

State: GUJARAT

Agriculture Contingency Plan for District: BHARUCH

1.0 District Agriculture profile					
1.1	Agro-Climatic/Ecological Zone				
	Agro Ecological Sub Region (ICAR)	Central (Malva) Highlands, Gujarat Plains and Kathiawar, Peninsula Ecoregion (5.2)			
	Agro-Climatic Zone (Planning Commission)	Gujarat plains and hills region (XIII)			
	Agro Climatic Zone (NARP)	South Gujarat Zone (GJ-2)			
	List all the districts or part thereof falling under the NARP Zone	Surat, Bharuch, Narmada			
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude	
		21 ⁰ 42'57.53"N	72 ⁰ 58'38.59" E	20.66 m	
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Regional Cotton Research Station, Navsari Agricultural University, Bharuch-393130			
	Mention the KVK located in the district	Krishi Vigyan Kendra , Po-Chaswad, Tq.: Valiya, Distt. Bharuch -393130			
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):	985.6	46	3 rd week of June	4 th week of September
	NE Monsoon(Oct-Dec):	-	-	-	-
	Winter (Jan- March)	-	-	-	-
	Summer (Apr-May)	-	-	-	-
	Annual	985.6	46	-	-

(Source :District Panchayat reports, reports of Agriculture department)

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 ('000 ha)	524	327.2	26.0	73.0	16.0	31.0	-	-	50.8	-

1.4	Major Soils	Area ('000 ha)	Percent (%) of total
	2. Heavy black Soil (plain)	327.61	62.52
	1. Heavy black Soil (coastal)	75.25	14.36
	3. Sandy loam	121.15	23.12

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	327.2	117.0
	Area sown more than once	55.6	
	Gross cropped area	382.8	

(Source :District Panchayat reports, reports of Agriculture department)

1.6	Irrigation	Area ('000 ha)		
	Net irrigated area	71.3		
	Gross irrigated area	83.4		
	Rain fed area	255.8		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals	-	41.2	
	Tanks	-		
	Open wells	-	50.4	
	Bore wells	-	-	
	Lift irrigation schemes	-	-	
	Micro-irrigation	-	-	
	Other sources (please specify)	-	5.4	

Total Irrigated Area	-		
Pump sets	-	95.0	29.1
No. of Tractors	16846		
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	2	36	saline water
Critical	1	17	semi critical
Semi- critical	-	-	-
Safe	3	19	good
Wastewater availability and use			
Ground water quality			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%			
(Source :District Panchayat reports, reports of Agriculture department)			

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	Rain fed	Total	Irrigated	Rain fed	Total		
Cotton	28.2	105.4						133.6	
Pigeonpea	56.6	-						56.6	
Sugarcane	-	-		20.9	-			20.9	
Paddy	8.5	6.1					0.8	15.4	
Sorghum	8.9				21.4			30.3	

Horticulture crops - Fruits	Total ('000 ha)
Banana	12.760
Papaya	0.250
Mango	2.260
Sapota	0.360
Horticulture crops - Vegetables	Total ('000 ha)
Okra	1.870
Brinjal	1.300
Cluster bean	1.180
Tomato	0.240
Medicinal and Aromatic crops	
Plantation crops	
Eg., industrial pulpwood crops etc.	
Fodder crops	
Total fodder crop area	
Grazing land	
Sericulture etc	
Others (specify)	

(Source :District Panchayat reports, reports of Agriculture department)

1.8	Livestock	Male ('000)	Female ('000)	Total ('000)			
	Non descriptive Cattle (local low yielding)			142.3			
	Crossbred cattle			-			
	Non descriptive Buffaloes (local low yielding)			85.8			
	Graded Buffaloes			-			
	Goat			1.3			
	Sheep			7.1			
	Others (Camel, Pig, Yak etc.)			49.2			
	Commercial dairy farms (Number)						
1.9	Poultry	No. of farms	Total No. of birds ('000)				
	Commercial		1.73				
	Backyard						
1.10	Fisheries (Data source: Chief Planning Officer)						
	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)	
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	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)							
<i>(Source :District Panchayat reports, reports of Agriculture department)</i>							

1.11 Production and Productivity of major crops (Average of last 5 years: 2004, 05, 06, 07, 08; specify years)

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)										
	Cotton	88.1	531	-	-	-	-	203.9	259 Lint	
	Pigeon pea	41.0	733	-	-	-	-	41.0	724	
	Paddy	18.3	2159	-	-	2.5	3073	26.9	1747	
	Sorghum	14.5	1616	15.5	721			30.0	990	
	Sugarcane	148.4	7107					148.4	71070	
Major Horticultural crops (Crops to be identified based on total acreage)										
	Banana	555.80	57654					555.80	57654	

1.12	Sowing window for 5 major field crops (start and end of normal sowing period)	Cotton	Pigeonpea	Paddy	Sorghum	Sugarcane
	Kharif- Rain fed	1 st week of June- 4 th week July	1 st week of June- 4 th week July	1 st week of June- 4 th week July	1 st week of June- 4 th week July	
	Kharif-Irrigated	1 st week of May - 4 th week June	1 st week of June- 4 th week July	1 st week of June- 4 th week July	-	-
	Rabi- Rain fed	-	-	-	1 st week of Oct - 4 th week Nov	-

	Rabi-Irrigated	-	-	-	-	1 st week of Oct - 4 th week Nov
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1.13	What is the major contingency the district is prone to? (Tick mark)	Regular	Occasional	None
	Drought	-	√	-
	Floods	-	√	-
	Cyclone	-	-	√
	Hail storm	-	-	√
	Heat wave	-	√	
	Cold wave	-	-	√
	Frost	-	-	√
	Sea water intrusion	-	-	√
	Pests and disease outbreak (specify)	-	√	
	Others (specify)	-	-	

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

(Source :District Panchayat reports, reports of Agriculture department)

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rain fed situation

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) Delay by 2 weeks 1 st week of July	Heavy black Soils	Cotton	No Change	Protect Irrigation should be made if available Gcot 23, Vaishali GR5 GJ35 GS1	Supply of seeds through NFSM Seed drills under RKVY Supply of seeds through GSSC
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Heavy Black Soils (plain area)	Cotton	No Change	Protective Irrigation should be made in cotton, sugarcane, vegetables if available Var. same as above	Seed drills under RKVY Supply of seeds through GSSC Supply of seeds through NFSM
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Sandy loam (Hilly area)	Cotton	No Change	Protective Irrigation should be made in cotton, sugarcane, vegetables if available Var. same as above	Supply of seeds through NSC Seed drills under RKVY
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		

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 3 rd week July	Heavy black oils (Costal area)	Cotton	No Change	Proper crop varieties Var. same as above	Supply of seeds through NSC Seed drills under RKVY
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Heavy black soils (plain area) area)	Cotton	No Change	Protective Irrigation should be made Var. same as above	<ul style="list-style-type: none"> • SHM • NHM • RKVY • NSC
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Sandy loam soils (Hilly area)	Cotton	No Change	Protective Irrigation should be made Var. same as above	<ul style="list-style-type: none"> • GSSC • NSC • RKVY • NHM
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		

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) Delay by 6 weeks (1 st week of August)	Heavy Black Soils (Costal area)	Cotton	No Change	life saving irrigation Var. same as above	<ul style="list-style-type: none"> •GSSC •NSC •RKVY •NHM
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Heavy Black Soils (plain area)	Cotton	No Change	Protective Irrigation should be made Var. same as above	<ul style="list-style-type: none"> •GSSC •NSC •RKVY •NHM
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Sandy loam soils(Hilly area)	Cotton	No Change	Protective Irrigation should be made in Banana and Sugarcane Var. same as above	Supply of seeds through NSC Seed drills under RKVY
		Pigeon pea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		

Condition	This is not expected in this district				
Early season drought (delayed onset)	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agonomic measures	Remarks on Implementation
Delay by 8 weeks (Specify month)	-----	----	-----	-----	-----

Condition			Suggested Contingency measures		
Early season drought (Normal onset)	Major Farming situation	Normal Crop/cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Heavy Black Soils (Costal area)	Cotton	Gap filling and thinning Avoid inter culturing Pro irrigation should be made if available	Foliar spray of nutrient (before flowering)	Seeds through GSSC
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			
	Heavy Black Soils (plain area)	Cotton	Gap filling and thinning Avoid inter culturing Pro irrigation should be made if available	Foliar spray of nutrient (before flowering)	Supply of inter cultural implements through RKVY
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			
Sandy loam soils(Hilly area)	Cotton	Gap filling and thinning Avoid inter culturing Pro irrigation should be made if available	Foliar spray of nutrient (before flowering)	Interculturing implements through RKVY	
	Pigeon pea				
	Paddy				
	Sorghum				
	Sugarcane				

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, consecutive 2 weeks rainless (>2.5 mm) period)					
At vegetative stage	Heavy Black Soils (Costal area)	Cotton	Applied foliar nutrient (before flowering)	<ul style="list-style-type: none"> • Repeated inter culture • Protective irrigation • Mulching 	As above
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			
	Heavy Black Soils (plain area)	Cotton	Same as above	Same as above	
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			
	Sandy loam soils(Hilly area)	Cotton	Same as above	Same as above	
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			

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)					
At flowering/ fruiting stage	Heavy Black Soils (Costal area)	Cotton	Weeding, Protective irrigation, alternate furrow irrigation if available and higher dose of KNO3 (before flowering)	-----	Farm ponds through I W SM programme
		Pigeon pea			
		Paddy			
		Sorghum			
		Sugarcane			
	Heavy Black Soils (plain area)	Cotton	Same as above	-----	
		Pigeon pea			

		Paddy	Same as above	-----	
		Sorghum			
		Sugarcane			
	Sandy loam soils(Hilly area)	Cotton			
		Pigeonpea			
		Paddy			
		Sorghum			
		Sugarcane			

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)	Heavy Black Soils (Costal area)	Cotton	Protective irrigation	Prefer short duration crop i.e. mung bean, moth bean Guj.3 GJ 4	Farm ponds through IWSSM programme Threshing implements through RKVY
		Pigeonpea	Harvest the crop at physiological maturity		
		Paddy			
		Sorghum			
		Sugarcane			
	Heavy Black Soils (plain area)	Cotton		Protective irrigation	
		Pigeonpea	Harvest the crop at physiological maturity		
		Paddy			
		Sorghum			
		Sugarcane			
	Sandy loam soils(Hilly area)	Cotton		Protective irrigation	
		Pigeonpea	Harvest the crop at physiological maturity		
		Paddy			
		Sorghum			
		Sugarcane			

2.1.2 Irrigated situation

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Limited release of water in canals due to low rainfall	Heavy Black Soils (Costal area)	Cotton	No Change	Mulch practices should be applied Alternate furrow irrigation method	1.Seeds through GSSC and NFSM
		Pigeonpea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Heavy Black Soils (plain area)	Cotton	No Change	same as above	
		Pigeonpea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		
	Sandy loam soils(Hilly area)	Cotton	No Change	same as above	
		Pigeonpea	No Change		
		Paddy	No Change		
		Sorghum	No Change		
		Sugarcane	No Change		

Condition		This is not expected in this district			
	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 monsoon in catchment	Heavy black Soils (Costal area)	This is not expected in this district			
	Heavy black Soils (plain area)				

Condition		This is not expected in this district			
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Heavy Black Soils (Costal area)	This is not expected in this district			
	Heavy Black Soils (plain area)				

Condition		This is not expected in this district			
	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Insufficient ground water recharge due to low rainfall		This is not expected in this district			

2.2 Unusual rains (untimely, unseasonal etc) (for both rain fed 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				
Cotton	Drain out excess water	Use early maturity variety	Select suitable rabi crop	Shift to safe place dry in shade and turn frequently
Pigeonpea	Drain out excess water	Provision of drainage	-Do-	Shift to safer place
Sorghum	-Do-	-Do-	-Do-	Shift to safe place dry in shade and turn frequently
Sugarcane	-----	Do-	Remove excess water	-----
Paddy	Drain out excess water	Do-	Select suitable rabi crop	Shift to safer place
Horticulture				
Banana	Do-	Do-	Remove excess water	
Heavy rainfall with high speed winds in a short span	Remove excess water	Do-	Do-	Shift to safer place
Cotton	-Do-	Do-	Remove excess water	Shift to safe place dry in shade and turn frequently
Pigeon pea	Remove excess water	Remove excess water	Remove excess water	Shift to safer place
Sorghum	Resowing, Gap filling Provide drainage	Use early maturity variety	Select suitable rabi crop	Shift to safe place dry in shade and turn frequently
Sugarcane	Propping &twisting	Propping &twisting	Propping &twisting	-----
Paddy	Resowing, Gap filling Provide drainage	Drain out the excess water	Select suitable rabi crop	Shift to safe place dry in shade and turn frequently
Horticulture				
Banana	Support the plant with soil ridge	Protect with wind break crop	Protect with wind break	Shift to safe place dry in

		(Shevari, Castor)	crop (Shevari, Castor)	shade and turn frequently
Outbreak of pests and diseases due to unseasonal rains				
Horticulture				

2.3 Floods

Condition	Suggested contingency measures			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Transient water logging/ partial inundation				
Cotton	Drain out excess water	Re-sowing should be done	Provide proper drainage	-Do-
Pigeon pea	-Do-	Remove excess water	-Do-	-Do-
Sugarcane	-Do-	-Do-	-Do-	-Do-
Crop4 Paddy	Maintain proper standing water condition	Maintain proper standing water condition	-Do-	-Do-
Horticulture				
Banana	Provision of drainage	Excess water should be drained by proper drainage	-Do-	Provide proper drainage
Continuous submergence for more than 2 days				
cotton	Drainage is most urgent	Excess water should be drained	-Do-	Provide proper drainage
pigeon pea	-Do-	-Do-	-Do-	-Do-

Sugarcane	Remove excess water	-Do-	-Do-	-Do-
Paddy	-Do-	-Do-	-Do-	-Do-
Horticulture BANANA	Drainage is most urgent	Excess water should be drained	Excess water should be drained	
Sea water intrusion	Not applicable			

2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone

Extreme event type	Suggested contingency measure			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Heat Wave	Not applicable			
Horticulture				
Cold wave				
Horticulture				
Frost				
Horticulture				
Hailstorm				
Horticulture				
Cyclone				
Horticulture				

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures		
	Before the event	During the event	After the event
Drought			
Feed and fodder availability	Insurance Encourage perennial fodder on bunds and waste land on community basis Establishing fodder banks, encouraging fodder crops in irrigated area Silage – using excess fodder for silage	Utilizing fodder from perennial trees and Fodder bank reserves Utilizing fodder stored in silos Transporting excess fodder from adjoining districts Use of feed mixtures	Availing Insurance Remove unproductive livestock
Drinking water	Preserving water in the tank for drinking purpose Excavation of Bore wells	Using preserved water in the tanks for drinking Wherever ground water resources are available priority for drinking purpose	
Health and disease management	Veterinary preparedness with medicines and vaccines	Conducting mass animal Health Camps and treating the affected once in Campaign	Remove sick animals
Floods			
Feed and fodder availability			
Drinking water			
Health and disease management			
Cyclone			
Feed and fodder availability			
Drinking water			
Health and disease management			
Heat wave and cold wave			
Shelter/environment management			
Health and disease management			

2.5.2 Poultry

	Suggested contingency measures		
	Before the event	During the event	After the event
Drought			
Shortage of feed ingredients	Insurance & Integration Establishing feed serve Bank	Utilizing from feed serve banks	Availing insurance Strengthening feed Reserve Banks
Drinking water	Preparing of tank of water	Campaign and Mass Vaccination	Culling affected birds
Health and disease management	Emergency Veterinary preparedness with medicines vaccination to birds		
Floods			
Shortage of feed ingredients	Livestock should be transfer high level area	Shift to other farms	After flood cleaning the farm and replace at original farm.
Drinking water	Water storage at high level		Supply pure drinking water
Health and disease management	-	-	Emergency Veterinary preparedness with medicines vaccination to birds
Cyclone			
Shortage of feed ingredients			
Drinking water			
Health and disease management			
Heat wave and cold wave			
Shelter/environment management			
Health and disease management			

2.5.3 Fisheries/ Aquaculture: Not applicable

	Suggested contingency measures		
	Before the event	During the event	After the event
1) Drought			
A. Capture			
Marine			
Inland			
(i) Shallow water depth due to insufficient rains/inflow			
(ii) Changes in water quality			
(iii) Any other			
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow			
(ii) Impact of salt load build up in ponds / change in water quality			
(iii) Any other			
2) Floods			
A. Capture			
Marine			
Inland			
(i) Average compensation paid due to loss of human life			
(ii) No. of boats / nets/damaged			
(iii) No. of houses damaged			
(iv) Loss of stock			

(v) Changes in water quality			
(vi) Health and diseases			
B. Aquaculture			
(i) Inundation with flood water			
(ii) Water contamination and changes in water quality			
(iii) Health and diseases			
(iv) Loss of stock and inputs (feed, chemicals etc)			
(v) Infrastructure damage (pumps, aerators, huts etc)			
(vi) Any other			
3. Cyclone / Tsunami			
A. Capture			
Marine			
(i) Average compensation paid due to loss of fishermen lives			
(ii) Avg. no. of boats / nets/damaged			
(iii) Avg. no. of houses damaged			
Inland			
B. Aquaculture			
(i) Overflow / flooding of ponds			
(ii) Changes in water quality (fresh water / brackish water ratio)			
(iii) Health and diseases			

(iv) Loss of stock and inputs (feed, chemicals etc)			
(v) Infrastructure damage (pumps, aerators, shelters/huts etc)			
(vi) Any other			
4. Heat wave and cold wave			
A. Capture			
Marine			
Inland			
B. Aquaculture			
(i) Changes in pond environment (water quality)			
(ii) Health and Disease management			
(iii) Any other			

Annexure-I Location map of Bharuch district in Gujarat state



Annexure-2: Last 10 years rainfall data of Bharuch district are furnished in the following table.

Sr.No.	Year	Rainfall(mm)
1	2000	577.8
2	2001	900.4
3	2002	967.4
4	2003	1015.0
5	2004	1310.8
6	2005	1336.6
7	2006	1232.0
8	2007	1330.4
9	2008	775.6
10	2009	410.0