

State: **NAGALAND**

Agriculture Contingency Plan for District: KIPHIRE District

1.0 District Agriculture profile				
1.1	Agro-Climatic/Ecological Zone	Temperate to sub tropical		
	Agro Ecological Sub Region (ICAR)	Warm to hot moist (humid to per humid eco sub region), Tropical to sub-tropical		
	Agro-Climatic Zone (Planning Commission)	Eastern Himalayan Region		
	Agro Climatic Zone (NARP)	Uppar Brahmaputra Valley Zone and Sub Tropical Hill Zone (AZ52)		
	List all the districts or part thereof falling under the NARP Zone	Peren, Dimapur, Wokha, Mokokchung, Longleng, Mon, Kohima, Zunheboto, Tuensang, Phek, Kiphire		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		25° 54' N	94° 47' E	896.42 msl
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	ICAR Research Complex for NEH Region, Umiam, Umroi Road, Meghalaya 793 103		
Mention the KVK located in the district	Nil			

1.2	Rainfall	Normal RF(mm)	Normal Rainy days (number)	Normal Onset (specify week and month)	Normal Cessation (specify week and month)
	Winter (Jan-Feb)	64.1	*	1 st June	4 th week of October
	Summer (Mar- May)	523.7	*	-	-
	Southwest (Jun-Sep)	1325.5	*	-	-
	Northeast (Oct-Dec)	163.2	*	-	-
	Annual	2076.5	-	-	-

*Information not available

1.3	Land use pattern of the district (latest statistics)	Geographical area ('000 ha)	Cultivable area ('000 ha)	Forest area ('000 ha)	Land under non-agricultural use ('000 ha)	Permanent Pastures ('000 ha)	Cultivable wasteland ('000 ha)	Land under Misc. tree crops and groves ('000 ha)	Barren and uncultivable land ('000 ha)	Current Fallows ('000 ha)	Other fallows ('000 ha)
	Area ('000 ha)	152.63	6.42	61.32	17.44	--	24.33	7.59	0.64	7.47	-

*Source: SREP 2014 for Kiphire district, Nagaland

1.4	Major Soils (common names like red sandy loam deep soils (etc.,))*	Area ('000 ha)	Percent (%) of total
	1 Red clayey soils	-	-
	2 Lateritic soils	-	-
	3 Alluvial colluvial soils (partly saline)	-	-
	4 Alluvial-colluvial soils	-	-
	5 Lateritic gravelly soils	-	-
	6 Rock land and water bodies	-	-
	7 Medium deep black soils	-	-
	8 Red gravelly loam soils	-	-
	9 Red gravelly clay loam soils	-	-
	Others (specify):		
	Fine	54.58	48.00
	Loamy	37.18	32.70
	Sandy loam	21.94	19.30

* mention colour, depth and texture (heavy, light, sandy, loamy, clayey etc) and give vernacular name, if any, in brackets (data source : Soil Resource Maps of NBSS&LUP).

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	45.59	106.49
	Area sown more than once	2.96	
	Gross cropped area	48.55	
Source: Statistical Handbook of Nagaland 2012			

1.6	Irrigation	Area ('000 ha)		
	Net irrigated area	-		
	Gross irrigated area	-		
	Rainfed area	48.55		
	Sources of Irrigation	Number	Area ('000 ha)	% of total irrigated area
	Canals	-	-	-
	Tanks	-	-	-
	Open wells	-	-	-
	Bore wells	-	-	-
	Lift irrigation schemes	-	-	-
	Micro-irrigation	-	-	-
	Other sources (please specify)	-	-	-
	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	-	-	-
	Critical	-	-	-
	Semi- critical	-	-	-
	Safe	5	100%	The quality of ground water is generally safe, as use of pesticides and chemicals are within the normal range
Wastewater availability and use	-	-	-	
Ground water quality	The quality of ground water is generally safe, as these chemicals are with in the normal range			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

1.7 Area under major field crops & horticulture (2010-11)

1.7a	Major field crops cultivated	Area ('000 ha)									Grand total
		Pre kharif			Kharif			Rabi			
		Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	
1	Jhum paddy	-	9.08	-	-	-	-	-	-	-	9.08
2	WRC Paddy	-	-	-	-	0.84	-	-	-	-	0.8
3	Maize	-	7.52	-	-	-	-	-	-	-	7.52
4	Soybean	-	-	-	-	1.04	-	-	-	-	1.04
5	Kholar	-	-	-	-	2.81	-	-	-	-	2.81
6	Rapeseed /mustard	-	-	-	-	-	-	-	1.19	-	1.19
7	Pea	-	-	-	-	-	-	-	0.33	-	0.33
Others (specify)	-	-	-	-	-	-	-	-	-	-	-
1.7b	Horticulture crops - Fruits	Rainfed ('000 ha)			Irrigated			Total			
1	orange	0.500			-			0.500			
2	Banana	0.510			-			0.510			
3	pineapple	0.420			-			0.420			
4	Passion fruit	0.450			-			0.450			
5	Goose berry	0.200			-			0.200			
Others (specify)											

Source: Statistical Handbook of Nagaland 2012

1.7c	Horticulture crops - Vegetables	Rainfed area ('000 ha)	Irrigated area ('000 ha)	Total area ('000 ha)
1	Chili	0.3	-	0.3
2	Leafy vegetable	0.6	-	0.6
3	Tapioca	0.4	-	0.4
4	Chow-chow	0.2	-	0.2
5	Colocasia	0.1	-	0.1
Others (specify)	Naga King Chilli	0.03	-	0.03
1.7d	Medicinal and Aromatic crops	Rainfed area ('000 ha)	Irrigated area ('000 ha)	Total area ('000 ha)
1	Medicinal and Aromatic crops	-	-	-
Others	-	-	-	-

(specify)				
1.7e	Plantation crops	Rainfed area ('000 ha)	Irrigated area ('000 ha)	Total area ('000 ha)
1	Large Cardamom	0.070	-	0.070
Others (Specify)	Eg., industrial pulpwood crops etc.	-	-	-
1.7f	Fodder crops	Total area ('000 ha)	Irrigated area ('000 ha)	Rainfed area ('000 ha)
Others (Specify)	-	-	-	-
1.7g	Grazing land	-	-	-
1.7h	Sericulture etc	-	-	-
1.7i	Others (specify)	-	-	-
Source: Statistical Handbook of Nagaland 2012				

1.8	Livestock (in number)		Male ('000)	Female ('000)	Total ('000)		
	Non descriptive Cattle (local low yielding)		2.69	4.50	7.19		
	Crossbred cattle		1.47	2.55	4.02		
	Non descriptive Buffaloes (local low yielding)		0.059	0.030	0.089		
	Goat		3.95	4.85	8.80		
	Sheep		0.024	0.033	0.057		
	Others (Camel, Pig, Yak etc.)						
	(i) Pig		13.13	11.87	25.00		
	(ii) Mithun		1.37	1.48	2.85		
	Commercial dairy farms (Number)						
1.9	Poultry		No. of farms	Total No. of birds ('000)			
	Commercial		1	0.405			
	Backyard		-	85.49			
	Source: - Livestock census 2007 Directorate of Veterinary & AH, Govt. of Nagaland.						
1.10	Fisheries (Data source: Chief Planning Officer of district)						
	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)	111.0	1.58		0.176			

Source: Statistical Handbook of Nagaland 2012

1.11 Production and Productivity of major crops (Average of last 4 years: 2008-09, 09-10, 10-11, and 11-12)

1.11	Name of crop	Pre-Kharif		Kharif		Rabi		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)										
Crop 1	Jhum paddy	14.23	1714.0	-	-	-	-	14.23	1714.0	-
Crop 2	WRC Paddy	-	-	1.607	2217.24	-	-	1.607	2217.24	-
Crop 3	Maize	10.69	1680	-	-	-	-	10.69	1680	-
Crop 4	Soybean	-	-	13.175	1248.80	-	-	13.175	1248.80	-
Crop 5	Kholar	-	-	3.615	1324.10	-	-	3.615	1324.10	-
Crop 6	Rapeseed /mustard	-	-	-	-	1.98	889.01	1.98	889.01	-
Crop7	Pea	-	-	-	-	1.00	100.00	1.00	100.00	-
Major Horticultural crops (Crops to be identified based on total acreage)										
Crop 1	Chili	-	-	2.00	6666.66	-	-	2.00	6666.66	-
Crop 2	Leafy vegetable	-	-	4.875	1772.70	-	-	4.875	1772.70	-
Crop 3	Tapioca	-	-	2.500	9090.90	-	-	2.500	9090.90	-
Crop 4	Chow-chow	-	-	-	-	9.00	7200.00	9.00	7200.00	-
Crop 5	Colocasia	1.750	1555.50	-	-	-	-	1.750	1555.50	-
Others	Naga King Chilli	0.0975	3714.28	-	-	-	-	0.0975	3714.28	-

Source: Statistical Handbook of Nagaland 2012

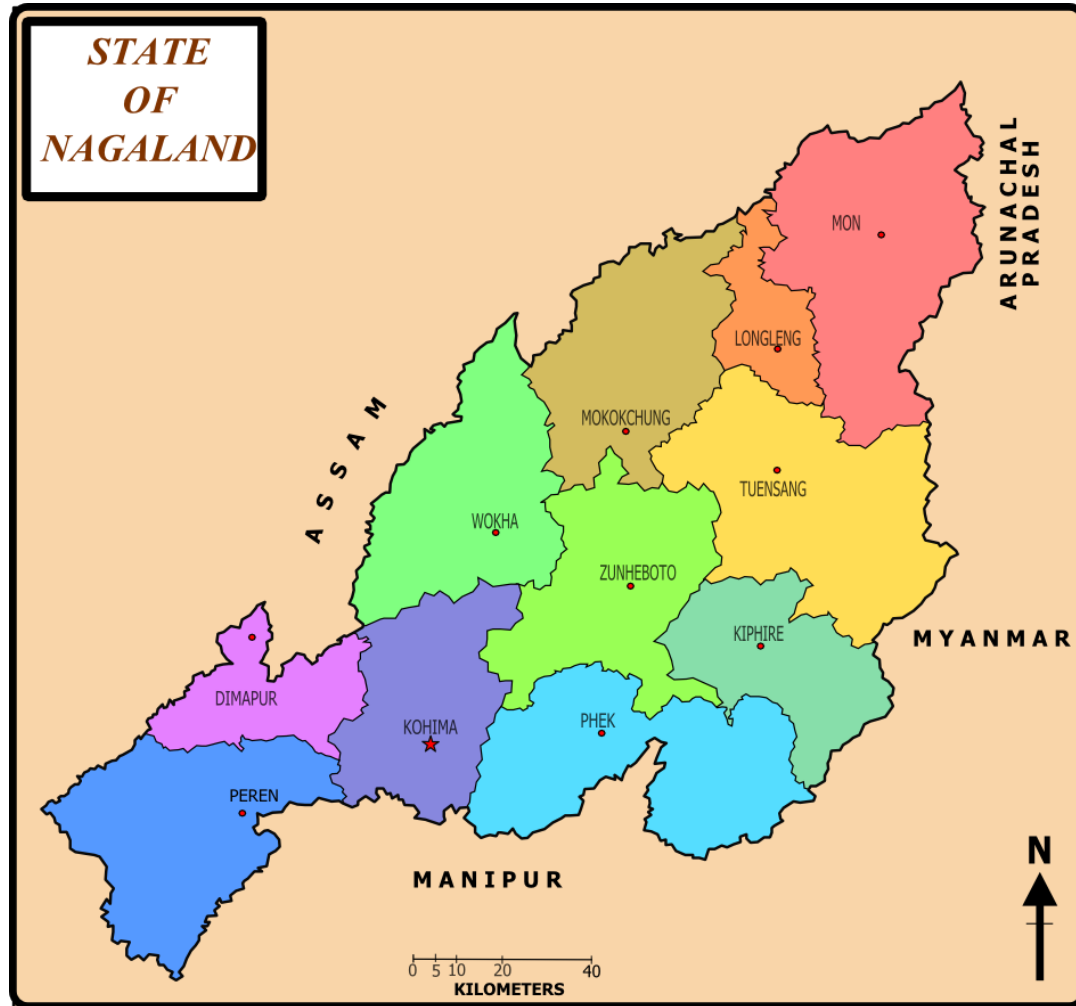
1.12	Sowing window for 5 major field crops	Jhum Paddy	Maize	Kholar	Rapeseed/ Mustard	Soybean
	Pre -Kharif –Rained	March-April	March-April	-	-	-
	Pre -Kharif –Irrigated	-	-	-	-	-
	Kharif- Rain fed	-	May-June	May-June	-	May-June
	Kharif-Irrigated	-	-	-	-	-
	Rabi- Rain fed	-	-	Sept-Oct	Oct-Nov	-
	Rabi-Irrigated	-	-	-	-	-

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)			✓
	Others (specify)			

6 out of 10 years = Regular

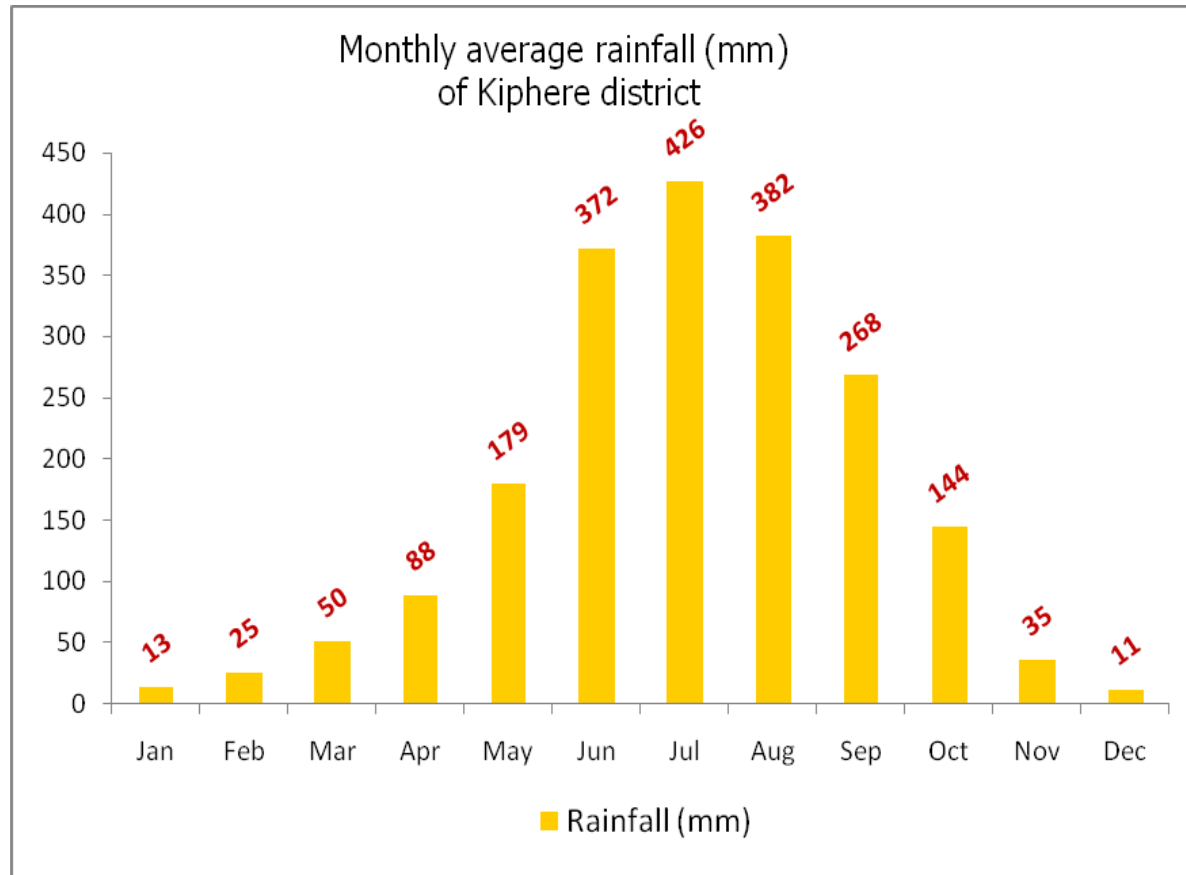
1.14	Include Digital maps of the district for		
		Location map of district within State as Annexure I	Enclosed: Yes
		Mean annual rainfall as Annexure 2	Enclosed: Yes
		Soil map as Annexure 3	Enclosed: No

Annexure – 1: LOCATION MAP OF KIPHERE DISTRICT

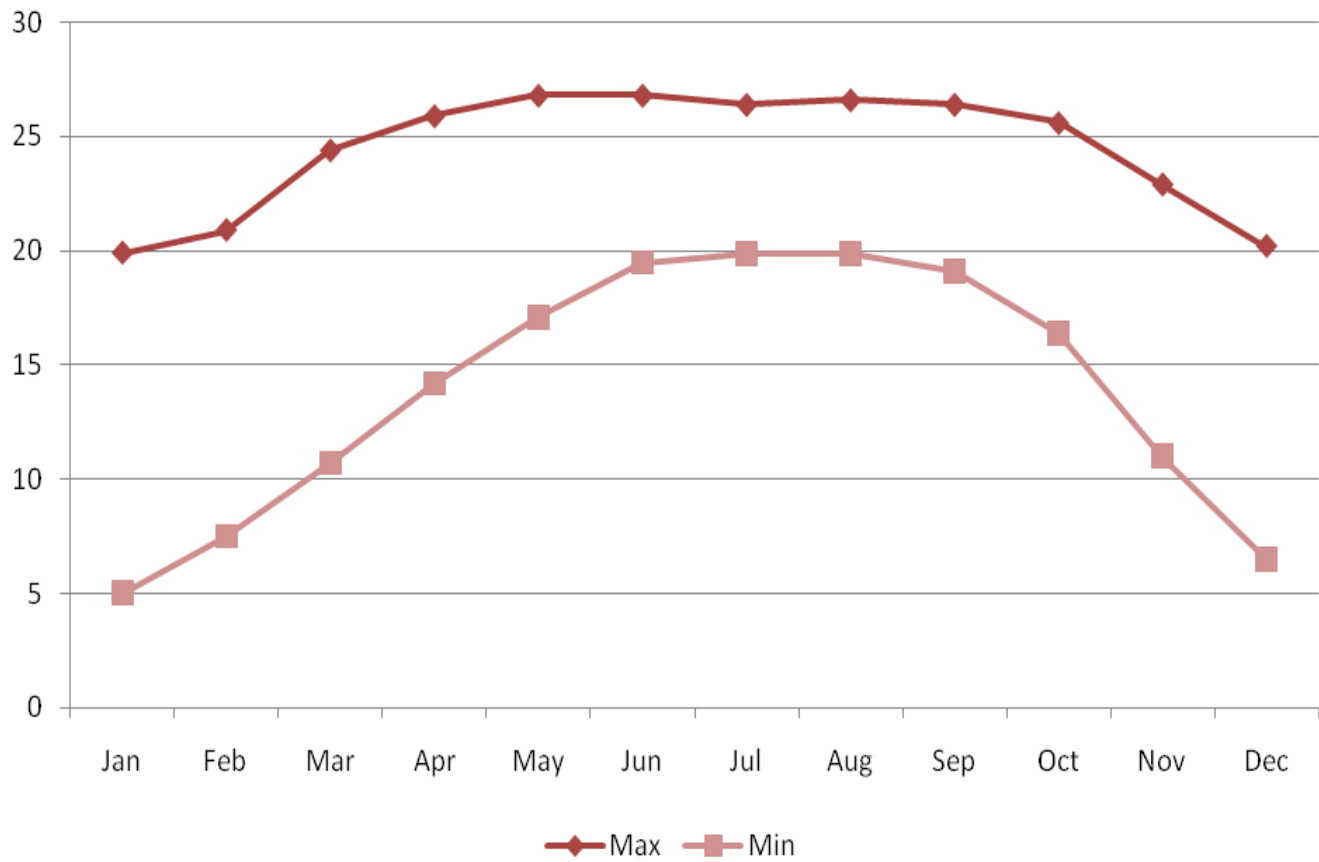


Annexure 2

Mean annual rainfall Of Kiphire district



Max. & Min. Temperature (0C) for Kiphere District



2.0 Strategies for weather related contingencies

2.1 Drought

2.1 Drought – Pre- monsoon (Last week of March to First week of April) Normal

Condition	Major Farming situation ^a	Normal Crop / Cropping system	Suggested Contingency measures			
			Change in crop / cropping system including variety	Agronomic measures	Remarks on Implementation	
Early season drought (delayed onset)	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder Intercropping with Kholar beans	Sowing in ridge and furrow, mulching		
		Jhum paddy	Teke, Bhalum-1, Bhalum-2, Bhalum-3, Bhalum-4, SARS-1,2,3,4,5	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%		
		Kholar beans	No change	Increase seed rate		
		Colocasia	Punch mukhi, Mukta Keshi, local	Sowing in ridge and furrow, mulching		
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder	Sowing in ridge and furrow, mulching, intercropping with Kholar beans		
		Jhum paddy	Teke, Bhalum-1, Bhalum-2, Bhalum-3, Bhalum-4, SARS-1,2,3,4,5	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%		
		Kholar beans	No change	Increase seed rate		
		Colocasia	Punch mukhi, Mukta Keshi, local	Sowing in ridge and furrow, mulching		
		Farming Situation 3 : Moderately Steep to steep sloping hill	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder Intercropping with Kholar beans	Sowing in ridge and furrow, mulching	

	slopes with deep to moderately deep soils	Jhum paddy	Teke, Bhalum-1, Bhalum-2, Bhalum-3, Bhalum-4, SARS-1,2,3,4,5	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Sowing in ridge and furrow, mulching	

2.1 Drought – Pre- monsoon (Last week of March to First week of April) Normal

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 4 weeks (4th week of April to 1st week of May)	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder Intercropping with Kholar beans	Mulching	
		Jhum paddy	Teke, Bhalum-1	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Mulching	
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder Intercropping with Kholar beans	Mulching	

	soils	Jhum paddy	Teke, Bhalum-1	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	mulching	
	Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils	Maize	DA 61A, RCM-76, RCM-75, HQPM-1, All rounder Intercropping with Kholar beans	Mulching	
		Jhum paddy	Teke, Bhalum-1	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Mulching	

The monsoon is normal not delayed (1st Week of June)

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)	Farming Situation 1 : Steeply sloping side hills with moderately deep	Maize	No change Intercropping with Kholar beans	Mulching	

July 1st week	loamy soils	Jhum paddy	No change	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		TRC paddy	SARS-6, Local paddy (Boga special, Kohima Special, Kala Special etc.)	No change	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Mulching	
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize	No change Intercropping with Kholar beans	Mulching	
		Jhum paddy	No change	Increase seed rate, sowing by dibbling method, re-sowing if germination is less than 30%	
		TRC paddy	SARS-6, Local paddy (Boga special, Kohima Special, Kala Special etc.)	No change	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Mulching	
			Maize	No change Intercropping with Kholar beans	Mulching
	Farming Situation 3 : Moderately Steep to steep sloping hill				

	slopes with deep to moderately deep soils	Jhum paddy	No change Intercropping with Kholar beans	Mulching	
		TRC paddy	SARS-6, Local paddy (Boga special, Kohima Special, Kala Special etc.)	No change	
		Kholar beans	No change	Increase seed rate	
		Colocasia	Punch mukhi, Mukta Keshi, local	Mulching	

The monsoon is normal not delayed- Delay by **6 weeks not encountered** (NA)

Condition	Major Farming situation ^a	Normal Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 6 weeks (Specify month) July 3rd week	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils				
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils				
	Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils				

The monsoon is normal not delayed- Delay by **8 weeks not encountered** (NA)

Condition	Major Farming situation	Normal Crop/cropping system	Suggested Contingency measures		
			Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 8 weeks (Specify month) August 1 st week	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils				
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils				
Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils					

Condition	Major Farming situation	Normal Crop / Cropping system	Suggested Contingency measures		
			Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (delayed onset)					
Normal onset followed by 15-20 days dry spell after sowing leading to poor	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils	Maize	Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	

germination / crop stand etc.		Jhum paddy	Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
		Kholar beans	Intercultural operations and pest and disease control measures	Gap filling/ resowing	
		Colocasia	Intercultural operations and pest and disease control measures	mulching and earthing up	
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize	Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	
		Jhum paddy	Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
		Kholar beans	Intercultural operations and pest and disease control measures	Gap filling/ resowing	
		Colocasia	Intercultural operations and pest and disease control measures	mulching and earthing up	
	Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately	Maize	Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	

	deep soils	Jhum paddy	Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
		Kholar beans	Intercultural operations and pest and disease control measures	Gap filling/ resowing	
		Colocasia	Intercultural operations and pest and disease control measures	mulching and earthing up	
Condition			Suggested Contingency measures		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	Major Farming situation	Normal Crop / Cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
At vegetative stage	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils	Maize	Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	
		Jhum paddy	Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
		Kholar beans	Intercultural operations and pest and disease control measures	Gap filling/ resowing	

		Colocasia	Intercultural operations and pest and disease control measures	Mulching and earthing up	
Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize		Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	
	Jhum paddy		Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
	Kholar beans		Intercultural operations and pest and disease control measures	Gap filling/ resowing	
	Colocasia		Intercultural operations and pest and disease control measures	mulching and earthing up	
Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils	Maize		Intercultural operations and pest and disease control measures	Mulching, intercropping with Kholar beans & gap filling /re-sowing if germination is below 30%	
	Jhum paddy		Intercultural operations and pest and disease control measures	Re-sowing if germination is less than 30%	
	Kholar beans		Intercultural operations and pest and disease control measures	Gap filling/ resowing	

		Colocasia	Intercultural operations and pest and disease control measures	mulching and earthing up	
--	--	-----------	--	--------------------------	--

Condition			Suggested Contingency measures		
Mid season drought (long dry spell)	Major Farming situation	Normal Crop / Cropping system	Crop management	Soil nutrient & moisture conservation measures	Remarks on Implementation
At flowering/ fruiting stage	Farming Situation 1 : Steeply sloping side hills with moderately deep loamy soils	Maize	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green cobs	
		Jhum paddy	Intercultural operations and pest and disease control measures	No change	
		Kholar beans	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green pods	
		Colocasia	Intercultural operations and pest and disease control measures	Mulching and earthing up	
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green cobs	
		Jhum paddy	Intercultural operations and pest and disease control measures	No change	

		Kholar beans	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green pods	
		Colocasia	Intercultural operations and pest and disease control measures	Mulching and earthing up	
	Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils	Maize	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green cobs	
		Jhum paddy	Intercultural operations and pest and disease control measures	No change	
		Kholar beans	Intercultural operations and pest and disease control measures	Mulching/ early harvest of green pods	
		Colocasia	Intercultural operations and pest and disease control measures	Mulching and earthing up	

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))	Farming Situation 1 : Steeply sloping side hills with	Maize	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	

	moderately deep loamy soils	Jhum paddy	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Kholar beans	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Colocasia	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
	Farming Situation 2 : Steeply sloping hill slopes with moderately shallow fine soils	Maize	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Jhum paddy	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Kholar beans	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Colocasia	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
	Farming Situation 3 : Moderately Steep to steep sloping hill slopes with deep to moderately deep soils	Maize	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Jhum paddy	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	

		Kholar beans	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	
		Colocasia	Intercultural operations and pest and disease control measures	Harvest at physiological maturity	

2.1.2 Drought - Irrigated situation- Not applicable

2.2 Unusual rains (untimely, unseasonal etc) Not applicable

2.3 Floods : Not experienced / not encountered

2.4 Extreme events: Hailstorm

Extreme event type	Suggested contingency measure ^f			
	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Hailstorm				
Jhum paddy	-	Resowing	-	-
Potato	-	-	-	Early harvest
Cabbage			Early harvesting	

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/ Lean period (Oct-March)			
Feed and fodder availability	Encourage perennial fodder on bunds and waste land on community basis Establishing fodder banks, encouraging hedge row species for fodder crops Preparation of Hay	Utilizing fodder from perennial trees and Fodder bank reserves Transporting excess fodder from adjoining districts Use of non conventional fodders. Use of feed mixtures and feed blocks Culling unproductive livestock	Use of non conventional fodders. Use of feed mixtures and feed blocks Availing Insurance
Drinking water	Roof top water harvesting , Preserving water in the tank for drinking purpose	Judicious use of water, Using preserved water in the tanks for drinking purpose, recycling of household used water.	Maintenance/cleaning of community reservoirs/ village ponds
Health and disease management	Insurance, Veterinary preparedness with medicines and vaccines, organizing vaccination camps and mineral supplementation	Conducting mass animal Health Camps and treating the affected one, mineral supplementation.	Culling sick animals and mineral supplementation
Floods	Not applicable	-	-
Feed and fodder availability	-	-	-
Drinking water	-	-	-
Health and disease management	-	-	-
Cyclone	Not applicable	-	-
Feed and fodder availability	-	-	-
Drinking water	-	-	-
Health and disease management	-	-	-
Heat wave and cold wave	Not applicable	-	-
Shelter/environment 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	Procurement and storage of feed ingredients, Establishing feed reserve Bank	Utilizing from feed reserve banks, nutritional supplementation to poultry	Nutritional supplementation to poultry	-
Drinking water	Arrangement for drinking water, Roof top water harvesting, Preserving water in the tank for drinking purpose	Judicious use of water, providing B-complex and Vit.C in water	-	-
Health and disease management	Insurance and Emergency Veterinary preparedness with medicines and vaccination to birds	Sanitation and Hygiene	Culling of affected birds, Mass vaccination	-
Floods	Not applicable	-	-	-
Cyclone	Not applicable	-	-	-
Heat wave and cold wave	Not applicable	-	-	-

^a based on forewarning wherever available

2.5.3 Fisheries/ Aquaculture

	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	De-silting, repair of bunds of existing ponds, rain water harvesting, liming and adopt low stocking density, deepening of ponds by 1.5 -2metres, restrict use of Manures and fertilizers, Channelising water to pond if possible, Maintain proper water quality	Integrated farming, air breathing fish to be practiced, avoid fertilization and manuring on supplementary basis, feeding should be minimum to avoid organic loading, short term aquaculture with medium and minor carps, Maintain proper water quality	Prepare pond for the next crop after early harvest, Maintain proper water quality
(ii) Impact of salt load build up in ponds / change in water quality	Rain water harvesting, deepening,desilting of existing water bodies and removal of debris	Rain water harvesting, deepening,desilting of existing water bodies and removal of debris	Control feeding to avoid waste accumulation and eutrofication
(iii) Any other	-	-	-
2) Floods	Not Applicable	-	-
3. Cyclone / Tsunami	Not Applicable	-	-
4. Heat wave and cold wave	Not Applicable	-	-

^a based on forewarning wherever available