DISTRICT CONTINGENCY PLAN
OF KVK-CHURACHANDPUR DISTRICT, MANIPUR

State: Manipur

Agriculture Contingency Plan for District: Churachandpur

1.0 District Agriculture profile

1. **Agro climatic /ecological zone**	Humid, sub-tropical with cold winter		
2. Agro Ecological Sub Region (ICAR)	Humid, Eastern Himalayan Region		
3. Agro-climatic Region (Planning Commission)	Sub Tropical to Mild Tropical Hill Zone		
4. Agro Climatic Zone (NARP)	Mild Tropical Hill Zone		
	Latitude	Longitude	Altitude
5. Geographical coordinate of the district	$23^0$50'N to $25^0$42' N	$92^0$58 E' to 94^0 45' E	1000m
6. KVK located	Pearsonmun Village, Churachandpur district, Manipur795128		

7. Monsoon	Normal rainfall (in mm)	Normal rainy days (nos.)	Actual rainfall received (in mm)	Deficit rainfall (in mm)
1. SW monsoon (June-Sep).	858	65	June -191.2 July – 56.1	82.9 less 98.5 less
NE Monsoon (Oct-Dec)	187.6	15		
Winter (Jan-March)	112.3	8		
Summer (Apr-May)	306.3	18		
. Annual	1464.2	106		

1.2	**Land use pattern of the district (latest statistics)**	**Geographic area**	**Forest area**	**Land under agril. use**	**Permanent pastures**	**Cultivable Waste and land**	**Land under Misc tree crops and groves**	**Barren and uncultivable land**	**Current fallows**	**Other Fallows**
	Area (***'000*** ha)	457	349.6	38.998		29.3		98.424	190.447	

1.3	**Soil type**		
	Sandy clay loam Texture: Acidic . pH: 5.5 to 6 (Slightly Acidic) Medium in organic carbon, phosphorous and potassium content		
1.4	Agricultural land	Area ('000 ha)	Cropping intensity %
	Net sown area	39.25	98.6
	Total cropped area	190.44	
	Area under more than once	6.45	

1.5	Irrigation	Area ('000 ha)	Percent %
	Net irrigated Area (ha)	0.2	
	Gross irrigated area	0.2	
	Rainfed area	45.50	
	Source of irrigation	Area ('000 ha)	
	Canal	0.2	

1.6 Area under major crops & horticulture etc.

	Major field crops cultivated	Area ('000 ha)							
		Pre-kharif	Kharif		Rabi		Summer		Total
		-	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	
	Rice	-	-	29.12	-	-	-	-	29.12
	Maize	-	-	6.21	-	-			6.21
	Wheat	-	-	-	-	-	-	-	-
	Sugarcane	-	-	0.24	-	-	-	-	0.24
	Potato	-	-	-	-	1.8	-	-	1.8
	Pulses (Blackgram)	-		0.82	-	1.81	-	-	2.63
	Pea	-				0.58			0.58
	Oilseed (groundnut, soybean)	-		0.77		2.48			3.25
	Rapeseed	-	-	-	-	-	-	-	-

	Horticulture crops-Fruits	Total area ('000 ha)	Irrigated*	Rainfed *
	1 Fruits (Pineapple, Banana, Lime, orange, passion fruit)	7.36	-	7.36
	2 Vegetables (Beans, Cabbage, Cauliflower, Brinjal, Pumpkin, gourd, Ladies finger, tomato, Pea)	1.60	-	1.60

	Major field crops	Area ('000 ha)	Production ('000 ha)	Productivity (t/ha)
2010-11				
	Rice(jhum plus lowland)	29.12	33	1133
	Maize	6.21	13.95	2246
	Wheat	-	-	-

	Sugarcane	0.24	13.6	8333
	Potato	1.8	-	-
	Pulses Kharif	.82	2.57	977
	Pulses Rabi	1.81	-	-
	Oilseeds Kharif	.77	2.68	824
	Oilseeds Rabi	2.48	-	-

Horticultural and commercial crops

Year	**Fruits**			**Vegetables**			**Spices**		
	A	**P(tons)**	**Y**	**A**	**P**	**Y**	**A**	**P**	**Y**
2010-11	7.36	71.65	43738	1.60	30.67	42280	2.71	27.90	32440

A=Area ('000 ha), P=Production ('000 mts), Y=Yield (t/ha) Source: Horticulture and Soil Conservation, GOM.

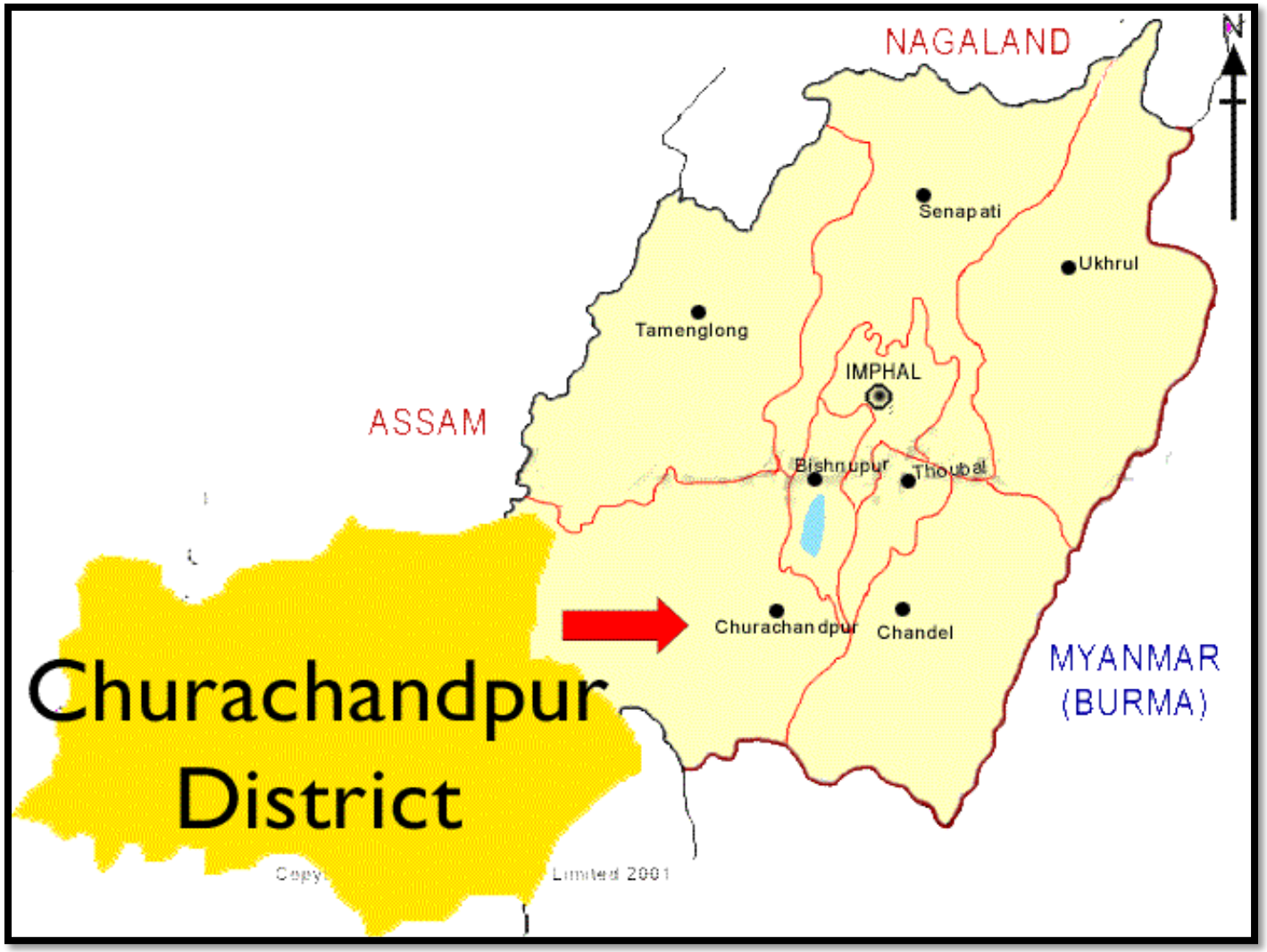
1.7	**Livestock***	**Male '000**	**Female '000**	**Total '000**
	Cattle,(cross breed & non descriptive)	11.35	18.187	29.397
	Buffalo (non descriptive)	3.978	7.484	11.484
	Goat,	5.99	8.594	14.584
	Pigs	17.857	15.478	33.335
	Poultry (backyard)			123.582
	Duck			87.061
	Sheep	0.417	0.513	0.930

- ***As per livestock census report of Manipur Government based on 2007 census data of Manipur.***

	Inland Fishery	**Area**		**Production**
	Pond and ring bund culture	NA	NA	NA
	Cage culture	NA	NA	NA

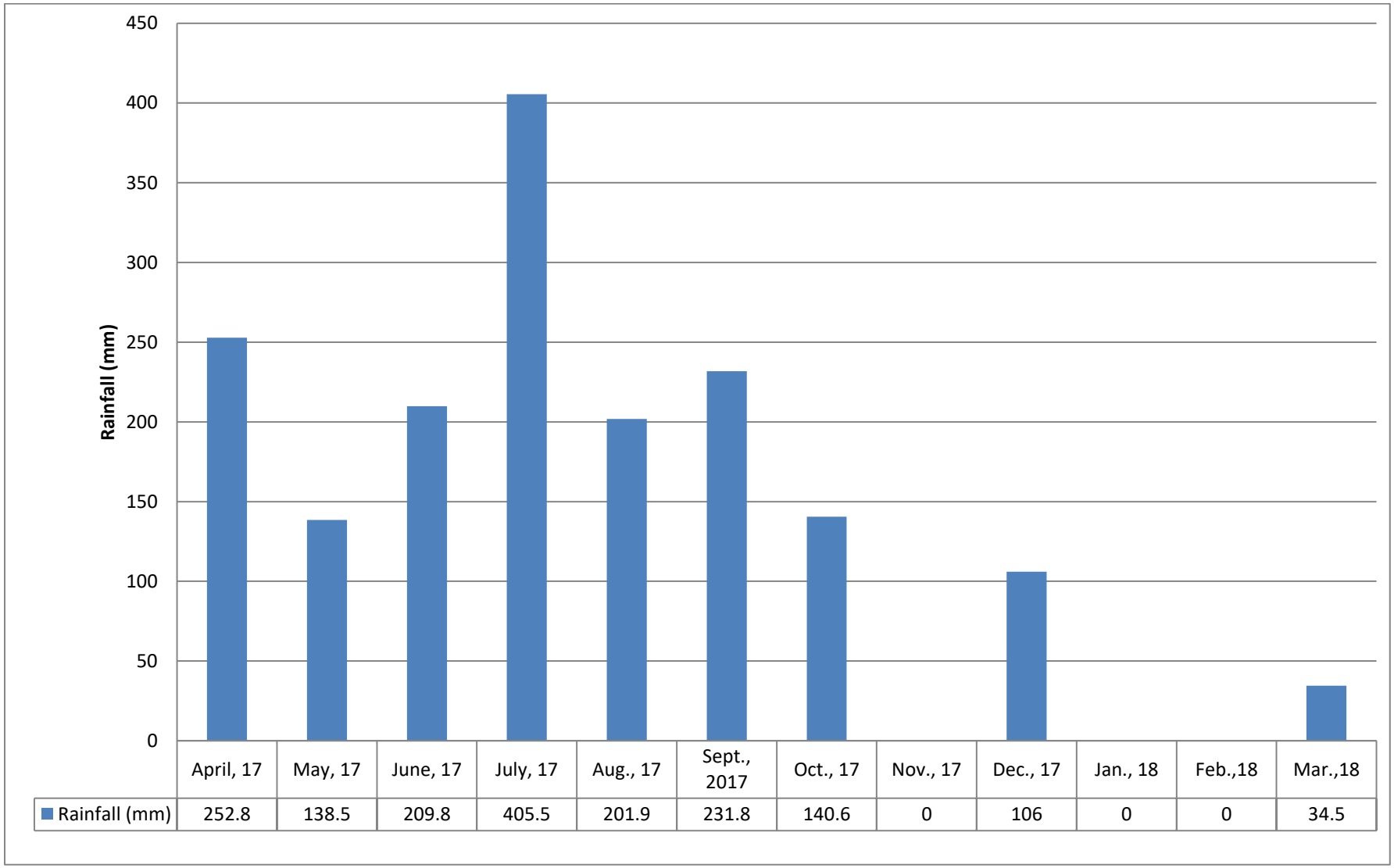
1.7	Sowing window for 5 major crops (start and end of sowing period)	Crop 1-Rice	2. Pea	3. Mustard	4. Cabbage	5. Cauliflower
	Pre-kharifrainfed	April-june	-	-	-	-
	Kharif- rainfed	June to July	-	-	-	July-Sept. (off season)
	Kharif-irrigated	June to July	-	-	-	-
	Rabi-rainfed	-	Oct to Nov	Oct to Nov	Oct to Nov	Oct to Nov
	Rabi- irrigated	-	-	Oct to Nov	Oct to Nov	Oct to Nov

1.8	What is the major contingency the district is prone to?	Regular	Occasional	None
	Drought		√	
	Flood			
	Cyclone			√
	Hail storm		√	
	Heat wave			√
	Cold wave			√
	Frost			√
	See water intrusion			√
	Pests and diseases other (specify)			
	Rice	Leaf blast, Neck blast, BLB**(%)**	Stem borer, gall midge	
	Potato	Leaf blight and bacterial wilt		
	Tomato	Leaf blight and bacterial wilt		



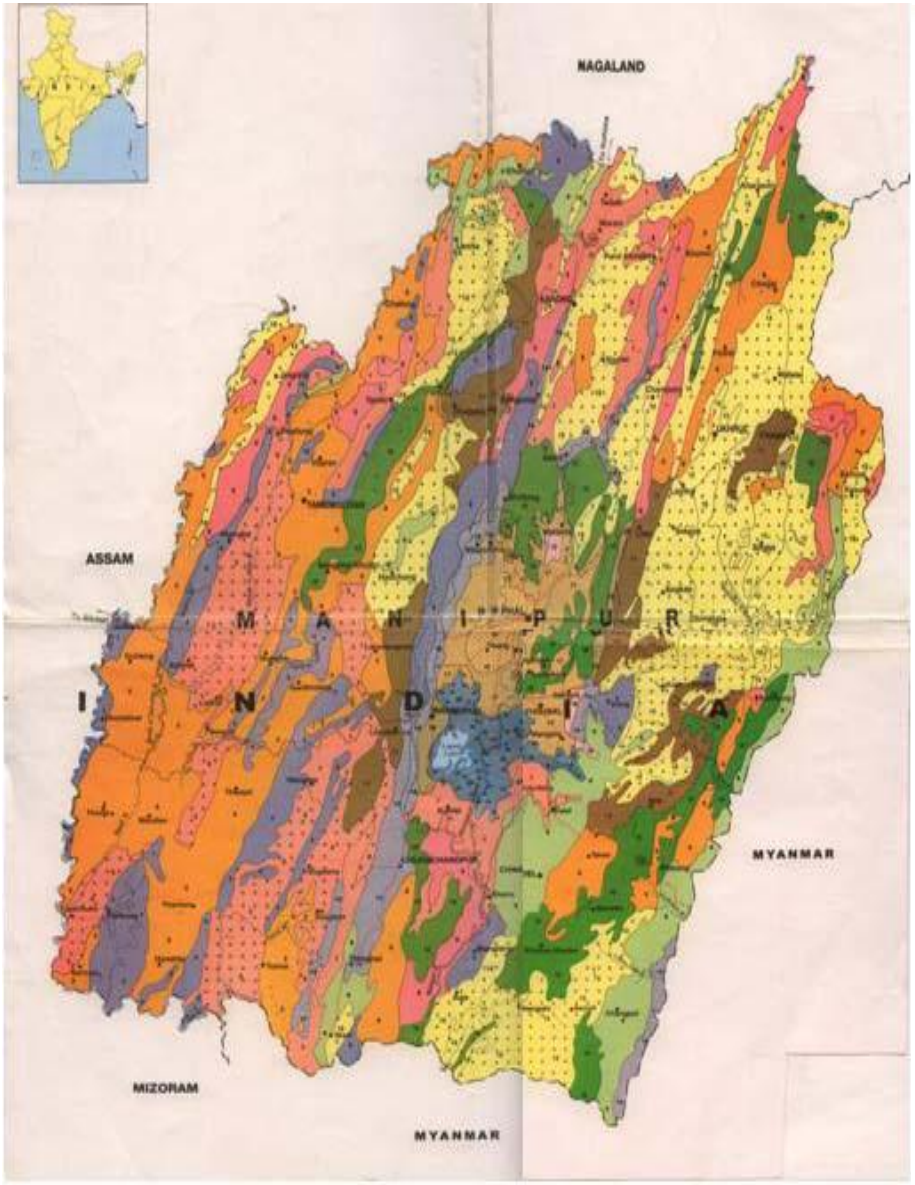
Annexure I:Location map of district within State

Annexure – 2: MEAN ANNUAL RAINFALL OF CHURACHANDPUR DISTRICT 2017-18



	April, 17	May, 17	June, 17	July, 17	Aug., 17	Sept., 2017	Oct., 17	Nov., 17	Dec., 17	Jan., 18	Feb.,18	Mar.,18
Rainfall (mm)	252.8	138.5	209.8	405.5	201.9	231.8	140.6	0	106	0	0	34.5

Annexure – 3: SOIL MAP OF Manipur



SOILS OF NORTH EASTERN HILL RANGES

PURVACHAL : MANIPUR INTERHILL BASIN

16	Deep, poorly drained, fine soils[2] on level to nearly level valleys having clayey surface with very slight erosion, ground water table between one to two meters of the surface and slight flooding, *associated with*: Deep, well drained, fine soils[2] on gently sloping side slopes of hills with slight erosion.	O	Fine, Typic Haplaquepts Fine, Ruptic Ultic Dystrochrepts	13.4 (0.6)
16	Deep, very poorly drained, fine soils[2] on valleys having clayey surface with no erosion, ground water table below one meter of the surface and moderate to severe flooding, *associated with*: Shallow, well drained, clayey skeletal soils[2] on gently to moderately sloping side slopes of hills with severe erosion and strong stoniness.	O	Fine, Typic Humaquepts Clayey-skeletal, Umbric Dystrochrepts	11.4 (0.5)
17	Deep, very poorly drained, very fine soils[2] on nearly level valleys having clayey surface with very slight erosion, ground water level below one meter of the surface and severe flooding, *associated with*: Deep, poorly drained, fine soils[2] on very gently sloping valleys with slight erosion, ground water table between one to two meters of the surface and slight flooding.	O	Very fine, Mollic Haplaquepts Fine, Typic Haplaquepts	104.3 (4.7)
18	Deep, extremely poorly drained, very fine soils[2] on valleys having loamy surface with no erosion, ground water table within one meter of the surface and moderate flooding, *associated with*: Deep, very poorly drained, fine soils[2] on valleys with no erosion, ground water table within one meter of the surface and moderate to severe flooding.	O	Very fine, Mollic Haplaquepts Fine, Fluvaquentic Humaquepts	16.2 (0.7)
19	Deep, somewhat excessively drained, fine soils[2] on steeply sloping side slopes of hillocks having clayey surface with moderate to severe erosion, *associated with*: Deep, well drained, fine silty soils[2] on moderately sloping side slopes of hillocks with moderate erosion.	O	Fine, Typic Hapludalfs Fine silty, Typic Hapludbrepts	3.9 (0.2)
20	Marshy land			43.9 (1.9)

Foot Notes:

* Mineralogy and temperature regime are mixed, hyperthermic for 01 to 04 and mixed, thermic for other units.

NOMENCLATURE

** 1. Most Recent Soil – No profile development suggests absence of any diagnostic horizon, except surface horizon.

2. Sub-Recent-Soils – Initiation of profile development showing a colour B or a Cambic horizon.

3. Developed Soils – Appreciable profile development showing an argillic horizon.

2. Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition	**Major Farming situation**	**Crop/Cropping system**	**Suggested contingency measures**		
Delayed onset	**1.Severely sloppy side slope hill (deep fine loamy soil)**	**Silviculture Limabean Rice bean Pumpkin Kingchilli**	**Change in crop/ cropping system.**	**Agronomic measures**	**Remarks on Implementation**
Delay by 2 weeks (3rd week of June)	2. Moderately slope side slope hill (deep fine silty soil)	Cowpea, Ginger, turmeric,pumpkin, kingchilli, blackgram.	No change in cropping but variety change like Nadia and megha turmeric.PusaKomal, T-9	Sowing in ridge and furrow/Mulching.	Seed should be made available by concerned line department, RKVY, IWMP and NFSM.
	3. Moderately slope side slope hill (clay skeletal soil)	Jhum paddy , maize Cowpea.	Short duration proper nutrient management/RCM-12Var, PusaKomal, Vijay Composite.	Sowing in ridge and furrow/Mulching.	
	4. Gently slopy side slope hill (deep fine soil)	Jhumpaddy,Maize , turmeric, ginger,Frenchbeans,Cucucumber.	Short duration proper nutrient management/RCM-12Var, Vijay Composite, Megha	Sowing in ridge and furrow/Mulching.	

	5.Plain to gently slopy valley (deep fine silty soil)	Rice, Groundnut, Frenchbean, Maize,blackgram, Soyabean, Arhar, Rajma, Ricebeans, moong	Turmeric, Nadia, Anup. . . No change in crop. RC Maniphou-12, ICGS-76, Anup, Vijay Composite, T-9, JS-335.	Proper nutrient management .	

Condition	**Major Farming situation**	**Crop/Cropping system**	**Suggested contingency measures**		
Delayed onset			Change in crop/ cropping system	Agronomic measure	RemarksOn Implementation
Delay by 4 weeks (July1st week) Kharif sowing : II Fortnight of July	**1.Severely sloppy side slope hill (deep fine loamy soil)**	Silviculture	No change		Seed should be made readily available by the concerned department or corporation RKVY, IWMP and NFSM.
			No change	Sowing near the trees	
		Lima Bean	No change/ T-9	Sowing near the trees	
	2. Moderately slope side slope hill (deep fine silty soil)		No change/ PusaKomal	Across the slope	
		Black Gram	No change/ Anup	Across the slope	
		Cow Pea		Sowing in ridge and furrow Across the slope	
		French Bean	No change/ RCM-12	Short duration	
		Jhum paddy		Across the slope	
	3. Moderately slope side slope hill (clay skeletal soil)	Black Gram	No change/ T-9	Sowing in ridge and furrow /	
		Cow pea	No change/		

	4. Gently slopy side slope hill (deep fine soil) 5.Plain to gently slopy valley (deep fine silty soil)	Jhum Paddy Maize French Bean Cucumber Rice, Cow pea French bean	PusaKomal No change/ RCM-12 No change/ Vijay Composite No change/ Anup No change RCM- 13 No change/ PusaKomal No change/ Anup	Mulching Short duration, Proper nutrient management Sowing in ridge and furrow / Mulching Sowing in ridge and furrow / Mulching Sowing in ridge and furrow / Mulching Proper nutrient management Sowing in ridge and furrow / Mulching Sowing in ridge and furrow / Mulching	

Condition	**Major Farming situation**	**Crop/Cropping system**	**Suggested contingency measures**		
Delayed onset			Change in crop/ cropping system	Agronomic measures	Remarkson Implementation
Delay by 6 weeks (July 4th week) *Kharif* sowing:1 Fortnight of August	.Plain to gently slopy valley (deep fine silty soil	Rice (RC Maniphou-12,13)	R/var: RC Maniphou-12,13	Normal agronomic practices	Seed should be made readily available by the concerned department or corporation RKVY, IWMP and NFSM.
		Groundnut	ICGS-76		
		soybean	JS-335		
		Black gram	T-9		

6-8 weeks delay of South West Monsoon is not applicable in the district

Condition	**Major Farming situation**	**Crop/ Cropping system**	**Suggested contingency measures**	
Delayed onset			**Crop management**	**Soil nutrient & moisture conservation measures**
Condition normal onset follow by 15-20 days dry spell after sowing leading to poor germination /crop stand etc.	1.Severely sloppy side slope hill-(Deep fine loamy soil)	Lima Bean	No change	Sowing near the trees
		Jhum paddy	Weeding	Spraying of 2% Urea and 2% Potash
	2.Moderately slope side slope hill (Deep fine silty soil)	Ginge	i. If there is poor germination (Less than 30%) resowing ii. . Gap filling iii. Weeding	In situ moisture conservation, mulching with locally available bio mass
	3.Moderately sloppy side slope hill (clay skeleton soil)	Turmericr	- Do –	Do –
		Jhum paddy	Weeding	Spraying of 2% Urea and 2% Potash
		Cow pea	i. If there is poor germination (Less than 30%) resowing ii. Gap filling	In situ moisture conservation, mulching with locally available bio mass

	4.Gently sloppy side slope hill (Deep fine soil)		iii.Weeding	
		Maize	i. If there is poor germination (Less than 30%) resowing	In situ moisture conservation, mulching with locally available bio mass
			ii. Gap filling	
			iii.Weeding	
		Paddy	Weeding	Spraying of 2% Urea and 2% Potash
				In situ moisture conservation, mulching with locally available bio mass
		Maize	i. If there is poor germination (Less than 30%) resowing	
			ii. Gap filling	In situ moisture conservation, mulching with locally available bio mass
			iv. Weeding	
		Turmeric	i. If there is poor germination (Less than 30%) resowing	
			ii. Gap filling	
			iii.. Weeding	In situ moisture conservation, mulching with locally available bio mass
		Ginger	i. If there is poor germination (Less than 30%) resowing	

	5.Plain to gently sloppy valley (Deep fine silty soil	French Bean	ii. Gap filling iii. Weeding i. If there is poor germination (Less than 30%) resowing ii. Gap filling iii. Weeding	In situ moisture conservation, mulching with locally available bio mass Basal doge of fertilizer application.
		Rice,	Weeding, Life saving irrigation	In situ moisture conservation, mulching with locally available bio mass
		Ground nut ,	i. If there is poor germination (Less than 30%) resowing ii. Gap filling iii. Weeding iv. Life saving irrigation	In situ moisture conservation, mulching with locally available bio mass
		Cow pea	i. If there is poor germination (Less than 30%) resowing ii. Gap filling iii. Weeding iv. Life saving irrigation	In situ moisture conservation, mulching with locally available bio mass
		French bean	i. If there is poor germination (Less	

			than 30%) resowing ii. Gap filling iii. Weeding iv. Life saving irrigation	
		Maize	i. If there is poor germination (Less than 30%) resowing ii. Gap filling iii. Weeding iv. Life saving irrigation	In situ moisture conservation, mulching with locally available bio mass

Condition	**Major Farming situation**	**Crop/ Cropping system**	**Suggested contingency measures**	
			Crop management	**Soil nutrient & moisture conservation measures**
Mid season drought (long dry spell, consecutive 2	1.Severely sloppy side slope hill-(Deep fine	Lima Bean	mulching with locally available bio mass	

weeks rainless period (> 2.5 mm) At vegetative stage	loamy soil)			
	2.Moderately slope side slope hill (Deep fine silty soil)	Jhum paddy Ginger Turmeric	Weeding Intercultural operation -Do-	Spraying of 2% Urea and 2% Potash mulching with locally available bio mass - Do -
	3.Moderately sloppy side slope hill (clay skeleton soil)	Jhum paddy Cow pea Maize	Weeding Intercultural operation - Do –	Spraying of 2% Urea and 2% Potash mulching with locally available bio mass mulching with locally available bio mass
	4.Gently sloppy side slope hill (Deep fine soil)	Paddy Maize Turmeric Ginger French Bean	Weeding Intercultural operation Intercultural operation Intercultural operation Intercultural operation	Spraying of 2% Urea and 2% Potash mulching with locally available bio mass mulching with locally available bio mass mulching with locally available bio mass mulching with locally available bio mass

	5.Plain to gently sloppy valley (Deep fine silty soil	Rice, Ground nut , Cow pea French bean Maize	Weeding, Life saving irrigation a) Intercultural operation b) Life saving irrigation a) Intercultural operation b)Life saving irrigation a)Intercultural operation b) Life saving irrigation a)Intercultural operation b) Life saving irrigation	Basal dose of fertilizer application. mulching with locally available bio mass, Basal dose of fertilizer application. mulching with locally available bio mass mulching with locally available bio mass, mulching with locally available bio mass, Basal doge of fertilizer application.

Condition	**Major Farming situation**	**Crop/ Cropping system**	**Suggested contingency measures**	
			Crop management	**Soil nutrient & moisture conservation measures**
Mid season drought (long dry spell) at flowering/fruiting stage.	1.Severely sloppy side slope hill-(Deep fine loamy soil)	Lima Bean		

	2.Moderately slope side slope hill (Deep fine silty soil)	Jhum paddy		
		Ginger	Removal of older leaves	Soil conserving crops should be raised in the field, vegetative mulching for better moisture conservation
		Turmeric	Removal of older leaves	mulching with locally available bio mass
	3.Moderately sloppy side slope hill (clay skeleton soil)	Jhum paddy	-	mulching with locally available bio mass,
		Cow pea	-	mulching with locally available bio mass
		Maize	-	Top dressing of fertilizer application. -
	4.Gently sloppy side slope hill (Deep fine soil)		-	mulching with locally available bio mass
		Paddy	-	mulching with locally available bio mass
		Maize	-	mulching with locally available bio mass
		Turmeric	-	-
		Ginger		
		French Bean	Intercultural operation	-

	5.Plain to gently sloppy valley (Deep fine silty soil	Rice, Ground nut , Cowpea French Bean Maize	- - Life saving irrigation Life saving irrigation Life saving irrigation Life saving irrigation	- mulching with locally available bio mass mulching with locally available bio mass Top dressing dose of fertilizer application

Condition	**Major Farming situation**	**Crop/ Cropping system**	**Suggested contingency measures**

-	-	-	**Crop management**	**Soil nutrient & moisture conservation measures**
Terminal drought	1.Severely sloppy side slope hill-(Deep fine loamy soil)	Lima Bean	-	-
	2.Moderately slope side slope hill (Deep fine silty soil)	Jhum paddy	Resowing of late variety	If grain filling is severely affected , harvest for fodder use
		Ginger	mulching with locally available bio mass	Harvest at physiological maturity
		Turmeric	mulching with locally available bio mass	Harvest at physiological maturity
	3.Moderately sloppy side slope hill (clay skeleton soil)	Jhum paddy	-	If grain filling is severely affected , harvest for fodder use
		Cow pea	Interculturaloperation	If grain filling is severely affected , harvest for fodder use
		Maize	mulching with locally available bio mass Top dressing dose of fertilizer application	If grain filling is severely affected , harvest for fodder use Land preparation for sowing of linseed.
	4.Gently sloppy side slope hill	Paddy	-	If grain filling is severely affected , harvest for fodder use Land preparation for sowing of linseed, pea,

	(Deep fine soil)			lentil.
		Maize	mulching with locally available bio mass	If grain filling is severely affected , harvest for fodder use Land preparation for sowing of linseed.
		Turmeric	mulching with locally available bio mass	Filling of the rhizome and leave to the ground
		Ginger	mulching with locally available bio mass	Filling of the rhizome and leave to the ground
		French Bean	-	If grain filling is severely affected , harvest for fodder use
	5.Plain to gently sloppy valley (Deep fine silty soil a)	Rice,	Resowing of late variety	If grain filling is severely affected , harvest for fodder use Land preparation for sowing of linseed, pea, lentil, rape seed.
		Ground nut ,	Interculturaloperation	Harvest at physiological maturity
			Mulching with locally available bio mass	Land preparation for sowing of linseed, pea, lentil, rape seed.
		Cowpea	-	If grain filling is severely affected , harvest for fodder use Land preparation for sowing of linseed, pea,

				lentil, rape seed.
		French Bean	-	If grain filling is severely affected , harvest for fodder use
		Maize	Mulching with locally available bio mass	Land preparation for sowing of linseed, pea, lentil, rape seed.

2.1.2 Irrigation situation-NA

Condition	**Major Farming situation**	**Crop/ Cropping system**	**Suggested contingency measures**		
			Change in crop/cropping system	**Agronomic measures**	**Remark**
Delayed /limited release of	NA	NA	NA	NA	NA

water in canals due to low rainfall		Suggested contingency measures

2.2 Unusual rains (Untimely, unseasonal etc.) (for both rainfed and irrigated situations)

Condition	**Suggested contingency measures**			
Continuous high rainfall in a short span leading to water logging	**Vegetative stage**	**Flowering stage**	**Crop maturity**	**Post harvest**
Rice	Provide dranage	Provide dranage	Drainout. Harvesting at physiological maturity stage	Proper seed drying before storage
Maize	Provide dranage	Provide dranage	Drainout. Harvesting at physiological maturity stage	-DO-
Khasi mandarin, Pineapple, Banana, Guava, Assam lemon	Provide dranage,	Drainage, application of hormones, nutrient , sprays to prevent flower drop	Drainage	Shifting of the produce to dryer place, cold storage

Ginger, Turmeric	Provide drainage,	-	-	Shifting of the produce to dryer place,
Cucurbitaceous crops	Provide drainage	Drainage, application of hormones, nutrient , sprays to prevent flower drop	Harvesting of the produce before the rain occurs	Shifting of the produce to dryer place, coolstorage
Heavy rainfall with high speed winds in a short span2		Provide drainage		
Banana	Provide drainage		Proper promping	-
Citrus	Provide drainage	Application of GA-3, 10 pmm+ Boron0.3% for better fruit set and development	-	
Ginger, Turmeric	Provide drainage	Provide drainage	Harvesting of the produce before the rainoccurs	Shifting of the produce to dryer place
Cucurbitaceous crops	Provide drainage	Drainage, application of hormones, nutrient , sprays to prevent flower drop	Harvesting of the produce before the rainoccurs	Shifting of the produce to dryer place, cold storage
		Need base plant protection IPDM for paddy	Drain out ,	Safe storage against storage pest

Outbreak of pests and diseases due to unseasonal rains Rice	Proper water and nutrient management along with prophylactic plant protection measures		Harvesting at physiological maturity stage	and disease,
Maize	Proper water and nutrient management along with prophylactic plant protection measures	Need base plant protection IPDM for paddy	Drain out , Harvesting at physiological maturity stage	Safe storage against storage pest and disease,

Ground nut	Earthing up in groundnut should be done. Proper drainage should be made in and around the field. Make the field clean by weeding	Drain out the excess water to avoid water logging	All the matured seed should be harvested timely to prevent from germination. Disease free pods should be harvested.	Harvested crop, spread and sundry for 2·3 days Pods should be dried after harvesting reduced to 10% moisture.
Blackgram	Proper bed should be prepared	Weedicide should not be applied in the black gram at any stage. Hand weeding is preferred if possible.	All the matured seed should be harvested timely to prevent from germination Harvesting should be done when crop is 75%matured Pods should not allowed to Over mature to avoid shattering	Pods should be harvested, dried and spread in the shed Dry the seed on a concrete floor and frequently tum over the seed until the seed dried. Pods should be dried after harvesting so that moisture is reduced to 10%.

Mustard	Thinning should be done. Apply recommended dose of fertilizers to give higher yield.	Apply irrigation	Harvested as soon as it mature to avoid over ripening and prevent seed shattering.	Proper drying should be done. After proper drying, seed are stored in dry and cold place.
Outbreak of pests	The control measures may be taken up as per package of practices			

2.3 Flood: Not experienced in the district

Condition	**Suggested contingency measure**			
Transient water logging/ partial inundation	**Seedling /nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Early Rice	NA	NA	NA	NA
Kharif rice	NA	NA	NA	NA
Cucurbits	NA	NA	NA	NA
Solanaceae	NA	NA	NA	NA
Leguminosae	NA	NA	NA	NA

Continuous submergence for more than 2 days

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

Extreme event type	**Suggested contingency measure**			
Cold wave/ Frost / Hailstorm/ Cyclone	**Seedling /nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Early kharif Rice	NA	NA	NA	NA
Kharif rice	NA	NA	NA	NA
Cucurbits	NA	NA	NA	NA
Solanaceae	NA	NA	NA	NA

2.5.1 Contingent strategies for Livestock, Poultry & Fisheries

2 5.Livestock	**Suggested contingency measures**		
Drought	**Before the event**	**During the event**	**After the event**
Feed and fodder availability	Locally available fodder, cultivation of fodder for preparation of sillage and hay, maintaining fodder bank	Rice bran, oilcake, rice polish, kitchen waste or garbage etc.	Used of non conventional fodders, use of feed mixtures and feed blocks availing insurance
	Locally available	Under ground, tube well, reservoirs etc.	Locally available
	Timely vaccination, (FMD,HS,BQ.)	Sanitationand proper waste management	Scientific feed management, vaccination
Flood			
	Locally available fodder, storage of concentration feeds, storage of green fodder using silage	Rice bran, oilcake, rice polish, kitchen waste or garbage etc.	Mixed with fodder and cooked rice bran
	Locally available	Treated water (if possible water should be pasteurized)	Treated water (if possible water should be pasteurized)
	Timely vaccination, (FMD,HS,BQ.)	Keep the safety area, Sanitation	Scientific feed management,

		and proper waste management	vaccination
Cyclone	Proper support the shed	Free from rope	Proper support the shed
Heat wave	NA	NA	NA
cold wave	Stocking of charcoal, paddy husk, straw	Burning of charcoal, burning of paddy husk, covering of animal using jute sac,straw bedding/litters	Burning of charcoal, burning of paddy husk, covering of animal using jute sac,
Health and disease management	Timely vaccination,(FMD,HS,BO.)	Proper feeding, sanitation	Vaccination, proper feed management
Drought			
Shortage of feed ingredients	Stocking of feeds	Proper feed management	Proper feed management
Drinking water	Storage of water	Hygienic Water i.e, boiled water	Treated water
Health and disease management	Vaccination of F_1 and F_2,	Proper feeding ,sanitation	Vaccination, proper feed management
Flood			
NA	NA	NA	NA

2.5.3 Fisheries /Aquaculture	**Suggested contingency measures**		
1. Drought	**Before the event**	**During the event**	**After the event**
A. Capture	**NA**	**NA**	**NA**
Marine	**NA**	**NA**	**NA**
Inland			

i. Shallow water depth due to insufficient rains/ inflow. ii. Change in water quality	Preparation of temporary bund and conservation of water body, Proper nutrient mgt.and regular sampling	Stock thinning/fishing ,water exchange	Deepening of channels, water exchange and prophylactic treatment
8. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/ inflow	Rain water harvesting, reparing of bund and de-silting	Short term aquaculture with medium and minor carps, maintaining water qualityPartial harvesting of fish Transfer all the existing fishes to the deeper	Early harvest and preparation for next crops,disinfectant of all ponds by applying lime@ 200-300 kg/ha. Clean all the unwanted aquatic

2.5,3 Fisheries	**Suggested contingency measures**		
	Before the event	**During the event**	**After the event**
1. Foods	**NA**	**NA**	**NA**
B. Aquaculture	Construction of ring bund/ embankment of fish farm. The height of the bund should have 0.5- 1.0 m higher than the highest flood level (data should be taken 10 yrs.) Provide proper drainage system in order to prevent inflow and out flow of pond water. 3. Health check and any incidence diseases should be done and isolate the pond, fish is transferred to the quarantine pond.	Encircle the pond /farm areas with proper nylon nets in order to prevent escape of fish from ponds/farms during flood.	Aquatic weed should be cleaned and controlled by using suitable methods. Liming should be done to get pond water near neutrality (P"6.5-7.5) Change pond water to fresh water
iii. Health and diseases	To ensure enough fresh water	To ensure enough fresh water	Liming @ 200- 300 kg/ha.

3. Crop Planning for Kharif and Rabi and for **Normal Condition (Complete package)**

Kharif Crop Planning for Normal Condition

Sectors	Varieties	Nutrient management N:P:K:S:Zn (STV based)	Tillage operation	Water Management	Soil Water Conservation	Tool/Farm Implements
Cereals						
Rice	RC-Maniphou 7, RC-Maniphou 10 and RC-Maniphou 11	60:40:30 NPK kg/ha and 15-20 kg/ha Zinc Sulphate	Summer tillage, seed bed preparation, puddling, bunding around the field just after the first shower of monsoon	Thin film at the time of transplanting or only mud for better establishment of seedlings and 5 cm at maximum tillering stage. Drained out water from the field atleast one week earlier of harvesting in light soils and 2-3 weeks in heavy soils	Timely weed control, plant protection measures, organic source of fertilizers, its consumptive use along with chemical fertilizer in proportion of 50:50.	Tractor, Power tiller,mould board plough, puddler
Maize	Trisulata, RCM-76, HQPM-1	120:50:40 NPK kg/ha and 15-20 kg/ha zinc sulphate	One deep ploughing, in case of heavy soils 2-3 deep ploughings are needed whereas in light soils too much tillage is a wasteful, 2-4 harrowings.	Rainfed, Protect crop from water logging by providing shallow furrows after certain distance and these furrows are connected to main drains.	Timely weed control, plant protection measures, organic source of fertilizers, its consumptive use along with chemical fertilizer in proportion of 50:50.	Tractor, spade, wooden plough

Pulses						
Blackgram	T-9; Uttara	20:40:20:20 NPK&S kg/ha	One deep ploughing followed by 2-3 harrowings and one planking	Rainfed. However, soil moisture availability at sowing, 25 DAS and pod filling is critical and	Timely weed control, Application of manures and fertiliers, Crop rotation,seed	Tractor, Power tiller

				should be obtained at optimum level.	inoculation with Rhizobium	
Greengram	Pant M-4, PDM-54 (Moti)	20:40:20:20 NPK&S kg/ha	One deep ploughing followed by 2-3 harrowings and levelling	Rainfed, avoid water logging	Timely weed control, Application of manures and fertiliers, Crop rotation,seed inoculation with Rhizobium	Tractor, Power tiller
Oilseeds						
Groundnut	ICGS-76, JL 24	20:60:40 NPK kg/ha and 25 kg/ha zinc sulphate	Thoroughly levelled to avoid water logging and ploughing twice or thrice followed by planking	Rainfed, avoid water logging	Timely weed control, Application of manures and fertiliers,Use of biofertilizers and bioorganics	Power tiller
Soybean	JS-335, Bragg	20:60:30 NPK kg/ha	Two cross ploughing	Rainfed, avoid water logging	Timely weed control, Application of manures and fertiliers,Use of biofertilizers and bio-organics	Power tiller, Spade

Rabi Crop Planning for Normal Condition

Sectors	Varieties	Nutrient management N:P:K:S:Zn (STV based)	Tillage operation	Water Management	Soil Water Conservation	Tool/Farm Implements
Cereals						
Maize	Trisulata, RCM-1-2, Deccan-105, Ganga-11	120:60:40 N, P_2O_5 and K_2O/ha	Conventional tillage, zero tillage, transplanting	If rainfall is scarce, irrigation should be given to just moisten the soil viz., sowing,25 DAS, 50 DAS, flowering,20 days after flowering and dough stage. In transplanted crop 1 irrigation should be given immediately after	Application of FYM, Mulching, timely weed control, in situ moisture conservation, planting in furrows.	Tractor, Power tiller, Wooden plough, spade, khurpi.

				transplanting followed by one after 8-10 days.		
Pulses						
Field pea	Rachna , Aparna	20:60:40: 30 NPKS kg/ha and 15-20 kg/ha zinc sulphate (once after 3 years)	One deep ploughing followed by 2-3 harrowings and planking	2 light irrigations should be given at 45-50 days and 75 days after sowing, water logging condition should not be arise.	Timely weed control, use of organic manures, mulching, use of Rhizobium	Tractor, power tiller, spade, khurpi
Lathyrus	Bio Ratan 1, BIOL 212	20:50:30:30 N,P_2O_5 ,K and S kg/ha. Spray 20% urea at flowering	One deep ploughing followed by cross harrowing and planking	If there is no winter rain one very light irrigation between pod formation and grain filling stage should be given	Timely weed control, utera cropping, use of organic manures, use of Rhizobium	Tractor, power tiller, wooden plough, khurpi
Lentil	VL-1, Pant L 406	20:50:30 NPK kg/ha	One deep ploughing followed by 2-3 harrowings and planking	If there is no winter rain 1-2 light irrigations at flowering and grain filling stage should be given	Timely weed control, utera cropping, use of organic manures,	Tractor, Power tiller, wooden plough, khurpi
Oilseed						
Rapeseed	M-27	50:60:30:10 NP_2O_5K and S kg/ha	Ploughed for 3-4 times with desi plough and planking after each plough	2 irrigations at flowering/branching stage and at pod (siliqua) formation stage	Timely weed control, plant protection measures, use of organic manures,	Desi plough, wooden plough, spade

5. Kharif Crop Planning for Delayed Monsoon (complete package)

Sectors	Varieties	Nutrient management N:P:K:S:Zn (STV based)	Tillage operation	Water Management	Soil Water Conservation	Tool/Farm Implements
Cereal						
Rice (If monsoon is	Nursery for comparatively	60:40:30 NPK kg/ha. For kharif	Dry sowing, resowing of rice	One life saving irrigation (5	Seeding and moisture conservation, Timely	Wooden plough, spade, power tiller

delayed upto 10th of July, upland rice should not be taken.)	shorter duration varieties may be done. Eg. IR-64,	crops, nitrogen can be applied in splits depending on rainfall. Second split may be avoided if the soil moisture is not adequate for top dressing in time.	is needed in medium and lowland (direct sown rice), if plant population is less than 50%.	cm) from harvested water	weed control, Organic source of fertilizer, its consumptive use with chemical fertilizer in proportion of 50:50.	
Maize	Naveen	120:60:40 NPK kg/ha	Dry sowing, Minimal tillage, zero tillage,	Supplemented irrigation with harvested water,	Reduced plant density, increased inter row distance, plant protection measures	Power tiller, Wooden plough, spade, Khurpi

Pulses						
Blackgram	T-9, Pant Urd-35, Narendra Urd-1	20:40:20 NPK kg/ha	Minimal or Reduced tillage, Zero tillage, Conservation tillage	Life savingirrigation by harvested water. The strategy for getting successful crop during dry spell is providing small quality of water, if available, at any stage if the dry spell is more than 10 days in light soils and 15 days in heavy soils.	Reduced plant density, increased inter row distance.	Power tiller, Wooden plough, spade, khurpi
Greengram	Pant Moong – 54, Narendramoong – 1	20:40 NP kg/a				
Oilseed						

Groundnut	Short duration variety like Girnar -1. Spreading type should be avoided	20:40:40 NPK kg/ha.Spray 2 % urea at week to 10 days	Minimal or Reduced tillage, Zero tillage, Conservation tillage.	One life saving irrigation especially at pegging stage. spraying water at weekly intervals interval Groundnut responds to 10 mm of irrigation through sprinkler on affisols during pod development stage.	Mulching with thin black polythene film, rice straw during pre-rabi season.	Power tiller, Wooden plough, spade, power tiller, khurpi

Fodder						
Maize+Cowpea	Maize var.Ganga Safed-2, Kanchan, Jaunpuri and Cowpea var.Bundle Lobia-1, Bundle Lobia-2	20:40 N and P kg/ha. Foliar application of urea.	Contingent operations relative to water stagnation/ drought	Supplemental irrigation, construction of diversion ditches ina case of intended rains	On availability of organic source of fertilizer, its conjunctive use along with chemical fertilizers in proportion of 50:50 has confirmed its utility in sustaining the productivity of component crops in the proven system due to improved soil health. Weed control in standing crops, plant	Power tiller, Wooden plough, spade, sickle, khurpi

					protection measure stirring interrow space for minimizing moisture loss	

6. Rabi Crop Planning for Delayed Monsoon (complete package)

Sectors	Varieties	Nutrient Management N:P:K:S:Zn (STV based)	Tillage operation	Water management	Soil and water conservation	Tool/farm implements
Cereal						
Maize	Short duration varieties such as RCM-1-2, Trisulata, Deccan-103, Ganga-11	120:60:40 NPK kg/ha	Minimal or Reduced tillage, Zero tillage	If winter rains are occurring and soil does not have sufficient moisture for the survival of crops then crops should be harvested for fodder	Application of FYM or Compost @ 10 tons/ha at 30 to 35 days before sowing, mulching, timely weed control	Power tiller, wooden plough, spade, khurpi, sprayer
Pulses						
Chickpea	Radhey, K-850	20:40:20 N, P_2O_5 and K_2O kg/ha.	Minimal tillage, Zero or no-tillage, Conservation tillage for in situ moisture conservation	Life saving irrigation from harvested water Chickpea need 30 to 40 mm of supplemental irrigation applied as drip or sprinkler irrigation during flowering.	Thinning by removing every alternate row or every third row which will save the crop from failure by reducing the competition, mulching, timely weed control, water harvesting, recycling of run-off.	Power tiller, wooden plough, spade, khurpi, sprayer
Lentil	NarendraMasoor, Pant L-639	20:40:20 N, P_2O_5 and K_2O kg/ha.				
Lathyrus	Bio Ratan 1	Only nitrogen @ 20 kg/ha should be top dressed after 15 days of sowing				
		Most economical responses were with low rates of 25-30 kg N/ha. 10. On heavy black soils,				

		crops respond to about 30 kg P2O5/ha. Most of the nutrients have to be band placed in the soil at sowing as basal application.				
Oilseed						
Rapeseed	M-27, TS-36, Local Yella	Economical responses were obtained with low levels of 'N' only.	Minimal tillage, Zero or no-tillage, Conservation tillage for in situ moisture conservation	Life saving irrigation from water harvesting pond. Drip and sprinkler irrigations are more suitable because small amount of water can be delivered, even on uneven soils without conveyances losses Subsurface drip irrigation is very efficient for providing supplemental irrigation.	Water harvesting. The stored water can be used for giving the life saving irrigation during prolonged dry spells.	Power tiller, wooden plough, spade, khurpi, water can.
Fodder						
Oat+Mustard	Oat var. JHO-822 and Kent; Mustard var.Varuna, Sanjukta and Kranti	25:40 N and P kg/ha, foliar application of urea.	Minimal tillage, Zero or no-tillage, Conservation tillage for in situ moisture conservation	Supplemental irrigation from harvested water,	Water harvesting, Timely Weed control measures, plant protection measure stirring interrow space for minimizing moisture loss	Power tiller, Spade, khurpi, water can

Sectors	Varieties breed species	Nutrient Management N:P:K:S: Zn (STV based)	Tillage operation	Water management	Soil water conservation	Tool/Farm Implements

Horticultural Crop Planning for **Normal Condition (**Kharif and Rabi**).**						
Fruits						
Passion fruit	Purple & yellow	NPK @ 100:50:100g/vine/yr in two split doses in Feb.-March and in July-August.	Dig pits of 45 x 45 x45cm at a distance of 3m in rows spaced 2m apart. Dig these pits in advance and leave open for 15 days and then fill with a mixture of soil and 10kg well rotten compost.	Provide protective irrigation if possible during dry spell (Dec. to April)	Application of organic manure, mulching, intercropping, countour farming etc.	Spade, khurpi, water can, sickles, sprayer etc.
Pineapple	Giant kew, queen and mauritius	NPK @ 12:4:12g/plant, N & K is applied in two equal split doses. The first dose-2 months after planting & last dose-12month after planting. Entire P & half dose of K should be given at the time of planting and remaining K should be given at 6 months after planting.	The field is prepared by deep ploughing, harrowing etc. before planting in hill areas, proper terracing is necessary.	During scarcity of moisture, irrigation once in 10-15 days linterval should be given.	i. Application of balanced fertilizers & organic manures. ii. Mulching, intercropping, contour farming etc. should be practiced.	Tractor, power tiller, spade, khurpi, water can, sickles, sprayer etc.

Banana	Dwaft Cavendish, G-naine, local etc.	NPK @ 100-200:40-70:200-300g/plant in 3rd and 5th month after planting.	Dig the pits of 50 x 50 x 50 cm at a spacing of 1.8 x.1.8 m.	Irrigation is given in once in 7 to 10 days. For high-tech cultivation drip irrigation can be installed.	i. Application of balanced fertilizer and organic manures intime, ii. Intercropping with legume crops, desuckering, mulching etc. should be practiced.	Spade, khurpi, water can, sickles, sprayer etc.
Vegetables						
Tomato	Arkaalok, avinash-2, swaraksha, avantika etc.	Urea, SSP, MOP @ 266, 500, 100kg/ha	The field should be ploughed by tractor and followed by power tiller to a depth of about 20-25cm. All the weeds and stumbles should be removed and prepare to a fine tilth and levelled properly. The field should be divided in to raised beds. The breadth of each bed should not more than 1.5 m but the length can be of own convenient.	Rainfed and giving life saving irrigation from canal, farm ponds etc.	i. Application of balanced fertilizer and organic manures intime, ii. Timely weeding, hoeing, earthing up, proper management of crop residues, mulching etc. should be practiced.	Tractor, Power tiller, Spade, khurpi, plastic rope, water can, sickles, sprayer etc.
Ash gourd	APAU Shakti, CO1, CO2 etc.	Urea, SSP, MOP @ 100, 300, 100kg/ha				
Bitter gourd	Arkaharit, Pusavisesh, viveketc	Urea, SSP, MOP @ 44, 187, 50 kg/ha				
Bottle gourd	Pratima, US-15, pusameghdut, pusa long etc	Urea, SSP, MOP @ 88, 250, 99kg/ha				
Brinjal	Bholanath, Sel-5, RCMBL-1, local etc	Urea, SSP, MOP @ 222, 468, 74kg/ha				
Broccoli	Fiesta, KTS-1, pushpa, harumi-188 etc.	Urea, SSP, MOP @ 266, 500, 99 kg/ha				
Cabbage	Rareball, pusamukta, green hero, pride of india etc.	Urea, SSP, MOP @ 266, 375, 99kg/ha				
Capsicum	Green &	Urea, SSP, MOP @				

	yellow	223, 500, 100 kg/ha				
Carrot	Nantes, pusameghali, kriti etc.	Urea, SSP, MOP @ 55, 157, 150 kg/ha				
Cauliflower	Snowball-16, himani, pusa him jyoti, white flash, NS-60N, sweta etc.	Urea, SSP, MOP @ 266, 375, 100 kg/ha				
Colocasia	Local-Mukhi pan, haopan, ganga pan etc.	Urea, SSP, MOP @ 177, 375, 99 kg/ha				
Cucumber	Poinsette, pusasanjog, local etc.	Urea, SSP, MOP @ 333, 562, 149 kg/ha				
French bean	RCMFB-1, arkakomal, pusaparbati etc.	Urea, SSP, MOP @ 88, 375, 83 kg/ha				
Knolkhol	Large green, white viena etc.	Urea, SSP, MOP @ 222, 531, 282 kg/ha				
Okra	7-dhari, parbhani, kranti, arkaanamika etc.	Urea, SSP, MOP @ 267, 500, 100 kg/ha				
Pea (garden)	Arkel, Bonneville, local-makuchabi, makhyatmubi etc.	Urea, SSP, MOP @ 44, 250,83 kg/ha				

Pumkin	CO2, pusavikas, local-sanamairel, charatambi etc.	Urea, SSP, MOP @ 222, 312, 83 kg/ha				
Radish	Japanese white, Chinese pink etc.	Urea, SSP, MOP @ 111, 312, 83 kg/ha				
Sponge gourd	NS-445, local chakhao nimbi etc.	Urea, SSP, MOP @ 44, 187, 49 kg/ha				
Water melon	Arkamanik, sugar baby, asahiyamato	Urea, SSP, MOP @ 155, 187, 49 kg/ha				
Spice						
Chilli	Agni, barnali, 86235, local-Meitei morok, haomorok etc.	Urea, SSP, MOP @ 266, 375, 83 kg/ha	The field should be ploughed by tractor and followed by power tiller to a depth of about 20-25cm. all the weeds and stumbles should be removed and prepare to a fine tilth and levelled properly. The field should be divided in to raised beds. The breadth of each bed should not more than 1.5 m	Rainfed and giving life saving irrigation from canal, farm ponds etc.	i. Application of balanced fertilizer and organic manures intime. ii. Timely weeding, hoeing, earthing up, proper management of crop residues, mulching etc. should be practiced.	Tractor, Power tiller, Spade, khurpi, plastic rope, water can, sickles, sprayer etc.
Chinese chives	Local-ningthamshidabi	Urea, SSP, MOP @ 222, 437, 132 kg/ha				
King chilli	Local	Urea, SSP, MOP @ 13g, 25g, 8g/plant - during transplanting, another 10g, 25g, 8g/plant in 2nd and 3rd year alongwith FYM @ 1kg/plant				
Garlic	Agri found white, local-meiteichanam etc.	Urea, SSP, MOP @ 55, 375, 99 kg/ha				
Ginger	Nadia, varada,	Urea, SSP, MOP @				

	thingpui etc.	166, 312, 83 kg/ha	but the length can be of own convenient.			
Onion	Pusa red, N-53, prema, Matahari etc.	Urea, SSP, MOP @ 277, 375, 166 kg/ha				
Turmeric	Lakadong, megha turmeric etc.	Urea, SSP, MOP @ 133, 312, 33 kg/ha				
Horticultural Crop Planning for Delayed monson (Kharif and Rabi**).**						
Vegetable						
Tomato	F1 hybrid like swaraksha, 815, rocky etc.	Urea, SSP, MOP @ 266, 500, 100kg/ha	Summer tillage of off season tillage should be practiced. The field should be ploughed by tractor and followed by power tiller to a depth of about 20-25cm. all the weeds and stumbles should be removed and prepare to a fine tilth and levelled properly. The field should be divided in to raised beds. The breadth of each bed should not more than 1.5 m	Water harvesting structure should be made at farm site for giving life saving irrigation. Drip and sprinkler irrigation can be installed. Pot watering is also and efficient method of water management for transplanting crops.	All the cultural practices such as deep ploughing, sowing, intercultivation etc. should be done across the slope. Wider spacing i.e. low plant population, intercropping with legume crops should be done. Balanced application of organic manures and fertilizer, management of crop residures, mulching of standing cropped area, weeding etc. should be done	Tractor, Power tiller, Spade, khurpi, plastic rope, water can, sickles, sprayer
Cabbage	Rareball, pride of india, green hero etc	Urea, SSP, MOP @ 266, 375, 99kg/ha				
Cauliflower	White flash, NS-60N etc	Urea, SSP, MOP @ 266, 375, 100 kg/ha				
Radish	Pusachetki	Urea, SSP, MOP @ 111, 312, 83 kg/ha				
Okra	Parvanikranti	Urea, SSP, MOP @ 267, 500, 100 kg/ha				
Cucumber	Japanese long green					
Ridge gourd	Pusanasadar, CO1	Urea, SSP, MOP @ 44, 187, 49 kg/ha				
French bean	Pusaparvati	Urea, SSP, MOP @ 88, 375, 83 kg/ha				

			but the length can be of own convenient.		intime.	
Spices						
Turmeric	Sudarsan, romaetc	Urea, SSP, MOP @ 133, 312, 33 kg/ha	Summer tillage of off season tillage should be practiced. The field should be ploughed by tractor and followed by power tiller to a depth of about 20-25cm. all the weeds and stumbles should be removed and prepare to a fine tilth and levelled properly. The field should be divided in to raised beds. The breadth of each bed should not more than 1.5 m but the length can be of own convenient.	Water harvesting structure should be made at farm site for giving life saving irrigation. Drip and sprinkler irrigation can be installed. Pot watering is also and efficient method of water management for transplanting crops.	All the cultural practices such as deep ploughing, sowing, intercultivation etc. should be done across the slope. Wider spacing i.e. low plant population, intercropping with legume crops should be done. Balanced application of organic manures and fertilizer, management of crop residures, mulching of standing cropped area, weeding etc. should be done intime.	Tractor, Power tiller, Spade, khurpi, plastic rope, water can, sickles, sprayer
Ginger	Vardhan, nadia, suprabha etc.	Urea, SSP, MOP @ 166, 312, 83 kg/ha				
Chilli	86235, barnalietc	Urea, SSP, MOP @ 266, 375, 83 kg/ha				
King chilli	Local	Urea, SSP, MOP @ 13g, 25g, 8g/plant - during transplanting, another 10g, 25g, 8g/plant in 2nd and 3rd year alongwith FYM @ 1kg/plant				
Corriander	CO1, CO2	1% urea should be given as foliar spray.				

7. Live Stock

Species	Varieties breed species	Feeding management	Housing management	Health Management	Vaccination	Others
Pig	Hempshire	Feeding management with locally available feeds including garbage	Intensive	Proper health care & management	Vaccination for Swine fever at 6 months intervals	
Cattle	Cross bred cattles	Proper feeding management with locally available feeds & feeding of oat during winter season	Semi intensive	Proper health care & management including regular de-worming	Vaccination for BQ, HS & FMD vaccines at 6 months intervals	
Poultry	Vanaraja	Rearing on 50% readymade feed available in market + to let out for foraging during day time.	Semi intensive	Proper health care & management	Vaccination for Ranicket vaccine	

8. Fishery

	Feeding Management	Pond Management
Summer	As marority of the farming practices are carp based traditional, modified traditional and few semi-intensive carp, Supplementary feeding is provided as natural food organisms in culture ponds may not support even after manuring of organic and inorganic soueces.Major feeding ingredients are rice bran and Mustard oil cake (1:1) and aquatic macrophytes. Generally broadcasted or bag feeding @ 2 -5 % of the total biomass. The chopped succulent grass should also be supplied to feed the grass carp thrice daily.	Normal Pre and post stocking practices are followed in carp based culture systems and poolymanged in integrated fish cum paddy culture systems. Liming in installmentwise @200-250kg/ha followed by mannuring with NPK or organic elements for grow out culture systems.
Winter	In many cases of the sources of pond water is rainfed type .Hence during this period the utmost care and proper water management practices are to be followed.	Pond construction and renovation works including the pond bed preparations are to be done from November to February.
Rainy	As breeding season collides for majority of the carps and catfish (*clariasbatrachus*), the feeds are being manged for the newly hatched fishes, fry and fingerlings.	To avoid adverse natural calamities like flood, care should be taken.