

State: Jammu and Kashmir

Agriculture Contingency Plan for District: Kathua

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-sub region. (14.2)		
	Agro-Climatic Zone (Planning Commission)	Western Himalayan Region (I)		
	Agro Climatic Zone (NARP)	Low Altitude Sub-Tropical Zone (JK-1)		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Doda, Jammu, Kathua, Udhampur		
	Geographic coordinates of district headquarters headquarters	Latitude	Longitude	Altitude
		32 ^o .58 N	75 ^o .50 E	307 m AMSL
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	KVK Kathua		
	Mention the KVK located in the district with full address	KVK Kathua		
	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 (specify week and month)	Normal Cessation (specify week and month)
	SW monsoon (June-Sep):	866.0	34	4 th week of June	2 nd week of September
	NE Monsoon(Oct-Dec):	62.9	4		
	Winter (Jan- February)	97.3	9	-	-
	Summer (March-May)	130.3	7	-	-
	Annual	1156.5	54	-	-

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)	-	-	-	-	-	-	-	-	-	-

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	61.010	210
	Area sown more than once	67.04	
	Gross cropped area	128.055	

1.6	Irrigation	Area ('000 ha)		
	Net irrigated area	20814		
	Gross irrigated area			
	Rainfed area			
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals		16847	
	Tanks		564	
	Open wells		968	
	Bore wells	34		
	Lift irrigation schemes			
	Micro-irrigation			
	Other sources (please specify)		2435	
	Total Irrigated Area			
	Pump sets			
	No. of Tractors			
	Groundwater availability and use* (Data source: State/Central Ground water Department /Board)	No. of blocks/ Tehsils	(%) area	Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc)
	Over exploited	N A		
	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

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	31.243	-	-	-	-	-	-	-
	Maize	-	-	-	-	24.735	-	-	-
	Wheat	-	-	-	-	52.511	-	-	-
	Millets	-	-	-	-	2.984	-	-	-
	Pulses	-	-	-	-	4.027	-	-	-

	Horticulture crops - Fruits	Area ('000 ha)		
		Total	Irrigated	Rainfed
	Apple	-	-	846.30 ha
	Pear	-	-	650.10 ha
	Citrus	-	-	2784 ha
	Mango			2163 ha

	Guava			490 ha
	Horticulture crops - Vegetables	290 ha		
	Medicinal and Aromatic crops	-	-	-
	Plantation crops	-	-	-
	Fodder crops	-	-	-
	Total fodder crop area	-	-	-
	Grazing land, reserve areas etc	8218 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	0.740	1.160	2.370		
	Improved / Crossbred cattle					
	Buffaloes (local low yielding)	0.075	0.565	0.850		
	Improved Buffaloes					
	Goat			2.095		
	Sheep			2.795		
	Pig			0.0006		
	Mithun					
	Yak					
	Others (Horse, mule, donkey etc., specify)			0.0918; 0.0245		
	Commercial dairy farms (Number)					
1.9	Poultry	No. of farms	Total No. of birds (*lakhs)			
	Commercial		2.681 lakhs			
	Backyard					
1.10	Fisheries (Data source: Chief Planning Officer)					
	A. Capture					
	i) Marine (Data Source: Fisheries Department)	No. of fishermen 594 (registered)	Boats		Nets	Storage facilities (Ice plants etc.)
			Mechanized	Non-mechanized		
	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)				4720 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	634.54	20.34q/ha	-	-	-	-	-	-	-
	Maize	583.20	23.57q/ha	-	-	-	-	-	-	-
	Wheat	1004.84	19.13q/ha	-	-	-	-	-	-	-
	Millets	22.65	-	-	-	-	-	-	-	-
	Pulses	12.40	-	-	-	-	-	-	-	-
Major Horticultural crops (Crops to be identified based on total acreage)										

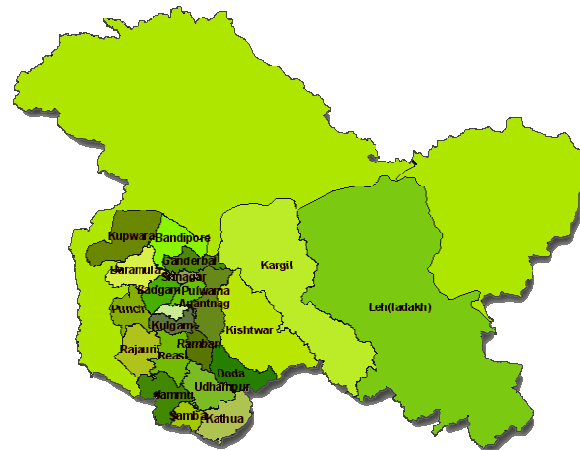
1.13	What is the major contingency the district is prone to? (Tick mark)	Regular*	Occasional	None
	Drought		√	
	Flood		√	
	Cyclone			√
	Hail storm		√	
	Heat wave		√	
	Cold wave		√	
	Frost		√	
	Sea water intrusion			√
	Snowfall		√	
	Landslides		√	
	Earthquake		√	
	Pests and disease outbreak (specify)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

Annexure-I

JAMMU AND KASHMIR





2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation (KATHUA) Normal onset & Withdrawal of monsoon: 27th June \pm 10 days & 21st Sept. \pm 7 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 1st week of July (5th to 15th July-)* 27th & 28th SMW	High rainfall Lower alluvial piedmont plain Sub-Tropical region	Maize	(Hybrid: GS-2, K- 517, Double DeKalb) Intercropping of Maize + Cowpea	<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. ➤ Sowing of Maize : Cowpea in the ratio of 8 : 1 	
		Green gram/ black gram	Green gram (ML-131, PS-7, PS-16), or black gram (Pant U-19, Uttara)	<ul style="list-style-type: none"> ➤ Sowing of sole green gram and black gram crop ➤ Inoculate the seed of green gram/black gram with <i>Rhizobium</i> culture ➤ Treat the seed with Captan or Thiram @ 3 g/kg seed. 	
		Bajra	Bajra (WCC-75, ICMS-7703)	<ul style="list-style-type: none"> ➤ Sowing of sole Bajra crop using recommended package of practice of SKUAST-J. 	
		Sesame	Sesame (Punjab Til-1)	<ul style="list-style-type: none"> ➤ Normal sowing of sole sesame crop by kera /pora method, as per package of practice of SKUAST-J. 	
		Rice	cv. K-39	<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 	
	Low rainfall (Tarai region soil (Moderately well drained,	Maize Intercropping Maize+Cowpea	Maize (Vijay, C-5, C-8) Maize (Vijay, C-5, C-8) + Cowpea	<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. ➤ Sowing of Maize : Cowpea in the ratio of 	

	very gentle slope) Intermediate region			6 : 1	
		Black gram/ Green gram	Green gram (ML-131, PS-7, PS-16), or black gram (Pant U-19, Uttara)	<ul style="list-style-type: none"> ➤ Sowing of sole green gram and black gram crop ➤ Inoculate the seed of green gram/black gram with <i>Rhizobium</i> culture ➤ Treat the seed with Captan or Thiram @ 3 g/kg seed. 	
		Rainfed rice	Rice (K-343, IET-1410)	Transplanting of paddy from nursery area to field and by using 2-3 seedlings per hill.	
	Low rainfall Soils of Shiwaliks (Excessively drained, gentle to steep slope)	Maize + Rajmash	Maize (Mansar, C-2, C-6) + rajmash (local cultivar).	<ul style="list-style-type: none"> ➤ Maize : Rajmash 8 : 1 ➤ 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. ➤ Furrow sowing across the slope 	
		Pea (off-season)	Pea (AP-1, AP-3, P-89)	Sowing of off season pea crop	
		Rainfed rice	Rice (Giza-14)	➤ Transplanting of paddy from nursery area to field and by using 2-3 seedlings per hill.	
Delay by 4 weeks 3rd week of July (16 th to 31 st July)* 29th & 30th SMW	High rainfall Lower alluvial piedmont plain Sub-Tropical region	Maize	Hybrid: GS-2& Double DeKalb	<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. ➤ Increase sowing depth of maize ➤ Furrow sowing across the slope 	
		Green gram/ back gram	ML-818 UG-338	➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation	
		Bajra	No change	As above	
		Sesame	Punjab Til-1, T-9	➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation	
	Low rainfall Tarai region	Maize	No change	As above	
	Mash/Moong	Horse gram may be			

	soil (Moderately well drained, very gentle slope) Intermediate region		taken into account.			
		Rice		cv. K-39	Puddle the rice fields and use 2-3 seedlings per hill.	
	Low rainfall Soils of Shiwaliks (Excessively drained, gentle to steep slope) Temperate region	Maize + rajmash	+	Use millets or lesser millets viz., Fox tail (Kangni) or Elusine corocana (Kodo millet).	➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation	
		Fodder		Maize + Cowpea	Sowing of maize + cowpea for fodder purposes	
		Rice	cv. K-39	➤ Puddle the rice fields and use 2-3 seedlings per hill.		
Delay by 6 weeks 2nd week of August (1st to 14th August)* 31st & 32nd SMW	Soils of Shiwaliks (Excessively drained, gentle to steep slope)	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-	
	Tarai region soil (Moderately well drained, very gentle slope) Lower alluvial piedmont plain (Well drained, nearly levelled)	Black gram (Pant U-19 and Uttara)		Black gram (local) for fodder	➤ 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 (C-152, PS-42)		Cowpea (local) for fodder	-do-	

	land)				
Delay by 8 weeks (15th to 30th August)* 4th week of August 33rd & 34th SMW	Soils of Shiwaliks (Excessively drained, gentle to steep slope) Tarai region soil (Moderately well drained, very gentle slope) & Lower alluvial piedmont plain (Well drained, nearly levelled land)	Maize	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 + Pulse	-do-	Sowing of Maize + pulse (moong/mash for fodder purposes)	
		Fodder Maize (African tall)	-do-	-do-	
		Black gram (Pant U-19 and Uttara)	Toria (RSPT-1, RSPT-2)	<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. 	
		Green gram (ML-131, PDM-54)	-do-	-do-	
		Cowpea (C-152, PS-42)	-do-	-do-	
		Oilseed	Toria (RSPT-1, RSPT-2)	<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. 	

- 1) Maize is normally sown by 15 April (*Baisakhi maize*) in temperate region.
- 2) Off-season pea is sown on April/May in Temperate areas.
- 3) In case of delay rainfall, use composite maize; with further delay use local cultivar of maize.

- 4) Temperate (April-Maize), Intermediate (May-Maize), Sub-tropical (June-Maize).
 5) Under temperate, April rain occurs/melted snow offered moisture.

KATHUA

	Crop cycle
Temperate	1) Pea/Potato/Tomato – [Maize+ Rajmash (local red)] – Wheat (fodder)/Oat (fodder)/Mustard
	2) Rice (Irrigated) – Wheat/Mustard
	<ul style="list-style-type: none"> • Paddy – Giza-14 • Pea – AP-1, AP-3, P-89 (summer pea) • Mustard – KOS-1
Intermediate	1) Maize – Wheat/Mustard/Peas (Arkel)/Charri
	2) Rice (Irrigated) – Wheat/Mustard/Charri /Berseem
	<ul style="list-style-type: none"> • Rice (Giza-14, K-343, IET-1410)
Sub-tropical	1) Maize – Toria – Wheat
	2) Mash/Moong – Lentil / Gram / Pea (Arkel/Rachna)
	3) Til – Wheat/Mustard
	4) Rice (Irrigated) – Wheat

	February	April
Temperate	(Use snow melt water) for Peas/Potato/Tomato	Maize sowing starts from April.
		May
Intermediate		Maize sowing starts at May.
Sub-tropical		June
		Maize sowing starts at June.