State: RAJASTHAN

Agriculture Contingency Plan for District : SIKAR

1.0 District Agriculture Profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	Western Plain, Kachchh And Part Of Kathiawar Peninsula, Hot Arid Eco-Region (2.3)		
	Agro-Climatic Zone (Planning Commission)	Western Dry Region (XIV)		
	Agro climatic zone (NARP)*	Transitional Plain Of Inland Drainage Zone (RJ-3)		
	List all the districts falling under the NARP zone	Sikar, Jhunjhunu, Nagaur and parts of Churu.		
	Geographic coordinates of district	Latitude	Longitude	Altitude
		27^0 21' N to 28^0 12' N	74^0 44' E to 75^o 25'E	341.0 (m)
	Name and address of the concerned ZRS/ZARS/RARS/RRS/RRTTS	Agriculture Research Station Fatehpur-shekhawati, Distt.:Sikar (Raj.) 332301		
	Mention the KVK located in the district	One (Fatehpur-Shekhawati, Sikar)		

1.2	Rainfall	Average(mm)	Normal onset (specify week and month)	Normal cessation (specify week and month)
	SW monsoon (June-sep.)	364.0	Last week of June	Last week of September
	NE monsoon (oct.-dec.)	-	-	-
	Winter (Jan-March)	-		

	Summer (Apr-may)	-		
	Annual	364.0		

1.3	Land usePattern of the distt.	Geographical area	Cutivable area	Forest area	Land under non agriculture use	Parmanent Past.	Cultivable wasteland	Land under misc.tree crops &groves	Barren&uncultivable land	Current fallows
	Area(000" ha)	774	531.3	61.08	33.93	40.640	38.14	.06	18.24	9.21

1.4	**Major soils**	**Area(000 ha)**	**Percent(%) of total**
	Sandy soils	379.7	49.0
	Fertile soils (Sandy loam)	394.4	50.9

1.5	**Agriculture land use**	Area(000 ha)	Cropping intensity %
	Net sown area	522.3	140.6
	Area sown more than once	212.4	
	Gross cropped area	734.2	

1.6	**Irrigation**	Area(000 ha)
	Net cultivated area	610.7

	Net irrigated area	262.6		
	Gross cultivated area	734.7		
	Gross irrigated area	266.1		
	Rainfed area	622.3		
	Sources of irrigation	Number	Area(000 ha)	% area
	Canals		-	-
	Tanks	-	-	-
	Open wells & Bore well (No.)	45475	262.6	100
	Lift irrigation	-	-	-
	Other sources	-	-	-
	Total	-	262.6	100
	Pump sets	-	-	-
	Micro irrigation	-	-	-
	Groundwater availability and use	No. of blocks	% area	Quality of water
	Over exploited	7	-	Good
	Critical	-	-	
	Semi-critical	-	-	
	Safe	1	-	Poor
	Wastewater availability and use	-	-	

- Over-exploited: groundwater utilization>100%; critical: 90-100%; Semi-critical: 70-90%; safe:<70%

1.7 Area under major field crops & horticulture etc.

1.7	**Field crops**	**Total area(000ha)**	**Irrigated**	**Rainfed**
	Bajra	298	98	200
	Clusterbean	81	-	81
	Cowpea	59	-	59
	Moong	15	-	15
	Moth	9	-	9
	Wheat	85	85	-
	Barley	26	26	-
	Mustard	80	80	-
	Gram	38	38	-
	Horticulture crops-Fruits			
	Aonla & Ber	1.8		
	Ber	-		
	Mango	-		
	Horticulture crops-Vegetables			

	All vegetable	6.5
	Cauliflower	-
	Bringal	-
	Tomato	-
	Radish	-
	Onion	5.0
	Medicinal & Aromatic crops	
	Aloevera	0.02
	Rose	-
	Genda	0.05
	Plantation crops	-
	Mehandi	-
	castor	-
	Fodder crops	-
	Lucerne	-
	Bajra	-
	Barley	-
	Total fodder crop area	10.5

1.8	**Livestock**	**Number(000)**
	Cattle	196
	Buffaloes total	57.7
	Goat	879.6
	Sheep	237.2
	Others(camel, pig, Yak etc.)	40.6

1.9	**Poultry**	
	Commercial (Number of birds)	134
	Backyard	-

1.10	**Inland fisheries**	**Area(ha)**	**Yield(t/ha)**	**Produc.(tones)**
	Brackish water	-	-	-
	Fresh water	-	-	-
	Others	-	-	-

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1.11	**Production & Productivity of 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)

	Pearl millet	329	935	-	-	-	-	329	935
	Clusterbean	44	440	-	-	-	-	44	440
	Cowpea	25	429	-	-	-	-	25	429
	Mungbean	4	294	-	-	-	-	4	294
	Mothbean	2.5	278	-	-	-	-	2.5	278
	Wheat	-	-	256	3009	-	-	-	-
	Barley	-	-	72	2793	-	-	-	-
	Mustard	-	-	87	1059	-	-	-	-
	Gram	-	-	39	1032	-	-	-	-
	Major horticulture crops								
	Aonla &ber	-	-	3.6	2003	-	-	3.6	2003
	Vegetables	-	-	81.6	12500	-	-	81.6	12500

1.12	**Sowing window for 5 major crops**	Pearl millet	Clusterbean	Cowpea	Mungbean	Mothbean
	Kharif-Rainfed	Ist week June to Ist week July	Last wee0k June to Last week July	Ist week July to 3rd week July	Ist week July to 3rd week July	Ist week July to Ist week August
	Kharif-Irrigated	2nd June to Ist week July	Ist weak of July-2nd week July	-	-	-

	Crop	Wheat	Barley	Mustard	Gram	Fenugreek
	Rabi-Irrigated	2nd week to 4th week Nov	1st week to 2 nd week Nov.	2nd week to 4th week Oct.	2nd week to 4th week Oct.	1st week to 2 nd week Nov.

1.13	**What is the major contingency the district is Prone to?**	Regular	Occasional	None
	Drought	√	√	-
	Flood	-	-	
	Hail storm	-	-	√
	Heat wave		√	-
	Cold wave	-	√	-
	Frost	-	√	-
	Pests and diseases (specify) Jassid & Whitefly, Pod borer		√	-

1.14	**Include Digital Maps of the District for**	Location map of district with in state as Annexure 1	Enclosed: Yes
		Mean annual rainfall as Annexure 2	Enclosed: Yes
		Soil map as Annexure 3	Enclosed : Yes

Annexure 1


AGRO CLIMATIC ZONE II a
TRANSITIONAL PLAIN OF INLAND DRAINAGE
RAJASTHAN
HANUMANGARH
HARYANA
CHURU
BIKANER
ALWAR
JAIPUR
JODHPUR
AJMER
PALI
N
TARANAGAR
RAJGARH
CHURU
CHIRAWA
KHETRI
SIKAR
NAGAUR
JAYAL
KHEENWSAR
MERTA
DEGANA
LEGEND
AGRIL RES STATION
AGRIL RES SUB STATION
DISTRICT BOUNDARY
TEHSIL BOUNDARY
AES - I
AES - II
AES - III
AES - IV
AES - V
AES - VI

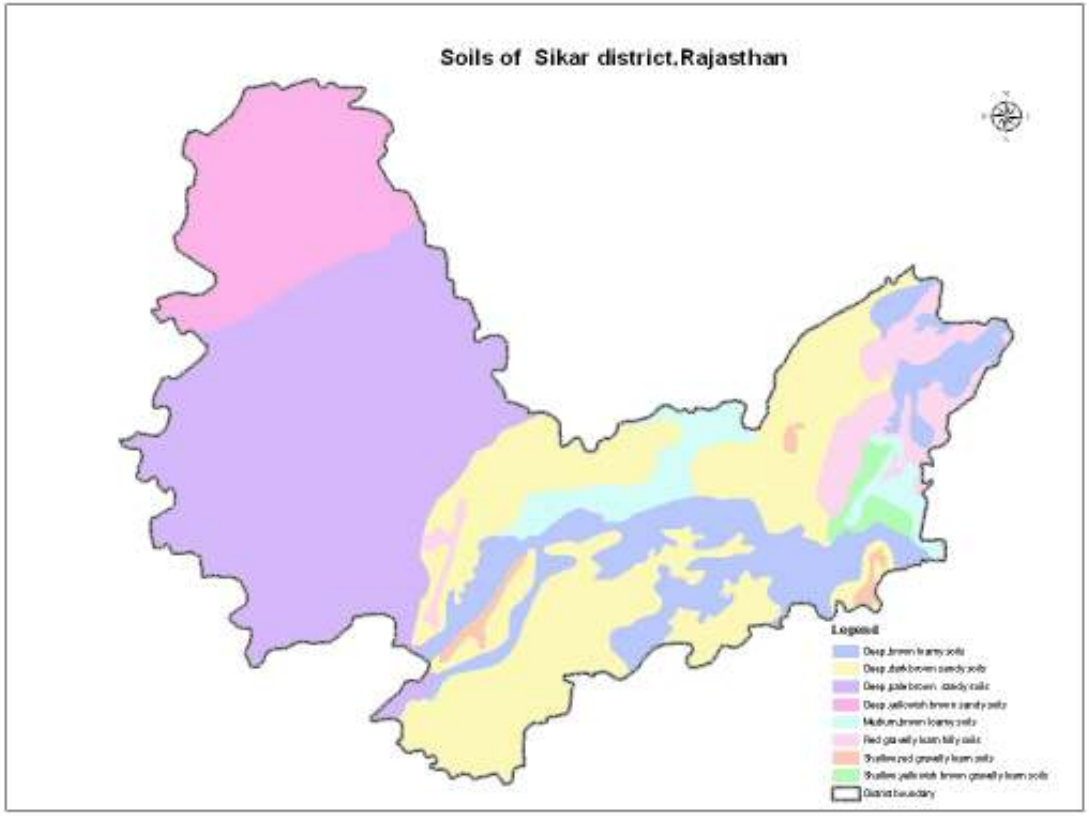
Annexure-II

District-Sikar

Year	Rainfall (mm)
1994	466.7
1995	623.0
1996	531.7
1997	611.1
1998	498.0
1999	270.9
2000	278.7
2001	458.8
2002	198.0
2003	476.7
2004	296.4
2005	704.0
2006	391.0
2007	414.0
2008	618.0

Medium	Brown	Loamy	4.31
Deep	Brown	Loamy	13.54
Deep	Dark Brown	Sandy	25.31
Deep	Pale brown	Sandy	35.85
Shallow	Red	Gravelly loam	1.18
Red gravelly loam hilly soils			5.62
Shallow	Yellowish brown	Gravelly loam	1.00
Deep	Yellowish brown	Sandy	13.20

Annexure III: Soil Map



2.0 Strategies of 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**
Delayed by 2 week (2^{nd} wk July)	Loamy sand soils	Pearl millet	Varieties-HHB-67,RHB-121,RHB-30	1.Seed treatment with thiourea @1000ppm 2.Basal dose of RDF 3.Wider row spacing(60 cm.) and making ridge and furrow after 30 DAS. 4.Soil/Straw mulch after 15 -20 DAS 5.Weed free field.	
		Clusterbean	RGC-936,RGC-1003,RGC-1017	1.Seed treatment with thiourea @500ppm 2.Basal dose of RDF 3.Weed free field.	
		Cowpea	RC-101,RC-19	Do-	
		Moong	RMG-62,RMG-268	Do-	
		Mothbean	RMO-40,RMO-435	1.Seed treatment with thiourea @500ppm	

				2.Basal dose of RDF 3.Weed free field and dust mulching.	

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**
Delayed by 4 week (4th wk July)	Loamy sand soils	Pearl millet	Varieties-HHB-67,HHB-60 or Replace with clusterbean variety RGC-936 or Cowpea variety RC-101 or Mothbean Variety RMO-40,RMo-435	1.Seed treatment with thiourea @1000ppm in pearlmillet and @ 500ppm in moth and clusterbean 2.Basal dose of RDF including FYM 3.Soil/Straw mulch after 15 -20 DAS 4.Weed free field.	
		Clusterbean	RGC-936,	1.Seed treatment with thiourea @500ppm 2.Basal dose of RDF 3.Weed free field.	
		Cowpea	RC-101	Do-	
		Moong	RMG-62, RMG-268	Do-	

		Mothbean	RMO-40, RMO-435,	1.Seed treatment with thiourea @500ppm 2.Basal dose of RDF 3.Weed free field and dust mulching.	

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**
Delayed by 6 week (2^{nd} wk August)	Loamy sand soils	Pearl millet	Replace with clusterbean variety RGC-936 or Mothbean Variety RMO-40,RMo-435 or Green fodder pearlmillet(Raj-171) and cowpea(RCp-27) mixed cropping	1.Seed treatment with thiourea @ 500ppm in moth and clusterbean 2.Basal dose of RDF including FYM 3.Weed free field.	
		Clusterbean	RGC-936,	Do-	
		Cowpea	Replace with clusterbean (Variety RGC-936) or mothbean(RMO-40,RMO-435)	Do-	
		Moong	Replace with clusterbean (Variety RGC-936) or mothbean(RMO-40,RMO-435	Do-	

		Mothbean	RMO-40,RMO-435	Do-	

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
Delayed by 8 week (4th wk August)	Loamy sand soils	Pearl millet	Replace with Mothbean Variety RMO-40 or conserve moisture for Rabi crop	1.Seed treatment with thiourea @ 500ppm in moth bean 2.Basal dose of RDF 3.Weed free field.	
		Clusterbean	Replace with Mothbean Variety RMO-40 or conserve moisture for Rabi crop	Do-	
		Cowpea	Replace with Mothbean Variety RMO-40 or conserve moisture for Rabi crop	Do-	
		Moong	Replace with Mothbean Variety RMO-40 or conserve moisture for Rabi crop	Do-	
		Mothbean	Mothbean Variety RMO-40 or conserve moisture for Rabi crop	Do-	

Condition	**Suggested Contingency measures**

Early season drought (Normal onset)	Major farming situation	Crop /cropping system	Crop management	Soil nutrient and moisture conservation measures	Remarks on implementation
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Loamy sand	Pearl millet	Resowing or Gap filling	1.Dust or straw mulching 2.No need to apply basal dose	
		Clusterbean	Resowing	No need to apply basal dose in resowing if already applied	
		Cowpea	Resowing	Do-	
		Moong	Resowing	Do-	
		Mothbean	Resowing	Do-	

Condition	Suggested Contingency measures				
Mid season drought (Long dry spell, Consecutive two weeks rainless(>2.5mm period))	**Major farming situation**	**Crop /cropping system**	**Crop management**	**Soil nutrient and moisture conservation measures**	**Remarks on implementation**
At vegetative stage	Loamy sand	Pearl millet	1.Weed free 2. Life saving irrigation if available 3.Remove alternate row 4.Ridge and furrow making 5.Spray of thiourea @ 0.1%	1.Hoeing and weeding	
		Clusterbean	1.Weed free 2. Life saving irrigation if	Do-	

			available 3.Spray of thiourea @ 0.05%		
		Cowpea	1.Weed free 2. Life saving irrigation if available	Do-	
		Moong	1.Weed free 2. Life saving irrigation if available	Do-	
		Mothbean	1.Weed free	Do-	

Condition	**Suggested Contingency measures**				
Mid season drought (Long dry spell)	**Major farming situation**	**Crop /cropping system**	**Crop management**	**Soil nutrient and moisture conservation measures**	**Remarks on implementation**
At reproductive stage	Loamy sand soils	Pearl millet	1.Life saving irrigation if available 2.Thiourea spray @ 0.1%	Hoeing and weeding	
		Clusterbean	Do-	Hoeing and weeding	
		Cowpea	Life saving irrigation if available	Do-	

		Moong	Life saving irrigation if available	Do-	
		Mothbean	Life saving irrigation if available	Do-	

Condition	**Suggested Contingency measures**				
Terminal drought	**Major farming situation**	**Crop /cropping system**	**Crop management**	**Rabi crop planning**	**Remarks on implementation**
	Loamy sand	Pearl millet	Harvesting	Conserve soil moisture	
		Clusterbean	Harvesting	Do-	
		Cowpea	Harvesting	Do-	
		Moong	Harvesting	Do-	
		Mothbean	Harvesting	Do-	
Condition	**Suggested Contingency measures**				
Terminal drought	**Major farming situation**	**Crop /cropping system**	**Crop management**	**Rabi crop planning**	**Remarks on implementation**
	Loamy sand	Pearl millet	Harvesting	Conserve soil moisture	
		Clusterbean	Harvesting	Do-	

		Cowpea	Harvesting	Do-	
		Moong	Harvesting	Do-	
		Mothbean	Harvesting	Do-	

2.1.2 Irrigated situation: Not Applicable

2.2 Unusual rains (untimely, unseasonal etc.): Not Applicable

2.3 Floods: Not Applicable

2.4 Extreme events: Heat wave/cold wave/frost

Extreme event	Suggested contingency measures			
	Seedling/nursery stage	Vegetative stage	Reproductive stage	At harvest
Heat wave				
Pearlmillet	Shelter belt	Shelter belt	Apply irrigation	
Clusterbean	-do-	-do-	-do-	
Cowpea	-do-	-do-	-do-	
Moong	-do-	-do-	-do-	
Mothbean	-do-	-do-	-do-	
Cold wave				
Wheat	-	-	-	-

Mustard	-	-	0.1% H_2SO4 spray or apply irrigation or smoking of straw on north-west side of the field or shelter belt	-
Gram	-	-	0.1% H_2SO4 spray or apply irrigation or smoking of straw on north-west side of the field or shelter belt	
Barley	-	-	-	
Frost				
Horticultural crop				
Tomato			0.1% H_2SO4 spray or apply irrigation or smoking of straw on north-west side of the field or shelter belt	
Brinjal			0.1% H2SO4 spray or apply irrigation or smoking of straw on north-west side of the field or shelter belt	
Aonla & ber			Thatch making up to 3 years old plantation	

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 & fodder Availability	Sufficient	Sufficient	Harvest the dried crops and grasses & bring from neighboring state/district
Drinking water	Sufficient	Sufficient	Sufficient
Health &diseases	Sufficient	Sufficient	Sufficient Govt. facilities

2.5.2 Poultry

	Suggested contingency measures		
	Before the event	During the event	After the event
Drought			
Feed & fodder Availability	Sufficient	Sufficient	Sufficient
Drinking water	Sufficient	Sufficient	Sufficient
Health &diseases	Sufficient	Sufficient	Sufficient

2.5.3 Fisheries: N.A