State: Rajasthan

Agriculture Contingency Plan for District : PRATAPGARH

1.0 District Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	Central Highlands (Malwa), Gujarat Plain And Kathiawar Peninsular, Semi-Arid Eco-Region (5.2)		
	Agro-Climatic Region (Planning Commission)	Central Plateau And Hills Region (VIII)		
	Agro Climatic Zone (NARP)*	Humid Southern Plain Zone (RJ-8)		
	List all the districts falling under the NARP zone	Banswara, Dungarpur, Pratapgarh & parts of Udaipur.		
	Geographic coordinates of district	Latitude	Longitude	Altitude
		23° 40" to24° 03"	$74^0$1" to $74^0$94"	580 m
	Name and address of the concerned ZRS/ZARS/RARS/ RRS/ RRTTS	Dr. G. S. Ameta, Zonal Director Research, Agricultural Research Station, (MPUAT), Borwat Farm, Banswara (Raj.) 327 001		
	Mention the KVK located in the district	Krishi Vigyan Kendra, Basad Farm, Mandsour Road P.O. Box-26, Pratapgarh-312605		

1.2	**Rainfall**	**Average (mm)**	**Normal Rainy Days (No.)**	**Normal Onset**	**Normal Cessation**
	SW monsoon (June-Sep)	785	37	3rd week of June	2nd week of September
	NE Monsoon(Oct- Dec.)	33	4		
	Winter (Jan-March)	13	2	-	-
	Summer (Apr-May)	15	2	-	-
	Annual	846	45	-	-

1.3	Land use pattern of the district	Total geographical area	Cultivable land	Forests	Permanent pastures	Cultivable fallow land land	Barren and waste land	Non agriculture land	Saline & Problematic land	Hills	Others
	Area ('000 ha)	411.736	174.174	120.990	22.711	21.119	29.122	11.089	12.103	15.802	4.626

1. 4	**Major Soil types**	**Area ('000 ha)**	**Per cent (%) of total**
	Red Soils	13.225	4.18
	Black loam soils	181.834	57.44
	Clay loam soils	121.524	38.38
	Total	316.583	100

1. 5	Agricultural land use	**Area ('000 ha)**	**Cropping intensity (%)**
	Net sown area	173.530	158
	Area sown more than once	101.080	
	Gross cropped area	274.610	

1.6	**Irrigation**	**Area ('000 ha)**	Percent (%)	
	Net irrigated area	70.494		
	Gross irrigated area	140.800		
	Rainfed area	179.190		
	Source of irrigation			
	Canals	-	-	
	Tanks	497	0.7	
	Other walls	-	-	
	Bore wells/open wells (tube well)	69.997	99.3	
	Lift irrigation			

	Other sources			
	Total	70.494		
	Pump sets			
	Micro-irrigation			
	Ground water availability and use	No.of blocks	% Area	Quality of water
	Over exploited			
	Critical	03	59.21	Good
	Semi-critical	02	40.79	Good
	Safe			
	Waste water availability and use			

Over-exploited : ground water utilization >100%; critical : 90-100%, semi-critical : 70-90%; safe <70%

1.7 Area under major field crops & horticulture etc.

1.7	**Area under major field crops Area**						
		Total area ('000 ha)		**Irrigated**		**Rainfed**	
	Crop	**Kharif**	**Rabi**	**Kharif**	**Rabi**	**Kharif**	**Rabi**
	Maize	57.188				57.188	
	Soybean	101.070				101.070	
	Wheat		52.100		52.100		
	Chickpea		20.580		14.000		6.580
	Rapeseed & mustard , Lentil		11.800		7.200		4.600
	Horticulture crops	**Total area (ha)**		**Irrigated**		**Rainfed**	
	Fruit	10		10		-	
	Vegetables						
	Garlic	3500		3500			
	Onion	410		410		-	
	Others	160		160		-	
	Medicinal and aromatic crops	**Total area (ha)**		**Total area (ha)**		**Rainfed**	
	Opium	2500		2500			
	Azwain	2952				2952	
	Sua	79				79	
	Plantation crop	**Total area (ha)**		**Irrigated**		**Rainfed**	

	Fodder crop	Total area (ha)	Irrigated	Rainfed
	Total fodder crop area	1150	1150	-
	Grazing land	22711		

1.8	**Livestock**	Number (2007 census)			
	Cattle & Bulls	402456			
	Buffaloes	159441			
	Goat	253370			
	Sheep	25555			
	Camel	3141			
1.9	**Poultry**				
	Commercial	63802			
	Backyard	48500			
1.10	**Inland Fisheries**	**Area (ha)**	**Yield (t)**	**Production (tons)**	
	Brackish water	-	-		
	Fresh water including river			-	

1.11	**Production and Productivity of 5 major crops**	**Kharif**		**Rabi**		**Summer**		**Total**	
		Production (000't)	Productivity (kg/ha)	Production (000't)	Productivity (kg/ha)	Production (000't)	Productivity (kg/ha)	Production (000't)	Productivity (kg/ha)
	Soybean	160.445	1587					160.445	1587
	Maize	111.833	1955					111.833	1955
	Wheat			197.112	3783			197.112	3783
	Mustard			8.350	1228			8.350	1228
	Chickpea			27.332	1328			27.332	1328

1.12	**Sowing window (start and end of sowing period)**	**Maize**	**Soybean**	**Wheat**	**Mustard/Lentil**	**Chickpea**

	Kharif- Rainfed	3rd week of June to 2nd week of July	3rd week of June to 1st week of July			
	Kharif-Irrigated	2nd week of June to 3rd week of June	-			
	Rabi- Rainfed				4th week of September to 2nd week of October	1st week of October to 3rd week of October
	Rabi-Irrigated			1st week of November to 3rd week of November	2nd week of October to 4th week of October	2nd week of October to 2nd week of November

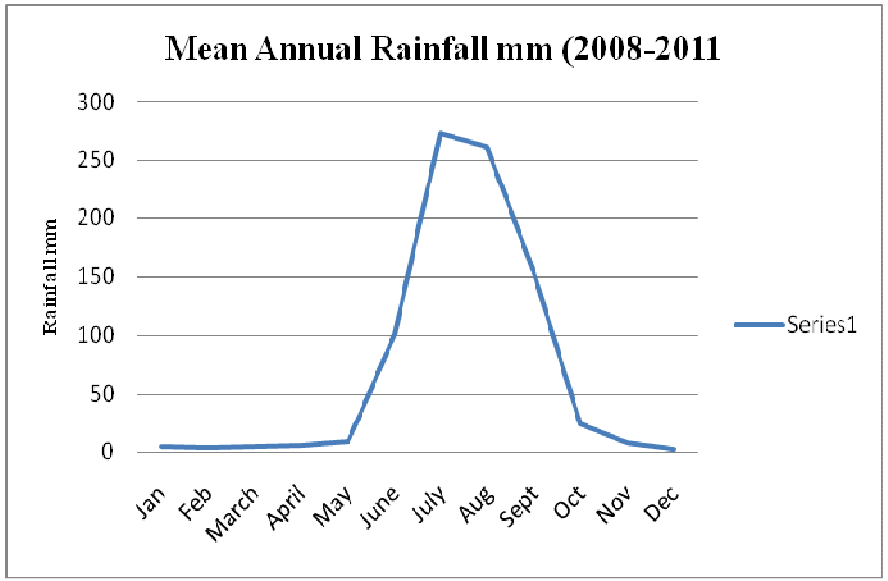
1.13	**What is the major contingency the district is prone to?** (Tick mark)	**Regular**	**Occasional**	**None**
	Drought	√		
	Flood			√
	Cyclone			√
	Hail storm			√
	Heat wave			√
	Cold wave	√		
	Frost	√		
	Sea water intrusion			√
	Pests and disease outbreak	White fly, Powdery Mildew, Pod Borer ,Tobacco Caterpillar in soybean, Grasshopper, YMV in pulses		

1.14	**Include Digital maps of the district for**	Location map of district with in State as Annexure I	Enclosed : Yes
		Mean annual rainfall as Annexure II	Enclosed : Yes

Annexure I


PRATAPGARH
DISTRICT
N
Rathunaghpura
To Chittaurgarh
Khera Kesunda
Jal Bhindi
Narsingh Khera
Chittaurgarh
Chhoti Sadari
Narsingh Khera
Kankra
Mawai
MADHYA PRADESH
Udaipur
NH-113
Ambareti
Bardeeya
Dhamotar
Ranthajana
Arampura
Bujhon Ka Ganwa
Panmodi
Dhariavad
Chari
Gyaspur
Talapur
Khoonta
PRATAPGARH
Achalpur
Bagariya
Parsola
Bhagadera
Mehandi Kheri
Chayni
Kumari
Moti Kheri
Arnod
Dungarpur
NH-113
Banswara
Pipalkhut
Bor Khera
Ramnagar
To Banswara
Baori
Bhain
Dalot
Bordiya
Uthel
LEGEND
National Highway
Major Road
District Boundary
State Boundary
District HQ
Major Town
Other Town
River
Map not to Scale
Copyright © 2011 www.mapsofindia.com
(Updated on 2nd September 2011)
Bhat Bhamriya
MADHYA PRADESH

Annexure II


Mean Annual Rainfall mm (2008-2011
Rainfall mm
300
250
200
150
100
50
0
Jan
Feb
March
April
May
June
July
Aug
Sept
Oct
Nov
Dec
Series1

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delay by 2 weeks 1st week of July	Red soils/ Black clay loam soils	Maize	Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	Timely sowing, Seed treatment with fungicides & culture	Seed sources – RSSC, NSC, Tilam Sangh etc.
		Soybean	Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation[a]**	**Crop/cropping system[b]**	**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation**
Delay by 4 weeks 3rd week of July	Red soils/ Black clay loam soils	Maize	Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	Timely sowing, Seed treatment with fungicides & culture , Increase seed rate, Dry Sowing (Use of 10-15% higher seed rate in soybean)	Seed sources – RSSC, NSC, Tilam Sangh etc.
		Soybean	Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation[a]**	**Crop/cropping system[b]**	**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation**
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation[a]**	**Crop/cropping system[b]**	**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation**
Delay by 6 weeks 1st week of August	Red soils/ Black clay loam soils	Maize	Maize Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	Timely sowing , Seed treatment with fungicides & culture, Increase seed rate, Use of 10-15% higher seed rate in soybean	Seed sources – RSSC, NSC, Tilam Sangh etc.
		Soybean	Soybean Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delay by 8 weeks	Red soils/ Black	Maize	Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi	Timely sowing , Seed treatment with	Seed sources – RSSC, NSC, Tilam Sangh etc.

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
3rd week of August	clay loam soils		Kanchan	fungicides & culture, Increase seed rate, Use of 10-15% higher seed rate in soybean	
		Soybean	Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			Suggested Contingency measures		
Early season drought (delayed onset)	**Major Farming situation[a]**	**Crop/cropping system[b]**	**Change in crop/cropping system[c]**	**Agronomic measures[d]**	**Remarks on Implementation**
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/ crop stand etc	Red soils/ Black clay loam soils	Maize	Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	If germination is less than 50% then farmers should go for resowing with early maturing varieties using 25% higher seed rate if plant population is more than 75% go for gap filling, Hoeing by hand hoe to develop soil mulch, Removal of weeds in time, *In situ* mulching of weeds, If germination is less than 50% in Maize then go for gap filling with Blackgram/ Greengram, If plant population is more that 75% then go for transplanting of thinned plants, Hoeing by hand hoe to develop soil mulch	Availability of interculture implements i.e. wheelhand hoe through RKVY RSSC, NSC, .
		Soybean	Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			Suggested Contingency measures		
Mid season drought (long dry spell,	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Flowering stage	Red soils/ Black clay loam soils	Maize	Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	Harvest cobs for table purpose (if market is available) and for green fodder, Harvesting of green cobs and go for green fodder, Spray of 0.1% thio urea Lifesaving Irrigation in alternate furrows, Weeding & hoeing, Use of organic material as mulch. Use of anti-transpirants like kaolin, Spray 2% urea, Life saving Irrigation in alternate furrow system in Maize , Thinning of plants by 30 to 50%	Availability of interculture implements i.e. wheel hand hoe through RKVY, RSSC,NAREGA
		Soybean	Soybean var JS 95-60, JS-335, RKS-24		
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

Condition			Suggested Contingency measures		
Terminal drought (Early withdrawal of monsoon)	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
	Red soils/ Black clay loam soils	Maize	Maize Maize var. Pratap hybrid Makka-1, Pratap Makka-3, 5, PEHM 2, Mahi Kanchan	Harvest cobs for table purpose (if market is available) Spray of 0.1% thio urea, Life saving Irrigation in alternate furrows in soybean, Weeding & hoeing ,	Availability of interculture implements i.e. wheel hand hoe through RKVY RSSC, NSC
		Soybean	Soybean Soybean var JS 95-60, JS-		

Condition			Suggested Contingency measures		
Terminal drought (Early withdrawal of monsoon)	**Major Farming situation**	**Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
			335, RKS-24	Use of organic material as mulch, Use of anti-transpirants like kaolin.	
		Blackgram	Greengram		
		Fallow	Azwain		
		Ground nut	Blackgram Blackgram var Pu-31, KU-96-3, T-9		

2.1.2 Drought Irrigated situation - Not applicable

2.2 Unusual rains (untimely, unseasonal etc) (for both rainfed and irrigated situations) - Not applicable

2.3 Floods- Not applicable

2.4 Extreme Events

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

Feed and Fodder availability	Suggested Contingency measures		
	Before the event	**During the event**	**After the event**
	As the district is occasionally prone to drought the under mentioned measures may be taken to enhance the availability of feed and fodder base at the village/ household level. Sowing of horsegram/Lucerne etc., during NE monsoon, Preservation green maize fodder as silage All the crop residues especially maize straw/	Harvest and use all the failed crop (Maize, Blackgram, Sorghum, Ground nut, Wheat, Barley, Greengram, Soybean etc.,) material as fodder and feed the Livestock. Use judiciously the karabi, Preserved Bharut, Wheat straw, Lopped soobabul	Flushing the stock to recoup Replenish the feed and fodder bank

	Chopped/ Dhaman/ Bharut/ Dry leaves of Jharberi/ Groundnut bhusa should be stored properly in the farm of hay at individual farmer level, Harvest the top fodder (Neem, Subabul, Acasia, etc) and create fodder banks at village level, Establishment of silvi-pastoral system in CPRs with ***Stylosanthus hamata*** and ***Cenchrus setigerus*** as grass with ***Leucaena leucocephala*** as tree Component Top dressing of N in 2-3 split doses @ 20-25 kg N/ha in CPRs with the monsoon pattern for higher biomass production Increase area under short duration fodder crops of sorghum/bajra/maize(UP chari, MP chari, HC-136, HD-2, GAINT BAJRA, L-74, K-677, Anand/African Tall, Kisan composite, Moti, Manjari, B1-7 etc.,) on farmers fields with some input subsidy, Avoid burning of wheat straw	High productive animals should be Supplemented with tree fodder, Available feed and fodder should be cut from CPRs and stall fed in order to reduce the energy requirements of the animals, Provision of emergency grazing/feeding (Cow-calf camps or other special arrangements to protect high productive & breeding stock), Available kitchen waste should be mixed with dry fodder while feeding. Arrangements should be made for mobilization of small ruminants across the districts, where no drought exits Subsidized loans should be provided to the livestock keepers for procurement of feed	