

State: Jammu and Kashmir

Agriculture Contingency Plan for District: Reashi

1.0 District Agriculture profile*				
1.1	Agro-Climatic/Ecological Zone			
	Agro Ecological Sub Region (ICAR)	Western Himalayas, Warm Subhumid (To Humid With Inclusion Of Perhumid) Eco-Region(14.1)		
	Agro-Climatic Zone (Planning Commission)	Western Himalayan Region (I)		
	Agro Climatic Zone (NARP)	Mid to High Altitude Intermediate Zone (JK-2) & Low Altitude Sub-Tropical Zone (JK-1)		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Rajaouri, Ramban, Udhampur		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		32 ^o .55 N	75 ^o .11 E	348 m AMSL
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Maize Research Center Udhampur		
	Mention the KVK located in the district with full address	KVK Reasi		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	AMFU, Jammu		

1.2	Rainfall	Normal RF(mm)	Normal Rainy days (number)	Normal Onset	Normal Cessation
	SW monsoon (June-Sep):	1454.1	48	4 th week of June	3 rd week of September
	NE Monsoon(Oct-Dec):	114.8	7		
	Winter (Jan- February)	235.0	15	-	-
	Summer (March-May)	138.0	11	-	-
	Annual	1941.9	81	-	-

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 (ha)	-	-	-	-	-	-	-	-	-	-

1.4	Major Soils (common names like red sandy loam deep soils (etc.,))*	Area ('000 ha)**	Percent (%) of total geographical area
	1. Clayey loam		
	2. Sandy loam		
1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	26346	147
	Area sown more than once	-	
	Gross cropped area	38783	

1.6	Irrigation	Area (ha)		
	Net irrigated area	1746		
	Gross irrigated area			
	Rainfed area			
	Sources of Irrigation	Number	Area (ha)	Percentage of total irrigated area
	Canals		1719	
	Tanks			
	Open wells			
	Bore wells			
	Lift irrigation schemes			
	Micro-irrigation			
	Other sources (please specify)		27	
	Total Irrigated Area			
	Pump sets			
	No. of Tractors			
	Groundwater availability and use* (Data	No. of blocks/	(%) area	Quality of water (specify the problem

	source: State/Central Ground water Department /Board)	Tehsils		such as high levels of arsenic, fluoride, saline etc)
	Over exploited			
	Critical			
	Semi- critical			
	Safe			
	Wastewater availability and use			
	Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

1.7 Area under major field crops & horticulture (as per latest figures) (Specify year _____ eg., 2008-09)

1.7	Major field crops cultivated	Area (*000 ha)							
		<i>Kharif</i>			<i>Rabi</i>			Summer	Grand total
		Irrigated	Rainfed	Total	Irrigated	Rainfed	Total		
	Paddy	1.451	-	-	-	-	-	-	
	Maize	-	-	-	-	21.938	-	-	
	Wheat	-	-	-	-	13.773	-	-	
	Millets	-	-	-	-	0.471	-	-	
	Pulses	-	-	-	-	0.432	-	-	

	Horticulture crops – Fruits	Area (*000 ha)		
		Total	Irrigated	Rainfed
	Apple			886 ha

	Pear			306 ha
	Citrus			1643.50 ha
	Mango			373.10 ha
	Guava			163.49 ha
	Horticulture crops – Vegetables			-
	Medicinal and Aromatic crops			-
	Plantation crops			-
	Fodder crops			-
	Total fodder crop area			-
	Grazing land, reserve areas etc	10907 ha		-
	Availability of unconventional feeds/by products eg., breweries waste, food processing, fermented feeds bamboo shoots, fish etc			-
	Sericulture etc			-
	Other agro enterprises (mushroom cultivation etc			-

	specify)			
	Others (specify)			

1.8	Livestock	Male ('lakhs)	Female ('lakhs)	Total (lakhs)			
	Indigenous cattle	0.485	0.904	1.715			
	Improved / Crossbred cattle						
	Buffaloes (local low yielding)	0.272	0.567	1.142			
	Improved Buffaloes						
	Goat			1.822			
	Sheep			3.135			
	Pig						
	Mithun						
	Yak						
	Others (Horse, mule, donkey etc., specify)			0.11; 0.1			
	Commercial dairy farms (Number)						
1.9	Poultry	No. of farms	Total No. of birds ('000)				
	Commercial		1.575 lakhs				
	Backyard						
1.10	Fisheries (Data source: Chief Planning Officer)						
	A. Capture						
	i) Marine (Data Source: Fisheries Department)	No. of fishermen 306 (registered)	Boats		Nets		Storage facilities (Ice plants etc.)
			Mechanized	Non-mechanized	Mechanized (Trawl nets, Gill nets)	Non-mechanized (Shore Seines, Stake & trap nets)	
	ii) Inland (Data Source: Fisheries Department)	No. Farmer owned ponds		No. of Reservoirs		No. of village tanks	

	B. Culture			
		Water Spread Area (ha)	Yield (t/ha)	Production ('000 tons)
	i) Brackish water (Data Source: MPEDA/ Fisheries Department)			2415 qtls
	ii) Fresh water (Data Source: Fisheries Department)			
	Others			

1.11 Production and Productivity of major crops

1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder ('000 tons)
		Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
	Rice	14.42	9.93q/ha	-	-	-	-	-	-	-
	Maize	308.12	14.02q/ha	-	--	-	--	-	--	-
	Wheat	141.10	10.24q/ha	-	-	-	-	-	-	-
	Millets	3.15	-	-	-	-	-	-	-	-
	Pulses	2.22	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-
Major Horticultural crops (Crops to be identified based on total acreage)										

1.12	Sowing window for 5 major field crops (start and end of normal sowing period)	Maize	Rice	Rajmash	Wheat	Rabi oilseed
	Kharif- Rainfed	√	√	√		
	Kharif-Irrigated		√			
	Rabi- Rainfed				√	√
	Rabi-Irrigated				√	
	Summer-irrigated					
	Summer-rainfed					

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		√	
	Snowfall	√		
	Landslides	√		
	Earthquake	√		
	Pests and disease outbreak (specify)	√		
	Others (like fog, cloud bursting etc.)	√		

*When contingency occurs in six out of 10 years

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: No
		Soil map as Annexure 3	Enclosed: No

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation (REASI) Intermediate region

In Intermediate region Moisture received from local rains during month of May based on that the sowing of *kharif* crop done in Apr.-May.

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 1 st to 15 th May 18 th & 19 th SMW	Medium rainfall <i>Clay to clay-loam soils</i> Intermediate region	Maize – wheat Maize –Potato Maize - Toria	Maize (Hybrid: Monsanto, Pro-agro 4794) (Composite: C-2, C-6, Vijay, Him-123)	<ul style="list-style-type: none"> • Reduced inter-row spacing from 75 cm to 60 cm. Sow by ‘Kera’ method to facilitate hoeing/weeding. • Use organic manure @ 5-10 t/ha. • Integrated weed management. • Apply recommended dose of fertilizer by ‘Pora’ method. • Amount of fertilizer N is to be reduced by 25%. 	
		Maize (Hybrid) + Rajmash (Local)	Maize (Local tall) Maize (Composite: C-2, C-6, Vijay, Him-123) + Rajmash (Local)	<ul style="list-style-type: none"> • Maize : Rajmash 8 : 1 • Contour sowing may be done against the slope and inter cultivation may be done to conserve the moisture • Ploughing/Ridges and furrow/ /sowing should be done across the slope to conserve moisture 	
		Rainfed rice	Rice (K-373)	<ul style="list-style-type: none"> • Compartmental bunding is done to conserve the water • Use local river/ conserved water 	
Delay by 4 weeks 16 th to 30 th May 20 th & 21 st SMW	Medium rainfall <i>Clay to clay-loam soils</i> Intermediate region	Sole Maize Intercropping Maize + Rajmash	Hybrid: Monsanto, Pro-agro 4794 Maize (Local) + Rajmash (Local)	Use higher seed rate i.e 35-40 kg/ha Seed treatment with Captan or Thiram @3g/kg of seed	
		Rainfed rice	Rice (K-373)	<ul style="list-style-type: none"> • Compartmental bunding is done to conserve the water • Use local river/ conserved water 	

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 6 weeks 1 st to 15 th June 22 th & 23 rd SMW	Medium rainfall <i>Clay to clay-loam soils</i> Intermediate region	Maize	Maize (local) for fodder	As recommended by SKUAST-J package of practices.	
		Maize + Pulse	Maize + Pulse (for fodder)	-do-	
		Fodder Maize (African tall)	Mixed fodder of maize (African tall) + Cowpea (Type-2) + Cluster bean (Ageta-guara-III).	-do-	
		Black gram	Black gram (Pant U-19, Uttara and local)	<ul style="list-style-type: none"> ➤ Reduce the dose of N by 50%. ➤ Treat the seed with Captan/Thiram @ 3g/kg seed. 	
		Green gram (ML-131, PDM-54)	Green gram (local) for fodder	-do-	
		Cowpea	Cowpea (C-152, PS-42 and local) for fodder	-do-	
		Rainfed rice (K-373)	<ul style="list-style-type: none"> • Rice (K-373) 	<ul style="list-style-type: none"> • Transplant 4-5 plant/hill • Use local river/nallah water • Compartmental bunding is done to conserve the water 	

Rainfed situation (REASI) Sub tropical region

Normal onset & Withdrawal of monsoon: 28th June ± 9 days & 19th Sept. ± 8 days

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 (5 th to 15 th July)* 27 th & 28 th SMW	High rainfall <i>Clay to clay-loam soils</i> Sub-Tropical region	Maize –wheat Maize- mustard/ gobi sarson Maize - oats	No change	<ul style="list-style-type: none"> • Dry sowing of maize can be followed, so that after getting rainfall, it will germinate. • Apply fertilizer by 'Pora' method. • Amount of fertilizer N is to be reduced by 50% and P₂O₅ and K₂O both is to be reduced by 25%. 	

Delay by 4 weeks (16th to 31st July)* 29th & 30th SMW				<ul style="list-style-type: none"> Reduce the inter-row distance from 75 to 60 cm and sow by 'Kera' method to facilitate hoeing/weeding 	
		Maize + Jowar	Maize (grain) + Jowar (M P Charri)	Sowing of maize and jowar for fodder purpose	
		Black gram	Black gram (Pant U-19, Uttara) /Green gram(PDM-54, ML-131, ML-818)	<ul style="list-style-type: none"> One row of pulse in between two rows of maize. Inoculate the seed of black gram/green gram with <i>Rhizobium</i> culture 	
		Sesamum	Punjab til-1	Sowing of Sesamum by using 2 to 2.5 kg seed /ha	
		Rainfed rice	Rice (PC-19)	<ul style="list-style-type: none"> Puddle the rice fields and use 2-3 seedlings per hill. Apply recommended dose of fertilizer at the time of sowing 	
	High rainfall Clay to clay-loam soils Sub-Tropical region	Maize	In last week of July: Maize (fodder)	<ul style="list-style-type: none"> Ploughing/ Ridges and furrow/ /sowing should be done across the slope to conserve moisture For achieving the optimum plant population in crust prone areas, amendments like Branker leaves, FYM, Cowpea straw of 1 cm thick layers may be used on the sown rows. Mixed fodder also can be sown Bajra can also be sown in the later part of July <i>i.e</i> up to last week of July 	
		Maize + Cowpea + cluster bean for fodder	Fodder: Mixed fodder of maize (African tall) + cowpea (EC 4216, Type-2)/ cluster bean (Ageta-Guara-III).		
		Maize + cowpea	Maize (African tall) + cowpea (EC-4216, Type-2)		
		Bajra + Cowpea	Bajra (WCC-75, ICMS-7703) + cowpea (EC-4216, Type-2)		
		Fodder	Jowar + cowpea (EC-4216, Type-2)		do
Delay by 6 weeks (1st to 14th August)* 31st & 32nd SMW	High rainfall Clay to clay-loam soils Sub-Tropical region	Maize	Maize (local) for fodder	As recommended by SKUAST-J package of practices.	
		Maize + Pulse	Maize + Pulse (for fodder)	-do-	
		Fodder Maize (African tall)	Mixed fodder of maize (African tall) + Cowpea (Type-2) + Cluster bean (Ageta-guara-III).	-do-	
		Black gram	Black gram (local) for fodder	<ul style="list-style-type: none"> Reduce the dose of N by 50%. 	

		(Pant U-19 and Uttara)		<ul style="list-style-type: none"> • Treat the seed with Captan/Thiram @ 3g/kg seed. 	
		Maize	<ul style="list-style-type: none"> ➤ Keep fallow for subsequent cultivation of <i>Toria</i> (local or RSPT-1). 	<ul style="list-style-type: none"> • Preparatory tillage by ploughing the fields across the slope. • Plough once with soil turning plough (<i>Tawi plough</i>) followed by twice with soil stirring plough (<i>deshi plough</i>) and at last planking for maximum conservation of soil moisture. 	
		Maize (fodder)	Maize/Bajra/Jowar + Cowpea (for fodder)		
		Green gram/ Black gram	Keep fallow for succeeding <i>Rabi</i> crop.	Tillage operation for conserving soil moisture.	