



# **SERCHHIP DISTRICT**

## **Inventory of Agriculture**

### **2015**



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## FOREWORD

The ICAR-Agricultural Technology Application Research institute, Zone-III with its headquarters at Umiam, Meghalaya is primarily responsible for monitoring and reviewing of technology assessment, refinement, demonstrations, training programmes and other extension activities conducted by the *Krishi Vigyan Kendras* (KVKs) in North East Region, which comprises of eight states, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The directorate also serves as feedback mechanism to research and extension systems while maintaining a very close liaison with ICAR headquarters and has made significant progress in research, capacity building and other extension activities which ultimately contributes for the planned growth and development of North Eastern Region of India.

Through this District Agriculture Inventory publication, an attempt has been made to compile and publish information about KVK district and agriculture in district, in a meaningful and comprehensive manner. It will be very useful for all stakeholders of agriculture in district. The inventory encompasses the information regarding geography of district; basic data about agriculture and district population, crops, institutional resources, agriculture relates schemes in district which also covers agriculture, fishery and livestock sector. The district inventory in the form of e-publication will surely increase the digital presence and penetration of KVKs. The inventory will also serve the communication needs of farmers and youth in district as it contains contact numbers and address related information to access various developmental agencies in district.

I congratulate the efforts of staff of KVK for collecting and compiling such a large volume of information in systematic manner. I also acknowledge the efforts of editors and other staff members of this institute for publishing this document on our website.

Umiam  
18-03-2016

(Dr. Bidyut C. Deka)  
Director,  
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Meghalaya-793103

## PREFACE

The synthesized compilation in the form of informative publication is of much value for decision making. The compiled information in this publication will immensely help farmers and other stakeholders of agriculture and allied sector of a district such as line departments, research organizations, planners, policy makers, input providers etc. Through this document, we are trying to provide entire gamut of information related to district and its agriculture setting for the benefit of farming community of the North Eastern Region. The connectivity related issues in the North Eastern region makes the information inaccessible to most of stakeholders. Therefore, the *Krishi Vigyan Kendras* in each district of North East region undertook this cumbersome task to compile the district Agricultural Inventory. This publication provides the latest information about district, agriculture and other essential constituents.

We, the editors of this publication, earnestly thank and acknowledge the contribution of all compilers i.e. Programme coordinator, Subject Matter Specialists and Programme Assistants of KVK Serchhip for taking part in compiling the huge information to shape up Serchhip District Inventory of Agriculture-2015. We also thank all officers of ICAR H.Q. for guiding us time to time and motivating us to complete this publication.

We, the editors, dedicate this publication to the farming community of Serchhip District and we look forward to contribute more for the betterment of farming community in entire North East Region. We also welcome the suggestions for further improvement.

Umiam  
18-03-2016

Editors



## *From the Desk of Programme Coordinator, KVK Serchhip*



*Agriculture is the mainstay of majority of the people in the state and since the economy of Mizoram is essentially agro-based having more than 60% of the working population engaged in agriculture and allied activities, the development of agriculture is one of the upmost importance to uplift rural economy of the state and continues to be a fundamental instrument for sustainable development and poverty alleviation in the 21<sup>st</sup> Century.*

*It is often said that agriculture for a Mizo is deeply interwoven with his culture and tradition and therefore it will take a lot of motivation for him to shift to an alternate but albeit a better form of cultivation. Herein lays the burden of KVKs. The KVKs in the state will focus on testing and introduction of suitable/viable technologies to achieve the targets set forth and create a developed Mizoram. The KVKs as knowledge centres, has to link up with public private partnership in a workable manner to sustain the envisioned development of all agriculture and allied sectors.*

*The Inventory of Agriculture of Serchhip District in its present compilation is a right step taken by the KVK in their direction. The inventory contains basic information on the present state of agriculture and allied departments/organizations, details of various research and schemes relevant to the farming community that are operation in the district. Since majority in the farming community in the district is unaware of the programmes and schemes framed for them by the Government and leading to failure of such programmes. It is expected that with the publication of Inventory of Agriculture of Serchhip District, the farming community particularly farmers and the policy planners and all those who are concerned with the development of agriculture and related fields in the district will helps them in sharing of informations and transfer of modern technologies thereby the agricultural economy of the district will be improved.*

*I hopefully expect that the inclusions of contact address of various organizations engaged in agriculture and rural development including the names of the concerned officers, phone number and e-mail details will be beneficial to the farming community.*

*I sincerely thanks to all the officials of various organisations and staff of KVK Serchhip District for providing all necessary information and relevant data who have directly or indirectly contributed to publication of this compilation in the present form.*

*We dedicate the publication to the cause of the farming community of Serchhip District and we are happy if suggestions are made by the users for further improvement.*

**(K.Laltlanmawia**

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## CHAPTER – 1. DISTRICT IN GENERAL

India being agriculturally dependent, it needs no emphasis that agriculture is the backbone of Mizoram. And agriculture is the way of life that is deeply interwoven with the people living within Serchhip district. Agriculture being the main occupation, the prevailing practice of agricultural system is mostly practiced in the river valley/foot hills and some of the farmers are still engaged in shifting cultivation for crop production. The main crops grown in the district are paddy, maize, banana, pineapple, mandarin orange, passion fruit, chillies, cabbages etc. People of this district are also engaged in animal husbandry which includes dairy, piggery and poultry.

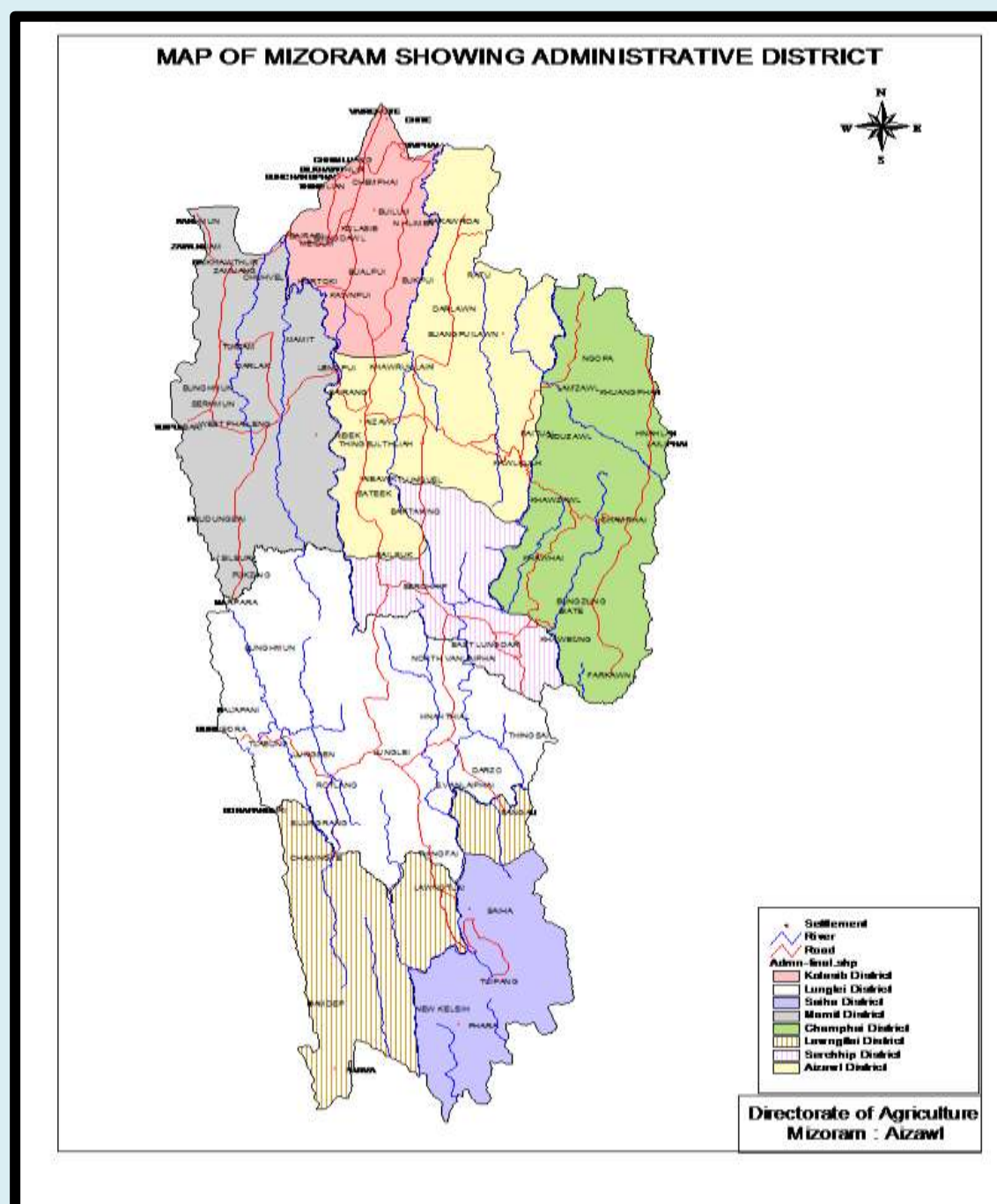
Due to increasing population special attention needs to be given on the concept of Integrated Nutrient Management (INM), Integrated Pest Management (IPM), vermi-composting technology, improved package of practices of major crops, value addition of surplus product, scientific rearing and feeding of animal, as the present farming system is solely based on cultural and indigenous practices without any external input.

Serchhip District occupies the central part of Mizoram, extending more to the eastern side. It lies between 23°35'58'82" and 23°00'20'84" N latitude and 92°41'06'00" and 92° 40'39'63" E longitudes. It is bounded by Aizawl district on the north, Champhai district on the east and by Lunglei district on the south and west. It also shares a few length of boundary line with Myanmar on the South-eastern part of the district. The total geographical area of Serchhip district is 1421.60 Sq Km which account for 6.74% of the total geographic area of the state.

Serchhip district is divided into three Sub-division namely Serchhip, North Vanlaiphai and Thenzawl, and two blocks namely Serchhip and East Lungdar. The population of Serchhip district is 64,875 of which 30% (i.e. 19,462) resides in the Serchhip town and the rest 70% (i.e. 45,113) lives in rural areas who are predominantly farming families.







**Fig:Map of Mizoram Showing Administrative District**

## CLIMATE

Serchhip district is situated at an altitude ranging from 500m – 1889m above mean sea level with an average annual rainfall of 1680 mm and temperature ranging from 4°C -34°C. The Agro-climatic Zones and Agro-ecological Situation (AES) of the District are given below:

**Table: Description of Agro – Climatic Zone**

No	Agro-climatic Zone	Characteristics
1	Temperate sub-alpine zone	The altitude ranges from 1373 - 1889 m. The average temperature ranges from 4°C – 28°C and annual rainfall average is 2521.8 mm.
2	Sub-tropical Hill zone	The altitude ranges from 900- 1373 m. The average temperature ranges from 11°C – 32°C and annual rainfall average is 2521.8 mm.
3	Mild-tropical Hill zone	The altitude ranges from 500 - 900 m. The average temperature ranges from 15°C – 34°C and annual rainfall average is 2521.8 mm.

**Table: Description of major Agro ecological situations**

No	Agro ecological situation	Characteristics
1	AES - I	The altitude ranges from 500 - 900 m. Soil type: Very deep, dark brown to dark yellowish brown, mottles of low chroma, strongly acidic
2	AES – II	The altitude ranges from 900 - 1373 m. Soil type: Deep to very deep, dark yellowish brown, clay loam, strongly acidic
3	AES – III	The altitude ranges from 1373 - 1889 m. Soil type: Deep, dark brown to dark yellowish brown, sandy clay surface, medium to strongly acidic

**Source: Vision 2020, KrishiVigyanKendras, Mizoram. Published by Directorate of Agriculture (Research & Education), Aizawl, Mizoram - 2011**

## TOPOGRAPHY

Serchhip District occupies the central part of Mizoram, extending more to the eastern side. It lies between 23°35'58'82" and 23°00'20'84" N latitude and 92°41'06'00" and 92° 40'39'63" E longitudes. It is bounded by Aizawl district on the north, Champhai district on the east and by Lunglei district on the south and west. It also shares a few length of boundary line with Myanmar on the South-eastern part of the district. The total geographical area of Serchhip district is 1421.60 Sq Km which account for 6.74% of the total geographic area of the state.

## FOREST

The Total Geographical area of Serchhip District is 1, 42,160 hectare out of which 91, 235 hectare of an Area are under Forests (64.17 %). The details of Land Use.

**Table: Land Use Statistics of Serchhip District**

Sl.No	HEADING	AREA (In thousand hectares)
I	Geographical Area	142.160
II	Reporting Area for Land Utilization Statistics (1-5)	142.160
1.	Forests	91.235
2.	Not available for cultivation	
	a. Water logged land	-
	b. Social Forestry	5.200
	c. Land under Still water	0.458
	d. Other land	3.505
	Total of (a+b+c+d)	9.163
2(a)	Barren & Un – culturable land	0.658
	Total of 2 + 2(a)	9.821
3	Other uncultivated land excluding fallow land (a+b+c)	0.480
	a) Permanent pastures & other grazing land	0.350
	b) Land under miscellaneous tree crops & groves not included in net area sown	2.819
	c) Culturable waste	0.480
4	Fallow lands (a+b)	18.958

	a) Fallow lands other than current fallows	12.137
	b) Current fallows	6.821
5	Net Sown Area	18.497
6	Total Crop Area	18.687
7	Area sown more than once	0.190
III	Net Irrigated Area	2.054
IV	Gross Irrigated Area	2.054

**Source: Agriculture Statistical Abstract(2013-2014), Directorate of Agriculture(Crop husbandry), Govt. of Mizoram, Aizawl-2015**

## WATER RESOURCES

A full-fledged department have been created in 2007 to look after irrigation in Mizoram which is known as Minor irrigation Department. Earlier this department have been annexed with Agriculture Department. A Sub – Divisional level Officer is looking after Serchhip District in Minor Irrigation Department. The Department have so far created irrigation potential of about 1275 Ha. And another 160 Ha is on – going. For effective utilization of water in the complete projects, a society known as Water User Association have been created. The Association is looking after the every distribution of water, address the dispute, repair the channels whenever necessity arises. These types of channel irrigation have been created mainly along the low lying potentials at the river banks. There are many other areas especially along the mountain slope where irrigation is extremely needed. Rain water harvesting, use of drip irrigation to economise scarce rain water, submersible water pump are the way to go in this condition.

**a. Rivers:** Nil

**b. Streams:** Nil

**c. Beels/lakes:** Nil

**PORTS:** Nil

## DEMOGRAPHY

The population of the District as per 2011 census is 64875 with the Males & Females' population is 32824 & 32051 respectively. The Sex ratio (Females per 1000 Males) is 976.

Details of population, decadal, growth rate, sex ratio & population density (as per 2011 census) are given in Table 4.

**Table :District Population, % decadal growth rate, Sex Ratio & Population density**

District	Population			% decadal growth rate of population (2001 -11)	Sex ratio (Females per 1000 males)	Population density(per Sq.Km)
	Persons	Males	Females			
Serchhip	64,875	32,824	32,051	19.12	976	46

As per 2011 Census, Serchhip District is recorded as the highest literacy rate i.e., 98.76 % in the State.

The number of literates & literacy rate (2011 census) are given in Table 5.

**Table 5:District - Number of Literates & Literacy Rate (2011 Census)**

District	Number of Literates			Literacy Rate (%)		
	Persons	Males	Females	Persons	Males	Females
Serchhip	55,102	27,893	27,209	98.76	99.24	99.28
<b>Total</b>	<b>55,102</b>	<b>27,893</b>	<b>27,209</b>	<b>98.76</b>	<b>99.24</b>	<b>99.28</b>

**Source : Statistical Handbook of Mizoram – 2012 published by Directorate of Economics & Statistics, Mizoram, Aizawl**

**CULTURE AND EDUCATION: Nil**

**HEALTH CARE SECTOR: Nil**

**LOCAL BODIES AND RURAL DEVELOPMENT: Nil**



## CHAPTER – II. AGRICULTURE SCENARIO OF THE DISTRICT

The gross cropped area in the District is 15475 ha. With cropping intensity of 125% . Rice is the main crop of the District during the Kharif seasons which occupies 40% of the gross cropped area. Maize is the next main crop which occupies 9.33% of the total gross crop area. Other important Kharif crops are Soyabean, Pumpkin, Cowpea in the Kharif season. During Rabi, cabbage is grown extensively and in fact Serchhip is the biggest source of cabbage in Mizoram. Other crops grown during Rabi are Brinjal, Tomato, Carrot, Knol-khol etc. Among Horticultural crops, Orange cultivation is very popular; especially E. Lungdar Block has produced lots of Orange that it became the biggest source of orange fruit in Mizoram. Nowadays, Other equally important crop of the District is Banana. A village Khumtung is known for its production of Banana all over Mizoram. The Banana grown here is Cavendish variety the quality of which is said to be the best in the world. Bird's eye chilli is another important crops besides Ginger and Nimboo. Pineapple also is very popular because of the Fruit Juice Concentration Plant which is located at Chhingchhip which is not far from the District capital, Serchhip. Oil Palm is another important crop which is introduced recently in the District.

### CROPS

Serchhip District with a total geographical area of 1421.60 Sq Km has a total farming population of 7058 Nos., the total area of cropland for kharif is around 10.46 covering 0.74% and the main occupation of the people is agriculture. The main prevailing practice of agriculture is shifting cultivation and wet land rice cultivation in the plain area. Farmers do not take up cultivation on large scale nor modern technology applied to go for bumper harvest as cultivation is mainly based on hilly areas, still practiced jhum cultivation and due to lack of transportation.

The main crops grown area Rice (both WRC and jhum), Ginger, Maize, Sugarcane, pulses like Field pea, Arhar, French bean, Rice bean and Cowpea, Sesamum, Turmeric, Rapeseed and Mustard. The productivity of the crops are much lower than national average mainly due to non-adoption of recommended practices like INM, IPM, HYV seeds, proper management and jhumming still in practice .Sincere effort to wean away the people from jhumming practices is the burning issues which requires urgent attention. Farmers have to be educated through training demonstration, trials and other extension activities.

The area and production of important agriculture crops in Serchhip District are given below:

**Table :Area and production of important agriculture crops in Serchhip District**

Sl. No.	Name of Crops	Area (in ha)	Production (in Metric tonnes)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
I	<b>RICE</b>		
	(1) Jhum	2100	2310
	(2) WRC (a) Kharif	2054	4620
	(3) WRC (b) Rabi	-	-
	<b>TOTAL OF WRC</b>	2054	4620
	<b>TOTAL OF RICE</b>	4154	6930
II	<b>MAIZE</b>		
	(a) Kharif	1520	1139
	(b) Rabi	-	-
	<b>TOTAL OF (a+b)</b>	<b>1520</b>	<b>1139</b>
III	<b>TOPIOCA(Kharif)</b>	-	-
	Onion	-	-
IV	<b>PULSES</b>		
	(1) Rice bean(a)Kharif	125	105
	(2) Arhar (a) Kharif	122	103
	(3) Field Pea (a) Rabi	75	157
	(4) Cow Pea (a) Kharif	205	175
	(b) Rabi	-	-
	<b>TOTAL OF (a+b)</b>	205	175
	(5) French Bean (a)Kharif	-	-
	(b) Rabi	70	51
	<b>TOTAL OF KHARIF</b>	452	383
	<b>TOTAL OF RABI</b>	145	208
	<b>TOTAL OF PULSES</b>	<b>597</b>	<b>591</b>
V	<b>OILSEEDS</b>	260	427

	(1) Soyabean (a)Kharif		
	(2) Sesamum (a)Kharif	88	27
	(3) Rape & Mustard (a)Kharif	-	-
	(b)Rabi	45	67
<b>TOTAL OF KHARIF</b>		348	454
<b>TOTAL OF RABI</b>		45	67
<b>TOTAL OF OILSEEDS</b>		393	521
VI	COTTON	-	-
VII	TOBACCO	-	-
VIII	SUGARCANE (In cane)	440	40
IX	POTATO (a) Kharif	-	-
	(b) Rabi	-	-
<b>TOTAL OF KHARIF</b>		6914	8946
<b>TOTAL OF RABI</b>		190	275

**Source: Agriculture Statistical Abstract 2013-2014, Published by Directorate of Agriculture (Crop Husbandry) Mizoram: Aizawl.**

## Horticulture

The topography of Serchhip District is predominantly of hilly terrain and crops are grown mostly under rainfed condition. The district has a wide variety of climate and soil on which a large number of horticulture crops such as fruits, vegetables, tuber crops, plantation crops, spices and ornamental crops etc. are grown. Of the total geographical area of the district (i.e., 1421.6Sq.Kms.), an estimated area of 2816.95ha.is under horticulture crops.

Though the district has a favourable agro-climatic condition, the scenario of horticulture crops production is very low due to certain reasons such as lack of knowledge or non-adoption of scientific package of practices, non-availability of improved varieties, lack of post harvest technology coupled with poor marketing network etc. Recently, efforts made by the

state's department, extension functionaries etc. have been rewarding in terms of increase in production and productivity of horticulture crops.

Major horticulture crops grown in the district are:-

1. **Fruits:** Citrus (Mandarin Orange, Sweet Orange, Hatkora, Lemon etc.), Banana, Passion Fruit, Grapes, Papaya, Pineapple, Avocado, Mango etc.
2. **Vegetables:** Cabbage, Tomato, Pea, French Bean, Cauliflower, Carrot, Radish, Turnip, KnolKhol, Broccoli, Capsicum, Mustard, chilli, Brinjal, Okra, Pumpkin, Chow Chow, Gourds etc.
3. **Spices:** Ginger, Turmeric, Birds' Eye chilli, Garlic, Cardamom, Corriander etc.
4. **Roots and tubers:** Potato, Sweet Potato, Colocasia, Arrow Roots, Tapioca etc.
5. **Plantation Crops:** Arecanut, Jatropha, Betel Vine etc.
6. **Ornamental Crops:** Anthurium etc.

The area, production and productivity of Horticulture Crops in Serchhip District are given below:

**Table: Area, production and productivity of Horticulture Crops in Serchhip District**  
**Fruit Crops**

Sl. No.	Name of Crops	Area (ha.)			Production (MT)	Productivity (MT/Ha.)
		Bearing	Non-bearing	Total Area		
<b>Citrus.</b>						
1.	Mandarin Orange	425	444	869	2029	4.7
2.	Hatkora	11	54	65	44	4
3.	Other Citrus (lemon, sweet orange, kagzi lime, pumello, zammir etc.)	61	25	86	305	5
4.	Banana	313	198.2	511.2	4679.58	14.95
5.	Passion Fruit	331	180.3	511.3	842.7	2.54
6.	Grapes	6	30	36	9.6	1.6
7.	Papaya	2	0	2	8	4
8.	Pineapple	81	0	81	729	9

9.	Avocado	1	1	2	6	6
10.	Other Fruits	60	20	80	360	6

### Plantation Crops.

Sl. No.	Name of Crops	Area (ha.)			Production (MT)	Productivity (MT/Ha.)
		Bearing	Non-bearing	Total Area		
1.	Arecanut	0	3	3	-	-
2.	Jatropha	0	25	25	-	-
3.	Other Plantation (Betel Vine, Coconut, Tung etc.)	35	0	35	70	2

### Vegetables.

Sl.No.	Name of Crop	Area (ha.)	Production (MT)	Productivity (MT/ha.)
1. Rabi				
	Cabbage	65	1950	30
	Tomato	1	1	4
	Pea	2	8	4
	French Bean	4	20	5
	Radish	2	6	3
	Carrot	2	8	4
	Cauliflower	0.2	0.8	4
	KnolKhol	2	10	5
	Local Mustard	20	200	10
	French Mustard	10	40	4
	Capsicum	1	2	2
	Broccoli	2	8	4
2. Kharif				

i.	Cabbage (Ryozeki)	2	180	30
ii.	Brinjal	8	32	4
iii.	Cucumber	6	24	4
iv.	Lady's Finger	3	24	8
v.	Chow Chow	1	4	4
vi.	Cow Pea	8	32	4
vii.	Pumpkin	15	60	4
viii.	Bitter Gourd	12	60	5
ix.	Snake Gourd	6	18	3
x.	Bottle Gourd	1	3	3
xi.	Ash Gourd	5	20	4
xii.	Watermelon	2	4	2
xiii.	Musk Melon	-	-	-
xiv.	Rice Bean	2	10	5
xv.	Solanumjilo	6	24	4

## Roots and Tubers

Sl.No.	Name of Crop	Area (ha.)	Production (MT)	Productivity (MT/ha.)
1.	Potato (Kharif)	20	140	7
2.	Other roots and tubers (Colocasia, Tapioca, Sweet Potato, Arrow roots.)	10	40	4



## Spices

Sl.No.	Name of Crop	Area (ha.)	Production (MT)	Productivity (MT/ha.)
1.	Ginger (Green)	260	2496	9.6
2.	Turmeric (Green)	10	13	1.3
3.	Bird's Eye Chilli (Dry)	15	12.5	1.2
4.	Other Spices (Onion, Garlic, Cardamom, Corriander etc.)	1	2.2	2.2

## Floriculture.

Sl.No.	Name of Crop	Area (ha.)	Production (No. of Cut flower)	Productivity (No. of Cut flower/ha.)
1.	Anthurium (Cut Flower)	6.25	1,61,666.	25,866.56

**Source :** *Vision 2020, KrishiVigyanKendras, Mizoram. Published by Directorate of Agriculture (Research & Education), Aizawl, Mizoram - 2011*

## LIVESTOCK

Since ancient days, people are familiarized with rearing animals which was initiation of animal husbandry. In India, more than 75% people lived in village and they are mainly dependent on agriculture. Livestock and poultry are the backbone of agriculture and play a major role in rural economy. Likewise in Serchhip district of Mizoram also, people are mostly depends on animal husbandry and agriculture. This district is dominated by mono-cropping and failure of crops cause total collapse in farmer's economy. Again mono-cropping does not provide income round the year as the land is kept fallow for about 6 months. So animal husbandry is an important part of the income and economy of the district which can be used as an alternative to crops. The people of this region are almost non-vegetarian, so demand for meat and egg are also very high. Animals and birds are reared traditionally in the district which is used for religious ceremonies, rituals and also for their day to day meat consumption. Every household rear fowls and pigs. The importance of cattle and buffalo are also increasing due to expansion in WRC where these animals are used as draught animals

for ploughing. Again there is a good demand of beef in the district. The details of livestock in Serchhip District are given in Table 8 as below:

**Table: Population of livestock and poultry in Serchhip district**

SI No	Species	Population
1	Cross bred cattle	436
2	Indigenous cattle	1263
3	Buffalo	985
4	Mithun	171
5	Sheep	31
6	Goat	571
7	Horse & Ponies	128
8	Pig	23692
9	Poultry	84164
10	Rabbit	86
11	Dog	1825

*(Source: Statistical Handbook of Mizoram – 2012 .Published by Directorate of Economics & Statistics, Mizoram, Aizawl)*

**Table :Total production of meat, milk and egg: (2006-2007)**

Species	Meat (Tonne)	Milk (Litre/year)	Egg (No.)
Cattle	74	787,000	-
Buffalo	3	-	-
Pig	340	-	-
Goat	2	-	-
Mithun	1	-	-
Poultry	43	-	34,000,00

*(Source : Statistical Handbook of Mizoram – 2012 .Published by Directorate of Economics & Statistics, Mizoram, Aizawl )*

**Table: Productivity of milk**

Species	Milk (kg/animal)
Crossbred cow	8.260
Indigenous cow	1.289
Buffalo	1.4

**(Source :Statistical Handbook of Mizoram – 2012 .Published by Directorate of Economics & Statistics, Mizoram, Aizawl )**

**Table : Productivity of meat**

Species	Meat (kg/animal)
Cattle	114.70
Buffalo	160.00
Pig	92.141
Goat	9.217
Mithun	130.00
Poultry	2.15

**(Source : Statistical Handbook of Mizoram – 2012 Published by Directorate of Economics & Statistics, Mizoram, Aizawl )**

**Table: Productivity of egg**

Species	Nos. / Bird / Year
Desi	82
Improved	194

**(Source : Statistical Handbook of Mizoram – 2012 Published by Directorate of Economics & Statistics, Mizoram, Aizawl )**

## **FISHERY**

Fishery development is still in nascent stage in the district in comparison with Kolasib district. Fish seed being the vital input for development of fisheries, there is major set back to gather required momentum towards fishery development. The total water spread area (WSA) in departmental tanks is found to be only 5.5 ha as reported by the District Fishery Officer. However, it does not include the private ponds and community tanks, river and riverine sector.

The fisheries sector plays a vital role towards production of food protein from Aquatic base teleostom (fishes) in the state of Mizoram. Besides providing livelihood and uplifting socio-economic status of the poor farmers connected with Agriculture and Allied Sector since a long time.

The present annual fish production level of the state is 5940 M.T both from culture and capture sector at the end of 2013-2014. The present production could offer a 5.18kg per capita against the targeted per capita consumption at 11kg at the end of 12th Five Year Plan. Thus there is a per capita dirth of 5.82kg to be made up to achieve the target of 11kg by the end of 12th Plan Period.

So far only 4510 hectare (at the end of 2013-2014) of ponds and tanks has been developed for fish farm in the state out of the potential available land of 2400 hectare.

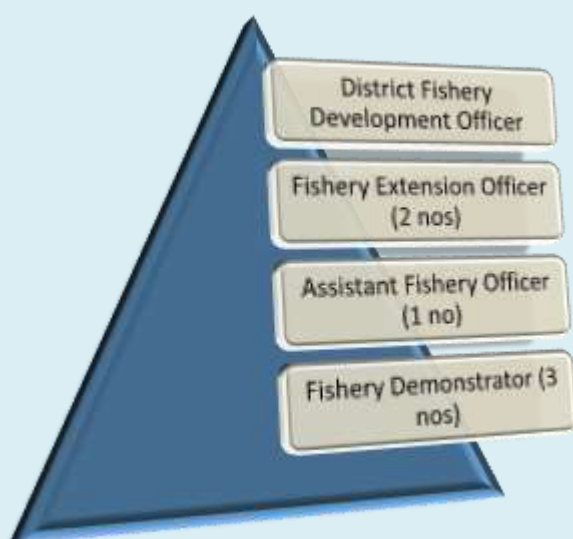
The state has further 6000 hectare of water area in the form of reverse and stream spread over 1100km of riverine stretches besides recently develop 4000 hectare of Hydro-Electricity impoundment in the form of reservoir fisheries.

With the present production level of 5940 M.T the sector will have a shortfall of 7910M.T to be additionally produced to meet the target of 11kg per capita by the end of 12th Five Year Plan.

The present unit area productivity is estimated to be 1.23 M.T per hectare fromcultivable ponds and tanks which is far below the targeted productivity level at 2-2.25M.T per hectare.

Therefore, it is a high time that the severe dirth of 57.11% towards production ofassign aquatic animal protein in the state if not taken care outright may lean to protein malnutrition in the future.

## ORGANISATION CHART OF FISHERIES DEPARTMENT



For Seed Production & distribution, number of hatcheries & Fish Ponds, Area of Fish Ponds & Production of Fish during 2011 – 2012 are given in Table.13

**Table: Fish, Seed Production & distribution, Number of hatcheries & Fish Ponds, Area of Fish Ponds & Production of Fish in Serchhip District during 2011 – 2012**

Sl.no	Fish Seed Production (in lakh nos.)	Distribution of Fish Seed (in lakh nos.)	No. of hatcheries	No. of Fish Pond (ha)	Area of Fish Pond (ha)	Production of Fish (qntls)
1	75	75	-	776	202	202
<b>Total</b>	<b>75</b>	<b>75</b>	<b>-</b>	<b>776</b>	<b>202</b>	<b>202</b>

(Source : *Statistical Handbook of Mizoram – 2012 Published by Directorate of Economics & Statistics, Mizoram, Aizawl* )

## CHAPTER – III. CONSTRAINTS IN AGRICULTURAL PRODUCTION

### CROPS

The major production constraints, Strategies & interventions in the agriculture Sector and Horticulture sector in Serchhip District are given below

**Table: Constraints, Strategies & Interventions of Agriculture Sector**

Constraints	Strategies and intervention
➤ Lack of proper technical package of practices for different crop	➤ To overcome technical gaps through training, demonstration.
➤ Lack of proper irrigation system as most of the farmer depends upon rainfall.	➤ Training and demonstration in water harvesting structure.
➤ Lack of modern equipment and farm machinery.	➤ To provide farm machineries at subsidise rate and to provide training.
➤ Lack of integrated pest management.	➤ Adoption of IPM.
➤ Poor availability of high yielding variety.	➤ Introduction of location suitable HYV.
➤ Lack of proper marketing channel and transportation facility.	➤ Identification of marketing network and transport facility.
➤ Post harvest technology.	➤ Training and demonstration.
➤ Insect pest and disease incidence.	➤ Training on different insect pest and diseases.
➤ Lack of value addition of surplus product.	➤ Training and demonstration on value addition of surplus product.
➤ Lack of INM.	➤ Practice crop rotation and training on different management for nutrient.
➤ Jhum cultivation	➤ Awareness on jhum cultivation and encourage agro-forestry system.

**Table: Constraints, Strategies & Interventions of Horticulture Sector**



<b>Problems</b>	<b>Strategies</b>	<b>Interventions</b>
Lack of awareness about scientific package of practices.	Farm trials and demonstrations including training.	Extension functionaries should take up keen initiatives to impart technical knowledge to the farmers
Unavailability of quality planting materials, HYV, and other inputs like manures and fertilizers, pesticides etc.	Establishment of nurseries for production of quality planting materials, provision of agri-clinics, composting units etc.	Provision for quality planting materials, HYV and other farm inputs should be made available to the farmers at subsidized rate.
Unavailability of Post Harvest infrastructure.	Provision for cold storage, establishment of preservation units.	Linkage with financial institution for farm credits and training and demonstration on Zero Energy Cool Chamber, value additions and preservation of fruits and vegetables, Formation of Farmers Organization, Self Help Groups (SGHs) etc.
Lack of adequate/efficient transportation channels between production site and marketing as well as lack of proper marketing facilities.	Efforts should be made by state government through line departments for better linkage between production site and market by constructing link-roads, rural primary markets etc.	Linkage with financial institution for farm credits and training and demonstration on Zero Energy Cool Chamber.
Lack of awareness about pest and diseases.	Adoption of Integrated Pest and Disease Management.	Trials and demonstration on IPM, provide resistant varieties.
Lack of irrigation facilities.	Construction of rain water harvesting structures such as dug-	Training and demonstration. Government should provide incentives to encourage the

	out ponds, tanks etc.	farmers.
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## LIVESTOCK

In livestock enterprises, the major constraints, strategies, technological interventions and Action Plan of different livestock production system are given in Table below

**Table :Constraints, Strategies, Technological Interventions & Action Plan of different Livestock Production System**

Producti -on system	Constraints	Strategies	Action Plan
<b>Cattle</b>	Low productivity	Productivity	Upgradation of existing stock through superior breeds strengthening of existing AI centre Scientific feeding & housing Improve health care management & disease control Explore & management of locally available feed & fodder resources. Conservation of green fodder & processing of interior quality roughages.
	Dairy – Less popular & less milk consumption	Popularizatio n of dairy farming & improve consumption of liquid milk	Awareness campaigns on benefits of milk consumption & training on management & production Exposure visit to model farms Cattle & milk fairs Create linkages between milk producers & school/hospital/old age home/hostels
	Financial problems for starting dairy units	Improve access to credit facilities	Create linkage with financial institutions
<b>Pig</b>	Lack of improved breed stock &	Scientific breeding	Introduce well-recognised breed & propagate the introduce breed through AI

	poor breeding plan	programme & registered pig breeder at village, town & district level	<p>Training on scientific breeding methods &amp; technologies</p> <p>Identification of breeding boars &amp; their owners &amp; maintain the database of the breeding boars of the district</p>
	Less production comparison to consumption	<p>Encourage producers</p> <p>Balance the ratio of pig breeder &amp; rearers</p>	<p>Promote piggery production as a profitable self-employed carrier</p> <p>Awareness camp on improving pork production</p> <p>Training on care &amp; management of breeding animals &amp; increased number of breeder</p>
	High cost of production	Minimize cost of production	<p>Standard formulation of balanced ration incorporating locally available feeds</p> <p>Increase production of locally grown fodders specially sweet potato, maize, tapioca.</p> <p>Initiate the formation of pig producer's federation in the district (activities like procurement of feed in bulk &amp; making them available at lower cost)</p>
	Disease & health management	Prevention & control of disease	<p>Awareness campaign on different diseases including emerging &amp; zoonotic diseases</p> <p>Regular deworming &amp; vaccination</p> <p>Documentation, validation, assessment, refinement &amp; popularization of indigenous technical knowledge (ITK) for animal health care</p>
	Loss of indigenous germplasm	Conserve & promote indigenous pigs	<p>Conservation programme for local pigs &amp; promote local pigs for lean meat production</p> <p>Popularised the merits of local pigs like low-input, more disease resistance, local adaptability</p>
	Unhygienic	Hygienic &	Establishment of central slaughter house

	slaughter	wholesome meat	Training & demonstration for slaughter house personnel Exposure visit
<b>Goat</b>	Not popular	Popularisation	Awareness & Training on management & production
<b>Poultry</b>	Low-productivity	Increase productivity	Awareness on production & management of improved breeds Introduce improved dual purpose breed Scientific feeding & health management
	High cost of feeding	Reduce feed cost	Utilize local feed resources as poultry feed Formation of poultry producers' federation (activities like procurement of feed in bulk & making them available at lower cost)

## FISHERY

Slow growth in internal production of fishes and exploitation by middlemen in marketing has adversely affected fisheries development in the district. Lack of knowledge on inland fish culture and non availability of good quality fingerlings, absence of proper marketing channels and insecurity in public ponds for fish culture are other root causes of non adoption of the technology by farmers largely and low productivity of fishery in the district. Ornamental fish culture has tremendous scope in the region. Large scale pollution of ponds has also affected the enterprises.

## CHAPTER IV. INSTITUTIONAL SUPPORT FOR AGRICULTURAL DEVELOPMENT OF THE DISTRICT

There are several institutions in the district devoted for the development of agriculture and related fields. State government departments, government undertakings, national institutes and many voluntary organizations are very active and contribute substantially towards the overall agricultural development of the district.

### CROPS

#### 1. Department of Agriculture

The State Department of Agriculture has a network of establishments in the district to cater to the needs of the farming community. The department has following offices in the district:

##### i. District Agriculture Office

This is the apex office to supervise and monitor agricultural development activities in the district. The office is located at New Serchhip, Serchhip District. The District Agriculture Officer is the Head. He is assisted by Sub – divisional Officers & Agriculture Extension Officers in performing the day to day activities of the department.

##### Address for communication

District Agriculture Officer  
New Serchhip  
Serchhip District – 796184  
Phone : (03838)226087  
e-mail: [daosch@gmail.com](mailto:daosch@gmail.com)

##### ii. Circle Agriculture Office

There are 2(two) administrative block in the District and in the 2 (two) blocks there is 1 (one) Circle Agriculture Office. Each to supervise the activities of Agriculture works in the respective blocks.

### **iii. Mobile Soil Testing Laboratory (MSTL), Serchhip**

The laboratory is located at Serchhip. The MSTL conducts campaigns all over the district, collects soil samples from farmers' fields and analyse them and give suitable recommendation for improving soil fertility.

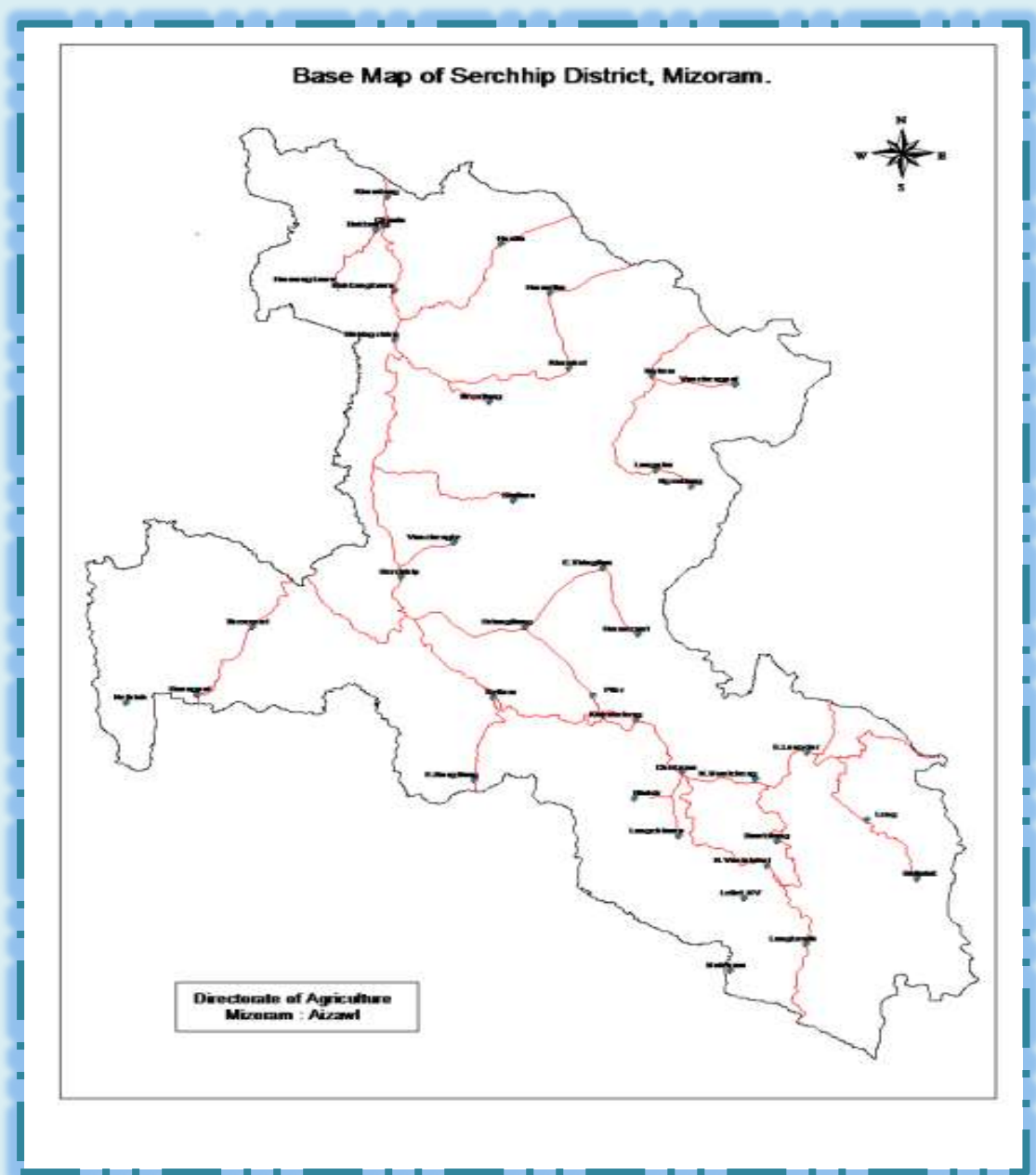
## **2. Krishi Vigyan Kendra (KVK), N.Vanlaiphai, Serchhip District**

Krishi Vigyan Kendra (Farm Science Centre), an innovative science based institution was established mainly to impart vocational skill training to the farmers and field level extension workers. The institutional design for Krishi Vigyan Kendra (KVK) was formulated by ICAR Committee under the chairmanship of Dr. Mohan Singh Mehta in 1973 to provide vocational training in agriculture and allied sector.

The basic principles for KVKs enunciated by the Mehta Committee (1973) included:

- i. The Kendra will impart learning through work experience and hence will be concerned with technical literacy, the acquisition of which does not necessarily require the ability to read and write.
- ii. The Kendra will impart training to those extension workers who are employed and to the practicing farmers and fishermen.
- iii. The syllabus and programme of each Kendra will be flexible in nature and tailored according to the felt needs, natural resources and the potential for agricultural growth in that particular area. That means there will be no uniform syllabus for the Kendra's.





**Fig: Location & Operational area of KVK, Serchhip**

## Mandates of KVK

The mandates of KVK was confined only to provide skill-based training to the farmers, farm women and rural youth in crop production, horticulture, livestock production, fishery, home science, farm machinery and implements and other allied sectors such as apiculture, mushroom cultivation etc. The mandates of KVKs briefly are as follows :

- i. To conduct On-farm Testing for identifying technology in terms of location specific sustainable land use system.
- ii. To organize Front Line Demonstration on various crops to generate production data and feedback information.
- iii. To organize training to update the extension personnel with emerging advances in agricultural research on regular basis.
- iv. To organize short and long term vocational courses in agriculture and allied sectors for the farmers and rural youth with emphasis on learning by doing for higher production on farms and generating self-employment.

## Functional objectives of KVKs

For fulfilling the above mandate, the KVKs has to perform the following functional objectives:

- i. To plan and conduct survey of the operational area through Participatory Rural Appraisal (PRA) methods and characterized physical and human resources with special reference to identifying the technological and training needs of the farming community.
- ii. To compile all relevant recommendation/package of practices for the district to be meaning fully utilized in the training programmes and the follow-up extension activities.
- iii. To plan and conduct production oriented and need based short and long duration courses both on and off campus for various target groups with priority on the resource poor sections.
- iv. To organize Farm Science Clubs in order to inculcate in the younger generations a scientific temper and an interest on agriculture and allied sciences and for scientific farming through supervised individual and group projects.
- v. To develop and maintain the campus farms and demonstration units on scientific lines as the facilities for providing work experience to the trainees, dissemination

of the latest technical know-how and also as a means to achieve financial sustainability in due course of time.

- vi. To provide practical training facilities of the Kendra to the teacher and the students of vocational agriculture of the higher secondary schools.
- vii. To provide added training facilities in the area for home making and nutrition education for rural communities and gradually enlarging the training facilities to encompass other important areas such as home/rural crafts and cottage industries with the requirements of the integrated rural development in collaboration with the concerned organizations.
- viii. To implement all such schemes of the ICAR and other related organizations which intend to strengthen the training and technology dissemination programmes as well as follow-up extension activities of the Kendra.
- ix. To undertake On-farm Testing of the technologies developed by National Agricultural Research System (NARS) in agriculture and allied fields for their suitability and identifying the constraints.
- x. To demonstrate the potentialities of various technologies and recommend for their adoption in maximizing yield/income per unit of time and area under different resource conditions.

### **Background of KVK Serchhip:**

KVK, Serchhip was sanctioned in the year 2005 and established in the year 2008. The office is located at N.Vanlaiphai which is about 65Kms. from the district headquarter i.e., Serchhip. Most of the infrastructure development has been completed and occupied with the exception of the Administrative building and Farmer's Hostel which still requires furnishing and is yet to be occupied. Recruitment of staff began from March 2008 and most of the sanctioned post is now occupied.

### **Thrust Area of KVK, Serchhip:**

1. Introduction of quality seeds and planting materials.
2. Popularization of Integrated farming System (IFS).
3. Promotion of IPM, INM, IDM, Organic Manuring, Vermi-composting etc.
4. Popularization of the scope of horticulture.
5. Training and demonstration on scientific practices of agriculture and allied sector.
6. Up-gradation of indigenous livestock and poultry through selective breeding.

7. Promotion, production of Organic Produce.
8. Transfer of technology through extension activities.
9. Identification of locally available resources such as grain and fodders for animal and poultry feeding.
10. Value addition of produces from agriculture and allied sectors.
11. Identification, validation and documentation of Indigenous Technology Knowledge (ITK).
12. Linkages with SAUs', ATMA, ICAR, Agriculture and allied departments.
13. Linking up farmers for credit with financial institute like NABARD, SBI, NEDFI, NHB.
14. Implementation of Capacity Building Programmes.
15. Infrastructure Development.

#### **Focus Area of KVK Serchhip:**

1. Replacing the long duration kharif paddy varieties with short duration HYV so as to encourage double/multiple cropping system.
2. Promotion of System of Rice Intensification (SRI).
3. Conducting OFTs and FLDs for assessment/ refinement of technologies
4. Organize training for farmers, rural youth, and extension functionaries.
5. Formation of Self Help Groups (SGHs).
6. Participate in Radio Talks, TV Talks etc. and publish articles in newspapers.
7. Publication of Newsletters, Leaflets, Pamphlets etc.
8. Organize Kisan Mela, Kisan Gosthi, and Exhibition etc.
9. Organize Field Trips or Exposure Visits of farmers, rural youth, extension functionaries.
10. Conduct Vaccination and Animal Health Camp.
11. Infrastructure Development.
12. Documentation of Existing Farming System.
13. Database generation in Agriculture and Allied Sectors.

#### **Road Map of KVK Serchhip:**

1. Conservation and development of bio-resources of the district.
2. Development of market linkage and value addition.
3. Sustainable development and utilization of resources through scientific management.

4. Assess technology suitable for the area through OFTs and demonstrates such technologies through FLDs.
5. Training and skill impartation to the farmers.
6. Establishment of nurseries for production of quality seeds and planting materials.
7. Provide appropriate agro-techniques for cultivation of commercially viable produce.
8. Identify suitable machineries to the existing farming system of the district.
9. Credit linkage of farmers to financial institute.
10. Identification of insect-pest affecting crops and livestock with their remedial measures.
11. Promotion of Organic cultivation in the district.
12. Promotion of hybrid maize cultivation, QPM and Baby Corn varieties in the district.
13. Development of Integrated Farming System Model in the District.
14. Collection, selection and screening of the local varieties of crops particularly rice.

## Programmes

### i. Training Programmes

The KVK is imparting regular training programmes of various duration in agriculture and allied fields for farmers, farm women and rural youth. There are four types of training programmes: On Campus training programmes for which training topics and dates are fixed by the Kendra through wide publicity in print and electronic media. The second type of training programmes is Off Campus to meet the specific demands from individual farmer, farmers' groups, voluntary organizations, development departments, etc conducted outside the Kendras. The third & fourth training programmes is Sponsored & Extension personnel Training programmes.

### ii. Front Line Demonstration

Organizing Front Line Demonstrations on newly released technologies in horticultural, field crops, fisheries and animal sciences under farmers' field conditions to generate production data and feedback information is one of the mandates of the Kendra.

### **iii. On Farm Testing**

On Farm Testing programmes aim at testing the new technologies developed at research centres in the fields of crops, horticulture, animal husbandry and Ag.extension, Ag.Engineering & Home science to ensure their suitability and sustainability to specific locations and to suggest or modify or refine the technology in real farm situations with the active participation of the farmers.

### **iv. Plant and Animal Clinic**

The Krishi Vigyan Kendra operates a plant and animal clinic to cater to the various needs of the farming community. The clinic extends vaccination facilities to combat the communicable diseases in animals and poultry birds and organizes animal health camps. The clinic also offers consultation and door-step treatment of animals on nominal charges.

### **v. Farm Advisory Services**

The Kendra organizes field visits as per the requirements of farmers to solve specific field problems. The Kendra also encourages the farmers in remote and distant locations to use communication media to contact the centre to solve their immediate field problems.

### **vi. Farmer's visit to the Kendra**

Farmers are encouraged to visit the Kendra in person to discuss and solve their specific field problems and to get hands-on knowledge on the latest technologies available in agriculture and allied fields.

### **vii. Exhibitions, Kisan Melas, Camps, etc.**

The KVK regularly participates in exhibitions organized by local and statutory bodies, depicting its various activities and providing on the spot consultancies to the visitors. Farmers and others visit the pavilions of the KVK and avail the facilities offered there, including supply of elite planting materials.

### **viii. Production and supply of planting materials, breeds of animals And other technological inputs**

The Kendra produces and sells planting materials of vegetables, fruits. Improved breeds of poultry, cows, Pigs, etc. are also sold to the farmers. Other technological inputs like bio-control agents and Azolla are also available to farmers.

### **ix. Other extension activities**

The Kendra also organizes the following programmes:

- a. Field days
- b. Farmers day
- c. Seminars
- d. Animal Health Camp
- e. Celebration of Important days
- f. Publication of popular articles
- g. Diagnostic visits
- h. Radio talks
- i. Exhibition
- j. kisan Mela
- k. Scientist visit to farmers field

### **Address for communication**

Programme Coordinator

Krishi Vigyan Kendra

N. Vanlaiphai, Serchhip District

Phone: 03838 - 224340

Pin 796184

E-mail: [kvkserchhip@gmail.com](mailto:kvkserchhip@gmail.com)

Website: <http://kvkserchhip.nic.in>

## **3. Agricultural Technology Management Agency (ATMA)**

Agricultural Technology Management Agency (ATMA) is a registered society of key stakeholders involved in agricultural activities for sustainable agricultural development in the district. It aims at integrating research and extension activities and decentralizing day-to-day management of the public Agricultural Technology System (ATS). At state-level, it operates

under the guidance of a Governing Board that determines programme priorities and assesses impact of programmes. The ATMA is constituted by drawing members Stations or sub-stations, Krishi Vigyan Kendras and the key line Departments of Agriculture, Animal Husbandry, Fisheries, Sericulture, Agro industries, etc. The State Agriculture Management Extension and Training Institute (SAMETI) is the agency formed at the state level to provide human resources development support for the effective functioning of the ATMA at district level. The Serchhip District ATMA office is located at Serchhip.

## Objectives

1. To identify location specific needs of farming community for farmingsystem based agricultural development.
2. To set up priorities for sustainable agricultural development with a farming systems approach.
3. To draw plans for production based system activities to be undertaken by farmers/ultimate users.
4. To execute plans through line departments, training institutions, NGOs, farmersorganizations and allied institutions.
5. To coordinate efforts being made by various line departments, NGOs, farmer'sorganizations and allied institutions to strengthen research extension-farmers linkages in the district and to promote collaborationand coordination between various State funded technical departments. institutional support For agricultural development of the district
6. To facilitate the empowerment of farmers/producers through assistancefor mobilization, organization into associations, cooperatives etc. for theirincreased participation in planning, marketing, technology disseminationand agro-processing etc.
7. To facilitate market interventions for value addition to farm produce.\

## Functions

1. Strategic planning
2. Networking and co-ordination
3. Integrated extension delivery
4. Information management
5. Farmer facilitation and empowerment
6. Training and capacity building
7. Fund management



8. Participatory technology development
9. Monitoring and evaluation
- 10.

### **Address for communication**

Project Director, ATMA  
District Agriculture Office  
Department of Agriculture  
Serchhip District - 796181  
Phone: 03838-226087  
E-mail: [daosch@gmail.com](mailto:daosch@gmail.com)

### **4. Lead Bank**

The Lead Bank Scheme provides leadership in initiating, streamlining and accelerating the process of development of the respective district by enlisting the co-operation of other banks and by maintaining continuous liaison with Government and quasi Government agencies. The State Bank of India (SBI) functions as the lead bank in the district.

### **Address for communication**

Branch Manager  
State Bank of India  
Lead Bank Office  
Venglai, Serchhip  
Serchhip District – 796181

### **5. Other banking institutions**

All nationalised banks and other financial sectors such as Mizoram Cooperative Apex Bank, Mizoram Rural bank in the district have special schemes for the promotion of agriculture and allied fields in the district.

### **6. Farmers clubs and voluntary organizations**

There are numbers of Farmer's Organization in the district working for the welfare of the farmer's community. Listed below are some of the organization in the district that are worth mentioning:

**Table: Existing farmer organization**

Sl.No.	Name of Sector	Name of Organization
1.	Agriculture	1. All Mizoram Farmers Union (AMFU), Serchhip District. 2. Watershed Development Committee.
2.	Horticulture	1. District Passion Fruit Growers Association. 2. Vegetables Growers Association. 3. Serchhip Gardeners Association. 4. Farmer's Cooperative Society. 5. Horticulture Farmers Association.
3.	Animal Husbandry	1. Dairy Farmers Association. 2. Pig Farmers Union.

## **7. Polytechnic Colleges and Vocational Higher Secondary Schools: Nil**

### **LIVESTOCK**

#### **1. Department of Animal Husbandry & Veterinary**

This is the apex office to supervise and monitor livestock development activities in the district. The office is located at P&E Veng, Serchhip District. The District Veterinary officer is the Head. He is assisted by Veterinary Officers & Veterinary Field Assistant in performing the day to day activities of the department.

#### **Address for Communication**

District Veterinary Officer  
P & E Veng  
Serchhip District – 796181  
Mizoram  
Phone No. 03838-222104

#### **2. Department of Dairy Development: Nil**

#### **3. Poultry Development Centre: Nil**

## **FISHERY**

### **1. Department of Fisheries**

The Department of Fisheries is an important productive sector under the Government of Mizoram. The department implements all the development and management programmes envisaged by the Government in the fisheries sector. The fisheries department has several agencies under its jurisdiction aiming at development of fisheries and welfare of fishermen.

### **Address for communication**

District Fisheries Development Officers

Near DC Office Complex

New Serchhip, Serchhip District – 796181 Mizoram

Phone No. 03838-226055

## CHAPTER – V RESEARCH & DEVELOPMENT ORGANIZATIONS RELEVANT TO DISTRICTS AGRICULTURE

A number of organizations with their head quarters/offices located in and outside the district and institutions with all India mandates carry out research and developmental activities in crops relevant to the district. The technologies and schemes can be adopted /availed by the farming community of Serchhip district.

### CROPS

#### 1. Rubber Board

The Rubber Board is a statutory body constituted by the Government of India, under the Rubber Act 1947, for the overall development of the rubber industry in the country. The Rubber Board carries out various development activities designed to promote expansion and modernisation of the rubber plantation industry. The board is responsible for carrying out research on various aspects of rubber production and product development. The board coordinates its activities in the district through the office of the Deputy Director, Tumpui Colony, Kolasib.

### Functions

1. Production and distribution of improved planting materials.
2. Provide advisory and extension services to growers.
3. Demonstration of scientific planting and production.
4. Supplies of equipment and materials requiring popularization.
5. Encourage block planting, group planting etc. for promotion of rubber among scheduled caste/scheduled tribe members.
6. Promotion of activities of voluntary associations (Rubber Societies) and self help groups among small growers Producers'

### Address for communication

Deputy Director

(Ministry of Commerce, Govt. of India)

Tumpui Colony, Kolasib Mizoram

Phone : (0389) – 2322591

## 2. Spices Board

Spices Board (Ministry of Commerce, Government of India) is the flagship organization for the development and worldwide promotion of Indian spices. The Board is an international link between the Indian exporters and the importers abroad. The Board has been spearheading activities for excellence of Indian spices, involving every segment of the industry. The Board has made quality and hygiene the corner stones for its development and promotional strategies. The board also conducts research on small cardamom.

### Functions

1. Promotion of exports of spices and spice products.
2. Maintenance and monitoring of quality of exports
3. Development and implementation of better production methods, through scientific, technological and economic research.
4. Guidance to farmers on getting higher and better quality yields through scientific agricultural practices.
5. Provision of financial and material support to growers.
6. Encouraging organic production and export of spices.
7. Facilitating infrastructure for processing and value addition
8. Registration and licensing of all spice exporters.
9. Assistance for studies and research on better processing practices foolproof quality management systems, improved grading methods and effective packaging techniques.
10. Production of promotional and educative materials in a variety of media for the benefit of exporters and importers.

### Package of services for growers

1. Soil testing and fertilizer advisory service.
2. Plantation visit and on the spot study of pests and disease problems.
3. Recommendation for pest and disease control.
4. Supply of planting materials of high yielding and improved varieties.
5. Supply of bio control agents for controlling specific diseases and pests.
6. Conducting spice clinics, planters' meets and group discussions.
7. Offering training to planters on various aspects of spice cultivation.

8. Imparting training on mass production of bio-agents and on good agricultural practices.

### **Package of services for importers**

1. Helps importers and exporters in establishing mutual contact.
2. Identifies competent supply sources for specific requirements of importers.
3. Processes and forwards foreign trade enquiries to reliable exporters.
4. Organises a common platform for interaction between Indian exporters and international buyers through the World Spice Congress.
5. Examines each complaint from importers for corrective and preventive action.
6. Spearheads the quality improvement programme for Indian spices.
7. Manages a comprehensive and up-to-date data bank for exporters and importers.
8. Brings together international bodies, exporters and policy makers through contact group programmes.
9. Makes India's presence felt in major international food fairs; conducts food festivals and cooking demonstrations

### **Address for communication**

Assistant Director

Spices Board

(Ministry of Commerce, Govt. of India)

Khatla Colony, Aizawl – 796001

Mizoram

Phone : (0389) – 2333138

### **3. National Horticulture Board (NHB)**

National Horticulture Board (NHB) was set up by the Government of India in 1984 as an autonomous society under the Societies Registration Act 1860 with a mandate to promote integrated development in horticulture, to help in coordinating, stimulating and sustaining the production and processing of fruits and vegetables and to establish a sound infrastructure in the field of production, processing and marketing with a focus on post harvest management to reduce losses.

## Functions

1. Develop high quality horticultural farms in identified belts and make such areas vibrant with horticultural activity which in turn will act as hubs for developing commercial horticulture.
2. Develop post-harvest management infrastructure.
3. Strengthen Market Information System and horticulture database.
4. Assist R&D programmes to develop products suited for specific varieties with improved methods and horticulture technology.
5. Provide training and education to farmers and processing industry personnel for improving agronomic practices and new technologies.
6. Promote consumption of fruits/vegetables in fresh and processed form, etc.
7. The board also extends market information and promotion services for horticulture crops with the following objectives:

## Objectives

1. To generate information on wholesale prices, arrivals and trends in various markets of the country for important fruits, vegetables & flowers, etc.
2. To establish a nation-wide communication network for speedy collection and dissemination of market information data for its efficient and timely utilization.
3. To develop a sound marketing strategy especially by making use of statistics generated by various Marketing Boards/ APMCs for optimizing returns to the producers.
4. To analyze the trends of arrivals, prices and other related factors of the fruit and vegetable markets all over the country.
5. To collect and disseminate information on international prices prevailing in potential foreign markets.
6. To establish web-sites and internet connection through efficient channels/ systems for dissemination of national and international data.

## Horticulture Promotion Services

1. Review the present situation of horticulture development in particular area/ State.
2. Development of primary/secondary data of various aspects on horticulture.
3. Identify constraints and suggest their remedial measures.
4. Development of short term and long term strategies for systematic development of

Horticulture.

5. Provide consultancy services, expert services & establishing labs etc. in pursuance Thereof.

#### **4. National Bank for Agriculture and Rural Development (NABARD)**

NABARD is set up as an apex Development Bank with a mandate for facilitating credit flow for promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts. It also has the mandate to support all other allied economic activities in rural areas, promote integrated and sustainable rural development and secure prosperity of rural areas. The bank also promotes and finances Vikas Vahini Volunteer (VVV) clubs, organizing the farmers.

In discharging its role as a facilitator for rural prosperity NABARD is entrusted with:

1. Providing refinance to lending institutions in rural areas.
2. Bringing about or promoting institutional development.
3. Evaluating, monitoring and inspecting the client banks.

Besides this pivotal role, NABARD also:

1. Acts as a coordinator in the operations of rural credit institutions.
2. Extends assistance to the government, the Reserve Bank of India and other organizations in matters relating to rural development.
3. Offers training and research facilities for banks, cooperatives and organizations working in the field of rural development.
4. Helps the state governments in reaching their targets of providing assistance to eligible institutions in agriculture and rural development.
5. Acts as regulator for cooperative 5. banks and RRBs.

#### **Agricultural technologies supported by NABARD**

1. Cultivation of horticultural crops under controlled conditions (poly house)
2. Micro irrigation system/ plasticulture in irrigation.
3. Vermicompost technology.
4. Biopesticides and biofertilizer.
5. Tissue culture for special crops.
6. Mushroom production under controlled condition.



### **Allied Activities:**

1. Frozen semen bank/ laboratory
2. Calf rearing
3. Poultry feed
4. Crab culture/ fattening
5. Paddy fish culture
6. Fresh water prawn culture

### **Post Harvest/Agro-processing:**

1. Pre-cooling and post harvest centre
2. Cold chain packaging
3. Aseptic packing and processing
4. Cryo technology
5. Modern Abattoirs

### **Address for communication**

General Manager

NABARD, Bawngkawn, Aizawl

Mizoram -796001

## **5. Agricultural and Processed Food Products Export Development Authority (APEDA)**

APEDA is an autonomous organization attached to the Ministry of Commerce of the Government of India. The main function of Authority is to build links between Indian producers and the global markets. APEDA undertakes the briefing of potential sources on government policy and producers, along with providing referred services and suggesting suitable partners for joint ventures besides arranging buyer-seller meets.

### **Functions**

1. Development of industries relating to the scheduled products for export by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies, participation in enquiry capital through joint ventures and other reliefs and subsidy schemes.
2. Registration of persons as exporters of the scheduled products on payment of such fees

as may be prescribed.

3. Fixing of standards and specifications for the scheduled products for the purpose of exports.
4. Carrying out inspection of meat and meat products in slaughter houses, processing plants, storage premises, conveyances or other places where such products are kept or handled for the purpose of ensuring the quality of such products.
5. Improving of packaging of the scheduled products.
6. Improving of marketing of the scheduled products outside India.
7. Promotion of export oriented production and development of the Scheduled products.
8. Collection of statistics from the owners of factories or establishments engaged in the production, processing, packaging, marketing or export of the scheduled products or from such other persons as may be prescribed on any matter relating to the scheduled products and publication of the statistics so collected or of any portions thereof or extracts there from.
9. Training in various aspects of the industries connected with the scheduled products.

### Scheduled products

1. Fruits, vegetables and their products.
2. Meat and meat products.
3. Poultry and poultry products.
4. Dairy products.
5. Confectionery, biscuits and bakery products.
6. Honey, jaggery and sugar products.
7. Cocoa and its products, chocolates of all kinds.
8. Alcoholic and non-alcoholic beverages.
9. Cereal and cereal products.
10. Groundnuts, peanuts and walnuts.
11. Pickles, papads and chutneys.
12. Guar gum.
13. Floriculture and floriculture products.
14. Herbal and medicinal plants.

In addition to this, APEDA has been entrusted with the responsibility to monitor exports of some non-scheduled items such as Basmati rice, wheat, coarse grains and also import of sugar.

## Address for communication

Chairman

Agricultural & Processed Food Products Export

Development Authority

NCUI Building 3, Siri Institutional Area, August Kranti Marg,

New Delhi-110 016

Phone : 011-26513204, 26514572, 26534186

Fax : 011-26526187

## 6. Oil Palm India Ltd.

Oil Palm India Limited was established in 1977 with the objective of propagating oil palm cultivation in the country and more particularly in Mizoram. From 2001 onwards, in Mizoram under Department of Agriculture (Crop Husbandry), Oilpalm cultivation programme was started and on 2004 onwards, under Central Sponsored Scheme (CSS), the following 3 (three) Oilpalm companies started functioning as a joint venture of the Government of Mizoram and Government of India with share participation of 25:75 % respectively.

1. Godrej, Agrovet Ltd – Kolasib & Mamit District
2. Ruchi Soya Industries, Ltd – Lunglei & Lawngtlai District
3. Food, Fats & Fertilizers, Ltd – Aizawl, Serchhip & Saiha District

## Address for Communication

Director of Agriculture (Crop Husbandry)

Govt. of Mizoram

Tuikual South, Aizawl – 796001

Phone: 0389 – 2322437 (O) Fax : 0389 - 2322511

E-mail: [agrimizoram@gmail.com](mailto:agrimizoram@gmail.com)

## 7. National Seeds Corporation(NSC)

NSC was the first public sector organization, established in 1963, and remained virtually the only agency for seed production for around 13 years. Its role extended to several developmental programmes including training, quality control and extension activities in seeds. It undertakes production, processing and marketing of agricultural seeds. Its product

range includes cereals, pulses, oilseed, fodder, fibre and vegetable crops. It also maintains a consultancy wing to render services in all the facets of seed development.

## Services

1. Seed production.
2. Certification.
3. Seed quality control.
4. Seed processing, handling and packaging.
5. Seed marketing.
6. Information communication and public relations.
7. Sales promotion and advertising for seeds.
8. Project formulation and project management.
9. Training in all aspects of seed science.

## Address for communication

Chairman-cum-Managing Director  
National Seeds Corporation Limited  
Beej Bhawan, Pusa Complex  
New Delhi-110 012

Phone: 011- 25846292, 011 25846292, 25846295, 25842672,  
25841379, 25842383, 25843357, 25842460

Fax: 011- 25846462, 25842904

e-mail : [nsc@indiaseeds.com](mailto:nsc@indiaseeds.com)

Website: [www.indiaseeds.com](http://www.indiaseeds.com)

## 8. Small Farmers Agri-Business Consortium

The Consortium has been set up to catalyse agro-industrial growth and assist in undertaking employment generation programmes and promote the growth and diversification of agriculture and agro-based industries by organising technology transfer through training and extension, by sponsoring specific research projects and technology demonstration.

## Venture Capital Assistance Scheme

### 1. Venture Capital

To promote investments in agri-business projects with the participation of banks

- a) Equity participation in agri-projects upto 10% of the total project cost, or 26% of the total project equity or ` 75 lakhs whichever is lower.
- b) In special cases, higher equity possible for projects located in hilly and North Eastern States and in projects recommended by state agencies/ state SFACs

### 2. Project Development Facility (PDF)

To provide financial assistance to farmers, producer groups, agripreneurs, units in Agri-Export Zones, organizations and agriculture graduates for the preparation of bankable detailed project reports (DPR).

### 3. Eligible Criteria for funding

Project should be in agriculture or allied sector namely horticulture, floriculture, medicinal and aromatic plants, minor forest produce, organic farming, vermi compost, apiculture, plantation crops, and fisheries. However, poultry and dairy projects will not be covered under the scheme.

- a. Project should provide assured market to farmers/ producer groups.
- b. Project should encourage farmers to diversify into high value crops, to increase farm incomes.
- c. Project should be accepted by banks for grant of term loan.

### Address for communication

Consultant

Small Farmers Agri – Business Consortium

Tuikual South, Aizawl – 796001

Mizoram

Phone : (0389) 2325736

## **LIVESTOCK**

### **1. College of Veterinary Sciences & A.H, CAU, Selesih, Aizawl**

College of Veterinary Sciences & A.H, CAU, Selesih, Aizawl was established in 1995 with the following Mandates:

1. To impart education in different branches of Veterinary Sciences & Animal husbandry
2. Further advancement of learning and prosecution research on Veterinary sciences and Animal Husbandry
3. To undertake programme of extension education in State under jurisdiction
4. To undertake such activities as it may deem fit from time to time

### **Address for Communication**

1. Dr M.Premjit Singh

Vice – Chancellor

Central Agricultural University, Iroisemba, Imphal, Manipur – 795004

Phone No – 0385 – 2415933 Fax No – 0385 – 2410414

E-mail – vcofficecau.yahoo.in

2. Dr D. Kathiresan

Dean, College of Veterinery Sciences & Animal Husbandry, Central Agricultural University, Selesih, Aizawl

Phone No: 0389 – 2361748

E-mail : deancvsccaauaizawl.org

**FISHERIES:** Nil

## CHAPTER – VI. PLANS AND SCHEMES FOR PROMOTION OF AGRICULTURE

Several organizations are responsible for promotion of agriculture and allied fields through development and implementations of specific plans and schemes.

The major plans and schemes of various institutions are briefly described below.

### CROPS

#### 1. National Bank for Agriculture and Rural Development(NABARD)

##### Plans

##### a. Village Adoption/Village Development Plan

The plan aims at the holistic and integrated development of backward villages. Emphasis is given on developing infrastructure facilities in education, health, drinking water, power, roads, credit, information and market.

##### b. Pilot Project for Integrated Development of Backward Blocks(PPID)

The objective of the PPID is comprehensive development of the selected backward blocks in an integrated manner which would include economic development, infrastructure development and other aspects of human development i.e., education, health, drinking water supply, etc. through the collective involvement of all agencies working at grass root level viz. local panchayats, banks, NGOs, people's organisations and other development agencies.

The schemes and activities include:

1. Watershed development.
2. Non-Farm Sector programmes.
3. Micro finance.
4. Farmers' groups under Self Help Groups.
5. Infrastructure development under Rural Infrastructure Development Fund.
6. Capacity building of banks, government departments, NGOs and community based organizations.
7. Coordination with Government Departments for social development, i.e. education, health, women and child development, etc.
8. Implementation of development programmes of the State Government, contribute to the project.

### **c. Bamboo Farming**

NABARD has accorded special status for development of bamboo farming in consonance with the action plan prepared by National Mission on Bamboo Technology and Trade Development for upgrading the bamboo economy. NABARD aims at developing bamboo farming, processing and marketing as a mainstream activity by changing 'forestry mindset' into 'farm mindset'. It is envisaged to provide credit support for development of bamboo over one lakh hectare with an estimated investment of ` 200 crore annually.

### **d. Promotion of Medicinal and Aromatic Crops (MACs)**

Promotion of cultivation of medicinal, aromatic and herbal crops has been accorded special status by NABARD in accordance with the policy of Government of India. NABARD has initiated measures to promote the cultivation of medicinal and aromatic crops (MACs).

### **e. Bio-Fuels**

To promote the production of the eco-friendly, renewable energy crops, NABARD encourages Jatropha cultivation, on wastelands in forest and non-forest areas, through institutional credit. The scheme envisages bringing one lakh ha wasteland annually under Jatropha plantation, involving institutional finance to the tune of ` 200 crore.

### **f. Micro Credit Innovations -Kisan Credit Card**

NABARD formulated a Model Kisan Credit Card Scheme in consultation with major banks. As a pioneering credit delivery innovation, Kisan Credit Card plans and schemes for promotion of Agriculture Scheme aims at provision of adequate and timely support from the banking system to the farmers for their cultivation needs including purchase of inputs in a flexible and cost effective manner. Beneficiaries covered under the scheme are issued with a credit card and a pass book or a credit card cum pass book incorporating the name, address, particulars of land holding, borrowing limit, validity period, a passport size photograph of holder etc., which may serve both as an identity card and facilitate recording of transactions on an ongoing basis.

### **g. Swarojgar Credit Card (SCC ) Scheme**

Swarojgar Credit Card Scheme (SCC Scheme) was introduced in September 2003. The scheme aims at providing adequate and timely credit whether working capital or block capital or both to small artisans, handloom weavers, and self-employed persons etc. from the



banking system in a flexible, hassle free and cost effective manner. Any income/employment generating scheme/project may be covered under the scheme. The facility may also include a reasonable component for consumption needs.

#### **h. Farmers' Club Programme**

NABARD promotes the formation of farmers' clubs enabling them adoption of newer farm technologies and empowering them for collective bargaining both for procuring inputs and selling their produce. The clubs are orienting them to establish better relationship with banks for suitable financial support in time of need.

#### **i. Crop Insurance**

NABARD also financed the formation of the Agriculture Insurance Company of India Ltd. (AICI) for providing economic security to the farming community by securing them against crop losses due to reasons beyond their control.

#### **j. Agricultural Commodity Futures' Markets**

Agricultural commodity futures are market-based instruments for managing risks and they help in orderly establishment of efficient agricultural markets. Future markets are used to hedge commodity price risks. They also serve as a low cost, highly efficient and transparent mechanism for discovering prices in the future by providing a forum for exchanging information about supply and demand conditions. The hedging and price discovery functions of future markets promote more efficient production, storage, marketing and agro-processing operations and help in improvement in overall agricultural marketing performance.

#### **k. Swarnjayanti Gram Swarozgar Yojana (SGSY)**

In continuation of its efforts for poverty alleviation, Government of India introduced the Swarnjayanti Gram Swarozgar Yojana (SGSY) in 1999 by restructuring various Self-employment programmes viz. IRDP, TRYSEM, SITRA, DWCRA etc. It envisages formation of SHGs by 'Swarozgaries' and financing them by bank in different stages. It is a holistic scheme covering all aspects of self-employment such as organisation of the poor into Self Help Groups, training, credit, technology, infrastructure and marketing. The scheme is funded by the Centre and the States in the ratio of 75:25 and is being implemented by Commercial Banks, Regional Rural Banks and Co-operative Banks. DRDAs, NGOs, Technical Institutions etc. in the district are involved in the process of planning,

implementation and monitoring of the scheme. NGO's assistance is sought in nurturing of SHGs as well as in monitoring the progress of Swarozgaries.

## **I. Farm Mechanisation**

With a view to boost credit flow for farm mechanisation activities, some of the important policy changes effected are:

1. Refinance facility for financing purchase of second hand tractors was extended to all states and was made available even in the case of second sale of tractors.
2. Quantum of loan for repairs, renovation and replacement of spare parts was enhanced from ₹ 25,000 to ₹ 50,000.
3. Ceiling in respect of cost of replacement of engine was removed and it was linked to the company rates of standard make.
4. Loans for repairs/renovation of tractors were made available even during the currency of the earlier loan, irrespective of availing of loan for purchase of tractors. Further, the banks were allowed to extend loan towards the cost of repairs on account of damages caused to the tractors due to accidents.

## **m. Financing Purchase of Land for Agricultural Purposes**

The agricultural policy of the Government of India envisages substantial credit flow to increase agricultural production and productivity. Banks provide term finance to farmers for development purposes and short term loans for production purposes. There is also a need to finance farmers for purchasing land to expand activities and make existing small and marginal units economically viable. This would enable farmers to diversify their present activities and take up allied activities.

## **Objectives**

1. To make the small and marginal holdings economically viable
2. To bring fallow lands and waste lands under cultivation
3. To step up agricultural production and productivity
4. To finance the share croppers / tenant farmers to purchase land to enable them to increase income

## **n. Scheme for setting up of Agri-clinic and Agribusiness centres**

With the diversification and modernisation of agricultural practices, there is a need to augment support and extension services for agriculture. For this purpose, a scheme for setting up agri-clinics and agribusiness centres by agriculture graduates has been launched by Government of India with the support of NABARD. These centres will provide a package of input facilities, consultancy and other services. They will strengthen transfer of technology and extension services and also provide self employment opportunities to technically trained persons. MANAGE in Hyderabad is the nodal agency for imparting training under the scheme. List of trained graduates is sent to various banks in the region for financial assistance.

## **O. Self Employment Scheme For Ex-servicemen (SEMFEX)**

The scheme is in operation since 15 January 1988. It has been specially designed to provide a comprehensive package of credit for encouraging ex-servicemen, disabled service personnel, war widows and widows of ex-servicemen to undertake agricultural and allied activities or to set up non-farm units in rural areas to earn their livelihood for leading a dignified life.

### **SEMFEX has two sub-schemes as under:**

#### **i. Farm Sector**

Loans under this sector cover development of agriculture and allied activities such as minor irrigation, farm mechanisation including power tillers, nurseries, dairies, poultry, fisheries, plantation, horticulture, forestry, wasteland development etc.

#### **ii. Non-Farm Sector**

This includes financial assistance for setting up in rural areas, units of tiny, cottage, village or small scale industries relating to a wide spectrum of approved industrial and service activities.

With a view to increasing production and productivity in agriculture, NABARD also considers sanction of high-tech / innovative schemes which involve use and adoption of modern methods of science and technology.

## **p. Scheme for "Capacity Building for Adoption of Technology (CAT)"**

Technological upgradation and innovation have been the hall mark of Indian agriculture. NABARD has been in the forefront in facilitating and adoption of new technology by farmers/entrepreneurs through various institutions/ agencies like banks, corporates, NGOs, SHG and Farmers' Clubs. With a view to widen the horizon of new agro-technology, it was felt that traditional farmers may be motivated to adopt new technology by exposing them to innovative projects being implemented by various agencies in different parts of the country. Accordingly, it has been decided that NABARD would extend 100% support towards the cost of such exposure visit of the farmers to enable them to adopt new technology.

### **Address for communication**

NABARD Regional Office (Mizoram)  
Chief General Manager  
Mizoram Regional Office  
Bungkawn, Aizawl-796001  
Mizoram

## **2. Rubber Board**

### **Schemes in operation**

There is a well structured field establishment set up under the Rubber Production Department which renders free advisory and extension services to rubber growers on all aspects of rubber cultivation, production, processing and marketing and simultaneously attends to implementation of various development schemes as well. Field Offices located at all important rubber growing centres play important roles in extension activities.

1. Rubber Plantation Development Scheme Phase IV
2. Rubber Plantation Development Scheme - Phase V
3. Rubber Plantation Development Scheme - Phase VI
4. Rubber Plantation Development Scheme in North East
5. Schemes for Assisting Planting and Upkeep
6. Scheme for popularising use of Low Volume Sprayers
7. Scheme for Improving Tapping
8. Schemes for Assisting Rubber Growers' Cooperatives
9. Scheme for Promoting Rubber Producers Societies (RPSs)
10. Schemes for Assisting Companies in the RPS Sector

11. Schemes for Assisting Large Growers

12. Schemes of General Nature

### **Address for communication**

Deputy Director

Ministry of Commerce, Govt. of India

Tumpui Colony

Kolasib

Mizoram

Phone-(0389)-2322591

## **3. Spices Board**

### **Promotional programmes**

#### **i. Production Development Schemes**

- a. Small cardamom
- b. Large cardamom
- c. Development of exotic and high value spices
- d. Organic farming of spices
- e. Integrated pest managementDevelopment of spices in North East
- f. Post harvest improvements in spices
- g. Extension advisory service

#### **ii. Post harvest improvement of spices schemes**

- a. Scheme for improved cardamom curing devices for small cardamom(Description/Working procedure).
- b. Subsidy for constructing b. drying yards.
- c. Supply of polythene sheets and bamboo mats at subsidized cost.
- d. Procurement of pepper threshers at subsidized cost.
- e. Availability of solar driers for chilies.

### **Address for communication**

Assistant Director

Spices Board

Ministry of Commerce, Govt. of India

Khatla Colony, Aizawl-796001

## **4. National Horticulture Board**

### **a) Development of Commercial Horticulture through Production and Post-Harvest Management**

#### **i. Objectives**

1. To develop high quality horticultural farms in identified belts and make such areas vibrant with horticultural activity which in turn will act as hubs for developing commercial horticulture by adopting high-tech horticulture techniques.
2. To develop post-harvest management infrastructure.
3. To improve linkages between horticulture producers and marketers.
4. To create integrated network for marketing of horticulture produce.
5. To increase producer's share in consumer price.

#### **ii. Components covered**

##### **Production related**

1. High quality commercial horticulture crops
2. Indigenous crops/produce, herb
3. Aromatic plants
4. Seed and nursery
5. Bio-technology, tissue culture
6. Bio-pesticides
7. Organic foods
8. Establishment of horticulture health clinics/laboratory
9. Consultancy services
10. Beekeeping

##### **Primary Processing related**

1. Grading/packing/washing/waxing/sorting/drying centres
2. Pre-cooling unit/cool stores
3. Reefer van/containers (with multi-chamber, multi-product facility)
4. Specialised Transport Vehicle

5. Retail outlets
6. Auction platform
7. Ripening/curing chamber
8. Market yards/rope ways
9. Radiation unit/dehydration unit/vapour heat treatment unit
10. Primary processing of products fermentation, extraction, distillation, juice vending pulping, dressing, cutting, chopping etc.
11. Horticulture ancillary industry e.g. tools, equipments, plastics, packaging, etc.
12. Plastic crates, cartons, baskets, aseptic packaging and nets (50% subsidy). The subsidy @ 50% as per prescribed norms shall be available for crates and nets (shade and anti-hail only) as a part of integrated commercial projects only. However, assistance in case of CFB Cartons and aseptic packaging shall be available on merit for launching a new product during its first year and for introduction of such products in a given horticulture area, as a one-time assistance.

### iii. Pattern of Assistance

Back-ended capital investment subsidy @ not exceeding 20% of the total project cost with a maximum limit of ₹ 25 lakh per project shall be provided under the scheme to these projects which are found technically and financially viable. However, for the North-Eastern/tribal/hilly areas, maximum limit of subsidy would be ₹ 30.00 lakh per project.

The percentage of term loan should be at least 25% the project cost (as per appraisal of bank) where the project cost is up to ₹ 30.00 lakh and in case of proposal above ₹ 30.00 lakh, the term loan should be at least 40% of the project cost (as appraised by bank).

### iv. Eligible Organizations

The eligible promoters under the above schemes shall include NGO's, Association of Growers, Individuals, Partnership/Proprietary Firms Companies, Corporations, Cooperatives, Agricultural Produce Marketing Committees, Marketing Boards/Committees, Municipal Corporations/Committees, Agro-Industries Corporations, State Agricultural Universities and other concerned R&D organizations.

## **b).Capital Investment Subsidy for Construction/Modernization Expansion of Cold Storage and Storages for Horticulture**

### **Produce**

#### **i. Objectives**

1. To promote setting up of cold storages/storages in the country for reducing post harvest losses.
2. Creation of 12 lakh tonnes and modernization/rehabilitation of 8 lakhtonnes of cold storages and addition of 4.5 lakh tonnes onion storages.

#### **ii. Components**

Cold Storages including Controlled Atmosphere (CA) and ModifiedAtmosphere (MA Stores), pre-cooling units and mother Storages for onion etc.

#### **iii. Eligible Organisations**

The eligible promoters shall include NGO's, Association of Growers.Partnership/Proprietary Firms, Companies, Corporations, CooperativesAgricultural Produce Marketing Committees, Marketing Boards/Committeesand Agro-Industries Corporations.

#### **iv. Pattern of Assistance**

- + 25% promoters' contributions
- + 50% term loan by banks at PLR + 1% through NABARD refinance.
- + 25% back-ended capital investment subsidy by NHB.

## **c) Technology Development and Transfer for Promotion of Horticulture**

#### **i. Objectives**

- + Popularization of new technologies/tools/techniques forcommercialization/ adoption.
- + Introduction of new concepts to improve farming systems.
- + Upgradation of skills by exchange of technical know-how.
- + Consolidating research efforts for specific problems.
- + Identification/collection, rapid multiplication & popularization of indigenous crops and other flora of horticultural importance with emphasis on domestic and export promotion.



- ✚ Familiarization and exposure towards the newer scientific concepts/temper and research & development from hitherto unknown, unexplored and traditional status of farming and post harvest management on to the modern lines.

## ii. Eligible Components

1. Introduction of new technologies
2. Visit of progressive farmers
3. Promotional and extension activities
4. Expert services from India/abroad
5. Technology awareness
6. Organization/participation in seminars/symposia/exhibitions
7. Udyan Pandit
8. Publicity and films
9. Observation-cum-study tours abroad
10. Honorarium to scientists for effective transfer of technology

## Address for communication

Deputy Director

NHB

Ministry of Agriculture, Government of India

85, Institutional Area, Sector - 18

Gurgaon - 122 015, Haryana

Phone: 0124-2342992, 2347441, 2342989-90

Fax : 0124-2342991, 2343416

E-mail: dd2nhb@gmail.com

Website: [www.nhb.gov.in](http://www.nhb.gov.in)

## 5. State Government schemes

### i. State Horticulture Mission (SHM), Mizoram.

The mission programmes are implemented in all the districts. The crops identified for development under the mission are mango, gooseberry, banana, pineapple, pepper, ginger, turmeric, nutmeg, cashew, cocoa, medicinal plants, flower crops and vegetables. Bee keeping and mushroom cultivation are also included in the programme. The main stakeholders of the programme are farmers, Self Help Groups, Krishi Vigyan Kendra, Non Governmental Organizations, Department of Horticulture etc.

The SHM undertakes programmes on production and productivity improvement, post harvest management and marketing. The components production and productivity improvement are establishment of nurseries for production of planting materials, establishment of new gardens, rejuvenation of existing plantations, protected cultivation, organic farming, technology dissemination and bee keeping.

The important programmes included under post harvest management are establishment of integrated pack houses, sorting and grading units, cold storage, etc. Under the marketing development, establishment of rural markets, functional infrastructure for collection and grading, strengthening of wholesale market, market intelligence, extension quality awareness and extension activities for fresh and processed foods are envisaged.

## **ii. Mizoram Khadi and Village Industries Board**

The Board offers several financial schemes that bestow ample employment opportunities to the villagers. The schemes are intended to help the rural communities set up industrial units with minimal investment and yielding good returns. The Board restricts its assistance to only those products which are healthy and eco-friendly. Over the years the Board has assisted many village industrial units that provide innumerable employment opportunities to the villagers. In order to provide employment in the village industries sector, the Board established its own departmental units producing different kinds of products. Besides the Board extends financial assistance to set up village industries units.

## **iii. District Industries Centre (DIC), Serchhip**

The DIC is a nodal agency for implementing various government schemes as detailed below.

### **a) State Investment Subsidy**

**Objective:** To attract investment in industrial sector Govt of Kerala is providing assistance in the form of incentive based on the fixed capital investment made.

**Eligibility:** All new units, tiny, small, medium or large industrial units.

### **Pattern of Assistance:**

Thrust (priority) sector industries (rubber based industries, IT, agrobased business including food processing, readymade garments, tourism, ayurvedic medicines, mining, marine products, light engineering, biotechnology and 100% (EOUS) 15% of fixed capital investment subject to a ceiling of ₹ 15.00 lakhs.

### **b) Prime Minister's Rozgar Yojana**

Objective: To provide self employment opportunities to educated unemployed youth.

Eligibility: 8th Standard passed, age between 16 to 35 for SC/ST, ex-servicemen and women up to 45 years and family annual income up to ₹ 40,000/-

### **Project Cost:**

For individuals: up to ₹ 1 lakh for business related projects and ₹ 2 lakhs for other projects.

For partnership activities: up to ₹ 10 lakhs. The individual eligibility will be the criteria.

Activities covered: Industry, service, business, and agriculture related activities (excluded direct cultivation, procurement of fertilizers etc)

### **Pattern of Assistance:**

Margin Money: the applicant has to invest 5 to 16.25 % of the project cost as the margin money, so that, when the subsidy and the margin money are added together amounting 20% of the total project cost.

### **c) Technology Development Fund Scheme**

- i. Entrepreneurship Development Clubs
- ii. Incentive Schemes for Marketing SSI Products
- iii. Margin Money Loan for Cluster Development

### **Address for communication**

The General Manager  
District Industries Centre  
Darnam Veng, Serchhip District  
Serchhip-796101

## 6. Centrally sponsored schemes

### i) National Food Security Mission (NFSM)

National Food Security Mission has been launched as a Centrally Sponsored Scheme funded by Central Government. It envisages to focus on districts which Have high potential but relatively low level of productivity performance at Present.

#### Address for communication

Joint Secretary

National Food Security Mission

Dept. of Agriculture & Cooperation, Ministry of Agriculture

Krishi Bhawan, New Delhi - 110 001

Phone: 011-23381176

Website: [www.nfsm.gov.in](http://www.nfsm.gov.in)

### ii. Rashtriya Krishi Vikas Yojana (RKVY)

Concerned by the slow growth in agriculture and allied sectors, the National Development Council resolved to launch the special Additional Central Assistance Scheme RKVY. The main objective of the scheme is to achieve 4% annual growth in agricultural sector during the XIth Plan by ensuring holistic development of agriculture and allied sectors. The basic features of this scheme are:

1. Incentives to States so as to increase public investment in agriculture and allied sectors.
2. Provide flexibility and autonomy to the state in the process of planning and executing schemes.
3. Ensure preparation of schemes based on agro climatic conditions, availability of technology and natural resources.
4. Ensure that local needs crops priorities are better reflected in the schemes.
5. Reduce yield gap in important crops, through focussed interventions.
6. Maximise returns to farmers.
7. Bring about quantifiable changes in production and productivity.

The major components of the scheme include: Integrated development of major food crops such as paddy, coarse cereals, pulses, oil seeds etc; agriculture mechanization; activities related to enhancement of soil health; development of rain-fed farming systems in and

outside watershed areas; as also integrated development of watershed areas, wastelands, river valleys; support to state seed farms; integrated pest management scheme; encouraging non farming activities; strengthening market infrastructure; strengthening of infrastructure to promote extension service; activities relating to enhancement of Horticulture production and popularization of micro irrigation; animal husbandry and fisheries development; organic and bio-fertilizers and innovative Schemes.

## LIVESTOCK

In spite of the challenges that lay ahead for Mizoram towards animal husbandry, India ranks first in respect of cattle and buffaloes, second in goats, third in sheep and seventh in poultry population in the world. About 22.45 million people work in livestock sector. The contribution of livestock and fisheries sector to the total GDP during 2006-07 was 5.26%. India's per capita income has doubled over the past 20 years. With population growth slowing now to about 1.6 per cent per annum, a growth rate of the gross domestic product (GDP) of around 9 per cent per annum would be sufficient to quadruple the per capita income by 2020 (Planning Commission, 2002).

The district poses a challenge in animal husbandry, but restraints like protectionism policies of the state or the country handicaps the true want towards animal husbandry. Good governance, sustainable development in conjunction with environmental friendly methods is perhaps the only practical answer in order to correct the issues at hand. Scientific methods improving the products of animals i.e. use of biotechnology may perhaps be helpful but unfortunately will not increase productivity so as to claim animal husbandry as part of our GDP. On the other hand challenges are met and yes, the future holds a promise in all fields as long as we put our heads together and pave the green fields.

There is increasing demand of milk and meat products in the district. Rearing piggery and poultry are popular mainly for meat production and egg production. People are showing interest in cattle rearing and dairy farming in few pockets of the district. Milk production on co-operative basis also gaining popularity. However, present level of production can meet only 60 – 65 % of the total requirements. To fill this gap it is necessary for popularization of more dairy, piggery and poultry farms. State veterinary department, KVK and College of veterinary science, CAU have to initiate necessary actions for furthering the development. The Centrally Sponsored Scheme (CSS) of Integrated Sample Survey (ISS) for the estimation of Major

Livestock Products (MLP) such as Milk, Eggs and Meat(excluding wool) is being carried out continuously since 1985 – '86 in Mizoram. At the same time, now the survey covers study of attendant practices of the livestock. It is a well-known fact that MLP have assumed very much importance in meeting nutritional requirement of the human population. To some extent, the MLP in a state is considered as one of the major economic indicators. Hence, correct assessment (estimation) of MLP is of crucial importance and is to be continued year after year with sincerity and diligence.

The present report (2012 – 2013) approved by Technical Committee of Direction for Improvement of Animal Husbandry & Dairying Statistics (TCD) in its meeting held during 4th – 5th July, 2013 at Amritsar, Punjab contains the ISS work done during 2012 – 2013.

The District A.H & Vety Officers posted in every District headquarters are responsible for supervision of their survey done by the Field Assistants posted under their Jurisdiction. After the reports are submitted to State Headquarters (Directorate of Animal Husbandry and Veterinary – Statistical Cell), The Deputy Director (Livestock Statistics) Research Officer, Inspectors, Sub- inspectors – are responsible for checking and final compilation of reports. The compiled data were entered in the prescribed forms as per direction given by Animal Husbandry Statistics Division, Department of Animal Husbandry, dairying and Fisheries, ministry of Agriculture, Government of India. The Data entry work is usually done by Data Entry Operators.

## FISHERIES

Fish seed being the vital input for development of fisheries, there is major set back to gather required momentum towards fishery development. The total water spread area (WSA) in departmental tanks is found to be only 5.5 ha as reported by the District Fishery Officer. However, it does not include the private ponds and community tanks, river and riverine sector.

The details of plans and schemes offered under the fisheries sector are presented below:

- ✓ In view of the background stated above the proposed strategy envisage additional Production of fish protein by way of –
  - Development and creation of new water bodies in the form of ponds and tanks for fish farming in the state.

- Augmentation of unit area productivity of the existing water bodies through judicious and scientific management technology.
  - Capacity building of farmers through training and demonstrations.
  - Judicious management open water resources viz – riverine and reservoir fisheries for sustainable production of table size fishes.
- ✓ Thereby under RKVY it is proposed to undertake strategic development of the sector in line with the above strategic plan and resorting to the activities as envisaged in the enclosed format for the state and various Districts in the state during 12th Five Year Plan.

**\*\* Specific problems**

1. Lack of awareness
2. Lack of knowledge
3. Lack of convention
4. Lack of finance
5. Lack intensive

**\*\*\* Farmer proposed extension strategies**

1. Awareness campaign
2. Demonstration
3. Training
4. Exposure visits
5. Linkage with banks

The proposed plan for fishery development in the district is shown in Table below:

**Table: Proposed Plan for Fishery Development in the District**

Sub-Sector	Category	Activity	Unit Cost	2014-15		2015-16		2016-17		Total	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Transfer of technology	Production & growth	1. Towards one time input supply	Rs.2 lakh/ha payable	190 ha	152.00	120 ha	96.00	120 ha	96.00	620 ha	496.00
		2. Installation of aerator	Rs.80,000/- worth input	5 nos	2.00	5 nos	2.00	5 nos	2.00	15 nos	6.00
			Rs.40,000/unit	345	6.90	230	4.60		4.6		

		3. Capacity building		farmers		farmer s		230 farmers	0	1150 farmer	20.70
		a) Training of farmers	Rs.2000/ Farmer		1.20		1.20		1.20		
		b) exposure visit of farmers	Rs.20,000/ Farmer	6 farmers 3000 manuals & 2 documentary films for all districts to be taken up from the director ate		6 farmer s		6 farmers	0	21 farmer	4.20
		c) preparation of handbook/manual of farmers	Nil			2000 manuals & 2 documentary for the entire state to be taken up from the Director ate		2000 manuals & 2 documentary for the entire state to be taken up from the Director ate		Figure reflected in completed state govt.	
		d) production of documentary films on various aspects of fisheries	Nil								



### **Address for Communication**

District Fisheries Development Officer

Fisheries Department,

Serchhip District, Mizoram

P.O Serchhip – 796181

Phone No. 03838 - 261475

## CHAPTER VII. FARM MACHINERY SUITABLE TO THE DISTRICT

### 1. ADJUSTABLE ROW MARKER

This device is used to mark rows on seed bed for maintaining row to row distance while using single row seeding devices. It has three markers fitted on a sliding bar and the distance between any two markers can be adjusted between 20-60 cm according to row spacing requirement of the crop.



### 2. CONO WEEDER

The conoweeder is suitable for weeding in rice field when seedling is transplanted in rows.

- Overall dimensions : 2000x520x1000 mm
- Weight : 6.5 kg
- Size of float : 350x120x65 mm
- Area of coverage : 0.15 ha/day



### 3. POWER TILLER

Power Tiller is very suitable for use in paddy fields, dry fields, vegetable gardens and hilly land with a little inclination. It can be used for ploughing, rototilling and harrowing in paddy fields as well as harvesting, drilling, transportation and etc. if suitable farm implements or accessories are attached. In addition, it can also be extensively used as stationary power source for small scale drainage and irrigation, spraying, grain threshing, flour milling, fodder Cutting and so on. Furthermore, there is a riding chair provided with the rotavator for comfortable driving in rototilling.



### 4. POWER WEEDER

It is a self-propelled walking type machine powered by a 3 hp petrol start kerosene run engine. It is suitable for weeding & inter-culture operations in upland crops.

Overall dimensions :	2300x1000x850 mm
Weight :	100 kg
Sweep blade size :	100-150 mm
Field capacity :	7 h/ha



## 5. WHEEL HOE DRILL

This is a single row, manually operated implement weighing about 8 kg with an overall dimension of 100x40x105 cm. It can be used for sowing/planting different seeds by using different metering mechanisms.



## 6. HIGH CAPACITY THRESHER

The thresher consists of a feed hopper automatic feed spiked tooth cylinder, three aspirator blowers, cleaning sieves and bagging unit. It is operated by a 20 hp electric motor or by a 35 hp tractor pto. It is suitable for threshing wheat, gram, maize, sunflower, soybean, sorghum etc.

Overall dimensions : 3420x4300x2330 mm  
Weight : 1200 kg  
Capacity : 535 – 2890 kg/h



## 7. SELF-PROPELLED RIDING TYPE REAPER

It is a self-propelled riding type vertical conveyer reaper windrower powered by a 9 hp diesel engine suitable for harvesting rice, wheat, soybean and similar other crops.

Overall dimensions : 3185x1900x1450 mm  
Weight : 1530 kg  
Field capacity : 3 - 4 h/ha





## 8. MOTORISED KNAPSACK SPRAYER CUM DUSTER

Knapsack sprayer is used for spraying low crops, vegetables, nursery stocks, shrubs and trees up to 2.5 m high. By using 2 to 5m long telescopic lance, this pump can also be used for spot treatment of crops like rice, higher trees and indoor sprays. It is possible to spray 0.5 ha with the single nozzle in 8 hr in a day.



## 9. FRUIT HARVESTER

Different types of manual fruit harvester are suitable for hilly region we designed and tested viz. Hold and twist, pull and cut, push and twist.



**Hold & twist type fruit harvester:** This device is based on the hand picking mechanism where individual fruit is first held between two jaws of the harvester and then twisted to shear off/ pluck. The jaws are provided with rubber paddle on the inside to avoid any skin damage while holding the fruits. The two jaws are held together by spring on a pivot frame. After its detachment, fruit is released into a cloth conveyor protecting from any damages that might cause due to free fall.

**Pull & Cut type fruit harvester:** This device employs scissors mechanism for shear cutting of fruit stems. Carbon steel blades mounted at different angles e.g., horizontal, vertical and inclined. The blades are activated by pulling a cord over a pulley fitted on one of the blade handles. A cloth conveyer over a steel ring just below the blades helps in collecting fruits after cutting avoiding impact damage due to free fall.

**Push & twist type fruit harvester:** The device consists of a 10cm dia. ring made of carbon-steel-band-saw blade, top edge of which is cut into six teeth of 40cm height employed for detaching fruits by pushing and twisting action. The ring is fitted on a handle with a help of U-shaped frame. A cloth conveyer is provided to avoid impact damage to fruits due to free fall.



## 10. GROUNDNUT DECORTICATOR (STANDING TYPE)

The unit consists of frame, handle, oscillating arm, sieve with oblong hole. The pods are feed in batches of 2 kg and crushed in between concave and oscillating arm having cast iron/nylon shoe to achieve shelling.

Overall dimensions : 500x270x1010 mm

Weight : 5.7 kg

Capacity : 35- 55 kg/h



## 11. TUBULAR MAIZE SHELLER

It is a hand operated tool to shell maize from de husked cobs. The unit consists of galvanized mild steel pipe with four tapered fins riveted to its inner periphery, the sheller is held in left hand, a cob held in right hand is inserted into it with forward and backward twist to achieve the shelling.

Overall Dimensions : 64 (length)x72(diameter) mm

Weight : 0.220 kg



## 12. DHAL MILL

The 2 hp three phase motor driven mill is suitable for small entrepreneurs. The abrasive roller is a cylinder made of 2 mm mild steel sheet with 250 mm diameter. Eight steel bars of 8 mm are welded longitudinally on this cylinder.

Overall dimensions : 770x630x1020 mm

Weight : 90 kg

Capacity : 100 kg/h





### 13. PEDAL OPERATED POTATO PEELER

Operated through pedal for removing potato skin for value additions. Consists of frame, pedal system, cycle chain with sprockets, notched stainless steel drum and water supply system.

Over all dimensions :	1200x450x850 mm
Weight :	75 kgs
Capacity :	188 kg/h
Batch size :	8 kgs.



#### 14. BRASS CUTTER

On a hilly or sloppy terrain, it is required to cut grasses/bushes with a machine which is able to negotiate well on inclined surfaces. A grass cutter was designed and developed to serve the purpose of cutting grasses and bushes on the hilly terrain. The machine used a 3 hp petrol start and run engine to operate a rotary cutting blade in horizontal plane.



## CHAPTER-VIII ANNEXURE

1. Telephone directory of important agriculture and related departments/offices in Serchhip District

Sl.No	Name of Office	Phone
1	District Agriculture Office, Serchhip	03838-222539
2	District Animal Husbandry Office, Serchhip	03838-222104
3	District Fisheries Office, Serchhip	03838-226055
4	District Horticulture Office, Serchhip	03838-222588/222759
5	District Sericulture Office, Serchhip	03838-222376(O)/ 03838-222642(Fax)
6	District Soil & Water Conservation Office	03838-222586
7	KrishiVigyan Kendra, N. Vanlaiphai	03838-224339
8	District Minor Irrigation Office, Serchhip	03838-222904

- a) Contact persons of Agriculture Department in Serchhip District

Name of Office	Name of Officer	Designation	Office No./ Mobile No.
District Agriculture Office, Serchhip	James Lalsiamliana,	DAO	9436140370
	ZokhumaVarte	SDAO	9436156219
	V.L. Hmangaihchhunga	SDAO	9436353648
	T. Ngurkhuma	AEO	9436190843
	Lalsangzualihmar	AEO	03838- 222539
	Lalchhuansangi	DPD(ATM A)	9774874568
	Lalchhuanawma	DPD(ATM A)	9862882345

b) Contact persons of Animal Husbandry Department in Serchhip District

Name of Office	Name of Officer	Designation	Office No./ Mobile No.
District Veterinary Office, Serchhip	Dr.Lalnghinglova	DVO	9436150939/ 8132811040
	Dr. R. Lalmakthanga	FDO	9612003040
	Dr.LalsanglienRalsun	VO	9436158369

c) Contact persons of Fisheries Department in Serchhip District

Name of Office	Name of Officer	Designation	Office No./ Mobile No.
District Fisheries Office, Serchhip	Zonuntluangi	DFDO	986277942 2
	F. Vanlalnela	FEO	943635021 5

d) Contact persons of Horticulture Department in Serchhip District

Name of Office	Name of Officer	Designation	Office No./ Mobile No.
District Horticulture Office, Serchhip	Zosiamliani	DHO	943619550 6
	Lucy Zaithangpuui	HDO	943614686 9
	R. Lalmuanpuia	HEO	940258907 5
	Lalhmailhanga(T)	DHO	943615036 3
	V. Lalrinawma	SDIO	986267097 9
	Laltanzuala	IPO	961216468 1

## 2. Average nutrient content of common manures and Fertilizers

Material	Nutrient content (%)		
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Ammonium sulphate	20.5	-	-
Ammonium sulphate nitrate	26.0	-	-
Ammonium nitrate	33.5	-	-
Ammonium phosphate	20.0	20.0	-
Calcium ammonium nitrate	20.5 / 25.0	-	-
Nitrate of soda	16.5	-	-
Urea	46.0	-	-
Superphosphate (single)	-	18.0	-
Superphosphate (double)	-	35.0	-
Superphosphate (triple)	-	46.0	-
Mussooriephos	-	18-20	-
Rajphos	-	18-20	-
Muriate of potash	-	-	50 / 60
Bone meal	3.5	21.0	-
Fish meal	4.1	3.9	0.3-1.5
Poultry manure	1.2-1.5	1.4 -1.8	0.8-0.9
Sheep manure	0.8-1.6	0.3-0.4	0.3-0.4
FYM	1.0	0.5	1.0
Compost	0.5	0.4	0.8
Groundnut cake	7.0	1.5	1.5
Castor cake	4.3	2.0	1.3
Neem cake	5.0	1.0	1.5
Gingelly cake	6.2	2.0	1.2
Coconut cake	3.0	1.9	1.8
Vermi-compost	1.5	0.4	1.8
Cow dung	1	0.5	1







## Staff Information:

Sl.No.	Name of Staff	Designation	Area & Discipline of work	Correct & valid contact No.	e-mail address
1.	K.Laltlanmawia	Sr.Scientist & Head	Soil Science	9615389293/ 9436146115	matlanakhiangte71@gmail.com
2.	Dr.Animesh Deka	Scientist	Animal Science	8014066760	dranimeshdeka@gmail.com
3.	K.Lalmalsawmi	Scientist	Home Science		sawmikhiangte@gmail.com
4.	Vanlalruali	Scientist	Agri.Extension	9615393934	vlruali@yahoo.com
5.	Vanlalhmuaka Ngente	Scientist	Horticulture	9615424277	hmuakang@gmail.com
6.	Kenny Zohmingliana	Scientist	Agronomy	9615477332	kenzailosh@gmail.com
7.	R.Lalchhandami	Scientist	Agril.Engineering	9856102426	elcy.ralte@gmail.com
8.	Lalthanmawia Tlau	Assistant	Account Section	9436970430	
9.	Lalnunzawma	Programme Assistant	Farm Manager	9612163662	
10.	K.Lalramchama	Programme Assistant	Computer Programmer	9615415226	
11.	Jeffrey Lalhmingmawna	Programme Assistant	Agri.Extension Education	9856102564	
12.	Zorinpuii	Stenographer	Computer Operator	9856366887	
13.	Vanlalhmuaka Hmar	Driver	Driver-cum-Mechanic		
14.	F.Vanlalzawna	Driver	Driver-cum-Mechanic	8575968373	
15.	Lalrinliana	Supporting Staff	Supporting Staff	8014649268	
16.	Lallungmawna	Supporting Staff	Supporting Staff	9856171791	
17.	Lalrinmawia	MR	MR	8014906118	
18.	Lalrinzuala	Senior Research Fellow (NICRA)	Plant Protection	8014025324	





**Group Photo of Staffs, kvk serchip**

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