

*5. Research Priorities and Strategies for NE India* 

# Blank



5.1 Research Priorities and Strategies for Arunachal Pradesh

# Blank



SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agri-AH-Horti-	Field crop	No specific proven variety for rice in the
	Fishery		district.
			INM, IPM
			Package and practices
		Vegetable	No specific proven HYV of vegetable.
			Lack of package and practices for local
			vegetable crops
			Protective cultivation of vegetables.
		Fishery	Lack of Package and practices for indigenous
			fishes
			Seed production and feed.
		AH	Feed and breed
2	Horti- Agri-AH	Fruits	Lack of quality planting material of khasi
			Madarin
			Commercial cultivation of Khasi mandrin,
			Banana, Pine apple and Guava.
			Value addition in ginger
			Processing and marketing of citrus.
		Paddy	Mechanization and irrigation techniques
			Integrated Nutrient Management
			Non availability of Improved variety of rice
			Possibility of terraced cultivation by managing
			water from natural cannel.
		AH	Feed and Breed
3	Agri-AH	Field crop	No specific proven variety for rice in the
			district.
			INM, IPM
			Package and practices
		AH	Feed and Breed

# 1. Research gaps identified for each farming system and crop

Crops under th

# 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agri-AH-Horti-	Field crop	To identify the suitable Rabi season
	Fishery		crops.
			Development of HYV of Rice suitable in
			the prevailing condition.

	1		
			To develop suitable package and practices
			for field crops
		Vegetable	To develop/identify suitable hybrids/ high
			yielding varieties of major vegetable crops.
			To identify suitable exotic vegetables.
			To develop suitable package and practices
			of local vegetable crops
		Fishery	Low scale breeding techniques for
			production of seed of indigenous fishes.
			Use of locally available ingredients for fish
			feed.
		AH	Improvement of local races of cattle, pig
			and poultry
2	Horti- Agri-AH	Fruits	Development of package and practices of
			citrus and other major fruit crops
			Post harvest Technology for fruit crops
		Paddy	HYV of Rice suitable in the prevailing
			condition.
		AH	Feed and Breed
3	Agri-AH	Field crop	Development of HYV of Rice suitable in the
			prevailing condition.
			To develop suitable package and practices
			for field crops
		AH	Improvement of local races of cattle, pig
			and poultry

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agri-AH-Horti-	Field crop	To develop HYV rice for this region through
	Fishery		the involvement of Rice Research Centre
		Vegetable	To develop high yielding vegetable
			varieties through the involvement of
			AICRP on Vegetable Crops.
		Fishery	Research on fast growing indigenous
			fishes and development of low cost feed
			for aquaculture through Fisheries Research
			Centre
		AH	Upgradation of local breed through cross
			breeding/artificial insemination

2	Horti- Agri-AH	Fruits	Development of IPM modules for Khasi
			Mandarin
			Management of flower and fruit drop in
			citrus
			Low scale processing unit for value
			addition of Khasi Mandarin.
		Paddy	To develop HYV rice suitable for terrace
			cultivation through involvement of Rice
			Research Centre
		AH	Upgradation of local bred through cross
			breeding/artificial insemination
3	Agri-AH	Field crop	To develop HYV rice for this region through
			the involvement of Rice Research Centre
		AH	Upgradation of local breed through cross
			breeding/artificial insemination

# ୭୦୯୬୦୧୬୦୧

..............................

# ē

# 2. Research Priorities and strategies for Lohit

#### SI.No Farming Crops under the FS **Research gaps identified** systems 1. Low altitude, Agri - WRC/ upland paddy, Agriculture : Rainfed : Potato, mustard, maize, 1. Varietal evaluation for direct sown upland soybean, local pulses, tea paddy FS-1 (AES-I) Horti. - Banana, Pineapple, 2. Varietal evaluation for transplanted paddy 3. Varietal evaluation for greengram / (Agri.+ citrus Vegetables, ginger, Horti.+ chili, betel vine blackgram Animal Husb) Animal Husb. -Cattle, pig, 4. Varietal evaluation for rapeseed / mustard FS-2 (AES-I) goat, elephant, duck and 6. INM for upland paddy on hill slope (Agri.+ poultry 7. IPM for upland paddy on hill slope Fishery – Fish species Horti.+ 8. Resource management technology Animal Rohu, Catla, Grass Carp, 9. Cropping system research Husb.+ Silver Carp and Common Horticulture: 1. Varietal evaluation of fruit and vegetable Fishery) Carp, Local species crops. 2. Poor performance of local var. of fruits and vegetables 3. INM for Fruits and vegetables 4. IPM for upland paddy on hill slope 5. Lack of availability of quality planting material. 6. Lack of standardized propagation technique of fruits crop. 7. Lack of efficient orchard management technology 8. Lack of efficient nutrient mgt. technique. 9. Lack of efficient insect-pest & disease mgt. Fishery 1. Lack of suitable region specific fish farming technology 2. Lack of knowledge about different aspects of scientific fish culture Animal Husbandry 1. Lack ok knowledge on scientific management of livestock 2. Parasitic infection

### 1. Research gaps identified for each farming system and crop

1	1		
			3. Poor livestock feed
			4. Poor performance of local breed.
			5. Improper housing
			Agriculture :
2.	Mid altitude,	Agri - WRC/ upland paddy,	1. Varietal evaluation for direct sown
	Rainfed	Potato, mustard, maize,	upland paddy
		soybean, local pulses	2. Varietal evaluation for transplanted
	FS-3 (AES-II)	Horti. – Banana, Pineapple,	paddy
	(Agri.+	citrus Vegetables, ginger,	3. Varietal evaluation for greengram /
	Horti.+	chili, betel vine	blackgram
	Animal Husb)	Animal Husb. – Cattle, pig,	4. Varietal evaluation for arhar
		goat, elephant, duck and	5. Varietal evaluation for rapeseed /
	FS-4 (AES-II)	poultry	mustard
	(Agri.+	Fishery – Fish species	6. INM for upland paddy on hill slope
	Horti.+	Rohu, Catla, Grass Carp,	7. IPM for upland paddy on hill slope
	Animal	Silver Carp and Common	8. Resource management technology
	Husb.+	Carp, Local species	9. Cropping system research
	Fishery)		10. Varietal evaluation of millet
			Horticulture:
			1. Varietal evaluation of fruit and vegetable
			crops.
			2. Poor performance of local var. of fruits
			and vegetables
			3. INM for Fruits and vegetables
			4. IPM for upland paddy on hill slope
			5. Lack of availability of quality planting
			material.
			6. Lack of standardized propagation
			technique of fruits crop.
			7. Lack of efficient orchard management
			technology
			8. Lack of efficient nutrient mgt. technique.
			9. Lack of efficient insect-pest and disease
			mgt.
			Fishery
			1. Lack of suitable region specific fish
			farming technology
			2. Lack of knowledge about different
			aspects of scientific fish culture
			Animal Husbandry
			1. Lack ok knowledge on scientific

			management of livestocks
			2. Parasitic infection
			3. Poor livestock feed
			4. Poor performance of local breed.
			5. Improper housing.
			Agriculture :
3.	High altitude,	Agri - Upland paddy, maize,	1. Varietal evaluation for direct sown
	Rainfed	millet, local pulses	upland paddy
		Horti. – Orange, Tapioca,	2. Cropping system research
	FS-5 (AES-II)	colocasia, vegetables,	3. INM for upland paddy on hill slope
	(Agri.+	ginger, chili, pineapple,	4. IPM for upland paddy on hill slope
	Horti.+	banana	5. Resource management technology
	Animal Husb)	Animal Husb. – Mithun	6. Varietal evaluation of millet
	FS-6	cattle, pig, goat, elephant,	Horticulture:
	(AES-III)	duck and poultry	1. Varietal evaluation of fruit and vegetable
	(Agri.+	Fishery – Fish species	crops particularly orange.
	Horti.+	Rohu, Catla, Grass Carp,	2. Poor performance of local var. of fruits
	Animal	Silver Carp and Common	and vegetables
	Husb.+	Carp, Local species	3. INM for Fruits and vagetables
	Fishery)		4. IPM for upland paddy on hill slope
			5. Lack of availability of quality planting
			material.
			6. Lack of standardized propagation
			technique of fruits crop.
			7. Lack of efficient orchard management
			technology
			8. Lack of efficient nutrient mgt. technique.
			9. Lack of efficient insect-pest & disease
			mgt.
			Fishery
			1. Lack of suitable region specific fish
			farming technology
			2. Lack of knowledge about different
			aspects of scientific fish culture
			Animal Husbandry
			1. Lack ok knowledge on scientific
			management of livestocks
			2. Parasitic infection
			3. Poor livestock feed
			4. Poor performance of local breed.
			5. Improper housing.

SI. No	Farming system	Crops under the FS	Research priorities finalized
1	Low altitude, Rainfed	Agri - WRC/ upland	Agriculture :
	:	paddy, Potato,	1. Varietal evaluation for direct sown
		mustard, maize,	upland paddy
	FS-1 (AES-I)	soybean, local pulses,	2. Varietal evaluation for
	(Agri.+	tea	transplanted paddy
	Horti.+	Horti. – Banana,	3. Varietal evaluation for greengram
	Animal Husb)	Pineapple, citrus	/ blackgram
		Vegetables, ginger,	4. Varietal evaluation for rapeseed /
	FS-2 (AES-I)	chili, betel vine	mustard
	(Agri.+	Animal Husb. –Cattle,	6. INM for upland paddy on hill slope
	Horti.+	pig, goat, elephant,	7. IPM for upland paddy on hill slope
	Animal Husb.+	duck and poultry	Horticulture:
	Fishery)	Fishery – Fish species	1. Varietal evaluation of fruit and
		Rohu, Catla, Grass	vegetable crops.
		Carp, Silver Carp and	2. Introduction of HYV of fruits and
		Common Carp, Local	vegetables
		species	3. INM and IPM in fruit and vegetable
			crops
			4. Standardization of propagation
			technique of fruits crop.
			7. Lack of efficient orchard
			management technology
			8. Use efficient nutrient mgt.
			technique.
			Fishery
			1. Use of suitable region specific fish
			farming technology
			2. Scientific fish farming particularly
			composite fish farming
			Animal Husbandry
			1. Scientific management of
			livestocks
			2. Parasitic infection management
			3. Proper feed management
			4. AI of different animals
			5. Proper housing management
2.	Medium altitude,		Agriculture :
	Rainfed		1. Varietal evaluation for direct sown

# 2. Research priorities finalized for each farming system and crop

		Agri WDC/unland	unland naddu
		Agri - WRC/ upland	upland paddy
	FS-3 (AES-II)	paddy, Potato,	2. Varietal evaluation for
	(Agri.+	mustard, maize,	transplanted paddy
	Horti.+	soybean, local pulses	3. Varietal evaluation for greengram
	Animal Husb)	Horti. – Banana,	/ blackgram
		Pineapple, citrus	4. Varietal evaluation for rapeseed /
	FS-4 (AES-II)	Vegetables, ginger,	mustard
	(Agri.+	chili, betel vine	6. INM for upland paddy on hill slope
	Horti.+	Animal Husb. – Cattle,	7. IPM for upland paddy on hill slope
	Animal Husb.+	pig, goat, elephant,	Horticulture:
	Fishery)	duck and poultry	1. Varietal evaluation of fruit and
		Fishery – Fish species	vegetable crops.
		Rohu, Catla, Grass	2. Introduction of HYV of fruits and
		Carp, Silver Carp and	vegetables
		Common Carp, Local	3. INM and IPM in fruit and vegetable
		species	crops
			4. Standardization of propagation
			technique of fruits crop.
			7. Lack of efficient orchard
			management technology
			8. Use efficient nutrient mgt.
			technique.
			Fishery
			1. Use of suitable region specific fish
			farming technology
			2. Scientific fish farming particularly
			composite fish farming
			Animal Husbandry
			1. Scientific management of
			livestocks
			2. Parasitic infection management
			3. Proper feed management
			4. AI of different animals
			5. Proper housing management
			Agriculture :
3.	High altitude,	Agri - Upland paddy,	1. Varietal evaluation for direct sown
	Rainfed	maize, millet, local	upland paddy
		pulses	2. Cropping system research
	FS-5 (AES-II)	Horti. – Orange,	3. INM for upland paddy on hill slope
	(Agri.+	Tapioca, colocasia,	4. IPM for upland paddy on hill slope
	Horti.+	vegetables, ginger,	5. Resource management technology
3.	Rainfed FS-5 (AES-II) (Agri.+	Agri - Upland paddy, maize, millet, local pulses Horti Orange, Tapioca, colocasia,	<ul> <li>crops</li> <li>4. Standardization of propagation technique of fruits crop.</li> <li>7. Lack of efficient orchard management technology</li> <li>8. Use efficient nutrient mgt. technique.</li> <li>Fishery</li> <li>1. Use of suitable region specific fist farming technology</li> <li>2. Scientific fish farming particularly composite fish farming</li> <li>Animal Husbandry</li> <li>1. Scientific management of livestocks</li> <li>2. Parasitic infection management</li> <li>3. Proper feed management</li> <li>4. AI of different animals</li> <li>5. Proper housing management</li> <li>Agriculture :</li> <li>1. Varietal evaluation for direct sow upland paddy</li> <li>2. Cropping system research</li> <li>3. INM for upland paddy on hill slop</li> <li>4. IPM for upland paddy on hill slop</li> </ul>

Anima	al Husb)	chili, pineapple,	
		banana	Horticulture:
FS-6			1. Varietal evaluation of Orange fruit
(AES-	·III)	Animal Husb. – Mithun	and vegetable crops.
(Agri.	+	cattle, pig, goat,	2. Introduction of HYV of fruits and
Horti.	+	elephant, duck and	vegetables
Anima	al Husb.+	poultry	3. Use efficient nutrient mgt.
Fisher	ry)	Fishery – Fish species	technique.
		Rohu, Catla, Grass	4. INM and IPM in fruit and vegetable
		Carp, Silver Carp and	crops
		Common Carp, Local	5. Standardization of propagation
		species	technique of fruits crop.
			6. Lack of efficient orchard
			management technology
			Fishery
			1. Use of suitable region specific fish
			farming technology
			2. Scientific fish farming particularly
			composite fish farming
			Animal Husbandry
			1. Scientific management of
			livestocks
			2. Parasitic infection management
			3. Proper feed management
			4. AI of different animals
			5. Proper housing management

SI. No.	Farming system	Crop under the FS	Research strategy proposed
1	Low altitude, Rainfed :	Agri - WRC/ upland	Agriculture :
		paddy, Potato,	OFT on
	FS-1 (AES-I)	mustard, maize,	1. Varietal evaluation for direct
	(Agri.+	soybean, local pulses,	sown upland paddy
	Horti.+	tea	2. Varietal evaluation for
	Animal husb)	Horti. – Banana,	transplanted paddy
		Pineapple, citrus	3. INM for rice, mustard
	FS-2 (AES-I)	Vegetables, ginger,	4. Biocontrol of stemborer and
	(Agri.+	chili, betel vine	leaf folder in rice
	Horti.+	Animal Husb. –Cattle,	5. Rhizome rot management in
	Animal husb.+	pig, goat, elephant,	Ginger using Biofor-Pf
	Fishery)	duck and poultry	6. Management of rice hispa

·		
	Fishery – Fish species	using mycoinsecticides
	Rohu, Catla, Grass	5. Varietal evaluation for
	Carp, Silver Carp and	greengram / blackgram
	Common Carp, Local	6. Varietal evaluation for
	species	rapeseed / mustard
		9. Soil & moisture conservation
		technology
		Horticulture:
		OFT on
		1. Short duration tapioca
		cultivation
		2. High density planting of
		Dwarf Cavendish
		3. Weed management in Brinjal
		4. Management of micro-
		nutrient deficiency in Khasi
		mandarin
		5. Varietal evaluation of okra
		6. Varietal evaluation of brinjal.
		7. Performance evaluation of
		cabbage var. by application
		of biofertilizer.
		Animal Husbandry :
		OFT on
		1. Supply of creep ration to the
		pre-weaned piglets
		2. Concentrate feeding of pig
		3. Supplementation of minerals
		mixer to the pig
		4. Feeding of balance food
		5. Control of piglet anemia by
		iron supplementation
		6. Introduction of suitable
		tested breed of rabbit
		7. Management of Ranikhet
		disease of poultry
		8. Assessment of improved
		breed of poultry
		Fishery
		OFT on
		1. Carp fry and fingerling

<b></b>	1		r
			rearing 2. Composite fish culture technology for low altitude foot hill
2.	Medium altitude, Rainfed FS-3 (AES-II) (Agri.+ Animal husb) FS-4 (AES-II) (Agri.+ Horti.+ Animal husb.+ Fishery)	Agri - WRC/ upland paddy, Potato, mustard, maize, soybean, local pulses Horti. – Banana, Pineapple, citrus Vegetables, ginger, chili, betel vine Animal Husb. – Cattle, pig, goat, elephant, duck and poultry Fishery – Fish species Rohu, Catla, Grass Carp, Silver Carp and Common Carp, Local species	Agriculture :OFT on1. Varietal evaluation for direct sown upland paddy2. Varietal evaluation for transplanted paddy3. INM for rice, mustard4. Biocontrol of stemborer and leaf folder in rice5. Rhizome rot management in Ginger using Biofor-Pf6. Management of rice hispa using mycoinsecticides5. Varietal evaluation for greengram / blackgram6. Varietal evaluation for rapeseed / mustardHorticulture:OFT on1. Short duration tapioca cultivation2. High density planting of Dwarf Candish3. Weed management in Brinjal4. Management of micro-nutriet deficiency in Khasi mandarin5. INM in Orange7. Performance evaluation of cabbage varietyAnimal Husbandry :OFT on1. Supply of creep ration to the pre-weaned piglets2. Concentrate feeding of pig 3. Supplementation of minerals

			<ul> <li>mixer to the pig</li> <li>4. Feeding of balance food</li> <li>5. Control of piglet anemia by iron supplementation</li> <li>6. Introduction of suitable tested breed of rabbit</li> <li>Fishery</li> <li>OFT on</li> <li>1. Carp fry and fingerling rearing</li> <li>2. Composite fish culture technology for low altitude foot hill</li> </ul>
3.	High altitude, Rainfed FS-5 (AES-II) (Agri.+ Horti.+ Animal husb) FS-6 (AES-III) (Agri.+ Horti.+ Animal husb.+ Fishery)	Agri - Upland paddy, maize, millet, local pulses Horti Orange, Tapioca, colocasia, vegetables, ginger, chili, pineapple, banana Animal Husb Mithun cattle, pig, goat, elephant, duck and poultry Fishery - Fish species Rohu, Catla, Grass Carp, Silver Carp and Common Carp, Local species	<ul> <li>Agriculture : OFT on</li> <li>Varietal evaluation for direct sown upland paddy</li> <li>Varietal evaluation for transplanted paddy</li> <li>INM for rice, mustard</li> <li>Biocontrol of stemborer and leaf folder in rice</li> <li>Rhizome rot management in Ginger using Biofor-Pf</li> <li>Management of rice hispa using mycoinsecticides</li> <li>Varietal evaluation for greengram / blackgram</li> <li>Varietal evaluation for rapeseed / mustard</li> <li>Horticulture:</li> <li>OFT on</li> <li>Short duration tapioca cultivation</li> <li>High density planting of Dwarf Candish</li> <li>Weed management in Brinjal</li> <li>Management of micro- nutrient deficiency in Khasi mandarin</li> </ul>

5. INM in Orange
7. Performance evaluation of
cabbage variety
Animal Husbandry :
OFT on
1. Supply of creep ration to the
pre-weaned piglets
2. Concentrate feeding of pig
3. Supplementation of minerals
mixer to the pig
4. Feeding of balance food
5. Control of piglet anemia by
iron supplementation
Fishery
OFT on
1. Carp fry and fingerling
rearing
2. Composite fish culture
technology for low altitude
foot hill

# ଡ଼୲ୡୄୄୄୄୠୠୠୠୠ

*3. Research Priorities and strategies for Papumpare* 

SI. No.	Farming System	Crops under the FS	Research gaps identified
1	FS-1	Rice, Maize, Mustard,	Location specific varietal/breeds
	Agri-AH	Potato, Ginger, Pigs,	trial and technical know how on
		Mithuns, Poultry	Paddy, Maize and Pig rearing.
2	FS-2	Rice, Maize, Pineaplle,	1. IPM/INM/IWM for Rice, maize,
	Agriculture +	Orange, Ginger, Chilli,	Orange, Pineaplle, Ginger to be
	Horticulture	Sugarcane	developed
			2. Location specific packages of
			practices for Rice, Maize, Orange
			and Pineapple
3	FS-3	Pig, poultry, Mithun,	a. Multiplication and
	AH-Agri-Horti	Cattle, Paddy, Maize,	documentation of the identified
		Orange, Pineapple, Ginger,	hybrid/ improved variety of
		Chilli	fodder species commonly
			relished by the Mithun
			b. Collection and mainetaineance
			of germplasm of Arunachali
			Mithun
			c. Study on productive and
			reproductive traits of different
			existing non-descript and
			crossbred pigs of district
			d. Location specific varietal/breeds
			trial and technical know how on
			Paddy, Maize Pineaplle, ginger
			and Pig rearing
4	FS-4	Albizzia sp, Teak, orange,	a. Production of Quality planting
	Silviculture-Agri-Horti	Rice, Maize, Pineapple, Tea	materials
			b. Suitable package of practices for
			local Variety of paddy, maize,
			orange etc
			c. Identification and documentation
			of plant genetic resource
			available in the areas
			d. Propagation of rare species of
			plant species of economic
			importance in nurseries and
			demonstration plot

# 1. Research gaps identified for each farming and crop

_				
5	FS-5	Poultry, Cattle, Goat, Pigs,	a.	Research on high productive
	AH-Fishery-	Mithuns, Carp culture		performance breeds of
	Agri-Horti	(Catla, Rohu, Mrigal, Silver		chicken and pig
		Carp), Paddy, Maize,	b.	Research on high growth
		Pineapple, Ginger etc		performance species of fishes
			c.	Insect pest resistant variety of
				major agri. and horti. crops

# 2. Research prioritizes finalized identified for each farming system and crop

SI. No.	Farming System	Crops under the FS	<b>Research priorities finalized</b>
1	FS-1	Rice, Maize, Mustard,	a. Evaluation of varietal; trial of
		Potato, Ginger, Pigs,	Paddy
		Mithuns, Poultry	b. Low cost feed ration for pig and
			poultry
2	FS-2	Rice, Maize, Pineaplle,	IPM/INM/IWM for Paddy, Maize,
		Orange, Ginger, Chilli,	Ginger, Orange and Pineaplle
		Sugarcane	
3	FS-3	Pig, poultry, Mithun,	a. Low cost feed ration for pigs
		Cattle, Paddy, Maize,	b. Laocation specific varietal trail
		Orange, Pineapple, Ginger,	on paddy
		Chilli	
4	FS-4	Albizzia sp, Teak, orange,	a. Improved cultivation practice
		Rice, Maize, Pineapple, Tea	and forestry
			b. Post harvest management of
			fruits and vegetables
			c. production of qualities planting
			materials
5	FS-5	Poultry, Cattle, Goat, Pigs,	a. Research on fast growing
		Mithuns, Carp culture(	chicken and pig breeds
		Catla, Rohu, Mrigal, Silver	b. Identification of cattle breeds
		Carp), Paddy, Maize,	suitable for hilly region
		Pineapple, Ginger etc	c. Integrated Fish farming to be
			developed for the FS
			d. Location specific disease and
			insect pest resistant variety to
			be developed for the crops

SI.	Farming	Crops under the FS	Research Strategy proposed
No.	System		
2	FS-1 FS-2	Rice, Maize, Mustard, Potato, Ginger, Pigs, Mithuns, Poultry Rice, Maize, Pineaplle, Orange, Ginger, Chilli, Sugarcane	<ol> <li>IPM/INM for major crops of local variety</li> <li>Soil fertility analysis</li> <li>Recclamation of acid soils</li> <li>Study on reduction of foul odours in piggery farming to encourage piggery in urban areas</li> <li>Study on productive and reproductive traits of different existing non-descript and crossbred pigs of district</li> <li>To conduct trial on location specific package of practices of paddy, maize, orange, giinger</li> <li>Recclamation of acid soil</li> </ol>
			c. OFT on IPM.INM/IWM of Rice and pineaplle
3	FS-3	Pig, poultry, Mithun, Cattle, Paddy, Maize, Orange, Pineapple, Ginger, Chilli	OFT/Research to be conducted on fast growing livestock breeds and short duration crop variety for paddy, maize, orange, pineapple, chilli suitable for the FS
4	FS-4	<i>Albizzia</i> sp, Teak, orange, Rice, Maize, Pineapple, Tea	<ul><li>a. Adoption of IPM/INM/IWM of HYV ythrough OFT</li><li>b. Introduction of HYV through OFT</li><li>c. Grading and value addition of the farm produce</li></ul>
5	FS-5	Poultry, Cattle, Goat, Pigs, Mithuns, Carp culture (Catla, Rohu, Mrigal, Silver Carp), Paddy, Maize, Pineapple, Ginger etc	<ul> <li>a. Breed up-gradation by selective breeding of cattle</li> <li>b. Reproductive performeance of indigenous non-descript ccattle on present production system</li> <li>c. Breed characterization of indigenous goat</li> <li>d. Genetic Characterization of Arunachalees Mithun</li> <li>e. Short duration of paddy, maize, banana</li> <li>f. Integrated Fish farming in the FS area</li> <li>g. Fish stocking pattern of Fingerlings</li> <li>h. Fish feed formulation based on locally available materials</li> </ul>

# ନ୍ଧା ହାର ହାର

4. Research Priorities and strategies for Tirap

.

. ٠

	Research gaps identified for each farming system and crop			
SI.No	Farming systems	Crops under the FS		Research gaps identified
		Agriculture :	Agrio	culture :
1.	Low altitude,	(WRC/ upland paddy, maize,	1.	Varietal evaluation for direct sown
	Rainfed	millet, soyabean, mustard,		upland paddy
		local pulses, tea )	2.	Varietal evaluation for
	FS- 1	Horticulture:		transplanted paddy
	(Agri.+	(Tapioca, colocasia, sweet	3.	Varietal evaluation for greengram
	Horti.+	potato, vegetables(cucurbits,		/ blackgram
	Pisciculture+	solanacea,cruciferae,okra)	4.	Varietal evaluation for arhar
	Animal Husb.+	ginger,	5.	Varietal evaluation for rapeseed /
	Forestry)	chili, black pepper, betelvine,		mustard
	FS-2	arecanut ,citrus,(pummelo,	6.	INM for upland paddy on hill slope
	(Agri.+	lemon, limes) pineapple,	7.	IPM for upland paddy on hill slope
	Horti.+	banana, papaya, litchi, plum,	8.	Resource management technology
	Animal Husb.+	jackfruit	9.	Cropping system research
	Forestry)	guava, mango)	10.	Varietal evaluation of millet
		Pisciculture - Fish species	11.	Varietal evaluation of soybean
		(Rohu, Catla, Grass Carp,	Hort	iculture:
		Silver Carp and Common Carp)	1.	Poor performance of local and
		Animal Husbandry. –		undescript var.of fruits and Vegs.
		(Cattle, Pig, Goat and Poultry)	2.	Lack of availability of quality
				planting material.
			3.	Lack of standardized propagation
				technique of fruits crop.
			4.	Lack of efficient orchard
				management technology
			5.	Lack of nursery raising technique
				in vegs.
			6.	Lack of efficient nutrient mgt.
				technique.
			7.	Lack of efficient insect-pest &
				disease mgt. technique
			Pisci	culture
			1.	Lack of suitable region specific fish
				farming technology for low
				altitude regions of Tirap district
			2.	Lack of knowledge about different
				aspects of scientific fish culture

#### Research gaps identified for each farming system and crop 1.

			Animal Husbandry
			1. Parasitic infection
			2. Poor livestock feed
			3. Poor performance of local breed.
		Agriculture :	Agriculture :
		(WRC/ upland paddy, maize,	1. Varietal evaluation for direct sown
2.	Mid altitude,	millet, soybean, local pulses	upland paddy
	Rainfed	& oilseed , tea )	2. Varietal evaluation for transplanted
		Horticulture :	paddy
	FS- 3	(Tapioca, colocasia, sweet	3. Varietal evaluation for greengram /
	(Agri.+	potato, vegetables(cucurbits,	blackgram
	Horti.+	solanacea,cruciferae,okra)	4. Varietal evaluation for arhar
	Pisciculture+	ginger, chili, betel vine,	5. Varietal evaluation for rapeseed /
	Animal husb.+	citrus(mandarin) pineapple,	mustard
	Forestry)	banana, kiwi)	6. INM for upland paddy on hill slope
		Animal Husbandry : (Cattle,	7. IPM for upland paddy on hill slope
	FS- 4	Pig, Goat and Poultry)	8. Resource management technology
	(Agri.+	Pisciculture - Fish species	9. Cropping system research
	Horti.+	(Rohu, Catla, Grass Carp,	10. Varietal evaluation of millet
	Animal husb.+	Silver Carp and Common	11. Varietal evaluation of soybean.
	Forestry)	Carp)	Animal Husbandry :
			1. Parasitic infection
			2. Poor livestock feed
			3. Poor performance of local breed.
			Horticulture:
			1. Poor performance of local and
			undescript var.of fruits and Vegs.
			2. Lack of availability of quality planting
			material.
			3. Lack of standardized propagation
			technique of fruits crop.
			4. Lack of efficient orchard management
			technology.
			5. Lack of nursery raising technique in
			vegs.
			6. Lack of efficient nutrient mgt.
			technique.
			7. Lack of efficient insect-pest & disease
			mgt. technique.
			Pisciculture
			1. Lack of suitable region specific fish

			farming technology for mid altitude
			regions of Tirap district
			2. Lack of knowledge about different
			aspects of scientific fish culture
		Agriculture :	Agriculture :
3.	High altitude,	(Upland paddy, maize, millet,	1. Varietal evaluation for direct sown
	Rainfed	soyabean, local pulses)	upland paddy
		Horticulture :	2. Cropping system research
	FS- 5	(Tapioca, colocasia, sweet	3. INM for upland paddy on hill slope
	(Agri.+	potato, vegetables(cucurbits,	4. IPM for upland paddy on hill slope
	Horti.+	solanacea,cruciferae,okra)	5. Resource management technology
	Pisciculture+	ginger, chili, betel vine,	6. Varietal evaluation of millet
	Animal husb.+	citrus(mandarin) pineapple,	Animal Husbandry :
	Forestry)	banana, kiwi)	1. Parasitic infection
			2. Poor livestock feed
	FS- 6	Pisciculture - Fish species	3. Poor performance of local breed.
	(Agri.+	( Rohu, Catla, Grass Carp,	Horticulture:
	Horti.+	Silver Carp and Common	1. Poor performance of local and
	Animal husb.+	Carp)	undescript var.of fruits and Vegs.
	Forestry)	Animal Husbandry : (Cattle,	2. Lack of availability of quality planting
		Pig, Goat and Poultry)	material.
			3. Lack of standardized propagation
			technique of fruits crop
			4. Lack of efficient orchard management
			technology.
			5. Lack of nursery raising technique in
			vegs.
			6. Lack of efficient nutrient mgt.
			technique.
			7. Lack of efficient insect-pest & disease
			mgt. technique.
			Pisciculture
			1. Lack of suitable region specific cold
			water fish culture technology for high
			altitude regions of Tirap district
			2. Lack of knowledge about different
			aspects of scientific fish culture
L	1	1	1

=

	-	finalized for each farming	
SI. No	Farming system	Crops under the FS	Research priorities finalized
		Agriculture :	Agriculture :
		(WRC/ upland paddy,	1. Varietal evaluation for direct sown
1	Low altitude,	maize, millet, soyabean,	upland paddy
	Rainfed	mustard, local pulses, tea	2. Varietal evaluation for transplanted
		)	paddy
	FS- 1	Horticulture:	3. Cropping system research
	(Agri.+	(Tapioca, colocasia,	4. INM for upland paddy on hill slope
	Horti.+	sweet potato,	5. IPM for upland paddy on hill slope
	Pisciculture+	vegetables(cucurbits,	6. Varietal evaluation for greengram /
	Animal husb.+	solanacea, cruciferae, okra)	blackgram
	Forestry)	ginger,	7. Varietal evaluation for rapeseed /
		chili, black pepper,	mustard
	FS-2	betelvine, arecanut	8. Resource management technology
	(Agri.+	,citrus,(pummelo, lemon,	9. Varietal evaluation for arhar
	Horti.+	limes) pineapple,	Horticulture:
	Animal husb.+	banana, papaya, litchi,	1. Use of high yielding var. to increase
	Forestry)	plum, jackfruit	the yield.
		guava, mango)	2. Use of quality planting material &
		Pisciculture - Fish species	disease free seeds
		( Rohu, Catla, Grass Carp,	3. Use of technology like high density
		Silver Carp and Common	planting to increase the crop
		Carp)	production & crop productivity
		Animal Husbandry. –	4. Nursery management technique in
		(Cattle, Pig, Goat and	vegs.
		Poultry)	5. Scientific nutrient management in
			fruits & vegs.
			6. Scientific insect-pest mgt. in fruits &
			vegs.
			Animal Husbandry :
			1. Parasitic disease management
			2. Feed management.
			3. Upgradation of local breed Pisciculture
			1. Suitable region specific composite fish
			culture technology for low altitude
			regions of Tirap district
			2. Development of low cost fish
			husbandry practices specially for hilly
			regions using locally available
			materials.
	<u> </u>		

2. Research priorities finalized for each farming system and crop

		A priority and	A suisultuus
		Agriculture :	Agriculture :
2.	Mid altitude,	(WRC/ upland paddy,	1. Varietal evaluation for direct sown
	Rainfed	maize, millet, soyabean,	upland paddy
		local pulses & oilseeds,	2. Varietal evaluation for transplanted
	FS- 3	tea)	paddy
	(Agri.+	Horticulture :	3. Cropping system research
	Horti.+	(Tapioca, colocasia,	4. INM for upland paddy on hill slope
	Pisciculture+	sweet potato, vegetables,	5. IPM for upland paddy on hill slope
	Animal husb.+	gimger, chili, betel vine,	6. Varietal evaluation for greengram /
	Forestry)	,citrus, pineapple,	blackgram
		banana)	7. Varietal evaluation for rapeseed /
	FS- 4	Pisciculture - Fish species	mustard
	(Agri.+	( Rohu, Catla, Grass Carp,	8. Resource management technology
	Horti.+	Silver Carp and Common	9. Varietal evaluation for arhar
	Animal husb.+	Carp)	10. Varietal evaluation of millet
	Forestry)	Animal Husbandry :	Horticulture:
		( Cattle, Pig, Goat and	1. Use of high yielding var. to increase
		Poultry )	the yield.
			2. Use of quality planting material &
			disease free seeds.
			3. Use of technology like high density
			planting to increase the crop
			production & crop productivity.
			4. Nursery management technique in
			vegs.
			5. Scientific nutrient management in
			fruits & vegs.
			6. Scientific insect-pest mgt. in fruits &
			veqs.
			Animal Husbandry :
			1. Parasitic disease management
			2. Feed management.
			3. Upgradation of local breed
			Pisciculture
			1. Suitable region specific composite fish
			culture technology for mid altitude
			regions of Tirap district
			2. Development of low cost fish
			husbandry practices specially for hilly
			regions using locally available
			materials.

			A successful to use of
		Agriculture :	Agriculture :
		(Upland paddy, maize,	1. Varietal evaluation for direct sown
3.	High altitude,	millet, soyabean, local	upland paddy
	Rainfed	pulses)	2. Cropping system research
		Horticulture :	3. INM for upland paddy on hill slope
	FS- 5	(Tapioca, colocasia,	4. IPM for upland paddy on hill slope
	(Agri.+	sweet potato, vegetables,	5. Resource management technology
	Horti.+	gimger, chili, betel vine,	6. Varietal evaluation of millet
	Pisciculture+	,citrus, pineapple,	
	Animal husb.+	banana)	Horticulture:
	Forestry)	Pisciculture - Fish species	1. Use of high yielding var. to increase
		( Rohu, Catla, Grass Carp,	the yield.
	FS- 6	Silver Carp and Common	2. Use of quality planting material &
	(Agri.+	Carp)	disease free seeds.
	Horti.+	Animal Husbandry :	3. Use of technology like high density
	Animal husb.+	(Cattle, Pig, Goat and	planting to increase the crop
	Forestry)	Poultry)	production & crop productivity.
			4. Nursery management technique in
			vegs.
			5. Scientific nutrient management in
			fruits & vegs.
			6. Scientific insect-pest mgt. in fruits &
			vegs.
			Pisciculture
			1. Suitable region specific coldwater fish
			culture technology for high altitude
			regions of Tirap district
			2. Development of low cost fish
			husbandry practices specially for hilly
			regions using locally available
			materials.
			matchais.
			Animal Husbandry :
			1. Parasitic disease management
			-
			2. Feed management.
			3. Upgradation of local breed

SI. No	Farming system	Crops under the FS	Research strategy proposed
		Agriculture :	Agriculture :

	r		<sup>-</sup>
		(WRC/ upland paddy,	OFT on
		maize, millet, soyabean,	1. Varietal evaluation for direct sown upland
		mustard, local pulses,	paddy
1.	Low altitude,	tea )	2. Varietal evaluation for transplanted paddy
	Rainfed	Horticulture:	3. Rice based cropping system
		(Tapioca, colocasia,	4. Maize based cropping system
	FS- 1	sweet potato,	5. INM for upland paddy on hill slope
	(Agri.+	vegetables(cucurbits,	6. IPM for upland paddy on hill slope
	Horti.+	solanacea,cruciferae,okr	7. Varietal evaluation for greengram /
	Pisciculture+	a) ginger,	blackgram
	Animal	chili, black pepper,	8. Varietal evaluation for rapeseed / mustard
	husb.+	betelvine, arecanut	9. Soil & moisture conservation technology
	Forestry)	,citrus,(pummelo, lemon,	10. Resource management technology
		limes ) pineapple,	11. Varietal evaluation for arhar
	FS-2	banana, papaya, litchi,	12. Assessment of bio-fertilizers on the yield of
	(Agri.+	plum, jackfruit	direct-seeded rice.
	Horti.+	guava, mango)	13. INM for transplanted rice.
	Animal	Pisciculture –	Horticulture:
	husb.+	Catla, Rohu, Mrigal,	OFT on
	Forestry)	Silver Carp, Grass Carp	1. Varietal evaluation of okra
		and Common Carp	2. Varietal evaluation of brinjal.
		Animal Husbandry. –	3. Performance evaluation of cabbage var. by
		(Cattle, Pig, Goat and	application of biofertilizer.
		Poultry)	4. Varietal evaluation of chilli Var
			Animal Husbandry :
			OFT on
			1. Management of Ranikhet disease of poultry
			2. Feed management of pig
			3. Assessment of improved breed of poultry
			Pisciculture:
			OFT on
			1. Composite fish culture technology for low
			altitude foot hill ( upto 2500 feet msl)
			regions of Tirap district.
			- '
		Agriculture :	Agriculture :
	Mid altitude,	(WRC/ upland paddy,	OFT on
	Rainfed	maize, millet, soyabean,	1. Varietal evaluation for direct sown upland
2.		local pulses & oilseeds,	paddy
	FS- 3	tea )	2. Varietal evaluation for transplanted paddy
			2. Tanotal evaluation for transplanted paddy

	(Agri.+	Horticulture :	3. Rice based cropping system
	Horti.+	(Tapioca, colocasia,	4. Maize based cropping system
	Pisciculture+	sweet potato,	5. INM for upland paddy on hill slope
	Animal	vegetables, gimger, chili,	6. IPM for upland paddy on hill slope
	husb.+	betel vine, ,citrus,	7. Varietal evaluation for greengram /
	Forestry)	pineapple, banana)	blackgram
		Pisciculture - Catla,	8. Varietal evaluation millet
	FS- 4	Rohu, Mrigal, Silver	9. Soil & moisture conservation technology
	(Agri.+	Carp, Grass Carp and	10. Resource management technology
	Horti.+	Common Carp	11. Varietal evaluation for arhar
	Animal	Animal Husbandry :	12. Assessment of bio-fertilizers on the yield of
	husb.+	( Cattle, Pig, Goat and	direct-seeded rice.
	Forestry)	Poultry )	13. INM for transplanted rice.
			Horticulture:
			OFT on
			1. Varietal evaluation of okra
			2. Varietal evaluation of brinjal.
			3. Performance evaluation of cabbage var. by
			application of biofertilizer.
			4. Varietal evaluation of chilli Var
			Animal Husbandry :
			OFT on
			1. Management of Ranikhet disease of poultry
			2. Feed management of pig
			3. Assessment of improved breed of poultry
			Pisciculture:
			OFT on
			1. Composite fish culture technology for mid
			altitude( upto 3500 feet msl) hilly regions
			of Tirap district.
		Agriculture :	Agriculture :
		(Upland paddy, maize,	OFT on
	High	millet, soyabean, local	1. Varietal evaluation for direct sown upland
3.	altitude,	pulses)	paddy
	Rainfed	Horticulture :	2. Rice based cropping system
		(Tapioca, colocasia,	3. Maize based cropping system
	FS- 5	sweet potato,	4. INM for upland paddy on hill slope
	(Agri.+	vegetables, gimger, chili,	5. IPM for upland paddy on hill slope
	Horti.+	betel vine, ,citrus,	6. Resource management technology
			e. Resource management technology

Sajeev M.V, V. Venkatasubramanian & A.K. Singha

	Pisciculture+	pineapple, banana)	7. Assessment of bio-fertilizers on the yield
	Animal	Pisciculture - Silver Carp,	of direct-seeded rice.
	husb.+	Grass Carp and Common	8. Varietal evaluation of millet
	Forestry)	Carp	Horticulture:
			OFT on
	FS- 6	Animal Husbandry :	1. Varietal evaluation of okra
	(Agri.+	(Cattle, Pig, Goat and	2. Varietal evaluation of brinjal.
	Horti.+	Poultry)	3. Performance evaluation of cabbage var. by
	Animal		application of biofertilizer.
	husb.+		4. Varietal evaluation of chilli Var
	Forestry)		Animal Husbandry :
			OFT on
			1. Management of Ranikhet disease of poultry
			2. Feed management of pig
			3. Assessment of improved breed of poultry
			Pisciculture:
			OFT on
			1. Composite fish culture technology for high
			altitude( above 3500 feet msl) regions of
			Tirap district.
L	1		

# ୭୦୯୬୦୧୬୦୧



SI. No	Farming system	Crops under the FS	Research gaps identified
1.	Agri-Horti	Maize, Paddy,	Location specific improved variety/ breed,
		soybean, potato,	suitable package of practices for increase
		cabbage, Apple, Kiwi,	productivity, improved post harvest technology
		Orange, Walnut,	and storage, lack of improved farm implements
		livestock	for hill areas, proper breeding programme
			suitable for hilly tract, lack of proper soil and
			water conservation practices.
2.	Horti-Agri-AH	Potato, buckwheat,	Location specific improved variety/ breed,
		yak and sheep	suitable package of practices for increase
			productivity, improved post harvest technology
			and storage, lack of improved farm implements
			for hill areas, proper breeding programme
			suitable for hilly tract.

# 1. Research gaps identified for each farming system and crop

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalized
1.	Agri-Horti	Maize, Paddy, soybean,	Intensification of existing production
		potato, cabbage, Apple,	pattern, location specific HYV/planting
		Kiwi, Orange, Walnut,	materials/ breeds, production and
		livestock	protection technology, soil and water
			conservation practices, diversification of
			agriculture.
2	Horti-Agri-AH	Potato, buckwheat, yak	Intensification of existing production
		and sheep	pattern, location specific HYV/planting
			materials/ breeds, production and
			protection technology, soil and water
			conservation practices, diversification of
			agriculture.

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agri-Horti	Maize, Paddy,	Soil and water conservation, IPM and INM with
		soybean, potato,	focus on organic farming, production system
		cabbage, Apple,	based research, development of suitable tools,
		Kiwi, Orange,	implements and packaging materials, Human
		Walnut, livestock	resource development and management,
			custom hiring of agricultural machinery to be

			expanded to benefit of small and marginal farmers, promotion of appropriate post harvest technology.
2.	Horti-Agri-AH	Potato, buckwheat, yak and sheep	Soil and water conservation, production system based research, development of suitable tools, implements and packaging materials, Human resource development and management, promotion of appropriate post harvest technology.

# ୭୦୯୬୦୧୬୦୧

6. Research Priorities and strategies for West Siang

SI. No	Farming System	Crops under the FS	Research gaps identified
1.	FS-1 Agri-Fishery	Fish:	Standardization of package of
		Catla, Rohu, Mrigal, Grass carp,	practice for this region
		Silver carp, Common carp	
		Agricultural crop:	
		Paddy	
2.	FS-2 Agri	Rice, cole crops and vegetables	1. Identification of common
			pest and diseases.
			2. Identification of suitable
			variety.
			3. Research on yield potential of
			different varieties of paddy.
3.	FS-3 Horticulture	Banana, Khasi mandarin, Ginger,	Factors affecting citrus decline.
		turmeric,tomato, cabbage etc.	Identification of aromatic and
			medicinal plants.
			Identification of native
			horticulture crop
4.	FS-4 AH	Fodder grasses & Animals	Identify productive breeds for
			farmers
			Research on animal housing
			system according to socio-
			economic conditions and thus
			maintaining hygiene and better
			animal health.

# 1. Research gaps identified for each farming system and crop

## 2. Research priorities finalized for each farming system and crop

SI. No	Farming System	Crops under the FS	Research priorities finalized
1.	FS-1	Fish:	
		Common carp	Not yet finalized
		Agricultural crop:	Not yet finalized
		Paddy	
2.	FS-2	Rice, cole crops and	-do-
		vegetables	-40-
3.	FS-3	Banana, khasi mandarin,	
		Ginger, turmeric, tomato,	-do-
		cabbage etc.	
4.	FS-4	Fodder grasses	-do-

SI. No	Farming System	Crops under the FS	Research strategy proposed
1.	FS-1	Fish:	Standardization of package of
		Catla, Rohu, Mrigal, Grass	practice for this region
		carp, Silver carp, Common	
		carp	
		Agricultural crop:	
		Paddy	
2.	FS-2	Rice, cole crops and	1. Identification of common pest
		vegetables	and diseases.
			2. Identification of suitable
			variety.
			3. Research on yield potential of
			different varieties of paddy.
3.	FS-3	Banana, Khasi mandarin,	Factors affecting on citrus decline.
		Ginger, turmeric, tomato,	Identification of aromatic and
		cabbage etc.	medicinal plants.
			Identification of native horticulture
			crop
4.	FS-4	Fodder grasses	Identify productive breeds for
			farmers
			Research on animal housing
			system according to socio-
			economic conditions and thus
			maintaining hygiene and better
			animal health.

# ୭୦୯୬୦୧୬୦୧

7. Research Priorities and strategies for Lower Dibang Valley

SI. NO.	Farming System	Crops under the FS	<b>Research gaps identified</b>		
1	Agriculture +	Rice, orange, Maize,	Location specific varietal trial and technical		
	Horticulture	Mustard, Potato,	know how on improved method of cultivation		
		Ginger,	on Paddy, orange, Maize Mustard, Potato and		
			Ginger.		
2	Agriculture +	Rice, Maize, Tapioca,	1. IPM/INM/IWM / HYM implementation of		
	Fishery	IMC and Exotic carp.	ITK riverine fish for table purposes. Lack of		
			knowledge on scientific farming of fish.		
3	AH+Agriculture +	Pig, poultry, Mithun,	a. Multiplication and documentation of the		
	Horticulture	Cattle, Paddy, Maize,	identified hybrid/ improved variety of fodder		
		Orange, Pineapple,	and forage crops		
		Ginger, Chilli	b. Collection and maintenance of germplasm		
			of Arunachal Mithun		
			c. Study on productive and reproductive		
			traits of different existing non-descript and		
			crossbred pigs of district		
			d. Location specific varietal/breeds trial and		
			technical know how on Paddy, Orange, Maize		
			Pineapple, Ginger and Pig rearing.		
4	Silviculture + Agri	Albizzia sp, Teak,	a. Production of Quality planting materials		
	+ Horti	Orange, Rice, Maize,	b. Suitable package of practices for local		
		Pineapple, Tea	Variety of Paddy, Maize, Orange etc		
			c. Identification and documentation of plant		
			genetic resource available in the areas		
			d. Propagation of rare species of plant		
			species of economic importance in nurseries		
			and demonstration plot		
5	Livestock farming	Poultry, Cattle, Goat,	a. Research on high productive performance		
	+ Fisheries +	Pigs, Mithuns, Carp	breeds of chicken and pig		
	Agriculture +	culture( Catla, Rohu,	b. Research on high growth performance		
	Horticulture +	Mrigal, Silver Carp),	species of fishes		
	Sericulture	Paddy, Maize,	c. Insect pest resistant variety of major agri.		
		Pineapple, Ginger etc	and horti. crops		

# 1. Research gaps identified for each farming and crop

SI. No.	Farming System	Crops under	Research priorities finalized
l l		the FS	
1	Agriculture +	Rice, Maize,	a. Evaluation and varietal; trial of
	Horticulture	orange,	Paddy/maize/mustard/zinger
		pineapple,	b. training on entrepreneurship development
		ginger,	based on marketing.
		mustard, kiwi	C. training and demonstration on improved
		and banana	packages and practices on horticulture crops.
		etc.	
2	Agriculture+	Rice, Maize,	IPM/INM/IWM for Paddy, Maize, Ginger, mustard
	Livestock	Ginger,	and Low cost feed ration for pig and poultry.
		Sugarcane	
3	AH + Agri + Horti	Pig, poultry,	a. Low cost feed ration for pigs
		Mithun, Cattle,	b. Location specific varietal trail on paddy, maize,
		Paddy, Maize,	zinger, mustard
		Orange,	c. post harvest management of horticulture crops.
		Pineapple,	
		Ginger, kiwi	
4	Silviculture + Agri	Albizzia sp,	a. create awareness and training on importance of
	+ Horti	Teak, orange,	forest and its ecosystem.
		Rice, Maize,	b. Post harvest management of fruits and
		Pineapple, Tea,	vegetables
		Kiwi, Pineapple.	c. production of qualities planting materials
			creating avenues for proper disposal of farm
			produce
5	Livestock farming	Poultry, Cattle,	a. Research on fast growing chicken and pig
	+ Fisheries +	Goat, Pigs,	breeds
	Agriculture +	Mithuns, IMC	b. Identification of cattle breeds suitable for hilly
	Horticulture+	and Exotic	region
	Sericulture	carps.(Paddy,	c. Integrated Fish farming to be developed for the
		Maize,	FS
		Pineapple,	d. Location specific disease and insect pest
		Ginger, muga	resistant variety to be developed for the crops.
		silk worms etc.	introduction of new varieties of silkworm along
			with proper management practices.

# 2. Research prioritizes finalized identified for each farming system and crop

SI. No.	Farming System	Crops under the FS		Research Strategy proposed
1	Agriculture +	Rice, orange pears,	1.	IPM/INM for major crops of local variety
	Horticulture	Maize, Mustard,	2.	Soil fertility analysis
		Potato, Ginger.	3	Reclamation of acid soils
			4.	Conducting trials on location specific
				packages and practices. Introduction of
				improved verities based on these trials.
2	Agriculture+	Rice, Maize, ginger,	a.	Study on reduction of foul odors in pig
	Livestock	Napier grass, genie		farming to encourage piggery in urban
		grass, pigs ,poultry,		areas
		mithun, goats, etc.	b.	Study on productive and reproductive
				traits of different existing non-descript
				and crossbred pigs of district. Proper
				vaccination schedule to be maintained.
				Introduction of improved varieties of
				fodder and forage crops
			c.	OFT on Rice, Maize and other important
				commercial crops grown in the district.
				IPM.INM/IWM of Rice/maize/mustard
				/Ginger
3	AH + Agri + Horti	Rice, maize, orange,	a.	Encourage mixed farming
		zinger, pears	b.	Maximum utilization of available land.
		mustard, pigs ,	c.	Create better marketing channels.
		poultry, cattles,		
		mithuns IMC and		
		exotic carps etc		
4	Silviculture + Agri	<i>Albizzia</i> sp, Teak,	a.	Adoption of IPM/INM/IWM of HYV
	+ Horti	orange, Rice, Maize,		ythrough OFT
		Pineapple, Tea	b.	Introduction of HYV through OFT
			с.	<b>j</b>
				produce
			d.	Screening of different species of silkworm
				for its suitability to local conditions.
5	Livestock farming	Poultry, Cattle, Goat,	a.	Breed up-gradation by selective breeding
	+ Fisheries +	Pigs, Mithuns, IMC		of cattle
	Agriculture +	and Exotic carps ,	b.	Reproductive performance of indigenous
	Horticulture +	Paddy, Maize,		non-descript cattle on present production
	Sericulture	Pineapple, Ginger,		system

orange pine apple,	c. Breed characterization of indigenous goat
kiwi banana etc.	d. Genetic Characterization of Arunachal
	Mithun
	e. Short duration of paddy, maize, banana
	f. Integrated fish farming in the FS area
	g. Fish fingerlings stocking pattern.
	h. On farm fish feed formulation based on
	locally available materials
	I. Training and demonstration on method of
	propagation of horticultural crops.

# Blank



5.2 Research Priorities and Strategies for Assam

# Blank

# **1.** Research Priorities and strategies for Barpeta

SI No	Farming system	Crops under the FS	Research gaps identified
1.	Agri-Horti-AH-	Rice, Mustard, Potato,	i) Location specific package for hybrid
	Seri	vegetables, Coconut,	vegetables & organic vegetable culture
		Arecanut, Eri, Som,	ii) INM package for vegetable cultivation
		Mulberry	iii) Suitable varieties & hybrids of crops
			iv) Grain quality of rice
			v) Technology for overcoming barren nut
			production in coconut
			vi) Wilt resistant variety of Brinjal & tomato
			vii) Yellowing of rice
2.	Agri-AH-Horti	Rice, Vegetables,	(i-iv) above and
		Coconut, Arecanut ,	v) Management of Panama wilt in banana
		Banana	vi) Technology for overcoming barren nut
			production in coconut
			v) wilt resistant variety of Brinjal & tomato
			vi) Pre matured nut fall
			vii) Yellowing of rice
3.	Agri-AH	Rice, Potato, Mustard	i) Suitable varieties & hybrids of crops
			ii) Grain quality of rice
			iii) Descriptor for high yielding intruder
			variety of rice
			iv) Sterility or formation of false grain
			v) Lack of HYV deep water rice
			vi) Late blight potato resistant variety
			vii) Yellowing of rice
4.	Agri-AH-Fish	Rice, Jute, Pulse,	i) Suitable varieties & hybrids of crops
		Mustard, Wheat	ii) Grain quality of rice
			iii) Short duration HYV of wheat
			iii) Descriptor for high yielding intruder
			variety of rice
			iv) Sterility or formation of false grain
			v) Lack of HYV deep water rice
			vi) Late sown drought resistant cultivar
			vii) Wheat seed storage technique
			viii) Yellowing of rice
5.	Agri-Horti-Fish	Rice, Pulse, Mustard,	i) Suitable varieties & hybrids of crops
		Coconut, Arecanut	ii) Grain quality of rice

### 1. Research gaps identified for each farming system and crop

iii) Technology for overcoming barren nut	t
production in coconut	
iii) Descriptor for high yielding intruder	
variety of rice	
iv) Sterility or formation of false grain	
v) Lack of HYV deep water rice	
vi) Pre matured nut fall	
vii) Yellowing of rice	

## ଽ୶ଽ୶ୠୠୡ

2. Research Priorities and strategies for Cachar

8

SI. No	Farming system	Crops under the, FS	Research gaps identified
1	Agriculture- Animal	Rice, Vegetable, cow,	Improved breed , INM, pest &
	Husbandry-Fishery	buffalo, sheep, goat, pig,	diseases, Quality fish seed,
		poultry, fish	Irrigation, planting material, fodder
			problem
2	Agriculture- Animal	Rice, Vegetable, cow,	Planting material, pest & disease,
	Husbandry	buffalo, , sheep, goat, pig,	Irrigation fodder problem
		poultry	
3	Horticulture- Animal	Coconut, Arecanut,	Planting material, pest & diseases,
	Husbandry	Banana, Pineapple,	Improved breed, fodder problem
		Orange, Jackfruit, cow,	
		buffalo, , sheep, goat, pig,	
		poultry	
4	Animal Husbandry	cow, buffalo, , sheep,	Improved breed, fodder problem,
		goat, pig, poultry	Artificial Insemination
5	Dairy	Milk	Improved breed, fodder problem
6	Fishery- agriculture	Fish, rice, vegetable,	Quality fish seed ,pest & diseases,
		mustard	quality planting material, irrigation
7	Horticulture	Coconut, Arecanut,	Planting material, pest & diseases,
		Banana, Pineapple,	INM
		Orange, Jackfruit	
8	Horticulture- Animal	Coconut, Arecanut,	Host plants , pest and disease,
	Husbandry -	Banana, Pineapple,	Planting material, INM
	Sericulture	Orange, Jackfruit, cow,	
		buffalo, sheep, goat, pig,	
		poultry, fish, Eri silk, muga	

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agriculture- Animal	Rice, Vegetable, cow,	Planting material / Quality fish seed
	Husbandry-Fishery	buffalo, sheep, goat, pig,	Pest & diseases
		poultry, fish	Improved breed
			Fodder
			Irrigation
2	Agriculture- Animal	Rice, Vegetable, cow,	Planting material Pest & diseases
	Husbandry	buffalo, , sheep, goat, pig,	Improved breed Fodder
		poultry	Irrigation

		1	
3	Horticulture- Animal	Coconut, Arecanut,	Planting material
	Husbandry	Banana, Pineapple,	Pest & diseases
		Orange, Jackfruit, cow,	Improved breed
		buffalo, sheep, goat, pig,	Fodder
		poultry	Irrigation
4	Animal Husbandry	cow, buffalo, sheep, goat,	Improved breed
		pig, poultry	Fodder
			Artificial Insemination
			Diseases
5	Dairy	Milk	Improved breed
			Fodder
			Artificial Insemination
			Diseases
6	Fishery- Agriculture	Fish, rice, vegetable,	Planting material / Quality fish
		mustard	seed
			Pest & diseases
			Irrigation
7	Horticulture	Coconut, Arecanut,	Planting material
		Banana, Pineapple,	Pest & diseases
		Orange, Jackfruit	Irrigation
8	Horticulture- Animal	Coconut, Arecanut,	Planting material
	Husbandry -	Banana, Pineapple,	Pest & diseases
	Sericulture	Orange, Jackfruit, cow,	Improved breed
		buffalo, sheep, goat, pig,	Fodder
		poultry, fish, Eri silk, muga	Irrigation
			Artificial Insemination
			Diseases
			Host plant for sericulture

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agriculture- Animal	Rice, Vegetable, cow,	On Farm Testing (Technology
	Husbandry-Fishery	buffalo, sheep, goat, pig,	assessment and technology
		poultry, fish	refinement), Front Line
2	Agriculture- Animal	Rice, Vegetable, cow,	Demonstration on possible
	Husbandry	buffalo, sheep, goat, pig,	technological solutions for the
		poultry	identified research gaps.
3	Horticulture- Animal	Coconut, Arecanut, Banana,	
	Husbandry	Pineapple, Orange, Jackfruit,	

		cow, buffalo, sheep, goat,
		pig, poultry
4	Animal Husbandry	cow, buffalo, sheep, goat,
		pig, poultry
5	Dairy	Milk
6	Fishery- agriculture	Fish, rice, vegetable,
		mustard
7	Horticulture	Coconut, Arecanut, Banana,
		Pineapple, Orange, Jackfruit
8	Horticulture- Animal	Coconut, Arecanut, Banana,
	Husbandry -	Pineapple, Orange, Jackfruit,
	Sericulture	cow, buffalo, sheep, goat,
		pig, poultry, fish, Eri silk,
		muga

*3.* Research Priorities and strategies for Darrang

SI. No **Crops under the FS Research gaps identified** Farming system 1 Paddy Non-availabilty of disease and insect pest resistance variety 2 Agriculture Pulses Non-availabilty of HYV 3 Oilseeds Non-availabilty of HYV 4 Jute Non-availabilty of HYV 5 Horticulture Non-availabilty of HYV Summer/winter vegetables Non-availabilty of improved variety of 6 Animal Husbandry Livestock/poultry livestock anad poultry, Nonavailabilty of feed ingredient and fodder 7 Fishery Fish Non-availabilty of balanced diet from conventional source, lack of quality fish seed

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1		Paddy	Introduction of disease and insect
			pest resistance variety
2	Agriculture	Pulses	Introduction of HYV
3		Oilseeds	Introduction of HYV
4		Jute	Introduction of HYV
5	Horticulture	Summer/winter vegetables	Introduction of HYV
6	Animal Husbandry	Livestock	Cross breeding of cattle/pig/
			goat/duck, selective breeding of
			buffalo, goat and birds, formulation
			of low cost feed ration
7	Fishery	Fish	Development and designing of low
			cost feed formulation, selective
			breeding for progeny development

SI. No	Farming system	Crops under the FS	Research strategy proposed
1		Paddy	Introduction of disease and insect
			pest resistance variety
2	Agriculture	Pulses	Introduction of HYV
3		Oilseeds	Introduction of HYV

4		Jute	Introduction of HYV
5	Horticulture	Summer/winter vegetables	Introduction of HYV
6	Animal Husbandry	Livestock	Cross breeding of cattle/pig/ goat/duck, selective breeding of buffalo, goat and birds, formulation of low cost feed ration
7	Fishery	Fish	Development and designing of low cost feed formulation, selective breeding for progeny development

# ଽ୶ଽ୶ୠଊୡ

4. Research Priorities and strategies for Jorhat

SI. No **Crops under the FS** Farming system Research gaps identified Agri-Horti-Ani Hus-Fishery 1 Paddy 1. Short duration variety with fine grain quality 2. Weed management 3. Non availability of submergence tolerance variety 4. Location specific fertilizer management 2 Agri-Horti-Ani Hus Rapessed Location specific fertilizer management 3 Agri-Ani Hus Boro rice Nonavailability of early maturing and cold tolerance variety Location specific fertilizer Rapeseed management 4 Agri-Horti Potato 1. High incidences of late blight 2. Low cost improve storage method 5 Agri-Horti –Fishery Boro rice Non availability of early maturing and cold tolerance variety Location specific fertilizer Rapeseed management 6 Agri-Horti-Ani Hus- Seri-Drought tolerant high yielding Sali paddy Fishery variety 7 Drought tolerant high yielding Agri-Horti-Ani Hus- Seri Sali paddy variety 8 Drought tolerant high yielding Agri-Ani Hus- Seri Sali paddy variety

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agri-Horti-Ani Hus-	Paddy	1. Development of submergence
	Fishery		tolerance variety for flood
			affected areas
			2. Development of short duration
			variety with fine grain quality
			3. Development of Agro ecological
			situation wise fertilizer
			management package

			4 Development of Integrated weed
			management package
2	Agri-Horti-Ani Hus	Rapeseed	Development of Agro ecological
2		hapeseed	situation wise fertilizer
			management package
3	Agri-Ani Hus	Boro rice	Development of early maturing
			and cold tolerance variety
		Rapeseed	Development of Agro ecological
			situation wise fertilizer
			management package
4	Agri-Horti	Potato	1. Development of low cost improve
			storage method
			2. Development of blight resistance
			var.
5	Agri-Horti –Fishery	Boro rice	Development of early maturing
			and cold tolerance variety
		Rapeseed	Development of Agro ecological
			situation wise fertilizer
			management package
6	Agri-Horti-Ani Hus-	Sali paddy	Development of drought tolerant
	Seri-Fishery		high yielding variety
7	Agri-Horti-Ani Hus-	Sali paddy	Development of drought tolerant
	Seri		high yielding variety
8	Agri-Ani Hus- Seri	Sali paddy	Development of drought tolerant
			high yielding variety

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agri-Horti-Ani Hus-	Paddy	1. Station research for flood tolerant
	Fishery		variety for flood affected areas
			2. Station research for short
			duration variety with fine grain
			quality
			3. On farm research for
			development of Agro ecological
			situation wise fertilizer
			management package
			4. On farm research for
			development of Integrated weed
			management package in different
			agro ecological situation.

2	Agri-Horti-Ani Hus	Rapeseed	On farm research for
			development fertilizer
			management package in different
			Agro ecological situation.
3	Agri-Ani Hus	Boro rice	On station research for
			development of early maturing
			and cold tolerance variety
		Rapeseed	On farm research for Agro
			ecological situation wise fertilizer
			management package
4	Agri-Horti	Potato	1. On station as well as on farm
			research for low cost improve
			storage method
			2. On station research for blight
			resistance variety.
5	Agri-Horti –Fishery	Boro rice	On station research for
			development of early maturing
			and cold tolerance variety
		Rapeseed	On farm research for fertilizer
			management package in different
			Agro ecological situation.
6	Agri-Horti-Ani Hus-	Sali paddy	On station research for
	Seri-Fishery		development of drought tolerant
			high yielding variety
7	Agri-Horti-Ani Hus-	Sali paddy	On station research for
	Seri		development of drought tolerant
			high yielding variety
8	Agri-Ani Hus- Seri	Sali paddy	On station research for
			development of drought tolerant
			high yielding variety

5. Research Priorities and strategies for Kamrup

SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agri - Horti	Rice, rapeseed, pulses,	Non availability of HYV rice at per
		fruits, vegetables, tuber	with hybrid rice. Aphid tolerant
		crops	rapeseed variety for late sown.
			Yellow vein mosaic virus and
			aphid tolerant pulse variety,
			improved variety in case of Horti
			crops
2	Agri – Horti – AH	Rice, rapeseed, pulses,	Non availability of HYV rice at per
		fruits, vegetables,	with hybrid rice. Aphid tolerant
		tubercrops and AH	rapeseed variety for late sown.
			Yellow vein mosaic virus and
			aphid tolerant pulse variety,
			improved variety incase of Horti
			crops, non- availability of localized
			improved breeds
3	Agri – Horti – AH –	Rice, rapeseed, pulses,	Non availability of HYV rice at per
	Fishery	fruits, vegetables, tuber	with hybrid rice. Aphid tolerant
		crops, AH and Fishery	rapeseed variety for late sown.
			Yellow vein mosaic virus and
			aphid tolerant pulse variety,
			improved variety incase of Horti
			crops and non availibilty of
			localized improved breeds and
			non availability of improved finger
			lings
4	Horti – AH – Fishery	Fruits, vegetables, tuber	Non availability of improved
		crops. AH and Fishery	variety of horti crops, non
			availability of localized improved
			breeds, non availability of
			improved finger lings
5	Horti – Sericulture	Fruits, vegetables, tuber	Non availability of improved
		crops spices, flowers, plants	variety of horti crops, Non
		for sericulture	availability of improved tools and
			technology for sericulture

#### 1. Research gaps identified for each farming system and crop

=

2. Re SI. No	Farming system	Crops under the FS	-
			Research priorities finalised
1	Agri - Horti	Rice, rapeseed, pulses,	Development of HYV rice at per with
		fruits, vegetables,	hybrid rice.
		tubercrops	Development of aphid tolerant
			rapeseed variety for late sown
			condition.
			Development of yellow vein mosaic
			virus tolerant pulse varieties.
			Development of improved planting
			materials for horticultural crops.
2	Agri – Horti – AH	Rice, rapeseed, pulses,	Development of HYV rice at per with
		fruits, vegetables, tuber	a hybrid rice.
		crops and AH	Development of aphid tolerant
			rapeseed variety for late sown
			condition.
			Development of yellow vein mosaic
			virus tolerant pulse varieties.
			Development of improved planting
			materials for horticultural crops.
			Development of improved livestock
			breeds adaptable to local conditions.
3	Agri – Horti – AH –	Rice, rapeseed, pulses,	Development of HYV rice at per with
	Fishery	fruits, vegetables, tuber	a hybrid rice.
		crops, AH and Fishery	Development of aphid tolerant
			rapeseed variety for late sown
			condition.
			Development of yellow vein mosaic
			virus tolerant pulse varieties.
			Development of improved planting
			materials for horticultural crops.
			Development of improved livestock
			breeds adaptable to local conditions.
			Development of improved fingerlings
			adaptable to local conditions.
4	Horti – AH – Fishery	Fruits, vegetables,	Development of improved planting
		tubercrops. AH and Fishery	materials for horticultural crops.
			Development of improved livestock
			breeds.
			Development of improved
			fingerlings.

#### 2. Research priorities finalized for each farming system and crop

5	Horti – Sericulture	Fruits, vegetables,	Development of improved planting
		tubercrops spices, flowers,	materials for horticultural crops.
		plants for sericulture	Development of improved tools and
			techniques for sericulture.

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agri - Horti	Rice, rapeseed, pulses,	Self sufficiency in breeders seed at
		fruits, vegetables,	par with hybrid rice.
		tubercrops	Increased availability of breeders
			seed of rapeseed variety tolerant to
			aphid under late sown condition.
			Production of yellow vein mosaic
			virus tolerant pulse varieties.
			Generation of improved planting
			material of horticultural crops.
2	Agri – Horti – AH	Rice, rapeseed, pulses,	Self sufficiency in breeders seed at
		fruits, vegetables,	par with hybrid rice.
		tubercrops and AH	Increasing availability of breeders
			seed of rapeseed variety, tolerant to
			aphid under late sown condition.
			Production of yellow vein mosaic
			virus tolerant pulse varieties.
			Generation of improved planting
			material of horticultural crops.
			Making availability of improved
			breeds of livestock.
3	Agri – Horti – AH –	Rice, rapeseed, pulses,	Self sufficiency in breeders seed at
	Fishery	fruits, vegetables,	par with hybrid rice.
		tubercrops, AH and Fishery	Increasing availability of breeders
			seed of rapeseed variety tolerant to
			aphid under late sown condition.
			Production of yellow vein mosaic
			virus tolerant pulse varieties.
			Generation of improved planting
			material of horticultural crops.
			Making availability of improved
			breeds of livestock.
			Ensure timely availability of
			fingerlings.

4	Horti – AH – Fishery	Fruits, vegetables, tubercrops. AH and Fishery	Generation of improved planting material of horticultural crops.
			Making availability of improved
			breeds of livestock.
			Ensure timely availability of
			fingerlings.
5	Horti – Sericulture	Fruits, vegetables,	Generation of improved planting
		tubercrops spices, flowers,	material of horticultural crops.
		plants for sericulture	Making availability of improved tools
			and techniques for sericulture
			enterprise.



SI. No	Farming system	Crops under the FS		Research gaps identified
1.	Agri. + Hort. +	Rice (sali, ahu & asra),	1.	Situation specific rice varieties
	Fishery	sugarcane, vegetables,	2.	Situation specific quality planting
		french bean (as pulse crop),		materials
		toria, betelvine	3.	Improved technology-farmer's
				situation oriented
2.	Agri. + Hort. +	Rice (sali, ahu & asra), boro	1.	Rice variety for flood affected
	Animal Husbandry	rice, pre flood summer		areas
		vegetables, post flood rabi	2.	Short duration rice varieties
		vegetables, potato, pulses	3.	Disease & pest resistant varieties
		(black gram, french bean),		of rice and vegetables
		rapeseed, amaranthas and		
		lady's finger		
3.	Agri. + Fishery	Boro rice, winter vegetables,	1.	Boro rice varieties suitable for
		asra rice, toria		rice + fish culture
			2.	Cold tolerant and early maturing
				boro rice varieties
			3.	Situation specific suitable boro
				rice varieties.
			2.	Economicaly viable fish
				production technology.
4.	Agri. + Hort.	Coconut, arecanut, tea, fruit	1.	Situation specific production
		crops (pineapple, banana,		technology for plantation crops
		litchi jackfruit), vegetables	2.	Scientific utilization of tillah land
		(summer & winter), pulses,		for cultivation
		sugarcane, oilseed (toria),	3.	Arecanut/ coconut based
		potato and spices		HDMSCS models
5.	Agri.	Fruit trees (myrobalans, jam,	1.	Improved methods of mixed
		kul, orange, lemon,		cropping
		jackfruit), spices (turmeric,	2.	Soil & water conservation
		ginger & bay leaf),		measures
		vegetables (gourds, sweet	3.	Scientific utilization of tillah and
		potato, country bean), tea,		sloppy land for cultivation
		rubber, sugarcane,		
		· abbel, bagalealle,		
		pineapple, betelvine and		

#### 1. Research gaps identified for each farming system and crop

. ٠

2. R				
SI. No	Farming system	Crops under the FS	Research priorities finalized	
1.	Agri. + Hort. +	Rice (sali, ahu & asra),	1. Situation specific rice varieties	
	Fishery	sugarcane, vegetables,	2. Quality planting materials in time	
		french bean (as pulse crop),		
		toria, betelvine		
2.	Agri. + Hort. +	Rice (sali, ahu & asra), boro	1. Rice variety for flood affected	
	Animal Husbandry	rice, pre flood summer	areas	
		vegetables, post flood rabi	2. Short duration rice varieties	
		vegetables, potato, pulses	3. Quality planting materials in time	
		(black gram, french bean),	4. Availability of improved breeds.	
		rapeseed, amaranthas and		
		lady's finger		
3.	Agri. + Fishery	Boro rice, winter vegetables,	1. Cold tolerant and early maturing	
		asra rice, toria	boro rice varieties	
			2. Situation specific suitable boro	
			rice varieties	
4.	Agri. + Hort.	Coconut, arecanut, tea, fruit	1. Situation specific production	
		crops (pineapple, banana,	technology for plantation crops	
		jackfruit, litchi), vegetables	(i) making fingerling available in	
		(summer & winter), pulses,	time.	
		sugarcane, oilseed (toria),		
		potato and spices		
5.	Agri.	Fruit trees (myrobalans,	1. Improved methods of mixed	
		jam, kul, orange, lemon,	cropping	
		jackfruit), spices (turmeric,	2. Soil & water conservation	
		ginger & bay leaf),	measures	
		vegetables (gourds, sweet		
		potato, country bean), tea,		
		rubber, sugarcane,		
		pineapple, betelvine and		
		arecanut		
L	l			

2.	Research priorities finalized for each farming system and crop
----	--

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agri. + Hort. +	Rice ( <i>sali, ahu &amp;</i> asra),	Research projects on development
	Fishery	sugarcane, vegetables,	ofsituation specific rice varieties,
		french bean (as pulse crop),	development of quality planting
		toria, betelvine	materials for timely availability may
			be submitted to the concerned State
			Agril.University, ICAR, DST,DBT etc.

2.Agri. + Hort. +Rice (sali, ahu & asra), boro rice, pre flood summer vegetables, post flood rabi vegetables, post flood rabi vegetables, potato, pulses (black gram, french bean), rapeseed, amaranthas and lady's fingerResearch projects on development of rice varieties for flood affected areas, short duration rice varieties and disease & pest resistant varieties of rice & vegetables, may be submitted to the concerned State3.Agri. + FisheryBoro rice, winter vegetables, asra rice, toriaResearch projects on development of suitable boro rice varieties for rice + fish culture , Cold tolerant and early
vegetables, post flood rabishort duration rice varieties and disease & pest resistant varieties of rice & vegetables, may be submitted to the concerned State3.Agri. + FisheryBoro rice, winter vegetables, asra rice, toriaResearch projects on development of suitable boro rice varieties for rice +
Vegetables, potato, pulses (black gram, french bean), rapeseed, amaranthas and lady's fingerdisease & pest resistant varieties of rice & vegetables, may be submitted to the concerned State Agril.University, ICAR, DST,DBT etc.3.Agri. + FisheryBoro rice, winter vegetables, asra rice, toriaResearch projects on development of suitable boro rice varieties for rice +
(black gram, french bean), rapeseed, amaranthas and lady's fingerrice & vegetables, may be submitted to the concerned State Agril.University, ICAR, DST,DBT etc.3.Agri. + FisheryBoro rice, winter vegetables, asra rice, toriaResearch projects on development of suitable boro rice varieties for rice +
rapeseed, amaranthas and lady's finger       to the concerned State         3.       Agri. + Fishery       Boro rice, winter vegetables, asra rice, toria       Research projects on development of suitable boro rice varieties for rice +
Iady's fingerAgril.University, ICAR, DST,DBT etc.3.Agri. + FisheryBoro rice, winter vegetables, asra rice, toriaResearch projects on development of suitable boro rice varieties for rice +
3.     Agri. + Fishery     Boro rice, winter vegetables, asra rice, toria     Research projects on development of suitable boro rice varieties for rice +
asra rice, toria suitable boro rice varieties for rice +
Isin culture, cold tolerant and early
maturing <i>boro</i> rice varieties may be
submitted to the concerned State
Agril.University, ICAR, DST, DBT etc.
4. Agri. + Hort. Coconut, arecanut, tea, fruit Research projects on development of
crops (pineapple, banana, situation specific production
jackfruit, litchi), vegetables technology for plantation crops ,
(summer & winter), pulses, scientific utilization of tillah land for
sugarcane, oilseed (toria), cultivation & Arecanut/ coconut
potato and spices based HDMSCS models may be
submitted to the concerned State
Agril.University, ICAR, DST,DBT etc.
5. Agri. Fruit trees (myrobalans, Research projects on development of
jam, kul, orange, lemon, improved methods of mixed cropping
jackfruit), spices (turmeric, , soil & water conservation measures
ginger & bay leaf), & scientific utilization of tillah and
vegetables (gourds, sweet sloppy land for cultivation, may be
potato, country bean), tea, submitted to the concerned State
rubber, sugarcane, Agril.University, ICAR, DST,DBT etc.
pineapple, betelvine and
arecanut

# େନ୍ଦ୍ରାର୍ଭ୍ୟରେଷ

7. Research Priorities and strategies for Kokrajhar

	51	5,	•
SI. No	Farming system	Crops under the FS	Research gaps identified
1.	FS-1:	Paddy, rapessed & mustard,	Lack of location specific and
	Agri - AH	maize, blackgram, nizer,	socio-economic based
		sessamum etc	technology
2.	FS-2:	Paddy, banana, Assam lemon	Lack of market led technology
	Agri – AH – Fishery	Areacanut, betevine,	Lack of value addition /
		vegetables	processing technology
3.	FS-3:	Paddy, vegetables (pumkin,	Lack of ITK based technology
	Agri – Hort – AH –	pointed gourd, ridge gourd,	
	Forestry	bottle gourd etc.)	
4.	FS-4:	Paddy, banana, Assam lemon,	Lack of improved breeds of
	Agri – Hort - AH	Areacanut, betelvine,	Goat, Milch cattle, poultry.
		vegetables etc.	
5.	FS-5:	Paddy, vegetables (potato,	Lack of quality planting
	Agri – Hort – AH -	cabbage, brinjal, tomato,	materials
	Fishery	cauliflower etc.)	

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalized
1.	FS-1	Paddy, rapessed & mustard,	Development of quality planting
		maize, blackgram, nizer,	material
		sessamum etc	
2.	FS-2	Paddy, banana, Assam lemon	Development of suitable crop
		Areacanut, betevine,	varieties with the climatic
		vegetables	change
3.	FS-3	Paddy, vegetables (pumkin,	Identification and conservation
		pointed gourd, ridge gourd,	for local species
		bottle gourd etc.)	to safe gourd them
4.	FS-4	Paddy, banana, Assam lemon,	Validation of ITK having
		Areacanut, betelvine,	scientific basis
		vegetables etc.	Orchard management packages
			to support production and
			maximize yield for different fruit
			and plantation crops for
			different areas.

.......

5.	FS-5	Paddy, vegetables (potato,	Reclamation of acid soils by
		cabbage, brinjal, tomato,	liming and bio-reclamation of
		cauliflower etc.)	degraded land using local
			nitrogen fixing, fruit and forest
			plant species.

1.FS-1Paddy, rapessed & mustard, maize, blackgram, nizer, sessamum etcScreening of suitable for under stress cond2.FS-2Paddy, banana, Assam lemon Areacanut, betevine, vegetablesIntegrated farming sy minimize the loss of i to natural disaster.3.FS-3Paddy, vegetables (pumkin, pointed gourd, ridge gourd, bottle gourd etc.)Adaptive trial suitable climate	varieties
2.       FS-2       Paddy, banana, Assam lemon Areacanut, betevine, vegetables       Integrated farming sy minimize the loss of it to natural disaster.         3.       FS-3       Paddy, vegetables (pumkin, pointed gourd, ridge gourd, bottle gourd etc.)       Adaptive trial suitable climate Water harvesting and groundwater recharg	
2.       FS-2       Paddy, banana, Assam lemon Areacanut, betevine, vegetables       Integrated farming sy minimize the loss of it to natural disaster.         3.       FS-3       Paddy, vegetables (pumkin, pointed gourd, ridge gourd, bottle gourd etc.)       Adaptive trial suitable climate Water harvesting and groundwater recharg	ition
Areacanut, betevine, vegetablesminimize the loss of it to natural disaster.3.FS-3Paddy, vegetables (pumkin, pointed gourd, ridge gourd, bottle gourd etc.)Adaptive trial suitable climate groundwater recharg	
3.       FS-3       Paddy, vegetables (pumkin, pointed gourd, ridge gourd, climate bottle gourd etc.)       Adaptive trial suitable climate groundwater recharge groundwater groundwat	ystem to
3.       FS-3       Paddy, vegetables (pumkin, pointed gourd, ridge gourd, climate bottle gourd etc.)       Adaptive trial suitable gourd, ridge gourd, climate groundwater recharge groundwater g	ncome due
pointed gourd, ridge gourd, climate bottle gourd etc.) Water harvesting and groundwater recharg	
pointed gourd, ridge gourd, climate bottle gourd etc.) Water harvesting and groundwater recharg	
bottle gourd etc.) Water harvesting and groundwater recharg	e for local
groundwater recharg	
	i
	e for
availability of irrigation	on and
drinking water during	y winter
and summer season	
4. FS-4 Paddy, banana, Assam lemon, Technology for produ	ction of
Areacanut, betelvine, vermin-compost, bio-	-compost,
vegetables etc. bio-pesticides, etc. fo	or Organic
Farming and Integrat	ed Nutrient
& Pest Management.	
5. FS-5 Paddy, vegetables (potato, Watershed Managem	ent
cabbage, brinjal, tomato, technology to addres	s water and
cauliflower etc.) soil conservation mea	asures.
Diversified agriculture	e with
fruits, vegetables, mi	lk, eggs,
fishes, etc. provide re	auired
nutrition to the peopl	Lyun Cu

# ନ୍ଧା ହାର ହାର

8. Research Priorities and strategies for Nagaon

SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agriculture	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables,	Lack of short duration high yielding varieties in major field crops. Lack of late sown high yielding varieties. Lack of drought, cold and acid tolerant varieties of different field crops. Development of low input, cost effective INM, IPM & IDM practices. Development of INM practices with micronutrients.
2	Agri-Horti-AH	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables, Cattle, Buffalo, Pig, Goat, Sheep, Poultry	Lack of short duration high yielding varieties in major field crops. Lack of late sown high yielding varieties. Lack of drought, cold and acid tolerant varieties of different field crops. Development of low input cost effective INM, IPM & IDM practice. Development of INM with micronutrients. Development of low long duration cooling material for protecting vaccine for livestock & Poultry. Exploitation of the pharmacological constituents of the locally available medicinal plants for treatment of diseases. Proximate analysis of the locally available feed materials and percentage of incorporation in ration. Further research is needed for physiological disorders developed due to imbalance application of fertilizers. Further research for controlling wilt of Brinjal and rhizome rot of ginger. Research on high value low volume crop like spices etc.

### 1. Research gaps identified for each farming system and crop

3	Agri-Horti-AH	Summer paddy, Jute,	Lack of short duration high yielding
	Fishery	Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Cattle,	Lack of late sown high yielding
		Buffalo, Pig, Goat, Sheep,	varieties.
		Poultry, Fish	Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Development of INM practices with micronutrients.
			Further research is needed for
			physiological disorders developed due
			to imbalance application of fertilizers.
			Further research for controlling wilt
			of Brinjal and rhizome rot of ginger.
			Exploitation of the pharmacological
			constituents of the locally available
			medicinal plants for treatment of
			diseases.
			Proximate analysis of the locally available feed materials and
			percentage of incorporation in ration.
			Research on high value low volume
			crop like spices etc.
			Lack of multiple stock and multiple
			harvesting technique.
			Lack of suitable package & practice
			for char and char like areas.
			Low cost fish feed using locally
			available ingredients.
			Non availabilibility of seeds and
			rearing technology of high demand
			local species.
4	Agri-AH Fishery	Summer paddy, Jute,	Lack of short duration high yielding
		Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Cattle,	Lack of late sown high yielding
		Buffalo, Pig, Goat, Sheep,	varieties.
		Poultry, Fish	Lack of drought, cold and acid
			tolerant varieties of different field
			crops.

			Development of low input, cost
			effective INM, IPM & IDM practices.
			Development of INM practices with
			micronutrients.
			Exploitation of the pharmacological
			constituents of the locally available
			medicinal plants for treatment of
			diseases.
			Proximate analysis of the locally
			available feed materials and
			percentage of incorporation in ration.
			Lack of multiple stock and multiple
			harvesting technique.
			Lack of suitable package & practice
			for char and char like areas.
			Low cost fish feed
5	Agri-Horti-AH-	Summer paddy, Jute,	Lack of short duration high yielding
	Seri	Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Cattle,	Lack of late sown high yielding
		Buffalo, Pig, Goat, Sheep,	varieties.
		Poultry, Fish	Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Development of INM practices with
			micronutrients.
			Further research is needed for
			physiological disorders developed due
			to imbalance application of fertilizers.
			Further research for controlling wilt
			of Brinjal and rhizome rot of ginger.
			Exploitation of the pharmacological
			constituents of the locally available
			medicinal plants for treatment of
			diseases.
			Proximate analysis of the locally
			available feed materials and
			percentage of incorporation in ration.
			Research on high value low volume

		<b>!</b>	
			crops like spices etc.
			Lack of multiple stock and multiple
			harvesting technique.
			Lack of suitable package & practice
			for char and char like areas.
			Low cost fish feed using locally
			available ingredients.
			Non availabilibility of seeds and
			rearing technology of high demand
			local species.
			Lack of technology for domestication
			of Muga worm.
			Lack of technology for rearing of
			muga worm on artificial diet.
6	Agri-Horti	Summer paddy, Jute,	Lack of short duration high yielding
		Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables,	Lack of late sown high yielding
			varieties.
			Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Development of INM practices with
			micronutrients.
			Further research is needed for
			physiological disorders developed due
			to imbalance application of fertilizers.
			Further research for controlling wilt
			of Brinjal and rhizome rot of ginger.
7	Agri-AH	Summer paddy, Jute,	Lack of short duration high yielding
		Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Cattle,	Lack of latesown high yielding
		Buffalo, Pig, Goat, Sheep,	varieties.
		Poultry	Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Exploitation of the pharmacological
			constituents of the locally available

			medicinal plants for treatment of
			diseases.
			Proximate analysis of the locally
			available feed materials and
			percentage of incorporation in ration.
8	Agri-Fishery	Summer paddy, Jute,	Lack of short duration high yielding
		Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Fish	Lack of late sown high yielding
			varieties.
			Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Lack of multiple stock and multiple
			harvesting technique.
			Lack of suitable package & practice
			for char and char like areas.
			Low cost fish feed
9	Agri-Seri-	Summer paddy, Jute,	Lack of short duration high yielding
	Beekping	Pulses, Pulses, Rapeseed,	varieties in major field crops.
		Vegetables, Bee, Muga	Lack of late sown high yielding
			varieties.
			Lack of drought, cold and acid
			tolerant varieties of different field
			crops.
			Development of low input, cost
			effective INM, IPM & IDM practices.
			Lack of technology for domestication
			of Muga worm.
			Lack of technology for rearing of
			muga worm on artificial diet.
			Domestication of Bee
			Domestication of Dee

		From a constraining system	
SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agriculture	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables,	INM, IPM & IDM Practices.
			Research on high value low
			volume crop like spices etc.
			INM with micronutrients and
			IDM.
2	Agri-Horti-AH	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Cattle,	INM, IPM & IDM Practices.
		Buffalo, Pig, Goat,	Research on high value low
		Sheep, Poultry, Fish	volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed
			materials.
			Physiological disorders
			developed due to imbalance
			application of fertilizers.
			Controlling wilt of Brinjal and
			rhizome rot of ginger.
3	Agri-Horti-AH Fishery	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Cattle,	INM, IPM & IDM Practices.
		Buffalo, Pig, Goat,	Research on high value low
		Sheep, Poultry, Fish	volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed

#### 2. Research priorities finalized for each farming system and crop

	<u>.</u>	<u> </u>	
			materials.
			Physiological disorders
			developed due to imbalance
			application of fertilizers.
			Controlling wilt of Brinjal and
			rhizome rot of ginger.
			Harvesting technique.
			Low cost fish feed
4	Agri-AH- Fishery	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Cattle,	INM, IPM & IDM Practices.
		Buffalo, Pig, Goat,	Research on high value low
		Sheep, Poultry, Fish	volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed
			materials.
			Harvesting technique.
			Low cost fish feed
			Low cost hish feed
5	Agri-Horti	Summer paddy, Jute,	Varietal performances of
Ū		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables	INM, IPM & IDM Practices.
		regetables	Research on high value low
			volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Physiological disorders
			developed due to imbalance
			application of fertilizers.
			Controlling wilt of Brinjal and
-			rhizome rot of ginger.
6	Agri-AH	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Cattle, Buffalo, Pig, Goat,	INM, IPM & IDM Practices. Research on high value low

		Sheep, Poultry	volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed
			materials.
7	Agri-Fishery	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Fish	INM, IPM & IDM Practices.
			Research on high value low
			volume crop like spices etc.
			INM with micronutrients and
			IDM.
			Harvesting technique.
			Low cost fish feed
8	Agri-Seri- Beekping	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Bee, Muga	INM, IPM & IDM Practices.
			Domestication of Muga worm.
			Rearing of muga worm on
			artificial diet.
			Domestication of Bee.

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agriculture	Summer paddy, Jute,	Development of short duration
		Pulses, Pulses, Rapeseed,	late sown high yielding
		Vegetables,	varieties.
			Development of INM practices
			with micronutrient.
			Development of IPM & IDM
			practices.
2	Agri-Horti-AH	Summer paddy, Jute,	Varietal performances of
2		Summer paddy, Jule,	varieta performances of
		Pulses, Pulses, Rapeseed,	various crops.

		Vagatablas Cattle	INM IDM & IDM Prostings
		Vegetables, Cattle,	INM, IPM & IDM Practices.
		Buffalo, Pig, Goat,	Development of INM with
		Sheep, Poultry	micronutrient for physiological
			disorders of horticultural
			crops.
			Development of IDM practices
			in Brinjal & ginger.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed
			materials.
			Physiological disorders
			developed due to imbalance
			application of fertilizers.
			Controlling wilt of Brinjal and
			rhizome rot of ginger.
3	Agri-Horti-AH Fishery	Summer paddy, Jute,	Varietal performances of
		Pulses, Pulses, Rapeseed,	various crops.
		Vegetables, Cattle,	INM, IPM & IDM Practices.
		Buffalo, Pig, Goat,	Development of INM with
		Sheep, Poultry, Fish	micronutrient for physiological
			disorders of horticultural
			crops.
			Development of IDM practices
			in Brinjal & ginger.
			Exploitation of the
			pharmacological constituents
			of the locally available
			medicinal plants.
			Proximate analysis of the
			locally available feed materials.
			Physiological disorders
			developed due to imbalance
			application of fertilizers.
			Controlling wilt of Brinjal and
			rhizome rot of ginger.
			Harvesting technique.

			Low cost fish feed
4	Agri-AH- Fishery	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables, Cattle, Buffalo, Pig, Goat, Sheep, Poultry, fish	Varietal performances of various crops. INM, IPM & IDM Practices. Development of INM with micronutrient for physiological disorders of horticultural crops. Exploitation of the pharmacological constituents of the locally available medicinal plants. Proximate analysis of the locally available feed materials. Physiological disorders developed due to imbalance application of fertilizers. Controlling wilt of Brinjal and rhizome rot of ginger. Harvesting technique. Low cost fish feed
5	Agri-Horti	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables,	Varietal performances of various crops. INM, IPM & IDM Practices. Development of INM with micronutrient for physiological disorders of horticultural crops. Physiological disorders developed due to imbalance application of fertilizers. Controlling wilt of Brinjal and rhizome rot of ginger.
6	Agri-AH	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables, Cattle, Buffalo, Pig, Goat,	Varietal performances of various crops. INM, IPM & IDM Practices. Exploitation of the

		Sheep, Poultry	pharmacological constituents of the locally available medicinal plants. Proximate analysis of the locally available feed materials.
7	Agri-Fishery	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables, Fish	Varietal performances of various crops. INM, IPM & IDM Practices. Harvesting technique. Low cost fish feed
8	Agri-Seri- Beekping	Summer paddy, Jute, Pulses, Pulses, Rapeseed, Vegetables, Muga, Bee	Varietal performances of various crops. INM, IPM & IDM Practices. Domestication of Muga worm. Rearing of muga worm on artificial diet. Domestication of Bee.

\* 9. Research Priorities and strategies for Nalbari

• . ٠

SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agri-Hort-AH-Fish	Rice, Toria, Pulses, Jute,	Technologies for appropriate
		Sugarcane, Potato, Kharif	farming/cropping system for
		and Rabi vegetables,	flood prone and for char area.
		Assam lemon, Banana,	Technologies for sand/silt
		Coconut, Arecanut, Poultry	deposited areas.
		& Duck-Indigenous,	<ul> <li>Technologies for aberrant</li> </ul>
		Improved, Cow-	weather conditions/periodical
		indigenous, Cross breed,	droughts.
		Local buffalo, indigenous &	• Wilt tolerant varieties of potato,
		exotic fish	tomato & brinjal.
			<ul> <li>Modern varieties of jute with</li> </ul>
			high quality fibre.
			• Direct seeded drought tolerant
			Ahu rice varieties.
			<ul> <li>Modern arecanut and banana</li> </ul>
			varieties with disease resistance.
			• Development of cold tolerant,
			early maturing Boro rice
			varieties
			Breeding techniques for
			indigenous and endangered fish
			species.
			Effective management
			techniques for FMD.
			Effective management
			practices/technology for
			preventing premature death of
			Jersey calves.
2	Agri-Hort-AH	Rice, Toria, Pulses, Jute,	Technologies for appropriate
		Sugarcane, Potato, Kharif	farming/cropping system for
		and Rabi vegetables,	flood prone and for char area.
		Assam lemon, Banana,	Technologies for sand/silt
		Coconut, Arecanut, Poultry	deposited areas.
		& Duck-Indigenous,	Technologies for aberrant
		Improved, Cow-	weather conditions/periodical
		indigenous, Cross breed,	droughts.
		Local buffalo	• Wilt tolerant varieties of potato,
			tomato & brinjal.

#### 1. Research gaps identified for each farming system and crop

			<ul> <li>Modern varieties of jute with high quality fibre.</li> <li>Direct seeded drought tolerant Ahu rice varieties.</li> <li>Modern arecanut and banana varieties with disease resistance.</li> <li>Development of cold tolerant, early maturing Boro rice varieties</li> <li>Effective management techniques for FMD.</li> <li>Effective management practices/technology for preventing premature death of Jersey calves.</li> </ul>
3	Agri-Hort-Fish	Rice, Toria, Pulses, Jute, Kharif and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, indigenous & exotic fish	<ul> <li>Technologies for appropriate farming/cropping system for flood prone and for char area.</li> <li>Technologies for sand/silt deposited areas.</li> <li>Technologies for aberrant weather conditions/periodical droughts.</li> <li>Wilt tolerant varieties of potato, tomato &amp; brinjal.</li> <li>Modern varieties of jute with high quality fibre.</li> <li>Direct seeded drought tolerant Ahu rice varieties.</li> <li>Modern arecanut and banana varieties with disease resistance.</li> <li>Development of cold tolerant, early maturing Boro rice varieties</li> <li>Breeding techniques for indigenous and endangered fish species.</li> </ul>
4	Hort-AH	Kharif and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, indigenous & exotic fish	<ul> <li>Technologies for appropriate farming/cropping system for flood prone and for char area.</li> <li>Technologies for sand/silt deposited areas.</li> <li>Technologies for aberrant weather conditions/periodical droughts.</li> </ul>

Wilt tolerant varieties of potato,
tomato & brinjal.
Modern arecanut and banana
varieties with disease resistance.
Breeding techniques for
indigenous and endangered fish
species.
Effective management techniques
for FMD.
Effective management
practices/technology for
preventing premature death of
Jersey calves.

2. R	esearch priorities	finalized for each	farming system	and crop
------	--------------------	--------------------	----------------	----------

SI. No	Farming system	Crops under the FS		Research priorities finalised
1.	Agri-Hort-AH-Fish	Rice, Toria, Pulses, Jute,	•	High yielding, short duration, cold
		Sugarcane, Potato, Kharif		tolerant boro rice variety.
		and Rabi vegetables,	•	Wilt tolerant brinjal/ tomato
		Assam lemon, Banana,		varieties.
		Coconut, Arecanut, Poultry	•	HYV of Jute with high quality
		& Duck-Indigenous,		fibre.
		Improved, Cow-	•	Drought tolerant, short duration,
		indigenous, Cross breed,		high yielding Ahu rice variety
		Local buffalo, indigenous &		with good cooking quality.
		exotic fish	•	Panama and bunchy top resistant
				banana variety.
			•	Preparation of low cost, balanced
				fish feed with locally available
				raw materials.
			•	Breeding techniques for
				indigenous and endangered fish
				species.
			•	Effective management techniques
				for FMD.
			•	Effective management
				practices/technology for
				preventing premature death of
				Jersey calves.
2.	Agri-Hort-AH	Rice, Toria, Pulses, Jute,	•	High yielding, short duration, cold
		Sugarcane, Potato, Kharif		tolerant boro rice variety.

		and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, Poultry & Duck-Indigenous, Improved, Cow- indigenous, Cross breed, Local buffalo	<ul> <li>Char area specific fertility management for early ahu rice</li> <li>Technology for appropriate farming/ cropping in flood prone area.</li> <li>Technology for sand/silt deposited and periodically drought prone area.</li> <li>Wilt tolerant brinjal/ tomato varieties.</li> <li>HYV of Jute with high quality fibre.</li> <li>Drought tolerant, short duration, high yielding Ahu rice variety with good cooking quality.</li> <li>Panama and bunchy top resistant banana variety.</li> <li>Effective management techniques for FMD.</li> <li>Effective management practices/technology for preventing premature death of Jersey calves.</li> </ul>
3.	Agri-Hort-Fish	Rice, Toria, Pulses, Jute, Kharif and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, indigenous & exotic fish	<ul> <li>High yielding, short duration, cold tolerant boro rice variety.</li> <li>Technology for appropriate farming/ cropping in flood prone area.</li> <li>Technology for sand/silt deposited and periodically drought prone area.</li> <li>Wilt tolerant brinjal/ tomato varieties.</li> <li>HYV of Jute with high quality fibre.</li> <li>Drought tolerant, short duration, high yielding Ahu rice variety with good cooking quality.</li> <li>Panama and bunchy top resistant banana variety.</li> <li>Preparation of low cost, balanced</li> </ul>

			•	fish feed with locally available raw materials. Breeding techniques for indigenous and endangered fish species.
4.	Hort-AH	Kharif and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, indigenous & exotic fish	•	<ul> <li>Wilt tolerant brinjal/ tomato</li> <li>varieties.</li> <li>Panama and bunchy top resistant</li> <li>banana variety.</li> <li>Effective management techniques</li> <li>for FMD.</li> <li>Effective management</li> <li>practices/technology for</li> <li>preventing premature death of</li> <li>Jersey calves.</li> </ul>

### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS		Research strategy proposed
1.	Agri-Hort-AH-Fish	Rice, Toria, Pulses, Jute,	•	Development and testing of
		Sugarcane, Potato, Kharif		component technologies in the
		and Rabi vegetables,		existing farming systems
		Assam lemon, Banana,		perspective.
		Coconut, Arecanut, Poultry	•	Evolving location and system
		& Duck-Indigenous,		specific scientific interventions
		Improved, Cow-		for rainfed situations.
		indigenous, Cross breed,		
		Local buffalo, indigenous &		
		exotic fish		
2.	Agri-Hort-AH	Rice, Toria, Pulses, Jute,	•	Development and testing of
		Sugarcane, Potato, Kharif		component technologies in the
		and Rabi vegetables,		existing farming systems
		Assam lemon, Banana,		perspective.
		Coconut, Arecanut, Poultry	•	Evolving location and system
		& Duck-Indigenous,		specific scientific interventions
		Improved, Cow-		for rainfed situations.
		indigenous, Cross breed,		
		Local buffalo		
3.	Agri-Hort-Fish	Rice, Toria, Pulses, Jute,	•	Development and testing of
		Kharif and Rabi		component technologies in the
		vegetables, Assam lemon,		existing farming systems
		Banana, Coconut,		perspective.

		Arecanut, indigenous & exotic fish	•	Evolving location and system specific scientific interventions for rainfed situations.
4.	Hort-AH	Kharif and Rabi vegetables, Assam lemon, Banana, Coconut, Arecanut, indigenous & exotic fish	•	Development and testing of component technologies in the existing farming systems perspective. Evolving location and system specific scientific interventions for rainfed situations.

10. Research Priorities and strategies for Sivasagar

	•••			•
SI. No	Farming system	Crops under the FS		Research gaps identified
1	AES I (Alluvial flood free)	Rice, Sugarcane,	1.	High incidence of pest & disease
	1. Agri-Horti-AH-Fishery	Vegetables, Tea,	2.	Selection & Standardization of
		Coconut		efficient and profitable farming
	2.Agri-Horti-AH			system for each AES
			з.	Development rain water harvest and
				storage technology
			4.	Formulation of suitable agronomic
	2 Hauti Agui Caui All			practices for Sasi crop.
	3.Horti-Agri-Seri-AH		5.	Development of farm implements.
			6.	Development of techniques to
				increase shelf life of horticultural
				crops.
2	AES II	Rice, Mustard,	1.	Development of technology for
	AH-Horti-Agri	Vegetables, Potatos		double cropping.
	AH-Horti-Fish-Agri		2.	Development of rain water harvest
				and storage technology

### 1. Research gaps identified for each farming system and crop

## ନ୍ଧା ହାର୍ଯ୍ୟ ହାର

11. Research Priorities and strategies for Tinsukia

• . .

SI. No.	Farming system	Crops under FS	Research gap identified
1	Agri - Horti	Paddy, mustard,	Gap in yield of crops like paddy, mustard,
		blackgram, pea,	blackgram, pea, potato etc.
		potato etc.	Low profitability from Agril. crops due to rise in
		Vegetables, fruit	production costs, unorganized marketing and lack
		and other crops	of minimum support price.
			Gap in yield of vegetable crops due to lack of
			knowledge and skills in nutrient management, non-
			adoption of IPM/INM, low use of organic manures
			Low yield in spices due to lack of knowledge in
			improved technology, non replacement of seed
			materials, non adoption of INM practices.
			Poor productivity of fruit crops due to inadequate
			care and maintenance of crop
2	Agri – Horti -	Paddy, mustard,	Do
	Fishery	blackgram, pea,	&
		potato etc.	Technological gap of fish production technology
		Vegetable, Citrus	
		and other crops	
3	Agri - Horti -	Paddy, mustard,	Do—
		blackgram, pea,	&
		potato etc.	Low productivity of milch cattle, problems in pig
		Vegetable, Citrus	rearing, poultry etc
		and other crops	
4	Agri – Horti –	Paddy, mustard,	Do
	Silviculture	blackgram, pea,	&
		potato etc.	Low expansion of sericulture programmes is due to
		Vegetable, Citrus	pesticidal affect on Eri, Muga and silk worms.
		and other crops	

#### Research gaps identified for each farming system and crop 1.

#### 2. Research priorities finalized for each farming system and crop

SI. No.	Farming system	Crops under FS	<b>Research priorities finalized</b>
1.	Agri - Horti	Paddy, mustard,	Scientific management technologies to bridge
		blackgram, pea, potato	the gap in yield
		etc.	Replacement of mono cropping with multiple
		Vegetables, fruit and	cropping
		other crops	

.......

2.	Agri – Horti - Fishery	Paddy, mustard,	Diversification of crop from paddy to
		blackgram, pea, potato etc.	non-paddy in rain-fed highlands
		Vegetable, Citrus and other	Management and maintenance of fish
		crops	tanks
3.	Agri - Horti -Animal	Paddy, mustard,	Scientific management technologies
	Husbandry	blackgram, pea, potato etc.	to bridge the gap in yield
		Vegetable, Citrus and other	Replacement of mono cropping with
		crops	multiple cropping
			Green fodder cultivation in the raised
			boundary
			Cow and buffalo rearers and
			formation of milk producer
			cooperative society.
4.	Agri – Horti –	Paddy, mustard,	Diversification of crop from paddy to
	Silviculture	blackgram, pea, potato etc.	non-paddy in rain-fed highlands
		Vegetable, Citrus and other	Scientific and intensive cultivation of
		crops	Eri and silkworm with organizational
			support

### 3. Research strategy proposed for each farming system and crop

SI. No.	Farming system	Crops under FS	Research strategy proposed
1.	Agri - Horti	Paddy, mustard,	Scientific management technologies
		blackgram, pea, potato	to bridge the gap in yield
		etc.	Replacement of mono cropping with
		Vegetables, fruit and other	multiple cropping
		crops	
2.	Agri – Horti - Fishery	Paddy, mustard,	Diversification of crop from paddy to
		blackgram, pea, potato	non-paddy in rain-fed highlands
		etc.	Management and maintenance of
		Vegetable, Citrus and	fish tanks
		other crops	
3.	Agri - Horti -Animal	Paddy, mustard,	Scientific management technologies
	Husbandry	blackgram, pea, potato	to bridge the gap in yield
		etc.	Replacement of mono cropping with
		Vegetable, Citrus and	multiple cropping
		other crops	Green fodder cultivation in the raised
			boundary
			Cow and buffalo rearers and
			formation of milk producer
			cooperative society.

4.	Agri – Horti –	Paddy, mustard,	Diversification of crop from paddy to
	Silviculture	blackgram, pea, potato	non-paddy in rain-fed highlands
		etc.	Scientific and intensive cultivation of
		Vegetable, Citrus and	Eri and silkworm with organizational
		other crops	support



5.3 Research Priorities and Strategies for Manipur

# Blank

*1. Research Priorities and strategies for Bishnupur* 

SI. No.	Farming system	Crops under the FS	Research gaps identified
1	Agriculture base	Rice-potato/mustard/pea/blackgram	Lack of improved technology,
	system	Rice-soyabean	slow adoption of the
		Maize+soyabean	technology and unavailability
			of required crop inputs
			including good seeds, OFT.
2	Horticulture base	Banana+turmeric/ginger	Lack of disease management
	system	Tree bean + turmeric/ginger	on Tree bean , banana and soil
		Guava + turmeric/ginger	borne disease management on
		Pineapple + Guava +	turmeric/ginger, OFT.
		turmeric/ginger	
3	Agri-Hort.	Maize+banana +alocasia	Lack of improved technology,
		Rice+Rice bean	slow adoption of the
		Sugarcane+Mustard	technology and unavailability
		+Onion	of required crop inputs
		Tree bean+ginger/	including good seeds, OFT.
		Turmeric+guava	
4	Agri + Horticulture	Maize+banana	Lack of improved technology,
	+ Livestock	+alocasia+pig (Hampshire)	slow adoption of the
			technology and unavailability
			of required crop inputs
			including good seeds, OFT.
5	Agri + Fishery	Rice+magur+IMC	Lack of improved technology,
			slow adoption of the
			technology and unavailability
			of required crop inputs
			including good seeds, OFT.

### 1. Research gaps identified for each farming system and crop

.

### 2. Research priorities finalized for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research priorities finalized	
1	Agriculture base	Rice-potato/mustard/pea/blackgram Improved technology an		
	system	Rice-soyabean		
		Maize+soyabean		
2	Horticulture base	Banana+turmeric/ginger	inger Improved technology and OFT	
	system	Tree bean + turmeric/ginger		
		Guava + turmeric/ginger		
		Pineapple + Guava +		
		turmeric/ginger		

	1		1
3	Agri-Hort.	Maize+banana	Improved technology and OFT
		+alocasia	
		Rice+Rice bean	
		Sugarcane+Mustard	
		+Onion	
		Tree bean+ginger/	
		Turmeric+guava	
4	Agri + Horticulture	Maize+banana	Improved technology and OFT
	+ Livestock	+alocasia+pig (Hampshire)	
5	Agri + Fishery	Rice+magur+IMC	Improved technology and OFT

### 3. Research strategy proposed for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research strategy proposed
1	Agriculture base	Rice-potato/mustard/pea/blackgram	OFT
	system	Rice-soyabean	
		Maize+soyabean	
2	Horticulture base	Banana+turmeric/ginger	OFT
	system	Tree bean + turmeric/ginger	
		Guava + turmeric/ginger	
		Pineapple + Guava + turmeric/	
		ginger	
3	Agri-Hort.	Maize+banana + alocasia	OFT
		Rice +Rice bean	
		Sugarcane + Mustard	
		+Onion	
		Tree bean+ginger/	
		Turmeric+guava	
4	Agri + Horticulture	Maize+banana	OFT
	+ Livestock	+alocasia+pig (Hampshire)	
5	Agri + Fishery	Rice+magur+IMC	OFT

2. Research Priorities and strategies for Churachandpur

SI. No.	Farming system	Crops under the FS	Research gaps identified
1	Agriculture base	Rice-	Lack of improved production
	system	potato/mustard/pea/blackgram	technology, slow adoption of the
		Rice-soyabean	technology and unavailability of
		Maize + soyabean	required crop inputs including
			good seeds, OFT.
2	Horticulture base	Banana + turmeric/ginger	Lack of disease management on
	system	Tree bean + turmeric/ginger	Tree bean, banana and Rhizome
		Tomato + Mustard + Onion	rot or soft rot management in
		Guava + turmeric/ginger+ Papaya	turmeric/ginger, OFT.
		Pineapple + Guava +	
		turmeric/ginger	
3	Agri - Hort.	Maize+banana	Lack of improved production
		+ Colocasia	technology, slow adoption of the
		Rice + Rice bean	technology and unavailability of
		Sugarcane + Mustard	required crop inputs including
		+Onion	good seeds, OFT.
		Tree bean + ginger/	
		Turmeric + guava	
4	Agri +	Maize + banana	Lack of improved technology,
	Horticulture	+ Colocasia + pig (Hampshire)	slow adoption of the technology
	+ Livestock		and unavailability of required
			crop inputs including good
			seeds, OFT.
5	Agri + Fishery	Rice + magur	Lack of improved technology,
			slow adoption of the technology
			and unavailability of required
			crop inputs including good
			seeds, OFT.

### 1. Research gaps identified for each farming system and crop

### 2. Research priorities finalized for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research priorities finalized
1	Agriculture base	Rice-potato/mustard/pea/blackgram Improved production techn	
	system	Rice-soyabean	and OFT
		Maize + soyabean	
2	Horticulture base	Banana + turmeric/ginger	Improved production technology
	system	Tree bean + turmeric/ginger and OFT	
		Tomato + Mustard + Onion	

		Guava + turmeric/ginger + Papaya	
		Pineapple + Guava +	
		turmeric/ginger	
3	Agri - Hort.	Maize + banana	Improved production
		+ Colocasia	technology and OFT
		Rice + Rice bean	
		Sugarcane + Mustard	
		+Onion	
		Tree bean + ginger/	
		Turmeric + guava + Papaya	
4	Agri +	Maize + banana	Improved production
	Horticulture	+ Colocasia + pig (Hampshire)	technology and OFT
	+ Livestock		
5	Agri + Fishery	Rice + magur	Improved production
			technology and OFT

### 3. Research strategy proposed for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research strategy proposed	
1	Agriculture base	Rice-potato/mustard/pea/blackgram	OFT of selection technologies	
	system	Rice - soyabean		
		Maize+soyabean		
2	Horticulture base	Banana + turmeric/ginger	OFT of selection technologies	
	system	Tomato + Mustard + Onion		
		Tree bean + turmeric/ginger		
		Guava + turmeric/ginger + Papaya		
		Pineapple + Guava +		
		turmeric/ginger		
3	Agri - Hort.	Maize + banana + Colocasia	OFT of selection technologies	
		Rice + Rice bean		
		Sugarcane + Mustard +Onion		
		Tree bean + ginger/		
		Turmeric + guava + Papaya		
4	Agri +	Maize + banana + Colocasia + pig	OFT of selection technologies	
	Horticulture	(Hampshire)		
	+ Livestock			
5	Agri + Fishery	Rice + magur	OFT of selection technologies	

*3. Research Priorities and strategies for Senapati* 

8

### 1. Research gaps identified for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research gaps identified
1	Agriculture (Mono culture)	Paddy (both terrace &	Lack of crop intensification
		upland rice)	
2	Agriculture (mixed culture)	Maize, pulses, calocasia,	Lack of suitable post harvest
		tapioca etc.	technology and crop combination.
3	Livestock + Agriculture	Maize, bean, calocasia,	Low efficiency of the farming
		Piggery & poultry	system.
4	Agro-forestry	Forest tree species,	Lack of appropriate cropping
		Passion fruit, Cabbage	pattern under the farming system.
		Potato, pea etc.	
5	Agri+Horti+Livestock	Maize, Passion fruit,	Low efficiency of the system.
		Potato, piggery, cattle,	
		peach, plum etc.	

### 2. Research priorities finalized for each farming system and crop

SI. No.	Farming system	Crops under the FS	Research priorities finalized
1	Agriculture (Mono culture)	Paddy (both terrace &	Crop diversification and
		upland rice)	intensification.
2	Agriculture (mixed culture)	Maize ,pulses, calocasia,	Identification of suitable crop
		tapioca etc.	combination under system.
3	Livestock + Agriculture	Maize, bean, calocasia,	Study on economics of different
		Piggery & poultry	combination of the component of
			farming system.
4	Agro-forestry	Forest tree species,	- do -
		Passion fruit, Cabbage	
		Potato, pea etc.	
5	Agri+Horti+Livestock	Maize, Passion fruit,	On farm research.
		Potato, piggery, cattle,	
		peach, plum etc.	

### 3. Research strategy proposed for each farming system and cop

SI. No.	Farming system	Crops under the FS	Research strategy proposed
1	Agriculture (Mono culture)	Paddy (both terrace &	Crop diversification &
		upland rice)	intensification with pulses &
			oilseed under zero tillage
			condition.

-			
2	Agriculture (mixed culture)	Maize ,pulses, calocasia,	Identification of suitable crop
		tapioca etc.	combination - Maize + Pulses,
			Calocasia + Tapioca.
3	Livestock + Agriculture	Maize, bean, calocasia,	Testing the recommendation of the
		Piggery & poultry	option overtime.
4	Agro-forestry	Forest tree species,	Introduction of suitable tier system
		Passion fruit, Cabbage	
		Potato, pea etc.	
5	Agri+Horti+Livestock	Maize, Passion fruit,	Identification of market
		Potato, piggery, cattle,	opportunity for different
		peach, plum etc.	component of the system.

4. Research Priorities and strategies for Ukhrul

### 1. Research gaps identified for each farming system and crop

.

SI. No	Farming system	Crops under the FS	Research gaps identified
1.	Agri Based system	Rice+Bean/mustard	To find suitable variety of upland rice
2.	Horti. Based system	Potato + Maize/Bean	To find suitable variety of potato & maize

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised	
1.	Agri. Based system	Rice + Bean / mustard	To include suitable variety of upland	
			rice.	
2.	Horti. Based system	Potato + Bean /mustard	To include suitable variety of potato	
			and maize	

### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agri. Based system	Rice + Bean/ mustard	Indigenous varieties replace by HYV
2.	Hort. Based system	Potato + bean /mustard	Indigenous varieties replace by HYV of potato &maize

# ନ୍ଧା ହାଇନ୍ତର

# Blank



5.4 Research Priorities and Strategies for Meghalaya

# Blank

\*

1. Research Priorities and strategies for Ri-Bhoi

•

. .

SI. No	Farming system	Crops under the FS	Research gaps identified
1.	There are three Agro ecological	Paddy	i) Untimely occurrence of
	situations .They are AES I, AES		monsoon
	II& AES III.Under AES I there		ii) Unpredictable weather
	are two Existing farming system		conditions
	viz,EFS I &EFS II. EFS I		iii) High pest attack and Milking
	Comprises of		stage
	Agri+Horti+A.H+Fishery ,EFS II		iv) Problems with fertilizer
	comprises of		v) Non availability of irrigation
	Agri+Horti+A.H+Fishery		fertilizers.
2.	In AES II, there are two existing	Maize	i) No market for Surplus
3.	farming systems. They are EFS	Betelnut	i) Soakage problems
	I- Agri+Horti+AH+Sericulture,		ii) No good transportation
4.	EFS II- Horti+Agri+AH+Fishery	Pineapple	i) Lack of market
	In AES III, there are two existing		ii) Lack of awareness regarding
	farming systems.They are		Agro processing centre
5.	EFSI:- Agri+Horti+AH+Bee	Tomato	i) Glut in Tomato production
	keeping, EFS II :		during early summer
	Horti+Agri+AH+Fishery		ii) Non existence of cold storage
			unit
6.		Ginger	i) Problem of marketing
			ii) Non availability of Godown
			and non existence of
			processing unit

.......

#### Research gaps identified for each farming system and crop 1.

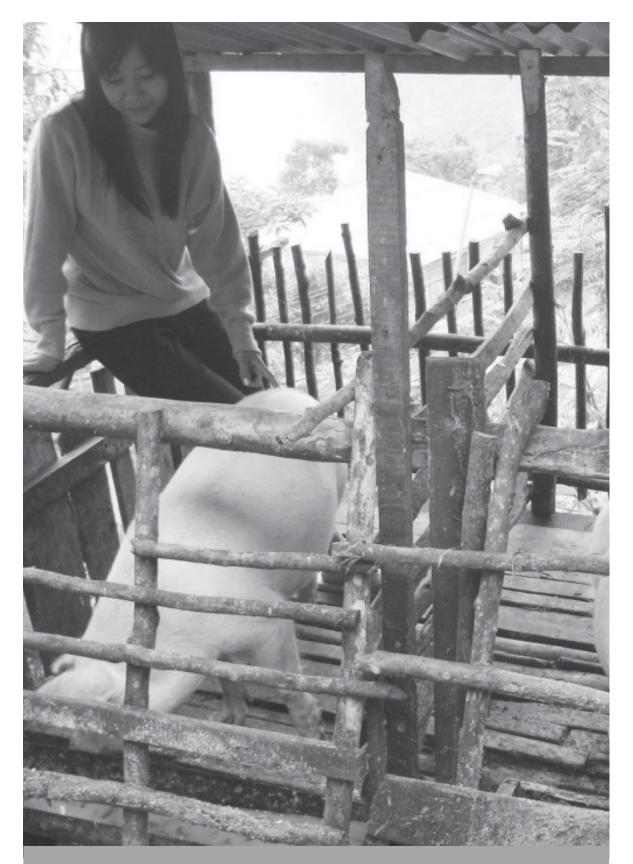
#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1.	There are three Agro ecological	Paddy	a) Screening suitable varieties
	situations .They are AES I,AES		for late planting and resistant
	II& AES III.Under AES I there		to blast
	are two Existing farming system		b) Resistant varieties required
	viz,EFS I &EFS II. EFS I		and Gandhi bug
2.	Comprises of	Maize	a) Popularization of package of
	Agri+Horti+A.H+Fishery ,EFS II		practices
	comprises of		b) Popularization of inter-
	Agri+Horti+A.H+Fishery		cropping system

3.	In AES II, there are two existing	Soybean	a) Popularization of package of
	farming systems. They are EFS		practices
	I- Agri+Horti+AH+Sericulture,		b) Value addition
	EFS II- Horti+Agri+AH+Fishery		c) As a intro privacy crop
4.	In AES III, there are two existing	Groundnut	Popularization of groundnut
	farming systems. They are		cultivation as high nutritional
	EFSI:- Agri+Horti+AH+Bee		value oilseed crop
	keeping, EFS II :		
	Horti+Agri+AH+Fishery		

### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	There are three Agro ecological	Paddy	1) To develop suitable varieties
	situations .They are AES I,AES		for late planting
2.	II& AES III.Under AES I there	Maize & Soybean	1) Strengthen, extension variety
	are two Existing farming system		of late planting
	viz,EFS I &EFS II. EFS I		2) Motivate the farmers in
	Comprises of		multiplication of compositae
	Agri+Horti+A.H+Fishery ,EFS II		maize seeds tolerant to
	comprises of		Downy mildew
3.	Agri+Horti+A.H+Fishery	Groundnut	1) Popularization of groundnut
	In AES II, there are two existing		cultivation and groundnut as
	farming systems. They are EFS		high nutritional value oilseed
	I- Agri+Horti+AH+Sericulture,		crop
	EFS II- Horti+Agri+AH+Fishery		
	In AES III, there are two existing		
	farming systems. They are		
	EFSI:- Agri+Horti+AH+Bee		
	keeping, EFS II :		
	Horti+Agri+AH+Fishery		



5.5 Research Priorities and Strategies for Mizoram

# Blank

1. Research Priorities and strategies for Aizawl

- SI. No. Farming system Crops under the FS **Research gaps identified** 1 Agri-Hort Rice, Maize, Pulses, Orange, Traditional cultural practices. Banana, Passion fruits, Non availability of Vegetables, Flowers. \_ suitable HYVs. Pest and diseases problem. Lack of awareness and knowledge. - Non availability of recommended plant protection chemicals for horticulture disease and pest management. - Improper spacing and weeding problem. Use of local variety. - Overall poor management. - Lack of knowledge regarding Breed up gradation. Lack of awareness regarding General health care& management. - Lack of awareness regarding feed management. Lack of proper markets. 2 Agro forestry -Sericulture - Bamboo Lack of improved -- Fishery - Maize planting material. - Pulses Non availability of - Mulberry desired fingerlings in due time. - Muga - Eri Non availability of - Tasar required sapling. - Silvipsture - Indian major carps - Exotic carps
- 1. Research gaps identified for each farming system and crop.

_					
	3.	Agri + Animal Husbandry-	Rice, Maize, pulses, oilseeds,	-	Traditional practices.
		Fishery	sugarcane,cattle,	-	Local breeds of pig and
			piggery,poultry, goat, Crops.		poultry.
				-	Traditional management
					practices.
				-	Lack of improved variety
					seeds.

### 2. Research priorities finalized for each farming system and crop.

SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agri - Hort	Rice, Maize, Pulses, Orange,	- Development and making
		Banana, Passion fruits,	availability of suitable HYVs.
		Vegetables, Flowers.	- Pest and disease
			management.
			-Weed management.
			-Soil and water
			conservation.
			- Post harvest technology.
			- Disease resistance and
			drought prone varieties.
2	Agri – AH - Fishery.	Rice, Maize, Pulses, Oilseeds,	- To create awareness
		Sugarcane, Crossed Bred	among the local farmers.
		Cows, Croiler, piggery,	-Varieties and breeds for
		Indian major carp, exotic	hilly region.
		carp.	- Proper nursery
			management.
			- Identify suitable local
			varieties.

3. Research strategy proposed for each farming system and crop.

SI. No.	Farming system	Crops under the FS	Research gaps identified
1	Agri - Hort	Rice, Maize, Pulses, Orange,	- To test suitable HYVs
		Banana, Passion fruits,	through OFT & FLDs.
		Vegetables, Flowers.	- To develop insect, pest and
			disease resistant varieties.
			- Introducing new varieties
			suited to local condition.
2	Agri - Animal Husbandry –	Crossed Bred Cows, Croiler,	- Conducting meeting with
	Fishery.	piggery, Indian major carp	the farmers and surveying
		and exotic carp.	for need based programme.

2. Research Priorities and strategies for Kolasib

SI.No. Farming system. Crops under the FS Research gaps identified FS-1 Paddy, Ginger, Maize. Permanent Jhum 1. 2. FS-2 Paddy, Maize, Banana, Orange -do-Chillies, Hatkora. 3. Paddy, Maize, Arecanut, Hatkora, Oil FS-3 Identification of improved Palm. tools implements and inputs. Paddy, Maize, Pineapple, Oilseeds, Pul 4. FS-4 -doses,Oil Palm.

### 1. Research gaps identified for each farming system and crop:

### 2. Research priorities finalized for each farming system and crop.

SI.No.	Farming system.	Crop under the FS	Research priorities finalised
1.	FS-1	Paddy,Ginger,Maize.	Soil & Water conservation.
2.	FS-2	Paddy,Maize,Banana,Orange,Chillies -do- ,Hatkora.	
3.	FS-3	Paddy,Maize,arecanut,Htkora,Oil Palm.	Appropriate tools and implements,suitable variety of crops.
4.	FS-4	Paddy,Maize,Pineapple,Oilseeds,Pul ses,Oil Palm.	-do-

### 3. Research strategy proposed for each farming system and crops.

SI.No.	Farming system.	Crops under the FS	Research strategy proposed.
1.	FS-1	Paddy,Ginger,Maize.	SALT technology and rain
			water harvesting; nutrients
			and pest management.
2.	FS-2	Paddy,Maize,Banana,Orange,Chillies	-do-
		,Hatkora.	
3.	FS-3	Paddy, Maize, Arecanut, Hatkora, Oil	Farm
		Palm.	mechanisation, identification
			of suitable variety of
			crops, nutrients and pest
			management.
4.	FS-4	Paddy,Maize,Pineapple,Oilseeds,	-do-
		Pulses,Oil Palm.	

# ନ୍ଧା ହାର ହାର

*3. Research Priorities and strategies for Lawngtlai* 

SI. No	Farming System	Crops under the FS	Research gaps identified
1.	Agri - Hort	Rice, Cole crops and vegetables	1. Effect of organic manures
			on growth and yield.
			2. Identification of major
			pest and diseases.
			3. Identification of suitable
			variety.
			4. Research on yield
			potential of different
			varieties of paddy.
			5. Standardization of
			package of practice for this
			region.
2.	Horticulture	Banana, Citrus, Ginger, Turmeric,	Identification of aromatic and
		French bean, Cabbage, Chilli, etc.	medicinal plants.
			Identification of value-added
			horticultural crops.
3.	AH	Fodder grasses	Research on zoonosis
			Identify productive breeds for
			farmers
			Research on animal housing
			system according to socio-
			economic conditions and thus
			maintaining hygiene and
			better animal health.

### 1. Research gaps identified for each farming system and crop

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming System	Crops under the FS	Research priorities finalized
1.	Agri - Hort	Rice, Cole crops and vegetables	As above
2.	Horticulture	Banana, Citrus, Ginger, Turmeric, French bean, Cabbage, Chilli, etc.	-do-
3.	АН	Fodder grasses	-do-

-	Research Strategy proposed for each farming system and crop				
SI. No	Farming System	Crops under the FS	Research strategy proposed		
1.	Agri - Hort	Rice, Cole crops and vegetables	1. Effect of organic manures		
			on growth and yield.		
			2. Identification of major		
			pest and diseases.		
			3. Identification of suitable		
			variety.		
			4. Research on yield		
			potential of different		
			varieties of paddy.		
			5. Standardization of		
			package of practice for		
			this region.		
2.	Horticulture	Banana, Citrus, Ginger,	Factors affecting citrus		
		Turmeric, French bean,	decline.		
		Cabbage, Chilli, etc.	Identification of aromatic and		
			medicinal plants.		
			Identification of value-added		
			horticultural crops.		
3.	AH	Fodder grasses	Identification of quality fodder		
			grasses.		
			Identify productive breeds for		
			farmers		
			Research on animal housing		
			system.		
	I				

### 3. Research Strategy proposed for each farming system and crop



SI. No	Farming system	Crops under the FS	Research gaps identified
1.	Agriculture	Paddy, Vegetables, Cole	Nursery management practices
		crops	for high yield of paddy
2.	Agriculture + Fishery	Paddy, Maize, Fish culture	Suitable high yielding varieties,
			effect of liming on crop yield
3.	Agriculture + A.H.	Paddy, Maize, Poultry,	Identification of productive
		Piggery	breeds
4.	Agriculture +	Paddy, Maize, Orange,	Identification of pests &
	Horticulture	Lemon	diseases

### 1. Research gaps identified for each farming system and crop

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1.	Agriculture	Paddy, Vegetables, Cole	Yet to be finalised
		crops	
2.	Agriculture+ Fishery	Paddy, Maize, Fish Culture	Effect of liming on crop yield
			study
3.	Agriculture + A.H.	Paddy, Maize, Poultry,	Yet to be finalised
		Piggery	
4.	Agriculture+	Paddy, Maize, Orange,	Identification of the different
	Horticulture	Lemon	pest and diseases of crops of
			the region

### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agriculture	Paddy, Vegetables, Cole	Study on System of Rice
		crops	Intensification
2.	Agriculture+ Fishery	Paddy, Maize, Fish Culture	Study of effect of lime
			application on crop yield
3.	Agriculture+ A.H.	Paddy, Maize, Poultry,	Identification of productive
		Piggery	breeds
4.	Agriculture+	Paddy, Maize, Orange,	Identification of different pests&
	Horticulture	Lemon	diseases of major crops

5. Research Priorities and strategies for Mamit

SI. No	Farming System	Crops under the FS	Research gaps identified
1.	Agri - Fishery	Fish crops:	Standardization of package
		Catla, Rohu, Mrigal, Grass carp,	of practice for this region
		Silver carp, Common carp	
		Agricultural crop:	
		Paddy	
2.	Agri - Hort	Rice, cole crops and vegetables	1. Identification of common
			pest and diseases.
			2. Identification of suitable
			variety.
			3. Research on yield
			potential of different
			varieties of paddy.
3.	Horticulture	Banana, hatkora, khasi	Factors affecting citrus
		mandarin, Ginger, turmeric, oil	decline.
		palm, tomato, cabbage etc.	Identification of aromatic
			and medicinal plants.
			Identification of native
			horticulture crop
4.	Animal Husbandry	Fodder grasses	Research on zoonosis
			Identify productive breeds
			for farmers
			Research on animal housing
			system according to socio-
			economic conditions and
			thus maintaining hygiene
			and better animal health.

### 1. Research gaps identified for each farming system and crop

.

### 2. Research priorities finalized for each farming system and crop

Sly. No	Farming System	Crops under the FS	Research priorities finalized
1.	Agri - Fishery	Fish crops:	
		Catla, Rohu, Mrigal, Grass carp,	
		Silver carp, Common carp	Not yet finalised
		Agricultural crop:	
		Paddy	
2.	Agri - Hort	Rice, cole crops and vegetables	-do-

3.	Horticulture	Banana, hatkora, khasi	
		mandarin, Ginger, turmeric, oil	-do-
		palm, tomato, cabbage etc.	
4.	A.H.	Fodder grasses	-do-

### 3. Research Strategy proposed for each farming system and crop

Sly. No	Farming System	Crops under the FS	Research strategy proposed
1.	Agri - Fishery	Fish crops:	Standardization of package
		Catla, Rohu, Mrigal, Grass carp,	of practice for this region
		Silver carp, Common carp	
		Agricultural crop:	
		Paddy	
2.	Agri - Hort	Rice, cole crops and vegetables	1. Identification of
			common pest and
			diseases.
			2. Identification of suitable
			variety.
			3. Research on yield
			potential of different
			varieties of paddy.
3.	Horticulture	Banana, hatkora, khasi	Factors affecting on citrus
		mandarin, Ginger, turmeric, oil	decline.
		palm, tomato, cabbage etc.	Identification of aromatic
			and medicinal plants.
			Identification of native
			horticulture crop
4.	Animal Husbandry	Fodder grasses	Research on zoonosis
			Identify productive breeds
			for farmers
			Research on animal housing
			system according to socio-
			economic conditions and
			thus maintaining hygiene
			and better animal health.



SI. No	Farming System	Crops under the FS	Research gaps identified
1.	Agri - Hort	Rice, Cabbage, Gingerm Maize, Vegetables	<ol> <li>How to improve farming system.</li> </ol>
			<ol> <li>Effect of organic Manures on growth and yield.</li> <li>Identification and prevention of major pasts and diagonas</li> </ol>
2.	Horticulture	Banana, Mandarin orange, Orange, Citrus, Ginger, Turmeric, French Beans, Cabbage, chilli etc.	major pests and diseases. How to prevent citrus decline. Identification of medicinal plants.

### 1. Research gaps identified for each farming system and crop

.

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming System	Crops under the FS	<b>Research priorities finalized</b>
1.	Agri - Hort	Rice, cabbage, ginger	As above
2.	Horticulture	Banana, orange, citrus, Mandarin orange	-do-

### 3. Research Strategy proposed for each farming system and crop

SI. No	Farming System	Crops under the FS	Research strategy proposed
1.	Agri - Hort	Rice, cabbage, ginger, Cole	How to improve farming system.
		crops and other vegetables	
			Effect of organic Manures on growth
			and yield.
			Identification and prevention of
			major pests and diseases.
	Horticulture	Banana, Citrus, Ginger,	How to prevent from citrus decline.
		Turmeric, French bean,	
		Cabbage, Chilli, etc.	Identification of medicinal plants.

# ନ୍ଧା ହାର୍ଯ୍ୟ ହାର

7. Research Priorities and strategies for Serchhip

SI. No	Farming system	Crops under the FS	Research gaps identified
	Agriculture:	Rice, Maize, Sugarcane,	Lack of High Yielding Variety.
	(W.R.C Jhuming)	Soybean, Rapeseed and	Lack of proper irrigation facilities.
1.		Mustard	Pest and disease management.
1.			
			No proper Soil and water Conservation
			Practices (in Jhum).
		Citrus (Orange), Banana,	Lack of knowledge for Value addition for
		Passion fruit, Cabbage,	higher income,
2.	Horticulture	Potato, French Bean, Bird's	Lack of IPM & INM,
2.	Thorefeeled	Eye Chilies, Ginger, Turmeric	Lack of Water harvesting structures,
			Lack of disease resistant or tolerant &
			high yielding varieties.
	Animal Husbandry	Pig: Local, Hamshire cross,	Poor Scientific management and disease
		Large white yorkshire cross	control, Insufficient Fodder production,
3.		Poultry: Local, Vencob,	Lack of Quality breeds.
5.		Hubberd	
		Cattle: Local, HF & Jersey	
		cross	
		Common Carp, Silver Carp,	Poor knowledge on value addition for
		Grass carp, Magur	higher income, Lack of quality seeds,
4.	Fishery		Unavailability of timely seed supply,
			lack of knowledge on use of production
			enhancing inputs like manures and
			supplementary feeds.
5.	Sericulture		Lack of scientific management
		Muga & Eri silk	technique and improved variety of
			mulberry,
			No proper marketing channel.

### 1. Research gaps identified for each farming system and crop

### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalized
1.	Agriculture: (W.R.C & Jhuming)	Rice(WRC & Jhum), Maize, Sugarcane, Soy bean, Rapeseed and Mustard	Proper irrigation facilities, Pest and disease management, Soil and water Conservation Practices in Jhum, High Yielding Variety.

2.	Horticulture	Citrus (Orange), Banana, Passion fruit, Cabbage, Potato, French Bean, Bird's Eye Chilies, Ginger, Turmeric	IPM & INM, Disease resistant or tolerant & high yielding varieties, Water harvesting structures, Post harvest management and value addition for higher income.
3.	Animal Husbandry	Pig: Local, Hampshire cross, Large white Yorkshire cross Poultry: Local, Vencob, Hubberd Cattle: Local, HF & Jersey cross	Increase Fodder production, Scientific management and disease control, Quality breeds.
4.	Fishery	Common Carp, Silver Carp, Grass carp, Magur	Knowledge on use of production enhancing inputs like manures and supplementary feeds, Unavailability of timely supply of quality seeds, Poor knowledge on value addition for higher income.
5.	Sericulture	Muga & Eri silk	Introduction of improved variety of mulberry & scientific management techniques, To create linkage with important silk industries.

### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agriculture: (W.R.C & Jhuming)	Rice, Maize, Sugarcane, Soybean, Rapeseed and Mustard	Trials on Pest and disease management incorporating biological & locally available plant extracts, Identification and Introduction of tolerant/resistant crop varieties, Soil and water Conservation Practices in Jhum, Introduction of High Yielding Variety.
2.	Horticulture	Citrus (Orange), Banana, Passion fruit, Cabbage, Potato, French Bean, Bird's Eye Chilies, Ginger, Turmeric	IPM & INM, Identification and Introduction of tolerant/resistant/high yielding crop varieties,

			Water harvesting structures, Identification & development of traditional methods of preparations and preservation for value addition and higher income.
3.	Animal Husbandry	Pig: Local, Hamshire cross, Large white yorkshire cross Poultry: Local, Vencob, Hubberd Cattle: Local, HF & Jersey cross	Identification and development of locally available fodder and herbs, Scientific management and disease control, Implementation of cross breeding programmes for upgradation of local breeds.
4.	Fishery	Common Carp, Silver Carp, Grass carp, Magur	Enhancement of inputs like manures and supplementary feeds, Implementation of breeding programmes for self sufficiency in seed supply, Research on value addition for higher income.
5.	Sericulture	Muga & Eri silk	Introduction of improved variety of mulberry & scientific management techniques, To create linkage with important silk industries.



5.6 Research Priorities and Strategies for Nagaland

# Blank

**1.** Research Priorities and strategies for Dimapur

SI. No.	Farming system	Crops under the FS	Research gaps identified
1.	Mono- cropping (Agri – Hort)	Paddy, Maize, ginger Banana, Pineapple, Vegetables.	<ul> <li>a) Lack of awareness about improved production technology of agri-horti crops</li> <li>b) Lack of irrigation facilities</li> <li>c) Lack of fertility in soil</li> <li>d) Lack of plant protection measures</li> <li>e) Lack of veterinary services and infrastructure</li> <li>f) Lack of quality seeds / planting materials/ breeds of animals</li> <li>g) Lack of knowledge about on going schemes of government</li> </ul>
2.	Mixed/ double cropping (Agri – Hort)	Paddy, Maize, Mustard, Banana, Pineapple, Vegetables.	<ul> <li>h) Lack of processing units and cold storage</li> <li>a) Lack of awareness about improved production technology of agri-horti crops</li> <li>b) Lack of irrigation facilities</li> <li>c) Lack of fertility in soil</li> <li>d) Lack of plant protection measures</li> <li>e) Lack of veterinary services and infrastructure</li> <li>f) Lack of quality seeds / planting materials/ breeds of animals</li> <li>g) Lack of knowledge about on going schemes of government</li> <li>h) Lack of processing units and cold storage</li> </ul>

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No.	Farming	Crops under the FS	Research priorities finalized
	system		
1.	Mono-	Paddy, Maize, Mustard,	a) location specific varieties for agri and horti
	cropping	Banana, Pineapple,	crops resistant for insect and diseases,
	(Agri – Hort)	Vegetables.	b) up gradation of local breeds of animals,
			c) fertilizer recommendations on the basis of
			soil test,
2.	Mixed/	Paddy, Maize, Mustard,	a) location specific varieties for agri and horti
	double	Banana, Pineapple,	crops resistant for insect and diseases,
	cropping	Vegetables.	b) up gradation of local breeds of animals,
	(Agri – Hort)		c) fertilizer recommendations on the basis of
			soil test,

Farming         Crops under the FS         Research strategy proposed		
Farming	Crops under the FS	Research strategy proposed
system		
Mono-	Paddy, Maize, ginger,	To conduct training and demonstrations for
cropping	Banana, Pineapple.	capacity building of farmers
(Agri – Hort)		Rain water harvesting for pisiculture and
		lifesaving irrigation
		To conduct training on plant protection
		measures
		Strengthening the veterinary services by
		organizing health camps and vaccinations
		Production of quality planting materials
		(Turmeric, Assam lemon, black pepper)
		Green manuring and use of bio-fertilizers
		and bio control measures
		Value addition and post harvest management
Mixed /	Paddy, Maize, Mustard,	To conduct training and demonstrations for
double	Banana, Pineapple,	capacity building of farmers
cropping	Vegetables.	Rain water harvesting for pisiculture and
(Agri – Hort)		lifesaving irrigation
		To conduct training on plant protection
		measures
		Strengthening the veterinary services by
		organizing health camps and vaccinations
		Production of quality planting materials
		(Turmeric, Assam lemon, black pepper)
		Green manuring and use of biofertilizers and
		bio control measures
		Value addition and post harvest management
	Mono- cropping (Agri – Hort) Mixed / double cropping	systemMono- cropping (Agri - Hort)Paddy, Maize, ginger, Banana, Pineapple.(Agri - Hort)Hort)Mixed / double croppingPaddy, Maize, Mustard, Banana, Pineapple, Vegetables.

#### 3. Research strategy proposed for each farming system and crop



SI. No	Farming system	Crops under the FS	Research gaps identified
AES-I	EFS-1 Agri - Animal	Paddy (TRC)	Poor irrigation facilities
	Husbandry	Piggery	Diseases and Pest
	EFS-2 Agri - Horticulture	Paddy (Jhum),	Drough condition
		Potato	Diseases and Pest
		Colocassia+ chilly+Maize	Low Yield
	EFS-3 Agri – Animal	Cow	Financial problems
	Husbandry - Fishery	fishery	Lack of seedlings/fingerlings
AES-II	EFS-1 Agri - Animal	Paddy (TRC) (Jhum)	Drough condition
	Husbandry	Colocassia+ chilly+Maize	Low Yield
		Piggery	Swine fever
	EFS-2 Hort - Apiculture	Passion fruits & Orange	Drough condition
	EFS-3 Agri - Fishery	Paddy (TRC)	Drough condition
		fishery	Lack of seedlings/fingerlings

#### 1. Research gaps identified for each farming system and crop

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalized
AES-I	EFS-1 Agri - Animal	Paddy (TRC)	Irrigation & FC department
	Husbandry	Piggery	initiative
			vaccine & trainings
	EFS-2 Agri - Horticulture	Paddy (Jhum),	Quality seeds & training
		Potato	Improve seeds & IPM
		Colocassia+ chilly+Maize	Quality seeds and training
	EFS-3 Agri – Animal	Cow	Subsidized loan
	Husbandry - Fishery	fishery	Quality seeds and training
AES-II	EFS-1 Agri - Animal	Paddy (TRC) (Jhum)	Quality seeds and training
	Husbandry	Colocassia+ chilly+Maize	Support by Vety &AH
		Piggery	department
	EFS-2 Hort - Apiculture	Passion fruits & Orange	Quality seeds and training
	EFS-3 Agri - Fishery	Paddy (TRC) fishery	Quality seeds and training

#### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
AES-I	EFS-1 Agri - Animal	Paddy (TRC)	Intensification from local
	Husbandry	Piggery	varieties to quality seeds
			Crossbreeding

EFS-2 Agri - Horticulture	Paddy (Jhum), Maize &	Intensification from local
	passion fruits	varieties to quality seeds
		Trailing system with GI wire
EFS-3 Agri - Animal	Paddy (TRC)	Intensification from local
Husbandry - Fishery	Potato	varieties to quality seeds
	Cow,Pig,	Diversification & Organic
	Fishery	Market intensification
		Crossbreeding
		Provide better quality of
		fingerlings
EFS-4 Agri - Others	Paddy & Stone quarry	Intensification from local
		varieties to quality seeds,
		Subsidized loan
EFS-1 Agri - Animal	Paddy (Jhum)	Replace local variety with
Husbandry	Collocassia+ chilly+Maize	HYV
	Piggery	Proper packages and
		practices
		Introduce exotic varieties of
		pigs
EFS-2 Hort - Apiculture	Passion fruits	Physical Support
	Orange	Provide better quality of
	Bee keeping/Box	Seedlings
		Technical support.
EFS-3 Agri - Fishery	Paddy (TRC)	Replace local variety with
	Fishery	HYV
		Provide better quality of
		fingerlings
	EFS-3 Agri - Animal Husbandry - Fishery EFS-4 Agri - Others EFS-1 Agri - Animal Husbandry EFS-2 Hort - Apiculture	EFS-3 Agri - Animal Husbandry - FisheryPaddy (TRC) Potato Cow,Pig, FisheryEFS-4 Agri - OthersPaddy & Stone quarryEFS-1 Agri - Animal HusbandryPaddy (Jhum) Collocassia + chilly+Maize PiggeryEFS-2 Hort - ApiculturePassion fruits Orange Bee keeping/BoxEFS-3 Agri - FisheryPaddy (TRC)

3. Research Priorities and strategies for Mokokchung

SI. No	Farming system	Crops under the FS	Research gaps identified
1.	Agri + Hort	Paddy, Tapioca, Maize,	IPM, INM, HYV, poor
		Passion fruit, Ginger,	implementation of ITK
		Orange, Banana	
2.	Agri + AH	Paddy, Tapioca, Maize,	IPM, INM, HYV, poor
		Local cross bred	implementation of ITK
			,economic losses due to major
			disease in Livestock & Poultry,
			infertility in dairy cattle, low
			productivity of local animals,
			lack of information on the
			nutritive value of locally
			available fodder
3.	Agri+ Fishery	Paddy, Tapioca, Maize,	IPM, INM, HYV, poor
		IMC & exotic carp	implementation of ITK, Riverine
			fish for table purpose and lack
			of technology on propagation,
			Low adoption of paddy cum fish
			culture production technology
4.	Agri + Horti + AH + Fishery	Paddy, Tapioca, Maize,	IPM, INM, HYV, poor
		Passion fruit, Ginger,	implementation of ITK,
		Orange, Banana, Local	economic losses due to major
		cross bred, IMC & exotic	disease in Livestock & Poultry
		carp, indigenous MAP,	and suitable breeds for up
		silkworm	gradation of non-descriptive
			local animals, Riverine fish for
			table purposes and lack of
			technology on propagation,
			Refinement of paddy cum fish
			culture production technology,
			non exploitation of indigenous
			MAP, lack of information on the
			nutritive value of locally
			available fodder, non availability
			of suitable host plant for
			silkworms

### 1. Research gaps identified for each farming system and crop

	Research phondes manzed for each farming system and crop		
SI. No	Farming system	Crops under the FS	Research priorities finalized
1.	Agri + Hort	Paddy, Tapioca,	IPM & INM in Paddy, Tapioca, passion fruit and
		Maize, Passion fruit,	Banana
		Ginger, Orange,	
		Banana	
2.	Agri + AH	Paddy, Tapioca,	IPM & INM in Paddy and Tapioca, Identification
		Maize, Local cross	of major diseases in Livestock & Poultry,
		bred	improvement fertility rate in dairy cattle,
			locally available fodder
3.	Agri+ Fishery	Paddy, Tapioca,	IPM & INM in Paddy and Tapioca, identification
		Maize, IMC & exotic	of Riverine/ ornamental fish, popularization of
		carp	paddy cum fish culture
4.	Agri + Hort + AH	Paddy, Tapioca,	IPM & INM in Paddy, Tapioca, passion fruit and
	+ Fishery	Maize, Passion fruit,	Banana, identification of major diseases and
		Ginger, Orange,	management in Livestock & Poultry,
		Banana, Local cross	identification of Riverine/ ornamental fish ,
		bred, IMC & exotic	Identification and assessment of indigenous
		carp, indigenous	МАР
		MAP, silkworm	

#### 2. Research priorities finalized for each farming system and crop

#### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1.	Agri + Hort	Paddy, Tapioca,	-Development of suitable varieties resistant to
		Maize, Passion fruit,	disease and pest
		Ginger, Orange,	- Refinement and assessment of bio agents and
		Banana	bio fertilizers
			-Development of high yielding local cultivars
			-Identification of suitable irrigated & Jhum
			varieties of paddy
			-Maintenance of germplasm.
			-Identification, assessment and refinement of
			ITK on disease, pest & weed management
2.	Agri + AH	Paddy, Tapioca,	-Development of suitable varieties resistant to
		Maize, Local cross	diseases and pests
		bred	- Refinement and assessment of bio agents
			-Development of high yielding local cultivars
			-Identification of suitable irrigated & Jhum
			varieties of paddy
			-Maintenance of germplasm.
			-Identification, assessment and refinement of

Farming Systems of North East India

			ITK on disease, pest & weed management
			-Increasing the fertility rate in cows (Local as
			well as upgraded breed)
			- Identifying suitable breeds for up gradation of
			non-descriptive local animals
			-Identification of major disease in Livestock &
			Poultry
			- Assessment of nutritive value of locally
			available fodders
3.	Agri+ Fishery	Paddy, Tapioca,	-Development of suitable varieties resistant to
		Maize, IMC & exotic	disease and pest
		carp	-Development of high yielding local cultivars
			-Identification and introduction of suitable
			irrigated & Jhum varieties of paddy and
			assessment on method of system of rice
			intensification.
			-Maintenance of germplasm.
			-Identification of local techniques on disease,
			pest & weed management
			-Identification of Riverine fishes for ornamental
			purpose
			-Refinement of paddy cum fish culture
			production technology
4.	Agri + Hort + AH	Paddy, Tapioca,	Refinement and assessment of bio agents and
	+ Fishery	Maize, Passion fruit,	bio fertilizers, Assessment of nutritive value of
		Ginger, Orange,	locally available fodders, Refinement of paddy
		Banana, Local cross	cum fish culture production technology,
		bred, IMC & exotic	Identification of indigenous MAP, development
		carp, indigenous	of suitable host plant for silkworms
		MAP, silkworm	
L	1	1	1

\*

4. Research Priorities and strategies for Phek

SI.No	Farming	Crops under the FS	Research gaps identified
	system		
1	Zabo system	Paddy, Maize	Low yield of paddy under TRC
	(Integrated	Beans, Pea, Cowpea,	Incompatible crop combination
	Farming	Arahar, Nagadal,	Lack of suitable organic /biological control agent
	system)	Cabbage Banana,	against insect, pest and diseases of cereal crops,
		Pear, Peach, Plum,	pulses, fruits and vegetables
		Garlic, Potato,	Lack of superior varieties of banana, peach, plum,
		Buffalo, Cattle and	pear at varying altitude.
		Fish	Lack of suitable agro techniques for hybrid
			passion fruit cultivation.
			Lack of organic /biological control agent against
			red ant infestation in potato
			Poor milk producing ability in local breed of cattle.
			Unawareness about Physico- Chemical
			parameters of soil and water for fishponds.
			Improper Pre stocking measures
2	Agrisilvihorti-	Forest trees like	Lack of high yielding varieties of fodder suitable
	pastural	Ficus spp, Bauhinia	for hill.
		spp., Legistroma.	Unsystematic plantation of crops.
		Fodder grasses like	Low yield in banana, peach, plum, pear at varying
		Broom grass, Napier	altitude.
		etc. Maize, Millets,	Lack of proper curative measure for leech
		Banana, Pear, Peach,	infestation in Mithun.
		Plum,	Poor milk producing ability in local breed of cattle
		Mithun, Cattle	Inconsistency in character expression
3	Alder based	Maize, Millets,	Inconsistent performance of locally available
	farming	Jobstears, Beans,	maize germplasm
		Cowpea, Pea, Garlic,	Low yield of millets
		Potato Banana, Pear,	Lack of organic /biological control agent against
		Peach, Plum,	red ant infestation in potato
		Mandarin, Papaya,	High mortality in Large cardamom plants before
		Large cardamom	onset of monsoon
		Теа,	Lack of organic pesticides for insect pest and
			disease management.
			Lack of disease resistant varieties of large
			cardamom
			Lack of suitable agro techniques for Tea
			cultivation on temperate hills.
	<u> </u>	I	

#### 1. Research gaps identified for each farming system and crop.

Farming Systems of North East India

........

4 0

0

. ٠

Jhum	Jhoom Paddy, Maize,	Lack of suitable organic /biological control agent
	Banana, Papaya,	against insect, pest and diseases of cereal crops,
	Beans, Cowpea, Pea,	pulses, fruits and vegetables
	Garlic, Potato,	Poor yield in papaya
	Cabbage	Low yield in banana
		Low yield of cereals, pulses and vegetables.
Pani-kheti	Paddy, Pea, Summer	Low yield of paddy under TRC
System	vegetables, Fish	High mortality of fingerlings
		Unawareness about Physico- Chemical
		parameters of soil and water of fishponds.
		Improper Pre stocking measures
	Pani-kheti	Pani-kheti Paddy, Pea, Summer

#### 2. Research priorities finalized for each farming system and crop.

SI.No	Farming	Crops under the FS	Research priority finalized
	system		
1	Zabo system	Paddy, Maize	Identification of suitable variety of paddy under
	(Integrated	Beans, Pea,	TRC
	Farming	Cowpea, Arahar,	Testing of best suited crop combination among
	system)	Nagadal, Cabbage	the crops cultivated under this system or any
		Banana, Pear,	other suitable crop.
		Peach, Plum,	Identification/development of suitable organic
		Garlic, Potato,	amendments and biological agents to control
		Buffalo, Cattle and	diseases and pests.
		Fish	Screening of better varieties of banana, peach,
			plum, pear at varying altitude.
			Screening, selection and developing breeding
			strategy to up grade local breed of cattle.
			Developing suitable technology for proper Pre
			stocking management of fingerlings.
2	Agrisilvihorti-	Forest trees like	Screening of high yielding varieties of fodder
	pastural	Ficus spp, Bauhinia	suitable for hills.
		spp., Legistroma.	Developing multistoried cropping system model
		Fodder grasses like	Screening of banana, peach, plum, pear varieties
		Broom grass,	suitable for varying altitude.
		Napier etc. Maize,	Identification/development of suitable
		Millets, Banana,	amendments against leech infestation in Mithun.
		Pear, Peach, Plum,	Screening, selection and developing breeding
		Mithun, Cattle	strategy to up grade local breed of cattle.
			Screening, selection and developing breeding
			strategy for Mithun.
3	Alder based	Maize, Millets,	Screening locally available maize germplasm and

	farming	Johntoorg Rooma	developing suitable variety using local
	Tarining	Jobstears, Beans,	, , ,
		Cowpea, Pea,	germplasm
		Garlic, Potato	Screening of high yielding/hybrid varieties of
		Banana, Pear,	millets
		Peach, Plum,	Identification/development of suitable organic
		Mandarin, Papaya,	amendments and biological agents to control of
		Large cardamom	red ant
		Теа,	Varietal screening and/or finding out suitable,
			biological/botanicals/organic amendments to
			check mortality in large cardamom
			Standardizing appropriate agro- techniques for
			Tea cultivation on temperate hills.
4	Jhum	Jhoom Paddy,	Identification/development of suitable organic
		Maize,	amendments and biological agents to control
		Banana, Papaya,	diseases and pests of cereal crops, pulses, fruits
		Beans, Cowpea,	and vegetables
		Pea, Garlic, Potato,	Screening of suitable varieties of papaya for
		Cabbage	temperate hills.
			Screening of banana varieties suitable for
			temperate hills.
5	Pani-kheti	Paddy, Pea,	Identification of suitable variety of paddy under
	System	Summer	TRC.
		vegetables, Fish	Developing suitable technology for proper Pre
			stocking management of fingerlings under
			panikheti farming system

#### 3. Research strategy proposed for each farming system and crop

SI.No	Farming	Crops under the	Research strategy proposed
	system	FS	
1	Zabo system	Paddy, Maize	Development of suitable varieties of paddy
	(Integrated	Beans, Pea,	Conducting trial to screen suitable crop combination.
	Farming	Cowpea, Arahar,	Screening of botanicals and biological agents suitable
	system)	Nagadal, Cabbage	to control diseases and pests of fruits and vegetables.
		Banana, Pear,	Screening of better varieties of banana, peach, plum,
		Peach, Plum,	pear at varying altitude.
		Garlic, Potato,	Screening, selection and developing breeding strategy
		Buffalo, Cattle	to up grade local breed of cattle.
		and Fish	Testing of proper Pre stocking density of fingerlings
			under temperate hills.
2	Agrisilvihorti-	Forest trees like	Testing of suitable fodder crops for hills.
	pastural	Ficus spp,	Developing multistoried cropping system model

		Bauhinia spp., Legistroma. Fodder grasses like Broom grass, Napier etc. Maize, Millets, Banana,	Evaluation of suitable varieties of banana, peach, plum, pear. Finding out suitable botanicals/chemicals to control leech infestation in Mithun. Screening, selection and developing breeding strategy to up grade local breed of cattle.
		Pear, Peach,	Screening, selection and developing breeding strategy
		Plum,	for Mithun.
		Mithun, Cattle	
3	Alder based	Maize, Millets,	Developing suitable variety of maize for temperate hills
	farming	Jobstears, Beans,	using local germplasm
		Cowpea, Pea,	Testing of high yielding/hybrid varieties of millets
		Garlic, Potato	Screening of botanicals and biological agents suitable
		Banana, Pear,	to control red ant infestation in potato.
		Peach, Plum,	Varietal screening of Large cardamom to find out
		Mandarin,	disease resistant germplasm.
		Papaya, Large	Finding out suitable biological/botanicals/ organic
		cardamom Tea,	amendments to control mortality in large cardamom
			Standardizing appropriate agro- techniques for Tea
			cultivation on temperate hills.
4	Jhum	Jhoom Paddy,	Identification/development of suitable organic
		Maize,	amendments and biological agents to control diseases
		Banana, Papaya,	and pests of cereal crops, pulses, fruits and vegetables
		Beans, Cowpea,	Screening of suitable varieties of papaya for temperate
		Pea, Garlic,	hills.
		Potato, Cabbage	Screening of banana varieties suitable for temperate
			hills.
5	Pani-kheti	Paddy, Pea,	Identification of suitable variety of paddy under TRC.
	System	Summer	Developing suitable technology for proper Pre stocking
		vegetables, Fish	management of fingerlings under panikheti farming system

5. Research Priorities and strategies for Tuensang

0 . ٠

SI.No	Farming System	Crop Under the FS	Research Gaps Identified
1		Cereals, Potato, Veg., Garlic,	Technology Assessment,
		Chillies, Rajmah/ Beans, Mustard,	Refinement through On Farm
	Agri + Hort	Ginger, Groundnut, Colocasia,	Trials/On Station Trials/ On
		Topioca, Banana, Mango, Guava,	Location Specific Trials on the
		Pears, Passion fruit, Peach, Pine	Gaps/ constraints identified:
		apple, Apple etc.	
2		Cereals, Potato, Veg., Cole-crops,	1. Cultivation Systems
		Rajmah / Beans, Soyabean, Rice	2. Resources management.
		bean, Ginger, Soyabean,	3. Pests, diseases, Weeds and
		Groundnut, Mustard, Pea,	Nutrient/soil Management/soil
	Agri + Hort + A.H	Colocasia, Topioca, Banana, Apple,	conservation.
		Plum, Guava, Mango, Passion	4. Location specific
		fruit, Peach, Poultry, Goatry,	Improved Inputs/ Seeds etc.
		Diary, Piggery (mainly Indigenous	5. Cropping System.
		& Mix breeds) etc.	6. Production Technology for rops.
3		Cereals, potato, W. Veg., Garlic,	7. Seed Production & Post harvest
		Chillies, Rajmah/Beans, Ginger,	8. Packages of practices/
		Soyabean, Groundnut, Mustard,	technology for better
		Pea, Colocasia, Tapioca, Banana,	production.
	Agri + Hort + A.H +	Mango, Guava, Pears, Passion	9. Agricultural Tools and
	Fishery	Fruit, Peach, Pine apple etc,	implements for hill agriculture
		Poultry, Goatry, Diary, Piggery	10. Livestock's production.
		(mainly Indigenous & Mix breeds)	11. Improved breed/Exotic breeds.
		and Fishery.	12. Stocking density.
4			13. Farming System.
		Cereals, Potato, Winter veg.,	
		Garlic, Chillies, Rajmah/ Beans,	
		Ginger, Groundnut, Colocasia	
	Agri + Hort + A.H +	Tapioca, Banana, Mango, Guava,	
	Sericulture	Pears, Passion fruit, Peach, Pine	
		apple, Poultry, Goatry, Diary,	
		Piggery (mainly Indigenous & Mix	
		breeds) and Sericulture (Iri &	
		Muga)	

#### 1. Research gaps identified for each Farming System and crop:

......

z. Sl.No	-	Crop Under the ES	-
	Farming System	Crop Under the FS	Research Priorities finalized
1		Cereals, Potato, Veg., Garlic, Chillies,	1. Cultivation Systems
	Agri + Hort	Rajmah/ Beans, Mustard, Ginger,	2. Resources
	Agin i nore	Groundnut, Colocasia, Topioca, Banana,	management.
		Mango, Guava, Pears, Passion fruit,	3. Pests, diseases, Weeds
		Peach, Pine apple, Apple etc.	and Nutrient/soil
2		Cereals, Potato, Veg., Cole-crops,	Management/soil
		Rajmah / Beans, Soyabean, Rice bean,	conservation.
		Ginger, Groundnut, Mustard, Pea,	4. Location specific
	Agri + Hort + A.H	Colocasia, Topioca, Banana, Apple, Plum,	Improved Inputs/
		Guava, Mango, Fruit, Peach, Poultry,	Seeds etc.
		Goatry, Diary, Piggry (mainly Indigenious	5. Cropping System.
		& Mix breeds) etc.	6. Production Technology
3		Cereals,potato,With veg.,garlic,chillies,	for crops.
		Rajmah/beans, Ginger, Soyabean,	7. Seed Production & Post
		Groundnut, Mustard, Pea, Colocasia,	harvest
	Agri + Hort + A.H	Tapioca, Banana, Mango, guava, pears,	8. Packages of practices/
	+ Fishery	p.fruit, peach, p.apple etc, Poultry,	technology for better
		goatry, diary,piggry (mainly Indigenious	production.
		& Mix breeds) and fishery.	9. Agricultural Tools and
4			implements for hill
		Cereals,potato, W.veg., Garlic, Chillies,	agriculture
		Rajmah/Beans, Ginger, Groundnut,	10. Livestock's production.
	Agri + Hort + A.H	Colocasia Tapioca, Banana, Mango,	11. Improved breed/Exotic
	+ Sericulture	Guava, Pears, Peach, Pineapple, Poultry,	breeds.
		Goatry, Diary, Piggry (mainly	12. Stocking density.
		Indigenious & Mix breeds) and	13. Farming System.
		Sericulture (Iri & Muga)	
		· · · · · · · · · · · · · · · · · · ·	

#### 2. Research priorities finalized for each farming system and crop.

### 3. Research strategy proposed for each farming system and crop.

SI.No	Farming System	Crop Under the FS	Research strategy Proposed
1		Cereals, Potato, Veg., Garlic,	To increase the Production
		Chillies, Rajmah/ Beans,	and Productivity (Production
	Aari L Hart	Mustard, Ginger, Groundnut,	technologies).
	Agri + Hort	Colocasia, Topioca, Banana,	Identification of location
		Mango, Guava, Pears, Passion	specific improved
		Fruit, Peach, Pineapple, Apple	varieties/Breeds etc.
		etc.	Development of suitable
		Cereals, Potato, Ceg., Cole-	agro techniques.
	Agri + Hort + A.H	crops, Rajmah / Beans,	To reduce post- harvest

		Soyabean, Rice bean, Ginger,	losses
		Groundnut, Mustard, Pea,	Identification of suitable
		Colocasia,Topioca, Banana,	breeds for up gradation of
		Apple, Plum, Guava, Mango,	non-descript local animals.
		Passion fruit, Peach, Poultry,	Identification and
		Goatry, Diary, Piggery (mainly	determining the nutritive
		Indigenous & Mix breeds) etc.	value of locally available
3		Cereals, Potato, Winter.veg.,	fodders crops.
		Garlic, Chillies, Rajmah/Beans,	Development of suitable
		Ginger, Soyabean, Groundnut,	hybrids for host plant and
		Mustard, Pea, Colocasia,	silk-worms.
	Agri + Hort + A.H	Tapioca, Banana, Mango,	To standardize the cropping
	+ Fishery	Guava, Pears, Passion fruit,	system of Maize and Kholar.
		Peach, Pine apple etc, Poultry,	Soil Analysis and
		Goatry, Diary, Piggery (mainly	classification.
		Indigenous & Mix breeds) and	
		Fishery.	
4			
		Cereals, Potato, Winter. Veg.,	
		Garlic, Chillies, Rajmah/ Beans,	
		Ginger, Groundnut, Colocasia	
	Agri + Hort + A.H	Tapioca, Banana, Mango,	
	+ Sericulture	Guava, Pears, Passion fruit,	
		Peach, Pineapple, Poultry,	
		Goatry, Diary, Piggery (mainly	
		Indigenous & Mix breeds) and	
		Sericulture (Iri & Muga)	

6. Research Priorities and strategies for Wokha

#### 1. Research gaps identified for each farming system and crop

SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agriculture	Rice, Maize	Low production in Jhum
		Rice, Maize, Sugarcane,	Soil Declining Health
2	Agri + Hort	Passion fruit	Severe deforestation leading to
		Rice, Maize, Common carp,	land degradation
3	Agri + Fishery	Grass carp etc	Lack of quality planting
		Rice, Maize, Banana,	materials of important Agri-Horti
4	Agri + Hort + Fishery	Jackfruit, Pineapple,	Crops
		Common carp, Grass carp	Low Productive performance of
		etc	indigenous livestock and poultry
		Rice, Maize, Banana,	Insect-pest incidence in
5	Agri + Horti + Animal	Jackfruit, Pineapple, Pig,	important Agri-Horti Crops
	Husbandary	Poultry, Cattle etc	Lack of farm Mechanization
			Lack of Awareness for improved
6	Agri + Animal	Rice, Maize, Pig, Poultry,	Agri. and allied activities
	Husbandary	Cattle	

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agriculture	Rice, Maize	Jhum Improvement for sustained
		Rice, Maize, Sugarcane,	Production in Wokha district
2	Agri + Hort	Passion fruit	Identification and validation of
		Rice, Maize, Common	promising indigenous farming
3	Agri + Fishery	Carp, Grass carp etc	systems of Wokha district
		Rice, Maize, Banana,	Improvement of productive
4	Agri + Hort + Fishery	Jackfruit, Pineapple,	performance in pig and poultry
		Common carp, Grass carp	birds
		etc	Post harvest processing and value
		Rice, Maize, banana,	addition in important agri-horti
5	Agri + Hort + Animal	Jackfruit, Pineapple, Pig,	commodities
	Husbandary	Poultry, Cattle etc	Farm mechanization to reduce
6	Agri + Animal	Rice, Maize, Pig, Poultry,	drudgery in hill agriculture
	Husbandary	Cattle	

SI. No	Farming system	Crops under the FS	Research strategy proposed		
			Trials on HYV crop varieties		
1	Agriculture	Rice, Maize	Trials on improved breeds of		
		Rice, Maize, Sugarcane,	livestock and poultry birds		
2	Agri + Hort	Passion fruit	Trials on resistant crop variety		
		Rice, Maize, Common	Integrated Nutrient management		
3	Agri + Fishery	Carp, Grass carp etc	Trials on water harvesting		
		Rice, Maize, Banana,	structures		
4	Agri + Hort + Fishery	Jackfruit, Pineapple,	Trials on fish production in paddy		
		Common carp, Grass carp	cum fish culture		
		etc	Trials on post harvest		
		Rice, Maize, Banana,	management of horticultural crops		
5	Agri + Hort + Animal	Jackfruit, Pineapple, Pig,	Trials on value addition of different		
	Husbandry	Poultry, Cattle etc	Agri and Horti crops		
6	Agri + Animal Husbandry	Rice, Maize, Pig, Poultry,			
		Cattle			

#### 3. Research strategy proposed for each farming system and crop



SI.No.	Farming system	Crop under the FS	Research gaps identified
1	FS- I	Rice, Soybean & Maize	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology
2	FS- II	Rice, Maize	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology
3	FS- III	Rice, Maize & Kholar	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology

#### 1. Research gaps identified for each Farming system and crop

#### 2. Research priorities finalized for each Farming system and crop

SI.No.	Farming system	Crop under the FS	Research priorities finalized
1	FS- I	Rice, Soybean &	Introduction of HYV seeds and breeds,
		Maize	introduction of improved technology &
			introduction of lab to land technology
2	FS- II	Rice, Maize	Introduction of HYV seeds and breeds,
			introduction of improved technology &
			introduction of lab to land technology
3	FS- III	Rice, Maize & Kholar	Introduction of HYV seeds and breeds,
			introduction of improved technology &
			introduction of lab to land technology

#### 3. Research strategy proposed for each Farming system and crop

SI.No.	Farming system	Crop under the FS	Research strategy proposed
1	FS- I	Rice, Soybean & Maize	OFT, FLD, Result demonstration & comparative study
2	FS- II	Rice, Maize	OFT, FLD, Result demonstration & comparative study
3	FS- III	Rice, Maize & Kholar	OFT, FLD, Result demonstration & comparative study

SI.No.	Farming system	Crop under the FS	Research gaps identified
1	FS- I	Rice, Soybean & Maize	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology
2	FS- II	Rice, Maize	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology
3	FS- III	Rice, Maize & Kholar	Lack of HYV seeds and breeds, Lack of
			improved technology & Lack of lab to land
			technology

#### 4. Research gaps identified for each Farming system and crop

#### 5. Research priorities finalized for each Farming system and crop

SI.No.	Farming system	Crop under the FS	Research priorities finalized
1	FS- I	Rice, Soybean &	Introduction of HYV seeds and breeds,
		Maize	introduction of improved technology &
			introduction of lab to land technology
2	FS- II	Rice, Maize Introduction of HYV seeds and bree	
			introduction of improved technology &
			introduction of lab to land technology
3	FS- III	Rice, Maize & Kholar	Introduction of HYV seeds and breeds,
			introduction of improved technology &
			introduction of lab to land technology

#### 6. Research strategy proposed for each Farming system and crop

SI.No.	Farming system	Crop under the FS	Research strategy proposed
1	FS- I	Rice, Soybean & Maize	OFT, FLD, Result demonstration & comparative study
2	FS- II	Rice, Maize	OFT, FLD, Result demonstration & comparative study
3	FS- III	Rice, Maize & Kholar	OFT, FLD, Result demonstration & comparative study

### ନ୍ଧା ହାରୁ ଅନ୍ୟାରେ



*5.7 Research Priorities and Strategies for Sikkim* 

Blank Page

1. Research Priorities and strategies for North Sikkim

SI. No.	Farming System	Crops under the FS	Research gaps identified
1.	Agriculture+	Maize, Paddy, Wheat,	- Old Variety dependence
	Horticulture + Animal	Soybean, Orange, Cardamom.	- Low seed replacement
	Husbandry		- Imbalance fertilizer
			Management
			- Severe Pest Infestation
			<ul> <li>Lack of proper orchard</li> </ul>
			management, pest and
			disease problem and poor
			planting material.
			- Non use of micro-nutrients,
			pest and disease problems.
			- Lack of proper planting
			material

#### 2. Research priorities finalized for each farming system and crop:

-

SI. No.	Farming System	Crops under the FS	Research priorities finalized
1.	Agriculture+	Maize, Paddy, Wheat,	- Seed treatment, balance use
	Horticulture + Animal	Soybean, Orange, Cardamom.	of organic fertilizers, IPM and
	Husbandry		IDM.
			- Scientific crop production &
			resource conservation.
			- Seed Production, IPM and
			Varietal Evaluation.
			- Disease and pest
			management.
			- Proper IPM and INM packages
			with proper planting material.

#### **3.** Research strategy proposed for each farming system and crop:

SI. No.	Farming System	Crops under the FS	Research strategy proposed
1.	Agriculture+	Maize, Paddy, Wheat,	As above
	Horticulture + Animal	Soybean, Orange, Cardamom.	
	Husbandry		

# ନ୍ଧା ହାର୍ଯ୍ୟ ହାର

2. Research Priorities and strategies for West Sikkim

\*

#### **Proposed Research Strategies**

There are many available technologies available but the feasibility of the technology at the farmer's field is questionable. The research strategies should be to refine and validate the recommended technology at the farmer's field. The Research strategies proposed for agriculture technology refinement, Validation and assessment by conducting Validation trial, On farm trials and front line demonstrations at farmers field for adoption and its fine tuning for final adoption by farmers with existing agro-eco situations to make it more situation specific.

Research strategies are to be carried out as on station research and on farm research depending upon the research priorities of the issues identified in the SREP of the district. The research issues are to be tackled by the KVK scientist as per the research need, requirement and infrastructure. Proposed Research Strategies and related activities are given below.

SUMMARY

-

#### A. Farmers participatory on farm research (Short term)

SN	Participatory research issues	Releve	ent to dif	ferent
			AES	
		AES-	AES-	AES-
		Ι	II	III
1	Development of standards package of practices for organic production	Y	Y	Y
	of food grain crops and horticulture crop			
2	Development of the technology for the quality planting material in	Y	Y	-
	cardamom			
3	Refinement of existing package of practices for paddy to make it more	-	Y	Y
	specific to local situations			
4	Refinement of existing package of practices for maize to make it more	Y	Y	Y
	specific to local situations			
5	Undertaking refinement of package of practices for control of stem	-	Y	Y
	borer in rice			
6	Refinement of technology for Pest and disease management in	Y	Y	-
	cardamom			
7	Refinement of technology for Pest and disease management in Sikkim	-	Y	Y
	Mandarin			
8	Refinement of technology for Pest and disease management in Ginzer	-	Y	Y
9	To undertake validation and refinement of research technology for local	Y	Y	Y
	specific mineral mixture of milch animals.			
10	Validation and refinement of balance feeding of milch animals.	Y	Y	Y
11	Undertaking refinement and assessment of research technology for	Y	Y	Y
	heat detection.			
12	Refinement of dewormers	Y	Y	Y

13	Development of sound marketing system and milk processing units for marketing of milk and milk products	Y	Y	Y
14	To undertake validation of research technology for newly introduced crops like brocollii, strawbery	Y	Y	Y
15	Evaluation of Plant extract for control of Pest and Diseases	Y	Y	Y
16	Refinement on ITK	Y	Y	Y
17	Improvise the production technology of Cymbidium and lilium	Y	-	-
18	Validation of EM technology in nutrient, pest and management technology	Y	Y	Y
19	Standarizarion of vermicompost and EM compost for important crops	Y	Y	Y

#### **Detail of research stratagies**

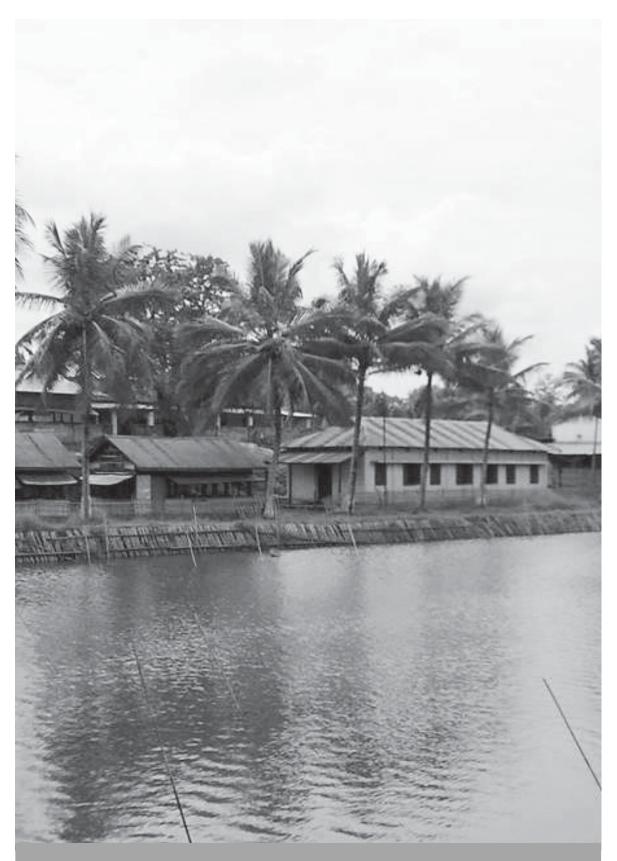
SN	Identified Problems/Issues	Proposed Research Strategies	Proposed Research Activities
1	Lack of standardized	Development of	OFT/FLD by KVK.
	recommended package of	standards package of	
	practices for organic	practices for organic	
	production of food grain crops	production of food	
		grain crops	
2	No authentic control of Ginger	Validation of Ginger	Conducting OFT/FLD and
	Rhizome rot and Bacterial wilt	Rhizome rot and	farmers-Scientist Interaction by
	control	Bacterial wilt control	KVK.
3	Non refinement of	Developing improved	Conducting OFT and farmers-
	technological package for	and refined	Scientist Interaction by KVK.
	Organic nutrient management	technological package	
	in rice, wheat and Maize	for organic nutrient	
		management in rice,	
		wheat and Maize	
4	Non-Refinement of technology	Refinement of	OFT and on station trial by KVK
	for Pest and disease	technology for Pest	
	management in cardamom	and disease	
		management in	
		cardamom and Sikkim	
		mandarin	
5	Non refinement of existing	Refinement of existing	Organizing FLD/OFT and farmers-
	package of practices for paddy	package of practices	Scientist Interaction by KVK
	to make it more specific to	for paddy to make it	
	local situations	more specific to local	
		situations	

6		Developing	
6	Lack of improved technology	Developing improved	Organizing FLD/OFT
	for production of disease free	technique for disease	
	planting material in cardamom	free planting material	
	and Sikkim mandarin	production in	
		cardamom and Sikkim	
		mandarin	
7	Non refinement of package of	Undertaking	Organizing FLDs and Validation
	practices for control of stem	refinement of package	trials by KVK
	borer in rice	of practices for control	
		of stem borer in rice	
8	No refinement of local specific	To undertake	Organizing OFT and farmers-
	mineral mixture for milch	validation and	Scientist Interaction by KVK and
	animal	refinement of research	AH dept.
		technology for local	
		specific mineral	
		mixture for milch	
		animal	
9	Repeat breeding due to no	Validation and	Conducting OFT/FLD and
	refinement of balance feeding	refinement of balance	farmers-Scientist Interaction by
	for milch animals	feeding for milch	KVK and AH Dept.
		animals	
10	Anoustrous in dairy animals	Undertaking	Conducting OFT,FLDs and
	due to unrefinement of	refinement and	farmers-Scientist Interaction by
	oastrous cycle research	assessment of	KVK.
		research technology	
		for heat detection.	
11	No promotion of backyard	Refinement of	Developing backyard poultry
	poultry system	backyard poultry	model and conducting FLD/OFT
		system	by KVK & AH Dept.
12	High mortality in calves due to	Refinement of	OFT/FLD, Animal camp and
	unrefinement of dewormers	dewormers	farmers-Scientist Interaction by
			KVK & AH Dept.
13	Lack of sound marketing	Development of sound	Farmers-Scientist Interaction and
	system and milk processing	marketing system and	establishment of milk processing
	units for marketing of milk and	milk processing units	model by KVK or AH Department
	milk products	for marketing of milk	
		and milk products	
14	No research technology	To undertake	Undertaing research programme
	available for fertigation	validation of research	for validation and Farmers-
	schedule of vegetable	technology for	Scientist Interaction by SAU/KVK
	cultivation in poly houses	fertigation schedule of	

		vogotable cultivation	
		vegetable cultivation	
		in poly houses	
15	No assessment of sowing time	Validation of Sowing	OFT for validation and Farmers-
	of different vegetable at	time of vegetable at	Scientist Interaction by KVK
	altitudinal gradient for	different AES for off	
	offseason production	season production	
16	No refinement of nutritional	To undertake	Organizing OFT/FLD by KVK.
	kitchen gardening technology	refinement on kitchen	
	for improving health status.	garden models for	
		improving health	
		status.	
17	No standardization of precision	To standardization of	Conducting On farm testing by
	farming package for different	precision farming	KVK
	field and fruit crops	package for different	
		field and fruit crops	
18	No availability of economic	Developing and	OFT on development of economic
10	,	assessment of	
	viable integrated farming		viable integrated farming module
	module	economic viable	and farmers-scientist interaction
		integrated farming	by KVK
		module	
19	Non-Validation of EM	Validation of EM	OFT and FLD by KVK
	technology in nutrient, pest	technology in nutrient,	
	and management technology	pest and management	
		technology	
20	Non-Standarizarion of	Standarizarion of	OFT &FLD by KVK
	vermicompost and EM compost	vermicompost and EM	
	for important crops	compost for important	
		crops	
21	Selection of suitable AES is	Validation on	OFT by KVK
	vague for cultivation of pear,	feasibility of growing	
	peach, plum	Peach, plum and pear	
		at altitudinal	
		difference	

# େଇଷ୍ଟରେଷ୍ଟର

Blank Page



5.8 Research Priorities and Strategies for Tripura

# Blank



SI. No	Farming system	Crops under the FS	Research gaps identified
1	Agri – Hort –	Paddy, summer & winter	Lack of suitable HYV and improved
	Pisci - Livestock	vegetables, oilseeds, pulses,	breeds for this region, Absence of
		Indian major & minor carps,	Super intensive fish farming followed
		poultry birds, milch cattle, goat,	by unavailability of improved quality
		pig duck etc.	planting materials.
2	Hort - Agri-	Paddy, summer & winter	Lack of suitable HYV and improved
	Livestock	vegetables, oilseeds, pulses,	breeds for this region, Unavailability
		poultry birds,	of improved quality planting materials
3	Agriculture	Paddy ( 2 crops)	Lack of short duration HYV and better
			crop management practices
4	Livestock	Poultry birds and pig	Lack of improved breeds, low cross
			breeding programme, locally available
			feed ingredients are not explored
5	Hort – Pisci -	Paddy, summer & winter	Lack of suitable HYV and improved
	Agri	vegetables, Indian major & minor	breeds for this region, absence of
		carps	super intensive fish farming followed
			by unavailability of improved quality
			planting materials
6	Livestock - Agri-	Pig, goat, poultry birds, paddy,	Lack of suitable HYV and improved
	Hort	mustard, maize, colocasia,	breeds for this region and
		banana, pine apple	unavailability improved quality
			planting materials
7	Agri – Hort –	Rubber, pineapple, banana, teak,	Lack of suitable HYV and improved
	Silvi - Pastoral-	karoi, bamboo, citrus	breeds for this region, lack of
	Livestock		scientific models for shifting
			cultivation, less number of
			programmes for identification and
			domestication of wild aromatic and
			medicinal plants, pasture
			development and management
8	Plantation based	Rubber and tea	Lack of scientific models for shifting
	(Rubber)		cultivation, less number of
			programmes for identification and
			domestication of wild aromatic and
			medicinal plants.

#### 1. Research gaps identified for each farming system and crop

9	Plantation –	Rubber, pig, poultry bird.	Lack of suitable HYV and improved	
	Pisci - Livestock		breeds for this region, lack of	
			scientific models for shifting	
			cultivation, less number of	
			programmes for pasture development	
			and management, absence super	
			intensive fish farming,	
10	Horticulture	Summer and winter vegetables	Lack of suitable planting materials,	
	based		lack of low volume high value off-	
			season crop variety,	

#### 2. Research priorities finalized for each farming system and crop

SI. No	Farming system	Crops under the FS	Research priorities finalised
1	Agri – Hort – Pisci -	Paddy, summer & winter vegetables,	(a). Importance on
	Livestock	oilseeds, pulses, Indian major & minor	traditional practices in
		carps, poultry birds, milch cattle, goat,	formulation of need based
		pig duck etc.	improved technologies for
2	Hort – Agri -	Paddy, summer & winter vegetables,	specific FS.
	Livestock	oilseeds, pulses, poultry birds,	(b). Scientific evaluation of
3	Agriculture based	Paddy ( 2 crops)	ITK with respect to social
4	Livestock based	Poultry birds and pig	beliefs and values.
5	Hort – Pisci - Agri	Paddy, summer & winter vegetables,	(c). Development of farm
		Indian major & minor carps	machineries for small and
6	Livestock – Agri –	Pig, goat, poultry birds, paddy,	marginal land holdings.
	Hort	mustard, maize, colocasia, banana,	(d). Cross breeding
		pine apple	programme to upgrade and
7	Agri – Hort – Silvi –	Rubber, pineapple, banana, teak,	update the traditional
	Pastoral - Livestock	karoi, bamboo, citrus	breeds.
8	Plantation based	Rubber and tea	(e). Establishment of feed
	(Rubber)		mixing plants to utilize
9	Plantation – Pisci -	Rubber, pig, poultry bird.	and/or explore locally
	Livestock		available ingredients.
10	Horticulture based	Summer and winter vegetables	

#### 3. Research strategy proposed for each farming system and crop

SI. No	Farming system	Crops under the FS	Research strategy proposed
1	Agri – Hort – Pisci	Paddy, summer & winter vegetables,	(a).Importance of
	- Livestock	oilseeds, pulses, Indian major & minor	traditional practices for
		carps, poultry birds, milch cattle, goat,	development of new
		pig duck etc.	technologies.

2	Hort – Agri -	Paddy, summer & winter vegetables,	(b).Scientific evaluation of
	Livestock	oilseeds, pulses, poultry birds,	ITKs for better farm
3	Agriculture based	Paddy ( 2 crops)	management.
4	Livestock based	Poultry birds and pig	(c).Modernization of
5	Horti – Pisci - Agri	Paddy, summer & winter vegetables,	specific tool with respect to
		Indian major & minor carps	different FS to increase the
6	Livestock – Agri -	Pig, goat, poultry birds, paddy,	productivity
	Hort	mustard, maize, colocasia, banana,	
		pine apple	
7	Agri – Hort – Silvi–	Rubber, pineapple, banana, teak, karoi,	
	Pastoral-Livestock	bamboo, citrus	
8	Plantation based	Rubber and tea	
	Rubber)		
9	Plantation - Pisci-	Rubber, pig, poultry bird.	
	Livestock based		
10	Horticulture based	Summer and winter vegetables	

# Blank