production and Productivity of major crops (2012-13)

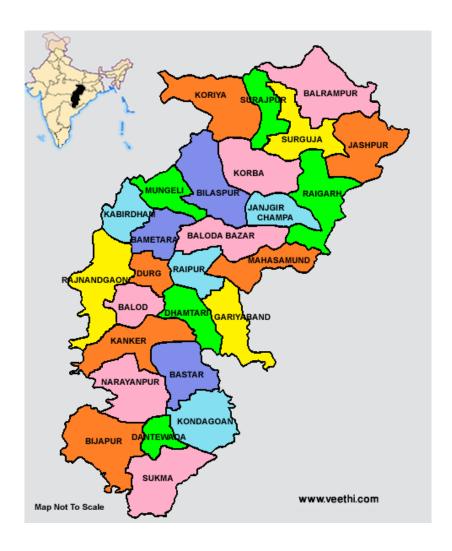
1.11	Name of crop]	Kharif	R	abi	Sur	nmer	Te	Total	
		Production ('000 m t)	Productivity (kg/ha)	residue as fodder ('000 tons)						
Major Fie	eld crops (Crops t	o be identified	l based on total acr	eage)						tons)
Crop 1	Rice	357.5	2018	-	-	-	-	357.5	2018	-
Crop 2	Black Gram	0.6	264	-	-	-	-	0.6	264	-
Crop 3	Maize	0.2	1298	-	-	-	-	0.2	1298	-
Crop 4	Pigeonpea	0.3	532	-	-	-	-	0.3	532	-
Crop 5	Rapeseed Mustard	0.5		0.5	411	-	-	0.5	411	-
Crop 6	Wheat	-	-	3.3	916	-	-	3.3	916	-
Crop 7	Lathyrus	-	-	21.0	415	-	-	21.0	415	-
Crop 8	Soybean	0.1	1123	-	-	-	-	0.1		-
Crop 9	Gram	-	-	9.6	1217	-	-	9.6	1217	-
Crop 10	Greengram	0.1	230	-	-	-	-	0.1	230	-
Crop 11	Linseed	1.7	399	-	-	-	-	1.7	399	-
Major Ho	rticultural crops	Crops to be id	dentified based on t	otal acreage)	- Fruits & Veg	etables	•	•	•	•
Crop 1	Papaya	0	-	-	-	-	-	0	-	-
Crop 2	Banana	0.2	17222	-	-	-	-	0.2	17222	-

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 2 nd week to July 1 st week	June 2 nd week to July 3 rd week	-	-	-	
	Kharif-Irrigated	June 2 nd week to July 2 nd week	-	-	-	-	
	Rabi- Rainfed	-	-	4 th week October. to 2 nd	2 nd week October to 2 nd	2 nd week October to	
				week November	week November	2 nd week November	
	Rabi-Irrigated	-	-	1 st week November to 2 nd week December	1 st week November to 4 th week November	1 st week November to 2 nd week December	

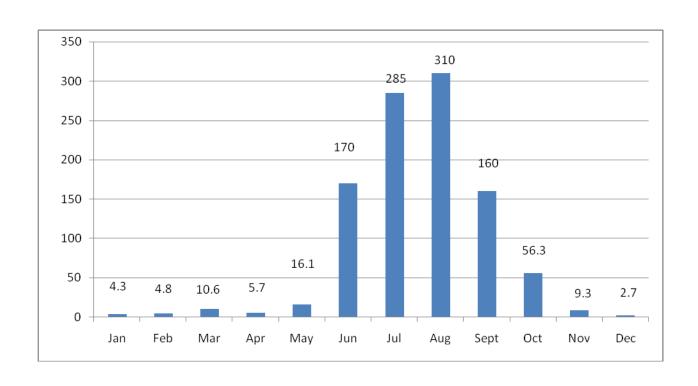
1.13	What is the major contingency the district is prone to? (Tick mark)	Regular	Occasional	None
	Drought	✓		
	Flood		√	
	Cyclone			√
	Hail storm		✓	
	Heat wave		✓	
	Cold wave		✓	
	Frost			✓
	Sea water intrusion			✓
	Pests and disease outbreak (specify)		√	
	Rice		Stem borer, bacterial leaf blight	

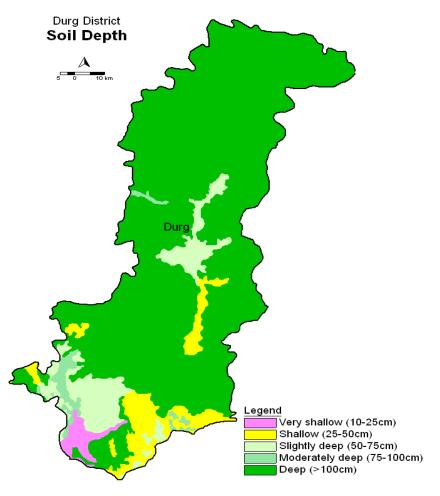
1.14	Include Digital maps of the district for	Location map of district within State as Annexure I	Enclosed: Yes	
		Mean annual rainfall as Annexure 2	Enclosed: Yes	
		Soil map as Annexure 3	Enclosed: Yes	

Annexure I Location map of Balod district in Chhattisgarh state



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





(Balod district carved out from Durg district) Source: NBSS&LUP

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

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

Condition	Major Farming	Normal Crop /	Cropping	Suggested Contingency measures				
	situation	system		Change in crop / cr including variety	ropping system	Agronomic measures	Remarks on Implementation	
		Kharif	Rabi	Kharif	Rabi	7		
		30, NMH- 803KMH- 3426						
	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	-	
	Shallow Lowland Alfisols (Dorsa-clayloam or Vertisols (Kanhar-clayey) IGK Bar	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	-	7		
		Rice	Gram	No change	-	7		
		Rice	Linseed	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	-			
	Unbunded upland	Mung	-	Mungbean (Pusa	-	25 % higher seed rate	-	

Condition	Major Farming	Normal Crop /	Cropping		Suggested (Contingency measures	
	situation	system		Change in crop / cr	opping system	Agronomic measures	Remarks on
			T	including variety	T =		Implementation
	T	Kharif	Rabi	Kharif	Rabi		
Early season	Bharri	Urd	-	Vishal, HUM 1,	-	-do-	-
drought: Delay by 4 weeks (July 3 rd wk)		Pigeonpea	-	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	-	Erect variety GG- 5/G-20	-	-do-	-
	Bunded upland Bharri	Rice - Danteshwari, Samleshwari, Purnima, Annda 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	-		-
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani	-	Rice- MTU1010, Samleshwari, Danteshwari, Indira barani dhan-	-	• Direct dry seeding in line technique suggested for better crop yield and	• Linkage with RKVY for supply of

Condition	Major Farming	Normal Crop /	Cropping		Suggested	Contingency measures	
	situation	system		Change in crop / cro	opping system	Agronomic measures	Remarks on
			1	including variety	T .	_	Implementation
		Kharif	Rabi	Kharif	Rabi		
		Dhan 1,		1		double cropping	tractor and
		Chandrahasni,				•Line sowing to avoid	animal drawn
	C1 11 T 1 1	Samleshwari		D: C1 1 1 :		mortality of germinating	seed drill for
	Shallow Lowland	Rice-	-	Rice- Chandrahasni	-	seed in case drought	line sowing
	Alfisols	Mahamaya, s		IR64, Mahamaya, Bambleshwari,		follows after scanty rainfall events	 Linkage with MNREGA for
	(Dorsa-clay loam)	swarna, Sampda,		karma masuri			WC measures:
	or Vertisols	IGKV R1,		Karma masun		• Promote application of post emergence herbicide	Digging of
	(Kanhar-clayey)	IGKV R1,				for timely weed	shallow dug
	(Raimar crayey)	Bamleshwari,				management and	wells and
		Indira Sona				avoiding biasi operation	renovation of
		Rice	Lathyrus/	Rice- Chandrahasni	Coriander		existing WHSs
			linseed/gram/	IR64, Mahamaya,	(leaf), toria,		
			mung (relay)	Bambleshwari,	Lathyrus/		
				karma masuri	linseed/		
					mung (relay)		
		Rice	Lentil	-	Lentil	_	
		Rice	Gram	-	Gram	_	
		Rice	Linseed	-	Linseed	_	
	Bahra lowland	Rice- Swarna,	Fallow	Rice- Mahamaya,	Fallow		
	Vertisols	Swarna sub1,		swarna sub1,			
	(Kanhar-clayey)	Jaldubi,		Jaldubi			
		Bamleshwari, MTU 1001,					
		IGKV R 1244					
		-	Lathyrus/	_	Coriander	-	
			linseed/gram/		(leaf), toria,		
			mung (relay)		Lathyrus/		
			3 (1 13)		linseed/		
					mung (relay)		
		-	Wheat	-	Wheat		
		-	Mung	-	Mung		
Early season	Unbunded upland	Mung	-	Hoursegram/	-	25 % higher seed rate	-
drought:	Bharri			Niger			
Delay by 6		Urd	-	Hoursegram/	-	-do-	-
weeks (Aug.				Niger			

Condition	Major Farming	Normal Crop / Cropping		Suggested Contingency measures				
	situation	system	0	Change in crop / cr including variety		Agronomic measures	Remarks on Implementation	
		Kharif	Rabi	Kharif	Rabi		_	
1 st wk)		Pigeonpea	-	Horse gram/ Niger	-	-	-	
		Groundnut	-	Urd(TU94-2, pant- U31, KU96-3, TAU2)	-	-do-	-	
	Bundeded upland Bharri	Rice-Danteshwari, Samleshwari, Purnima, Annda 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- Purnima, Tulsi, Indira barani dhan-1, Aditya		Sowing of sprouted seed (lai-chaupa)adopting lehi method of rice cultivation		
		-	-	Groundnut	-	-do-	-	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	-	Rice- Indira barani dhan-1, Samleshwari, Danteshwari, MTU1010, purnima	-	Direct dry seeding in line technique suggested for better crop yield and double cropping Promote direct seeding or rice and discourage transplanting	• Linkage with RKVY for supply of tractor and animal drawn seed drill for line sowing	
	Shallow Lowland Alfisols (Dorsa-clay loam)	Rice- Mahamaya, s swarna,	-	Rice- IR64, Chandrahasni Bambleshwari,	-	• Sowing of sprouted seed (lai-chaupa) adopting	• Linkage with MNREGA for	

Condition	Major Farming	Normal Crop /	Cropping		Suggested	Contingency measures	
	situation	system		Change in crop / cr	ropping system	Agronomic measures	Remarks on
			T .	including variety	T .	_	Implementation
		Kharif	Rabi	Kharif	Rabi		WC measures: Digging of shallow dug wells and renovation of existing WHSs Utilize harvested rain water of WHS
	or Vertisols (Kanhar-clayey)	Sampda, IGKV R1, IGKV R2, Bamleshwari,		karma masuri		lehi method of rice cultivation •Line sowing to avoid mortality of germinating	
		Indira Sona Rice	Lathyrus/ linseed/gram/ mung (relay)	Rice- IR64, Chandrahasni Bambleshwari, karma masuri	Coriander (leaf), toria, linseed/ mung (relay)	seed in case drought follows after scanty rainfall events • Promote application of post emergence herbicide	
		Rice	Lentil	-	Lentil	for timely weed	in crop
		Rice	Gram	-	Gram	management and	production by
		Rice	Linseed	=	Linseed	avoiding biasi operation	adopting drip
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	Fallow Lathyrus/ linseed/gram/ mung (relay)	Rice- Mahamaya, swarna sub1, Jaldubi, masuri	Coriander (leaf), toria, Lathyrus/ linseed/ mung (relay)	 Increase 25percent seed rate of rabi crops. Seed rate of wheat may be increased from one-and half to two times Sowing of rabi crops adopting zero tillage technique 	system or sprinklers that may be converged from micro irrigation scheme of Agriculture Department
		-	Wheat	-	Wheat	_	
		-	Mung	-	Mung	1	
Early season drought: Delay by 8	Unbunded upland Bharri	Mungbean (Pusa Vishal,HUM	-	-	Horse gram/ Niger	Sowing in line or broadcasting in September	-
weeks (Aug. 3 rd wk)		1, HUM-16, BM 4, HUM 12) /	-	-	Horse gram/ Niger	Sowing in line or broadcasting in September	-
		Urdbean (TU 94-2, TAU-2, KU 96-3, Indira Urd 1)	-	-	-	-	-

Condition	Major Farming	Normal Crop /	Cropping		Suggested (Contingency measures	
	situation	system		Change in crop / croincluding variety	opping system	Agronomic measures	Remarks on Implementation
		Kharif	Rabi	Kharif	Rabi		_
		Pigeonpea					
		(ICPL87,					
		JKM189,					
		UPAS 120,					
		BDN 2,					
		Rajivlochan)					
		Groundnut	-	Mung	-	25 % higher seed rate	-
	Bundeded upland Bharri	Rice Danteshwari, Samleshwari, Purnima, Annda Maize- Hishell, P 3785, Bio 9681, 900M, Seedtech 2324, Pro	-	Mung(pusa vishal, pragya, Hum1, pairimung) Pigeonpea(ICPL87, Rajivlochan. Maruti)	-	Mixed or intercropping of pigeonpea and mung (4:2) or sesamum and mung (4:2)	-
		4640, DMH 117, Pro Agro- 4212 PEM 1, VH - 9,17HQPM-1 NMH-731NK- 30, NMH- 803KMH- 3426					
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni,	-	Rice- Indira barani dhan-1, Samleshwari, Danteshwari, purnima	-	 Promote direct Line seeding of rice and discourage transplanting Sowing of sprouted seed (lai-chaupa)adopting lehi 	• Linkage with RKVY for supply of tractor and animal drawn

Condition	Major Farming	Normal Crop /	Cropping	Suggested Contingency measures				
	situation	system		Change in crop / cr including variety	ropping system	Agronomic measures	Remarks on Implementation	
		Kharif	Rabi	Kharif	Rabi		_	
		Samleshwari				method of rice	seed drill for	
	Shallow Lowland	Rice-	-	Rice- IR64,	-	cultivation	line sowing	
	Alfisols	Mahamaya, s		Chandrahasni		 Promote application of 	 Linkage with 	
	(Dorsa-clay loam)	swarna,		Bambleshwari,		post emergence herbicide	MNREGA for	
	or	Sampda,		karma masuri		for timely weed	WC measures:	
	Vertisols	IGKV R1,				management and	Digging of	
	(Kanhar-clayey)	IGKV R2,				avoiding biasi operation	shallow dug	
		Bamleshwari,				•Increase 25percent seed	wells and	
		Indira Sona				rate of rabi crops.	renovation of	
		Rice	Lathyrus/	Rice- IR64,	-	• Seed rate of wheat	existing WHSs	
			linseed/gram/	Chandrahasni		increased from one-and	• Utilize	
			mung (relay)	Bambleshwari,		half to two times	harvested rain	
				karma masuri		•Sowing of rabi crops	water of WHS	
		Rice	Lentil	-	Lentil	adopting zero tillage	in crop	
		Rice	Gram	-	Gram	technique	production by	
		Rice	Linseed	-	Linseed		adopting drip	
	Bahra lowland	Rice- Swarna,	Fallow	Rice- Mahamaya,	Fallow		system or	
	Vertisols	Swarna sub1,		swarna sub1,			sprinklers that	
	(Kanhar-clayey)	Jaldubi,		Jaldubi, masuri			may be	
		Bamleshwari,					converged	
		MTU 1001,					from micro	
		IGKV R 1244					irrigation scheme of	
		-	Lathyrus/	-	-			
			linseed/gram/				Agriculture	
			mung (relay)		***		Department	
		-	Wheat	-	Wheat			
		-	Mung	-	Mung/			
					Fieldpea			
					/Coriander			
					(leaf)/ toria			

Condition	Major Farming	Normal Crop /	Sugg	gested Contingency measure	
	situation	Cropping	Crop management	Soil nutrient & moisture	Remarks on
		system		conservation measures	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) Mung /Urd and rabi Hoursegram/ Niger	 Gap filling Resowing in line when very poor population Increase the seed rate 	 Inter tilling for soil mulch Mulching with paddy straw or use plastic mulch or other locally available material Compartmental bunding, Ridge and 	• Linkage with RKVY / NFSM / state seed corporation for timely supply of seed of suitable varieties of upland crops and rice
	Bundeded upland Bharri	Rice- Danteshwari, Samleshwari, Purnima, Annda Mung(pusa vishal, Hum1)		Furrows, Tied ridges to conserve rainwater during kharif for	
	Midland Inceptisol (Matasi-Sandy Ioam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	• Gap filling or • Resowing of dry seed	regular sowing of rabi crops	
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols (Kanhar-clayey)	Rice-Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona Rice- Lathyrus/ linseed/gram/mung (relay) Rice- lentil/gram/linseed	• 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		
	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	Gap filling Sowing of sprouted seed (lai-chaupa) adopting lehimethod of rice cultivation Sowing of relatively early varieties like		

Condition	Major Farming	Normal Crop /	Sugg	gested Contingency measure	es
	situation	Cropping	Crop management	Soil nutrient & moisture	Remarks on
		system	261	conservation measures	Implementation
			Mahamaya, swarna		
			sub1, Jaldubi, masuri		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period): At vegetative stage	Unbunded upland Bharri Bundeded 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) Groundnut Rice- Danteshwari, Samleshwari, Purnima, Annda Mung (Pusa Vishal,HUM 1, HUM-	Weeding and protection against sucking pests Avoid top dressing of urea Weeding and protection	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 upland crops
		16, BM 4, HUM 12)	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/mung (relay- Pragya, Pairy Mung) Rice-lentil/ gram/ linseed			
	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	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)	Weeding and protection against insect and pests	Mulching Inter tilling	• Linkage with Agriculture Department

Condition	Major Farming	Normal Crop /	Sugg	gested Contingency measure	es
	situation	Cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
(>2.5 mm) period): At flowering/ fruiting stage	Bundeded upland	Pigeonpea (ICPL87, JKM189, UPAS 120, BDN 2, Rajivlochan) Groundnut Rice- Danteshwari, Samleshwari,			/RKVY for supply of interculture implements for interculture in upland crops
	Bharri	Purnima, Annda Mung(Pusa Vishal,HUM 1, HUM- 16, BM 4, HUM 12)			upitalia crops
	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 	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	• Linkage with micro irrigation scheme of Agriculture
	Shallow Lowland Alfisols (Dorsa-clay loam) or Vertisols	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona Rice- Lathyrus/ linseed/gram/ fieldpea	harvesting structures using micro irrigation i.e. drip and sprinklers		Department for supply of drip system and sprinklers
	(Kanhar-clayey) Bahra lowland	mung (relay) Rice-lentil/ gram/ linseed/ safflower Rice- Swarna, Swarna sub1,		increased from one-and half to two times • Sowing of rabi crops	
	Vertisols (Kanhar-clayey)	Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244 Rice- Lathyrus/ linseed/gram/		adopting zero tillage technique	
		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) Groundnut	Harvest mature plants Thin out plant population	Mulching Inter tilling	• Linkage with Agriculture Department /RKVY for supply of interculture implements for interculture in
	Bundeded upland Bharri	Rice- Danteshwari, Samleshwari, Purnima, Annda Rice and rabi Hoursegram/ Niger	Life saving irrigation if available		upland crops

Condition	Major Farming	Normal Crop /	Suggested Contingency measures			
	situation	Cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation	
		Mung (pusa vishal, Hum1)	Harvest mature plants			
			Thin out plant population			
	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	• Compartmental bunding, Ridge and Furrows, Tied ridges to conserve rainwater during kharif	• Linkage with micro irrigation scheme of Agriculture	
	Shallow Lowland Alfisols (Dorsa-clay loam) to	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona Rice- Lathyrus/ linseed/gram/	harvesting structures using micro irrigation i.e. drip and sprinklers	for regular sowing of rabi crops • Seed rate of wheat increased from one-and	Department for supply of drip system and sprinklers	
	Vertisols (Kanhar-clayey)	fieldpea mung (relay) Rice-lentil/ gram/ linseed		• Sowing of rabi crops adopting zero tillage		
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244 Rice- Lathyrus/ linseed/gram/		technique		
		mung (relay) Rice- wheat/ mung				

2.1.2 Drought - Irrigated situation

Condition	Major Farming	Normal Crop /	Suggested Contingency measures		
	situation	Cropping	Change in	Agronomic measures	Remarks on
		system	crop/cropping system		Implementation
Delayed release of	Unbunded upland	Mungbean (Pusa Vishal, HUM 1,	No change	-	Linkage with
water in canals due	Bharri	HUM-16, BM 4, HUM 12) /			RKVY / NFSM /
to low rainfall		Urdbean (TU 94-2, TAU-2, KU 96-			IWMP/ micro
		3, Indira Urd 1)			irrigation schemes
		Pigeonpea (ICPL87, JKM189,			for construction of
		UPAS 120, BDN 2, Rajivlochan)	37 1		shallow tube wells
		Groundnut	No change	-	and WHS
	Bunded upland	Rice- Danteshwari, Samleshwari,	Mung(pusa vishal,	-	including farm
	Bharri	Purnima, Annda	Hum1)		ponds for
		Rice and rabi Hoursegram			conjunctive use of
	2011	Di MENNIONE PENNIONE			water in canal
	Midland	Rice- MTU1010, IR64, IR 36,		Direct seeding of rice	command
	Inceptisol	Indira Barani Dhan 1,		preferably in line	• Compartmental
	(Matasi-Sandy	Chandrahasni, Samleshwari		• In case of failure of	bunding, Ridge and Furrows, Tied
	loam) Shallow Lowland	Diag Mahamana		crop or poor crop stand	ridges to conserve
	Alfisols	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV		then Sowing of	rainwater during
	(Dorsa-clay loam)	R2, Bamleshwari, Indira Sona		sprouted seed (lai-	kharif for regular
	or	Rice- Lathyrus/ linseed/gram/		chaupa)adopting lehi method of rice	sowing of rabi
	Vertisols	mung (relay)		cultivation	crops
	(Kanhar-clayey)	Rice- lentil/gram/linseed/ fieldpea		 If seedlings raised for 	Сторо
	Bahra lowland	Rice- Swarna, Swarna sub1,		transplanting then it	
	Vertisols	Jaldubi, Bamleshwari, MTU 1001,		should be done with	
	(Kanhar-clayey)	IGKV R 1244		rainwater or from other	
	(Hammar ChayCy)	Rice- Lathyrus/ linseed/gram/		sources of water	
		mung (relay)		Weed control by	
		Rice-wheat/ mung		herbicide and avoid	
				biasi operation	
Limited release of	Unbunded upland	Mungbean (Pusa Vishal, HUM 1,	No change	-	 Linkage with
water in canals due	Bharri	HUM-16, BM 4, HUM 12) /			RKVY / NFSM /
to low rainfall		Urdbean (TU 94-2, TAU-2, KU 96-			IWMP/ micro
		3, Indira Urd 1)			

Condition	Major Farming	Normal Crop /	Suggested Contingency measures		
	situation	Cropping	Change in	Agronomic measures	Remarks on
		system	crop/cropping system		Implementation
		Pigeonpea (ICPL87, JKM189,			irrigation schemes
		UPAS 120, BDN 2, Rajivlochan)			for construction of
		Groundnut	No change	-	shallow tube wells
	Bundeded upland	Rice- Danteshwari, Samleshwari,	Mung(pusa vishal,	-	and WHS
	Bharri	Purnima, Annda	Hum1)		including farm
		Rice and rabi Hoursegram		-	ponds for conjunctive use of
	Midland	Rice- MTU1010, IR64, IR 36,	Rice- Indira barani dhan-	Direct seeding of rice	water in canal
	Inceptisol	Indira Barani Dhan 1,	1, Samleshwari,	preferably dry seeding	command
	(Matasi-Sandy	Chandrahasni, Samleshwari	Danteshwari, purnima	in line	Linkage with
	loam)			In case of failure of	RKVY / NFSM /
	Shallow Lowland	Rice-Mahamaya, s	Rice- IR64,	crop or poor crop stand	IWMP/ micro
	Alfisols	swarna, Sampda, IGKV R1, IGKV	Chandrahasni	then Sowing of	irrigation schemes
	(Dorsa-clay loam)	R2, Bamleshwari, Indira Sona	Bambleshwari, karma	sprouted seed (lai-	for supply of
	or		masuri	chaupa)adopting lehi	micro irrigation
	Vertisols	Rice- Lathyrus/ linseed/gram/		method of rice	systems
	(Kanhar-clayey)	mung (relay)	1	cultivation	
		Rice- lentil/gram/linseed/ fieldpea		Avoid transplanting of	
	Bahra lowland	Rice- Swarna, Swarna sub1,	Rice- Mahamaya,	rice	
	Vertisols	Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244	swarna, Sampda, IGKV R1, IGKV R2, IGKV R	Weed control by	
	(Kanhar-clayey)	Rice- Lathyrus/ linseed/gram/	1244, Bamleshwari	herbicide and avoid	
		mung (relay)	1244, Baimeshwari	biasi operation	
		Rice-wheat/ mung	-		
Non release of	Unbunded upland	Mungbean (Pusa Vishal, HUM 1,	No change	_	Linkage with
water in canals	Bharri	HUM-16, BM 4, HUM 12) /	140 change		RKVY / NFSM /
under delayed onset	Dimiti	Urdbean (TU 94-2, TAU-2, KU 96-			IWMP/ micro
of monsoon in		3, Indira Urd 1)			irrigation schemes
catchment		Mung /Urd and rabi Hoursegram	No change	-	for construction of
					shallow tube wells
		Groundnut	No change	-	and WHS
	Bundeded upland	Rice- Danteshwari, Samleshwari,	Mung(pusa vishal,	-	including farm
	Bharri	Purnima, Annda	Hum1)		ponds for
		Rice and rabi Horsegram			conjunctive use of
				-	water in canal
	Midland	Rice- MTU1010, IR64, IR 36,	Rice- Indira barani dhan-	Direct seeding of rice	command

Condition	Major Farming	Normal Crop /	Suggested Contingency measures			
	situation	Cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation	
	Inceptisol (Matasi-Sandy loam)	Indira Barani Dhan 1, Chandrahasni, Samleshwari	1, Samleshwari, Danteshwari, purnima	preferably dry seeding in line • Avoid transplanting of	• Linkage with RKVY / NFSM / IWMP/ micro	
	Shallow Lowland Alfisols (Dorsa-clay loam) or	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	rice • Weed control by herbicide and avoid biasi operation	irrigation schemes for supply of micro irrigation systems	
	Vertisols (Kanhar-clayey)	Rice- Lathyrus/ linseed/gram/ mung (relay) Rice- lentil/gram/linseed/ fieldpea		Supplemental irrigation from WHS using drip and		
	Bahra lowland Vertisols (Kanhar-clayey)	Rice- Swarna, Swarna sub1, Jaldubi, Bamleshwari, MTU 1001, IGKV R 1244 Rice- Lathyrus/ linseed/gram/ mung (relay-Pragya) Rice-wheat/ mung	Rice- Mahamaya, swarna, Sampda, IGKV R1, IGKV R2, IGKV R 1244, Bamleshwari	sprinklersAdopt zero tillage technique for sowing of rabi crops		
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	
		Mung /Urd and rabi Hoursegram	No change	-	and WHS including farm	
	Bundeded upland Bharri	Rice- Danteshwari, Samleshwari, Purnima, Annda Rice and rabi Hoursegram	Mung (pusa vishal, Hum1)	-	ponds for conjunctive use of water in canal command	
	Midland Inceptisol (Matasi-Sandy loam)	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	Rice- Indira barani dhan- 1, Samleshwari, Danteshwari, purnima	 Direct seeding of rice preferably dry seeding in line Avoid transplanting of 	• Linkage with RKVY / NFSM / IWMP/ micro irrigation schemes	
	Shallow Lowland Alfisols (Dorsa-clay loam) or	Rice-Mahamaya, s swarna, Sampda, IGKV R1, IGKV R2, Bamleshwari, Indira Sona	Rice- MTU1010, IR64, IR 36, Indira Barani Dhan 1, Chandrahasni, Samleshwari	rice • Weed control by herbicide and avoid	for supply of micro irrigation systems	

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

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

Condition					
	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest	
Continuous high rai	infall in a short span lead	ing to water logging or heav	vy rainfall coupled with high speed winds in a short span*		
Urd/ mung	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/ 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	-	
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 a	nd diseases due to unsease	onal rains			
Urd/ mung	Spraying of contact insecticide for control of caterpillar/ color rot	Spraying of contact insecticide for control of pest	-	-	
Groundnut/ 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	Spraying of contact	Harvest the fruit	-
	insecticide for control	insecticide for control of		
	of caterpillar	caterpillar/ fruit borer		
	Stacking for protecting	Stacking for protecting		
	fungal diseases	fungal diseases		
Mango	-	Spray 0.2% wettable	Harvest at pre maturity stage	Unripe fruit may be used for pickles.
		sulphur for protection		
		against PM		
Citrus	Control citrus canker by	Control citrus canker by	Control citrus canker by Copper	-
	Copper Oxy chloride	Copper Oxy chloride 0.5	Oxy chloride 0.5 % &	
	0.5 % & streptocycline	% & streptocycline 100	streptocycline 100 ppm,	
	100 ppm	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	Surface drainage	Surface drainage	Surface drainage	-			
Groundnut/ 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	-			
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	Surface drainage	Surface drainage	Surface drainage	-			
Groundnut/ 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 and staking	Surface drainage and staking	
		of plants	of plants	-
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