

Contingency plan for Sheikhpura district

Condition	Suggested contingency measure			
Continuous high rainfall in a short span leading to water logging	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest
Rice	• Gap filling • Removal of excess water	• Drainage management • Sowing of subsequently crop, if totally damaged i.e. Toria	• Drainage management • Subsequent crop if totally damaged • Harvest at physiological maturity	Storage at safer place
Maize	• Gap filling • Removal of excess water • Resowing, if completely damaged	• Drainage management • Sowing of alternative maize or other rabi crop if totally damaged	• Drainage management • Subsequent if totally damaged • Harvest at physiological maturity	Storage at safer place
Pigeonpea	• September sowing of red gram (var. Sharad), if, previous Pigeonpea crop is completely damaged • Gap filling, if needed • Removal of excess water	• Drainage management • Sowing of alternative rabi maize or other crops like chilli \ tomato\ brinjal if totally damaged	• Drainage management • Harvest at physiological maturity	Storage at safer place

Heavy rainfall with high speed winds in a short span				
Rice	• Gap filling • Removal of excess water	• Strengthening of Drainage system • Sowing of subsequent crop, if totally damaged i.e. Toria	• Strengthening of Drainage system • Subsequent crop if totally damaged • Harvest at physiological maturity	Storage at safer place
Maize	• Gap filling • Removal of excess water • Resowing, if completely damaged	• Strengthening of Drainage system • Sowing of alternative maize or other rabi crop if totally damaged	• Strengthening of Drainage system • Subsequent if totally damaged • Harvest at physiological maturity	Storage at safer place

Pigeonpea	- September sowing of Pigeonpea (var. Sharad), if, previous Pigeonpea crop is completely damaged - Gap filling, if needed - Removal of excess water	- Strengthening of Drainage system - Sowing of alternative rabi maize or other crops like chilli \ tomato\ brinjal if totally damaged	- Strengthening of Drainage system - Subsequent if totally damaged - Harvest at physiological maturity	Storage at safer place
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Outbreak of pests and diseases due to un-seasonal rains

Rice	❖ Removal of excess water ❖ Seedling treatment with granular insecticide – Cartap hydrochloride or phorate 10G or carbofuran 3G. ❖ Maintain shallow water in nursery beds ❖ Providing good drainage.	- Strengthening of Drainage system - Implementation of IPM practices - Use copper fungicides against Bacterial leaf blight. - Split application of N fertilizer (3-4 times)	- Strengthening of Drainage system - Implementation of IPM practices	Storage at safer place
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Maize	- Soil application of granular insecticides viz. Phorate 10 g/Carbofuran 3g in whorl of maize - Implementation of IPM practices	- Strengthening of Drainage system - Implementation of IPM practices Foliar blight control through Mancozeb @ 2.5g/l Or Zineb/ Maneb @ 2.5-4 g/lit of water (2-4 applications at 8-10 days interval)	- Cob harvesting from standing crop - Harvest at physiological maturity	Storage at safer place
Pigeonpea	- Provide drainage - Seed treatment with 1 g carbendazim +2g thiram/kg seed.	- Strengthening of Drainage system - Implementation of IPM practices	Strengthening of Drainage system	Storage at safer place

Advisory for early showing of Rabi crops after flood water recedes:

CROP	DAMAGE ISSUES	RECOVERY FACTORS
Pulses (e.g. chickpea, lentil, etc.)	Seeds may rot if soil is saturated. - Later stages sensitive to excessive moisture and diseases (damping off, leaf spots).	Avoid sowing immediately after flooding; wait until soil moisture and aeration is okay. - Use improved / disease tolerant pulse varieties. - Apply seed treatment (fungicide / bio-fungicide) to prevent damping-off. - Ensure seed is sown in raised beds or ridges to improve drainage.
Oilseeds (mustard, etc.)	Oilseeds are sensitive to waterlogging, especially during flowering. Yields drop severely if soil is waterlogged for long periods. - Seed losses and rot in heavy rains / water stagnation.	Delay sowing till fields are ready with suitable moisture level . - Use tolerant varieties. - Drain out standing water; improve drainage. - Apply needed nutrients, especially potassium. - Monitor pests/diseases (e.g. fungal issues) after wet conditions.
Onion	Onions are particularly vulnerable: standing water causes bulb rot, fungal diseases; delayed planting or inundation reduces yield/quality. - Silt deposition damages the soil bed; stones etc may affect bulb shape.	Clean and level beds after flood recedes. Remove silt/debris. - Ensure raised beds; good drainage channels. - Use disease-free sets or seedlings. - Apply fungicide treatment if necessary. - If planting is delayed, use short-maturing varieties so that bulb maturity avoids remaining rains. - Avoid planting in low-lying plots most prone to waterlogging. - Use mulch to protect soil, reduce water retention in undesirable periods. - Use crop rotation to reduce disease carryover. - Store bulbs in ventilated, dry places; plan harvest before onset of humidity.
Vegetables:	Brinjal (eggplant), tomato, cabbage, cucumber, cauliflower.	These can be planted once soil dries, and have higher returns.
Fodder crops	Non- availability during flood	Preparation of maize silage during rabi

Agricultural Advisory and Crop Contingency Plan for drought Affected Areas

Drought contingency plan for Rainfed situation :

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop / Cropping system	Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
Delay by 2 weeks 4 th week of June	Up land Medium to low deep sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	Maize-Pigeonpea Maize: Shaktiman-1,2,3,4 Suwan, Ganga-11, Deoki, Pusa early hybrid Maka-3	• Normal package of Practices • Gap filling	=
	Mid land	Rice- Wheat Rice- Maize	Rice –Wheat Rice-Maize Rice – Pusa 2-21, Rajendra Suwasni Prabhat , Sita	• Adopt normal package of practices • Direct seeding of drought tolerant varieties in dry soil in June/ July with pre emergence herbicide application under sufficient soil moisture conditions.	
	Low land	Rice- Wheat Rice- Maize- Greengram	Rice- Wheat Rice- Maize- Green gram Medium to long duration Rice- Rajendra Suwasni, Rajendra Sweta Rajendra Mahsuri -1	• Raise staggered community nursery preferably with medium duration varieties in mid and lowlands • Application of fertilizers especially phosphorous and potash to be ensured under late transplanted conditions in severely affected districts. • Interculture for timely weed control in direct seeded rice Groundwater to be used for life saving irrigation to upland crops and transplanted rice	

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 4 weeks 2 nd week of July	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	Maize-Pigeonpea Maize Shaktiman-1,2,3,4 Suwan, Ganga-11, Deoki, Pusa early hybrid Maka-3	• Normal package of Practices • Gap filling • Balanced dose of NPK	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Mid land	Rice- Wheat Rice- Maize	Rice –Wheat Rice-Maize Direct sowing / 20d old dapog seedlings with medium to short duration varieties – BR34, Rajendra Dhan-201(130-135d), Rajendra Bhagwati, Saroj, Rajendra Suwasni, Santosh, R. Kasturi, Sita	• Where field is moist, direct seeding of medium duration varieties (125 days) can be done during second fortnight of July in midlands. Post-emergence herbicide application use is essential	
	Low land	Rice- Wheat Rice- Maize- Greengram	Rice- Wheat Rice- Maize- Green gram Rice- Direct/ dapog seedlings with Rajshree, Santosh , Sita, Rajendra Suwasni, Rajendra Sweta, Swarna sub-1	• Use mat nursery/ dapog nursery , mat nursery (dapog method) can be raised for quick availability of young seedlings for transplanting of medium duration varieties by first fortnight of August in mid and low lands • Raise staggered community nursery preferably with short duration varieties in mid and lowlands • Transplant with 30-35 days old seedling may be used with 3-4 seedling per hill with close spacing.	

				- Enhanced dose of nitrogen with full basal dose of NPK at the time of transplanting to boost the early vegetative growth in late plantings under sufficient moisture - Timely interculture for weed control in direct seeded rice - Life saving irrigation	
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Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
Early season drought (delayed onset)			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 6 weeks 4 th week of July	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	Finger millet Finger millet- DB-7, BR-5, BR-10, Coimbatore-1 Blackgram/ Finger millet-Wheat Blackgram- T-9, Navin, Pant Urd -30 , Pant Urd-19	- Normal package of Practices - Adequate dose of NPK - IPM practices	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Mid land	Rice- Wheat Rice- Maize	Finger millet – Linseed Finger millet- DB-7, BR-5, BR-10, Coimbatore-1		
	Low land	Rice- Wheat Rice- Maize- Greengram	Rice (Short duration)— Wheat/Lentil/ Chickpea Rice- Prabhat, Dhanlaxmi, Richharia, Turanta Saroj	Mat nursery (dapog method)/ Community nursery can be raised for quick availability of young seedlings for transplanting of	

			Blackgram/ Finger millet-Wheat Blackgram- T-9, Navin, Pant urd-30 , 19 Finger millet- DB-7, BR-5, BR- 10, Coimbatore-1	medium duration varieties by first fortnight of August • Direct seedling of Rice • Raise staggered community nursery preferably with medium duration varieties in mid and lowlands • Enhanced basal dose of NPK to boost the early vegetative growth • Application of fertilizers especially phosphorous and potash to be ensured under late transplanted conditions in severely affected districts • Life saving irrigation	
Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 8 weeks 2 nd week of August	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	Finger millet Finger millet- DB-7, BR-5, BR- 10, Coimbatore-1	• Normal package of Practices • Life saving irrigation	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Mid land	Rice- Wheat Rice- Maize	Finger millet – Linseed Finger millet- DB-7, BR-5, BR- 10, Coimbatore-1 Linseed- Sabour Tisi 1, 3		

			Sesame-Wheat/ Sesame : Krishna, Pragati		
	Low land	Rice- Wheat Rice- Maize- Greengram	Rice short duration (Direct seeded)-Wheat Rice- Prabhat, Dhanlaxmi, Richharia, Turanta	• Double transplanting of rice (karuhan) can be done with 30 + 45 days old seedlings of long duration or photosensitive varieties up to 30th August with close planting (40-45 hills per square meter) • Application of organic manure and vermi compost initially for Rice and other crops. • Sowing of <i>rabi</i> crops such as Wheat, Lentil, Chickpea, Pea, Mustard (Pusa Mahak, RAU TS17), Linseed (Garima) and Vegetables can be taken up on time for maximizing productivity from lowlands with support from the government for timely supply of inputs and in a way <i>rabi</i> production would compensate the production loss during <i>kharif</i>. • Fodder varieties of	

				Jowar, Maize, Bajra in combination with legumes (cowpea and horsegram) can be taken up wherever feasible to meet the fodder requirements in deficit rainfall districts	
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Condition			Suggested Contingency measures		
Early season drought (delayed onset)	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/ crop stand etc.	Up land	Maize- Fallow Pigeonpea- Fallow	- Gap filling of existing crop - Life saving irrigation	- Mulching for moisture conservation - Conservation tillage	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Medium to low deep soil Sandy loam to clay loam soil				
	Mid land	Rice- Wheat Rice- Maize			
	Low land	Rice- Wheat Rice- Maize- Greengram			

Condition			Suggested Contingency measures		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	Major Farming situation	Normal Crop/cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation

At vegetative stage	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	- Life saving irrigation - Gap filling of existing crop	- Foliar application of 2% MOP - Mulching for moisture conservation - Conservation tillage	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Mid land	Rice- Wheat Rice- Maize	- Gap filling of existing crop - Postponement of top dressing - Life saving irrigation	- Mulching through weeds, - Foliar application of 2% MOP	
	Low land	Rice- Wheat Rice- Maize- Greengram		Foliar application of 2% MOP	

Condition			Suggested Contingency measures		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	Major Farming situation	Normal Crop/cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
At flowering/ fruiting stage	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	- Gap filling of existing crop - Postponement of top dressing - Life saving irrigation	- Foliar application of 2% MOP - Mulching through weeds & residue	
	Mid land	Rice- Wheat Rice- Maize			
	Low land	Rice- Wheat Rice- Maize- Greengram			

Condition			Suggested Contingency measures		
Terminal drought (Early withdrawal of	Major Farming situation	Normal Crop/ cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation

monsoon)					
	Up land Medium to low deep soil Sandy loam to clay loam soil	Maize- Fallow Pigeonpea- Fallow	- Foliar application of 2% MOP - Mulching - Clipping of leaves in maize Life saving irrigation	- Open the furrow during evening and left furrow open overnight and plank in the next morning before sunrise for growing of early rabi crops like Gram, Lentil, Linseed. - Stored water to be used at critical stage of growth of LSI - Clean irrigation channel for preventing loss of moisture through seepage - Zero tillage sowing of wheat	Seeds from RAU, Pusa, NSC, TDC , BRBN etc
	Mid land	Rice- Wheat Rice- Maize			
	Low land	Rice- Wheat Rice- Maize- Greengram			

Drought contingency plan for irrigated situation :

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delayed release of water in canals due to low rainfall	Upland Canal irrigated	Rice- Wheat Rice- Potato Rice- Maize	Mustard- Greengram Maize- Potato Maize- Lentil Mustard- 66-197-3, Maize - Shaktiman-1,2,3,4, Suwan, Ganga-11, Deok Pusa early hybrid Macca-3	- Use of mulches - Life saving irrigation	Seeds from BRBN, RAU, Pusa, NSC, TDC

Condition	Suggested Contingency measures				
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Limited release of water in canals due to low rainfall	Upland Canal irrigated	Rice- Wheat- Greengram Rice- Potato- Summer vegetables Rice- Maize- Greengram	Rice- Wheat Rice- Potato Rice- Maize Rice- Prabhat, Dhanlaxmi, Richarria, Saroj	- Foliar application of 2% potash - Life saving irrigation	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Low land Canal irrigated	Rice- Wheat- Greengram Rice- Potato Rice- Onion	Rice- Wheat Rice- Lentil/ Linseed Rice- Chickpea Rice- Rajendra Bhagawati, Saroj, Rajendra Suwasni, Santosh, R. Kasturi, Sita, Jaya		
Non release of water in canals under delayed onset of monsoon in catchment	Upland Canal irrigated	Rice- Wheat- Greengram Rice- Potato- Summer vegetables Rice- Maize- Greengram	Rice- Wheat Rice- Potato Rice- Maize Rice- Prabhat, Dhanlaxmi, Richarria, Saroj	- Foliar application of 2% MOP in standing crops - Life saving irrigation	Seeds from BRBN, RAU, Pusa, NSC, TDC
	Low land Canal irrigated	Rice- Wheat- Greengram Rice- Potato Rice- Onion	Rice- Wheat Rice- Lentil/ Linseed Rice- Chickpea Rice- Rajendra Bhagawati, Saroj, Rajendra Suwasni, Santosh, R. Kasturi, Sita, Jaya		

Block wise Details of crop and varieties

Block Name	Crop	Variety	Duration (Days)	Yield (q/ha)	Time of Sowing	Method of sowing
Barbiga / Sheikhopursarai	Paddy	Sahbhagi, Susksamrat, Sabourdeep, Sabour Harshit,	115-125	40-45	25Jun -10 July	Direct sowing
	Pigeonpea	Bahar, Malviya Arhar,Narendra Arhar-1,	265-275	20-25	1Jul-21 July	Raise bed
	Toria	RAUTS-17, P.T 303	90-95	12-14	25 sep-10 oct	Line sowing
	Maize	Swan , Devki, African tal, J1006,	45-60	5-6	5 Jun- 10 July	Line sowing
	Sorghum	CO31,COFS31,CSH43MF,C SV32F	60-90	6-16	5-30Jun	Line sowing
	Sunflower	Modern Surya, peredovik,	75-115	20-30	5May-5 Jun	Raise bed Line sowing
Sheikhpura	Paddy	Sahbhagi, Susksamrat, Sabourdeep, Sabour Harshit,	115-125	40-45	25Jun -10 July	Direct sowing
	Finger Millet	DR708,RAU-3,BL352,RAU8,	100-115	15-20	5Jun -15 July	Line sowing
	Toria	RAUTS-17, P.T 303	90-95	12-14	25 sep-10 oct	Line sowing
	Maize	Swan , Devki, African tal, J1006,	45-60	5-6	5 Jun- 10 July	Line sowing
	Sorghum	CO31,COFS31,CSH43MF,C SV32F	60-90	6-16	5-30Jun	Line sowing
	Sunflower	Modern Surya, peredovik,	75-115	20-30	5May-5 Jun	Raise bed Line sowing

Chewara	Paddy	Sahbhagi, Susksamrat, Sabourdeep, Sabour Harshit,	115-125	40-45	25Jun -10 July	Direct sowing
	Finger Millet	DR708,RAU-3,BL352,RAU8,	100-115	15-20	5Jun -15 July	Line sowing
	Toria	RAUTS-17, P.T 303	90-95	12-14	25 sep-10 oct	Line sowing
	Cauliflower	Sabour Agrim, Pusa meghna, Snowball-01	80-85	125-150	01Jul -10Aug	Line sowing
	Sorghum	CO31,COFS31,CSH43MF,C SV32F	60-90	6-16	5-30Jun	Line sowing
	Sunflower	Modern Surya, peredovik,	75-115	20-30	5May-5 Jun	Raise bed Line sowing
	Radish	Pusa Chetki, Pusa Rashmi	60-65	150-170	July	Line sowing
	Lady Finger	Kashi Kranti, Kashi Pragati, Ankur-41	120-125	100-150	Jun-July	Line sowing
Ariyari	Paddy	Sahbhagi, Susksamrat, Sabourdeep, Sabour Harshit,	115-125	40-45	25Jun -10 July	Direct sowing
	Finger Millet	DR708,RAU-3,BL352,RAU8,	100-115	15-20	5Jun -15 July	Line sowing
	Toria	RAUTS-17, P.T 303	90-95	12-14	25 sep-10 oct	Line sowing
	Cauliflower	Sabour Agrim, Pusa meghna, Snowball-01	80-85	125-150	01Jul -10Aug	Line sowing
	Sorghum	CO31,COFS31,CSH43MF,C SV32F	60-90	6-16	5-30Jun	Line sowing

	Sunflower	Modern Surya, peredovik,	75-115	20-30	5May-5 Jun	Raise bed Line sowing
	Radish	Pusa Chetki, Pusa Rashmi	60-65	150-170	July	Line sowing
	Lady Finger	Kashi Kranti, Kashi Pragati, Ankur-41	120-125	100-150	Jun-July	Line sowing
	Onion	Agrifond Dark Red, Bhima Super	100-110	150-200	Aug	Line Sowing
Ghatkushumbha	Paddy	Swarna sub-1,	155-160	25-30	10Jun -25Jun	Direct sowing
	Paddy	Sabour Sampann	145-150	25-30	25May -10Jun	Direct sowing
	Maize	Swan , Devki, African tal, J1006,	45-60	5-6	5 Jun- 10 July	Line sowing
	Sorghum	CO31,COFS31,CSH43MF,C SV32F	60-90	6-16	5-30Jun	Line sowing

Other measures

1. Demonstration and training are provided to the farmers so that they can get better yield in case of water deficit or surplus condition.
2. Location specific advisories and trials are provided to farmers.
3. Farmers are trained about different allied activities related to agriculture which can be helpful for farmers for providing year-round income like mushroom cultivation, processing of mushroom, pulses , millets, moringa leaves and onion powder etc.