

								and groves (‘000 ha)			
	Area (‘000 ha)	39.304	18.121	0.988	5.758	1.674	1.162	0.776	3.734	7.357	3.746

1.4	Major Soils	Area (‘000 ha)	Percent (%) of total
	Forest and hill soils	24	58
	Clay loam	92.86	85
	Sandy loam	68.4	74

1.5	Agricultural land use	Area (‘000 ha)	Cropping intensity %
	Net sown area	14.109	128
	Area sown more than once	4.012	
	Gross cropped area	18.121	

1.6	Irrigation	Area (‘000 ha)		
	Net irrigated area	10.672		
	Gross irrigated area	13.877		
	Rainfed area	4.012		
	Sources of Irrigation	Number	Area (‘000 ha)	% of total irrigated area
	Canals/Small Canals	221		
	Tanks			
	Open wells			
	Bore wells			
	Lift irrigation schemes			
Micro-irrigation				
Other sources (please specify)				

Total Irrigated Area			100 %
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	4	54.59	
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 (year 2008-2009)

1.7a	Major field crops cultivated	Area ('000 ha)							Summer	Grand total
		<i>Kharif</i>			<i>Rabi</i>					
		Irrigated	Rainfed	Total	Irrigated	Rainfed	Total			
	Rice	8.079	-	-	-	-	-	-	-	
	Maize	-	3.585	-	-	-	-	-	-	
	Wheat	-	-	-	-	-	-	-	-	
	Blackgram, Beans, Peas etc	-	0.231	-	-	-	-	-	-	
	Fodder (Oats)	0.544	-	-	-	-	-	-	-	
	Oilseeds	-	-	-	-	1.630	-	-	-	
	Millets	-	0.059	-	-	-	-	-	-	
1.7b	Horticulture crops -									

	Fruits	Total	Irrigated	Rainfed ('000 ha)
	Apple	3.866	-	-
	Cherry	0.480	-	-
	Pear	0.218	-	-
	Plum	0.110	-	-
	Apricot	0.071	-	-
	walnut	3.626	-	-
	Almond	0.065,	-	-

1.7c	Horticulture crops - Vegetables	Total area ('000 ha)	Irrigated area ('000 ha)	Rainfed area ('000 ha)
	Tomato	-	80%	20%
	Brinjal	-	-	-
	Cauliflower	-	-	-
	Cabbage	-	-	-
	Onion	-	-	-
	Radish,carrot,turnip and Saag	-	-	-
1.7d	Medicinal and Aromatic crops	Total area ('000 ha)	Irrigated area ('000 ha)	Rainfed area ('000 ha)
	Medicinal and Aromatic crops	NA		
1.7e	Plantation crops	Total area ('000 ha)	Irrigated area ('000 ha)	Rainfed area ('000 ha)
		NA		

1.7f	Fodder crops	Total area ('000 ha)	Irrigated area ('000 ha)	Rainfed area ('000 ha)
1.7g	Grazing/Pasture land	-	-	-
1.7h	Sericulture etc	-	-	-
1.7i	Others (specify)			

1.8	Livestock (in number)	Male ('000)	Female ('000)	Total ('000)			
	Non descriptive Cattle (local low yielding)	67.589		175.952			
	Crossbred cattle (Crossbred + Local)			171.240			
	Non descriptive Buffaloes (local low yielding)						
	Graded Buffaloes			2.145			
	Goat			15.247			
	Sheep			0.250			
	Others (Camel, Yak etc.)			158.0			
	Commercial dairy farms (Number)						
1.9	Poultry	No. of farms	Total No. of birds ('000)				
	Commercial						
	Backyard (Local)	-	20.000				
1.10	Fisheries (Data source: Chief Planning Officer of district) NA						
	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	
	B. Culture						
		Water Spread Area (ha)		Yield (t/ha)		Production ('000 tons)	
	i) Brackish water (Data Source: MPEDA/ Fisheries Department)						
ii) Fresh water (Data Source: Fisheries Department)							
Others							

1.11 Production and Productivity of major crops

1.11	Name of crop	<i>Kharif</i>		<i>Rabi</i>		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)										
1	Rice	2.200	-	-	-	-	-	-	-	-
Major Horticultural crops (Crops to be identified based on total acreage)										
	Apple	34.913	-	--	-	-	-	-	-	-
	Cherry	1.155	-	-	-	-	-	-	-	-
	Pear	2.310	-	-	-	-	-	-	-	-
	Plum	0.893	-	-	-	-	-	-	-	-
	Apricot, almond	0.347,0.015	-	-	-	-	-	-	-	-
	Peach, walnut	0.284,6.458	-	-	-	-	-	-	-	-

1.12	Sowing window for 5 major field crops (start and end of normal sowing period)	Rice	Maize	Pulses	Oil Seeds	Millets
	<i>Kharif</i> - Rainfed	-	3 rd week of April to 3 rd week of May	3 rd week of May to 2 nd week of June	-	-
	<i>Kharif</i> -Irrigated	3 rd week of April to 2 nd week of May	1 st week of April to 3 rd week of May	3 rd week of May to 2 nd week of June	-	-
	<i>Rabi</i> - Rainfed	-	-	--	1 st week of October to 2 nd week of October	-
	<i>Rabi</i> -Irrigated	-	-	-	-	-

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)		✓	
	Locusts, Codling moth Aphids			✓

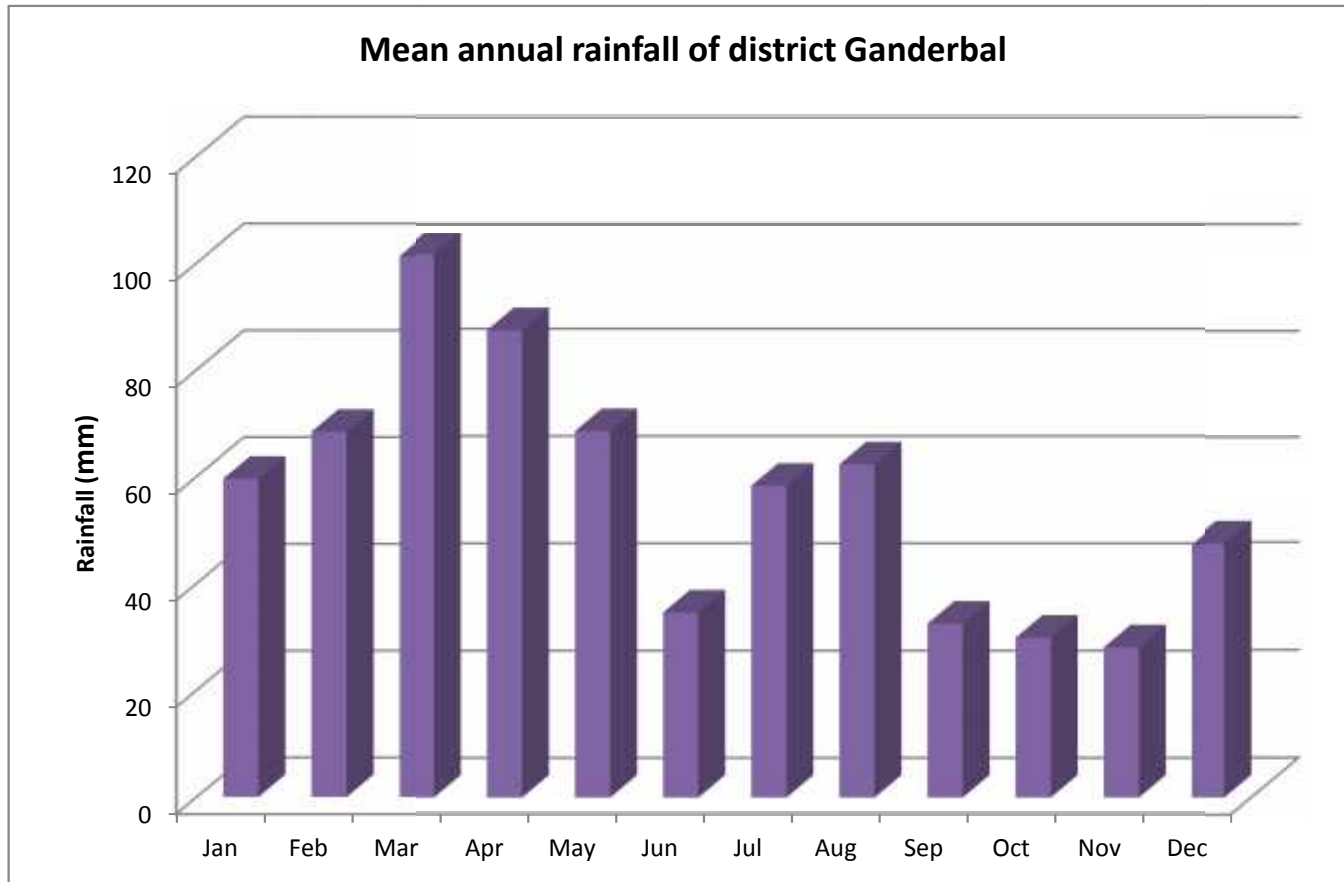
6 out of 10 years = Regular

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: No

Annexure I
Map of Ganderbal



Annexure II



Delayed by four weeks and six week 1 st week of February & 3 rd week of February	Pleistocene medium rainfall precipitation Shallow soils high rainfall (high altitude)	<p>a. Maize + Rajmash b. Maize + Greengram c. Maize + Rajmash</p> <p>Maize:- C₆, C₈ Rajmash:- Canadian red Greengram:-Shalimar, moong-1</p> <p>a. Oats b .Maize c. Maize + Rajmash</p> <p>Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red</p>	No change No change	<ul style="list-style-type: none"> • Increase sowing depth of maize • Furrow sowing across the slope • Early sowing • Thinning in brown sarson and use as organic mulch 	
---	--	---	----------------------------	---	--

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation
Early season drought (delayed onset)					

Delayed by 8th weeks 1st week of March	Pleistocene medium rainfall precipitation Shallow soils high rainfall (high altitude)	<p>a. Maize + Rajmash b. Maize + Greengram c. Maize + Rajmash</p> <p>Maize:- C₆, C₈ Rajmash:- Canadian red Greengram: Shalimar, moong-1</p> <p>a. Oats b. Maize c. Maize + Rajmash</p> <p>Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red</p>	<p>Maize(local)-fallow Maize(local)+beans-fallow Maize(local)+greengram/Cowpea-fallow</p> <p>Maize-local Beans-canadian red Cowpea local</p> <p>Maize(local)-fallow Maize(local)+beans-fallow Maize(local)+greengram/cowpea-fallow</p>	<ul style="list-style-type: none"> • Use local varieties • Follow water harvesting • Increase sowing depth • Early sowing • Use mulches • Increase quantity of organic manure 	
---	--	---	--	---	--

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Early season drought (delayed onset)	Pleistocene medium rainfall precipitation Shallow soils high rainfall (high altitude)	<p>a. Maize + Rajmash b. Maize + Greengram c. Maize + Rajmash</p> <p>Maize:- C₆, C₈ Rajmash:- Canadian red Greengram:- Shalimar, moong-1</p> <p>a. Oats b. Maize c. Maize + Rajmash</p>	<p>Maize(local)-fallow Maize(local)+beans-fallow Maize(local)+moong/cowpea-fallow</p> <p>Maize-local Beans-canadian red Cowpea local</p> <p>Maize(local)-fallow Maize(local)+beans-fallow</p>	<ul style="list-style-type: none"> • Use local varieties • Follow water harvesting • Increase sowing depth • Early sowing • Use mulches • Increase quantity of organic manure 	

		Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red	Maize(local)+moong/cowpea-fallow		
--	--	---	----------------------------------	--	--

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (Normal onset)					
Normal onset followed by 20 day dry spell	Pleistocene medium rainfall precipitation	a. Maize + Rajmash b. Maize + Greengram c. Maize + Rajmash Maize:- C ₆ , C ₈ Rajmash:- Canadian red Greengram:- Shalimar, moong-1	<ul style="list-style-type: none"> • Thinning and gap filling • Reseeding /gap filling Reseeding if germination fails	<ul style="list-style-type: none"> • Tillage mulching 	
	Shallow soils high rainfall (high altitude)	a. Oats b. Maize c. Maize + Rajmash Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red			

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

rainless (>2.5 mm period)				measures	
	Pleistocene medium rainfall precipitation Shallow soils high rainfall (high altitude)	a.Maize + Rajmash b. Maize + Moong c.Maize + Rajmash Maize:- C₆ , C₈ Rajmash:- Canadian red Greengram:- Shalimar moong-1 a. Oats b .Maize c. Maize + Rajmash Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red	Life saving irrigation Weeding & mulching Delay application of N dose	Prepare furrow across the slope Spray urea	

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Mid season drought (long dry spell)					

	Pleistocene medium rainfall precipitation	a. Maize + Rajmash b. Maize + Moong c. Maize + Rajmash Maize:- C₆ , C₈ Rajmash:- Canadian red Greengram:- Shalimar moong-1 a. Oats b .Maize c. Maize + Rajmash Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red	Life saving irrigation Tillage mulch Weeding Organic mulch Thing of plant stand to rationalize available moisture	Spray micro nutrients and urea and potash as Kcl mulching	
	Shallow soils high rainfall (high altitude)				

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Crop management	Rabi Crop planning	Remarks on Implementation
Terminal drought (Early withdrawal of monsoon)/ western disturbance	Pleistocene medium rainfall precipitation	a. Maize + Rajmash b. Maize + Moong c. Maize + Rajmash Maize:- C₆ , C₈ Rajmash:- Canadian red Greengram:- Shalimar moong-1	Life saving irrigation from water storages Harvest moong and beans for vegetable purpose	Lentil, brown sarson wheat vetch to be sown in the month of October followed by pre-sowing irrigation	
	Shallow soils high rainfall (high altitude)	a. Oats b .Maize c. Maize + Rajmash Oats: sabzar Maize: C15,SKG1, SKG2, Shalimar, maize hybrid1 Rajmash: Canadian red	Harvest maize for fodder purpose and save excessive biomass as hay		

2.1.2 Drought - 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/snowfall	low land snow melt Streams.Alluvial soils	a.Rice-brown sarson	Dealyed released of water Is not situation as at early stages whatever snow is available water is released	<ul style="list-style-type: none"> • Pre-sowing irrigation • Proper puddling in rice fields • Irrigate rice after disappearance of ponded water • Pre-sowing irrigation • Proper puddling in rice fields • Irrigate rice after disappearance of ponded water. • Plastering of bunds 	
		b.Rice-fodder oats			
		c.Rice- wheat			
	Tail ends of irrigated area.	a. Rice-brown sarson	Not required		
		b. Rice-fodder oats			
		c. Rice- wheat			
	Mid to high altitude Pleistocene soils	a. Rice-brown sarson			
		b.Rice-fodder oats			
		c.Rice- wheat			

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/snowfall		a.Rice-brown sarson	Maize+beans-brown sarson Maize+beans-oats Maize+moong/cowpea-brown sarson	<ul style="list-style-type: none"> • Pre-sowing irrigation • Plant local varities. • Early sowing recommended • Increase organic manure as per availability 	
		b.Rice-fodder oats			
		c.Rice- wheat			
		a. Rice-brown sarson			
		b.Rice-fodder oats	Fodder maize		

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
		c.Rice- wheat	MP cherry		

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Non release of water in canals under delayed onset of western disturbance in catchment	low land. snow melt Streams.Alluvial Soils Tail ends of irrigated area Mid to high altitude Pleistocene soils	Conditions not applicable			

Condition			Suggested Contingency measures		
	Major Farming situation ^f	Normal Crop/cropping system ^g	Change in crop/cropping system ^h	Agronomic measures ⁱ	Remarks on Implementation ^j
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	1) Farming Situation	Condition not applicable			

Condition			Suggested Contingency measures		
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system ^h	Agronomic measures	Remarks on Implementation

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system ^h	Agronomic measures	Remarks on Implementation
Insufficient groundwater recharge due to low rainfall	1) Farming Situation	Condition not applicable			

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				
Maize+beans	Provide surface drainage along the slope	Provide surface drainage	Drain field, Provide staking if lodging is seen, Harvest around at physiological maturity	Spread crop at dry and safer place
Beans/Greengram	do	do	Harvest crop by uprooting Not by picking	do
Fodder maize	do	Harvest crop as and when workable	-	-
Rice	Drain excessive water.	Provide drainage and take measures against rice blast(prophylactic measures)	-	-
Horticulture				
Apple	At dormant stage in case of heavy snowfall remove snow from trees In case of trunk			

	craking join splits by nuts and bolts to save trees			
Heavy rainfall with high speed winds in a short span				
Crop1				
Horticulture				
Crop1				
Outbreak of pests and diseases due to unseasonal rains				
		Need based plant protection IPDM for pluses		Safe storage against storage pest and diseases
Horticulture				
Crop1				

2.3 Floods : Not experienced / encountered

Condition	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Transient water logging/ partial inundation¹				
Rice	NA	-Remove slit from the effected parts of field -Drain water from field	-Staking of lodged plants -Remove slit -Drain water -Prophylactic spray to control diseases	-Drain field -Remove slit -Harvest and take produce to safer place
Continuous submergence for more than 2 days				
Sea water intrusion				

2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone : Not experienced / encountered

Extreme event type	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Heat Wave	NA			
Cold wave				
Rice	At nursery stage use low polythene tunnel to Grow rice nursery as standard method	Increase water level in the paddy fields	Keep water level up	
Horticulture				
Crop1				
Frost				
Crop1				
Horticulture				
Crop1				
Hailstorm				
Crop1				
Horticulture				
Crop1				
Cyclone				
Crop1				
Horticulture				
Crop1				

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures

	Before the event^s	During the event	After the event
Drought			
Feed and fodder availability	- Necessary arrangements to grow fodder on bunds/orchards and irrigated area as need based - Use excessive fodder for making hay and silage	-Keep animals under shade -Use urea molasses treated roughage -Use feed blocks prepared from crop residue And apple pomace -Ensure availability of mineral mixture	
Drinking water	Ensure storage of drinking water in storage tanks	Ensure storage of water	
Health and disease management	Arrangement and preparedness with required medicine stock	Vaccination for foot and mouth disease and other required dosage and vaccination if not done earlier	Culling sick and unproductive livestock.
Floods			
Feed and fodder availability	-	Take animals to safer places -Use feed blocks prepared from crop residue And apple pomace -Spread wet fodder at safer places to dry	
Drinking water			
Health and disease management			
Cyclone			
Feed and fodder availability			
Drinking water			
Health and disease management			
Heat wave and cold wave			
Shelter/environment	Provide heating and proper ventilation	Ensure live stock is not subjected to direct cold	

management			
Health and disease management			

^s based on forewarning wherever available

2.5.2 Poultry

	Suggested contingency measures			Convergence/linkages with ongoing programs, if any
	Before the event ^a	During the event	After the event	
Drought				
Shortage of feed ingredients	Ensure stock of feed	Utilise damaged food grains Utilise stored feed	Culling of affected birds	
Drinking water	Storage in water reservoirs	Use stored water	-	
Health and disease management	Preparedness and arrangement of vaccination	Mass vaccination	Culling of diseased birds	
Floods				
Cyclone				
Heat wave and cold wave				

^a based on forewarning wherever available

2.5.3 Fisheries/ Aquaculture

	Suggested contingency measures		
	Before the event ^a	During the event	After the event

1) Drought			
A. Capture	Prepare additional water reservoirs and exigency ponds	<ul style="list-style-type: none"> • Protect brood stock by making deep trenches in the middle of ponds. • Sale of additional stock • Provide aeration • Stop feeding/restrict feeding • Give chilling treatment 	-
B. Aquaculture			
2) Floods			
A. Capture			
B. Aquaculture			
3. Cyclone / Tsunami			
A. Capture			
B. Aquaculture			
4. Heat wave and cold wave			
A. Capture			
B. Aquaculture			

^a based on forewarning wherever available