



LAWNGTLAI DISTRICT

Inventory of Agriculture 2015



ICAR - Agricultural Technology Application Research Institute, Umiam (Barapani)
Ri- Bhoi District, Meghalaya - 793103



LAWNGTLAI DISTRICT

Inventory of Agriculture

2015



ICAR - Agricultural Technology Application Research Institute, Umiam (Barapani)
Ri- Bhoi District, Meghalaya - 793103



Correct Citation: Bhalerao A.K., Kumar B., Singha A. K., Jat P.C., Bordoloi, R., Deka Bidyut C., 2015, Lawntlai district inventory of Agriculture, ICAR-Agricultural Technology Application Research Institute, Umiam, Meghalaya, India

Published by: The Director,
ICAR-Agricultural Technology Application Research Institute, Umiam (Barapani), Meghalaya-793103
Email: icarzcu3@gmail.com
Website: <http://icarzcu3.gov.in>
Phone no. 0364-2570081

Compiled By: Dr. Michelle C. Lallawmkimi, Senior Scientist & Head
Dr. Lalthazuali, Scientist (Animal Science)
Vanlalliani, Scientist (Horticulture)
Sheela Tayeng, Scientist (Agricultural)
Esther Zonunpuii, Scientist (Plant Protection)
Vanlalruati, Scientist (Home Science)
C. Rualthankhuma, Scientist (Agronomy)
Malsawmkima Vanchhawng, Farm Manager
Samuel Lalhruaitluanga, Programme Assisstant.

Edited by: Amol K. Bhalerao, Scientist (AE)
Bagish Kumar, Scientist (AE)
A. K. Singha, Pr. Scientist (AE)
P. C. Jat, Sr. Scientist (Agro)
R. Bordoloi, Pr. Scientist (AE)\
Bidyut C. Deka, Director, ATARI Umiam

Contact: Dr. Michelle C. Lallawmkimi
Directorate of Agriculture (Research & Education)
Mizoram, Aizawl - 796001
Telephone: 0389-2319025
Fax: 0389-2315784
Website: kvklawngtlai.mizoram.gov.in

Word Processing: Synshai Jana

Cover Design: Johannes Wahlang

Layout and Printing: Technical Cell, ICAR-ATARI, Umiam

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,
ICAR-ATARI-Umiam,
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 Lawntlai for taking part in compiling the huge information to shape up Lawntlai 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 Lawntlai 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 Lawntlai



Without Agriculture and its allied sectors there can never be a civilization and stable economy. Its vastness not only contributes to the farming sectors but also includes Animal Husbandry, Horticulture, Home Science, Fishery, Forestry and Agriculture Engineering etc. All these are central to individual livelihoods, poverty alleviation and nations' economic growth. It not only provides food and raw materials but also generates employment and makes living for many by generating sustainable income.

In consonance with the above views, the Krishi Vigyan Kendra in our district focus on testing and introduction of suitable technologies which the farmers in our district would solely benefit from it. Apart from it, trainings of various farming categories, farmers field visit, diagnostic visit, free clinic, field day for farmers' etc are timely conducted by the scientists of KVK. Our yearly laid out programmes can be fulfilled only due to funds and allocations given to us by our Zone III Directorate and not the least by our host Department, Dept. of Agriculture (Research & Education), Government of Mizoram.

*In order to step forward for the above, it is of immense essential to know the heart of our district. Our KVK, therefore lay out our very first **"Lawngtlai District Inventory 2015"**. This book covers about the district in general, agricultural scenario, constraints in various farming, research and development work within the district, various schemes and farm machinery suitable for the district etc. I hope this book will be highly crucial for reference for various stakeholders engaged in the profession of agriculture and its allied sectors.*

Compiling of all the necessary documents is not an easy tasks I, therefore sincerely acknowledged all those persons who excellently put effort for the best outcome.

Above and beyond, Agriculture will forever be an integral part of everyone's life in our nation. As the saying goes, "Without Agriculture there can never be a culture".

(DR.MICHELLE C. LALLAWMKIMI)

TABLE OF CONTENT

Chapter- i. District in general.....	9
chapter- ii. Agricultural scenario of the district.....	24
chapter- iii. Constraints in agricultural production.....	31
chapter- iv institutional support for agricultural development of the district	33
chapter- v. Research and development organizations relevant to district's agriculture .	37
chapter- vi. Plans and schemes for promotion of agriculture.....	39
chapter- vii. Farm machinery suitable to the district	40
chapter- viii. Annexure.....	41



Fig: Location of Lawngtlai District

CHAPTER- I. DISTRICT IN GENERAL

Lawngtlai District is one of the eight administrative Districts in Mizoram. The District was created on 11th November 1998. Prior to 1998, Lawngtlai District was a part of undivided Chhimtuipui District comprising of Saiha and Lawngtlai. The History of Lawngtlai District as a part of Mizoram dated back to the days of Chieftainship (Lal). Since time immemorial, before the British entered, their own chiefs from generation to another without any disturbance from any quarter ruled this virgin land. This state of affairs kept on continuing till the British appeared on the scene in the late 18th century. On 21st

February, 1888, Lai Chief Dokulha Chinzah, Chief of the then Fungkah Village raided the survey team and killed Lt. Steward, two other Englishmen and one army personnel. Punitive action was taken by the British and in the process; Lawngtlai District came under the direct control of the British after the expedition of 1889 by the British.

After India attained independence in 1947, the Lushai Hills Autonomous District Council was created under the provision of the Sixth Schedule in 1952 for the purpose to preserve and protect the identities of the Lushais. The District continued to remain as one of the districts of Assam, which later was changed in Mizo District in 1954. Along with the creation of Lushai Hills autonomous district Council in 1952, leaders of the Lai (it was then called Pawi), Mara (it was then called Lakher) and Chakma demanded a separate Autonomous District Councils as they felt they were distinct stock of tribes. Accordingly, both the Governments of India and Assam having taken all aspects of the political, social and economic lives of the Lai, Mara and Chakma into consideration ultimately created in April 1953, a separate Autonomous Regional Councils under the Sixth Schedule to the Constitution of India. The two Councils continued their existence side by side till the creation of the Union Territory of Mizoram in 1972, under the North Eastern Areas reorganization Act of 1971. Eventually the Mizo Autonomous District Council was abolished and the erstwhile Pawi-Lakher Regional Council was trifurcated into three Autonomous District Councils viz. Pawi, Lakher and Chakma Autonomous District Councils under the same Act.

The district comprises 2 Autonomous District Councils viz. Lai Autonomous District

Council and Chakma Autonomous District Council whose Headquarters are Lawngtlai and Kamalanagar respectively. The creation of these two District Councils is to safeguard the interest of the tribal groups inhabiting the areas. The Lais and the Chakmas are administered by separate autonomous Legislatures. The civil administration, including all kinds of criminal cases, comes under the jurisdiction of the Deputy Commissioner (DC). All tribal cases under customary laws are vested within the jurisdiction of the Autonomous District Councils. Lawngtlai city is the head-quarter of the district. It comprises of two administrative Sub-Divisions and two Rural Development Blocks.

The main communities occupying Lawngtlai district are the Lais, Chakmas, Bawm, Pang, etc. There are rich cultural heritages among such tribes. In the eastern side of the district, where Lai community is the main inhabitants, Chawnglaizawn, Sarlamkai, Pawhlohtlawh are the main cultural dances. In Chakma occupied area of the district, there are various tribes of backward classes. In this area, the main religion is Buddhism whereas in the eastern side, i.e Lai occupied area Christianity is the major religion. The common languages spoken in the district are Lai, Chakma and various dialects of other tribes, i.e Pang, Bru, Bawm etc. The standard of living in the district is very low and literacy is also the lowest amongst the eight districts in Mizoram.

The demographic studies of the district reveals that out of the total population of the district i.e 88738, about 16.45% reside in the district capital Lawngtlai whereas the rest of the people accounting for 83.55% who are predominantly subsistence farmers live in sub-urban and rural areas.

Agriculture is the mainstay of majority of the farmers who are practicing jhum system of cultivation. However, a few farmers are taking up Wet Rice Cultivation, Horticulture, Animal Husbandry, Fishery and Sericulture as their means of livelihood in some villages. Major crops grown are Rice (WRC & Jhum), Ginger, Maize, Sugarcane, Soyabean, Chilli, Banana, Turmeric and Vegetables etc. However, the yield of these crops is comparatively lower than the national average. There are many reasons for the

low productivity of the aforementioned enterprises; some of them are – 1) Non-Adoption of recommended practices, varieties, breeds, species etc. depending on the nature of enterprise. 2) Lack of awareness 3) Lack of resources – land, financial and technical 4) Market uncertainty/Lack of assured market.

Jhuming, the sole dependence of farmers for their livelihood, is a slash and burn method which is not only destructive to flora and fauna of the area but also soil depleting. Now the farmers by their experience, have found out that jhuming is no longer remunerative and that they need to make a better switch-over, but they are at a loss as to what and how to do. It is, therefore, an immediate need of the people to be weaned away from shifting cultivation through trainings, demonstrations, trials, exposure visit and other extension methods.

CLIMATE

Lawngtlai district has a pleasant climate. It is generally cool in summer and not very cold in winter. In winter the temperatures varies from 8 degree Celsius to 24 degree Celsius and in summer, it is between 18 degree Celsius and 32 degree Celsius. The western part of the district is lower in elevation compare to the eastern part, and hence it experiences a little warmer climate than the eastern part. Relative humidity is highest during the south-west monsoon and heavy precipitation is usually received during the months from May up to September every year. The average annual rainfall is about 2558mm. The hottest period starts from the month of March up to August every year. During the rainy season, it is usually heavily clouded. There is an increase of cloudiness from March onwards. A clear and cool weather starts appearing from the month of September up to January the next year. The District experiences a variety of climate like tropical, sub-tropical and sub-temperate climate depending on the altitude. The relative humidity is highest during the south-west monsoon (about 85%). Heavy rainfall is usually received during May to September every year. The temperature ranges from 15 degree to 25 degree during winter. It usually receives high annual rainfall during the month from May up to September. In this region tropical wet evergreen, mixed deciduous forest and wild banana forests are found. The average annual rainfall is

about 285 cm. The hottest period lasts from March to August. During the rainy season there are heavy clouds. There is an increase of cloudiness from March onwards. A clear and cool weather starts appearing from the month of September up to January the next year.

Table: Monthly Average rainfall of Lawngtlai District (2002-09):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2002	13	Nil	41	55	698	701	892	377	253	74	99	Nil
2003	Nil	Nil	42	27	462	916	323	269	365	367	Nil	Nil
2004	Nil	Nil	Nil	525	234	577	554	233	202	115	Nil	Nil
2005	Nil	Nil	89	160	140	457	416.4	582.1	302	217	97.7	Nil
2006	Nil	Nil	Nil	35	461	557	481	265	149	153	35	Nil
2007	Nil	35	11	86	423	519.5	525.5	421.1	579.5	195.5	36	Nil
2008	196	18.5	12	Nil	193	314.5	419.2	391.4	336.9	137.9	32.5	Nil
2009	Nil	Nil	12	123	183	449.9	400.7	478				

Source: Directorate of Agriculture and Minor Irrigation, Government of Mizoram.

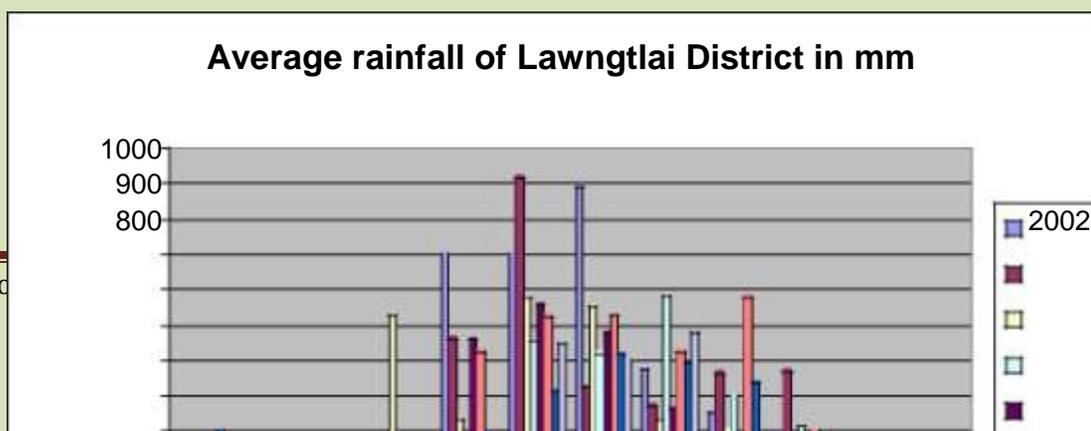




Fig: Average Rainfall of Lawngtlai District

TOPOGRAPHY

The District is located in the South West part of Mizoram having international boundaries with Bangladesh in the west and Myanmar in the east. Lunglei and Saiha District bounded the district in the north and in the south respectively. Lawngtlai District covered an area of 2557 Sq. Km and it lies between 92.30° - 93° E Longitudes and 21.58° - 22.60° N latitudes. The District headquarters – Lawngtlai is connected by National Highway No.54 and it is about 296 Kms from Aizawl. The total geographical area is 2557.1 sq.km and accounts for 12.13% of the total geographical area of the State of Mizoram.

Slope and Altitude:-

The region is characterized by the hilly rugged terrain, the ridges show serrated tops, which are highly dissected and separated by intervening 'V' shaped narrow valleys. The bill ranges aligned North-South direction and the slope aspects are mostly eastern and western with a few exceptions in some parts of the area. The hill side slopes of District are sleep to very steep and escarpment are common. The western side consists of numerous dissected low hills with strongly sloping to steep slopes. The biggest valley is Chamdur valley.

The Altitude of the area is generally increased towards the east. The highest peak in the district is Paithar Tlang with an altitude of 1466 metres above mean sea level. Other

high peaks are Lungtat tlang (1180m) Mampui tlang (1157m) etc.

FORESTS

Flora and Fauna

Lawngtlai District situated within topical belt. The forests are topical wet evergreen of mixed deciduous. The western belt is covered by thick forest. A banyan tree, Gulmohar tree, Champa and Bamboo, Numerous medicinal plant and herbs are found in this region.

Wild animals like tiger, elephant, wild-boars, bears, monkeys and different kinds of reptiles like python, lizard, tortoise and frogs are found in Ngengpui Wildlife Sanctuary. The population of these animals is gradually decreasing year by year because of illegal hunting, poaching, encroachment and practice of shifting cultivation. The district is endowed with natural beauty like Phawngpui National park.

The following table depicts the forest profile of the district:

Table: Forest profile of Lawngtlai District:

Sl.No	Name of the region	Area in Sq. Km
1)	Lai Autonomous district Council	110
2)	Ngengpui Wildlife Sanctuary	
3)	(Blue Mountain) National Park	50
4)	Phawngpui Safety reserve	78
5)	Supply Reserve	45
	Protected reserve	70
7)	Roadside Reserve	27
8)	Station reserve	44
9)	Revenue Reserve	617
	Sub Total	1036

1)	Chakma Autonomous District Council	465
2)	Safety Reserve	904
2)	Supply Reserve	
	Total of LADC & CADC	2405

Source: - Office of the Deputy Commissioner, Lawngtlai.

WATER RESOURCES

a.Rivers: Agriculture in the district depends mainly upon rainfall. The net area irrigated to net area sown is only about 20% which is which is well below the state average. Major rivers like Tuichawng, Chhimtuipui and Thega and minor rivers like Dil lui, Sekulh and chikhur lui flowed through the district. Due to her topography only minor irrigation is feasible. The area is rainfall and exploitation of ground water resource is still inadequate.

b. Streams

c. Beels / lakes

PORTS: Nil

DEMOGRAPHY

According to the 2001 census, the total population of Lawngtlai district was 73620, of which the highest concentration was found in tehsil Chawngte (50823 persons) followed by tehsil Lawngtlai (22797 persons). Most of the population of the district lives in rural areas, whereas the State's share of rural population is 50 percent. The scheduled caste population is nil in the district and scheduled tribes constitute 95.4 percent, which is slightly lower than the State's share of 96.3 percent. The concentration of ST population

is higher in Chawngte tehsil (96.8 percent) and comparatively lower in tehsil Lawngtlai (92.2 percent). Buddhists are the dominant population group (52.17 percent), which is lower than the State's share of 15.5 percent and they are more concentrated in Chawngte tehsil (91.3 percent). The Christians (44.66 percent) are the other dominant population group, though the percentage is low compared to the State's share of 81.01 percent. They are more concentrated in tehsil Lawngtlai (78 percent). The minority population is 97.4 percent and it is evenly distributed across the tehsils of district Lawngtlai. The other important demographic indicators are detailed below:

Table: Demographic features of Lawngtlai District:

Sl. No	Particulars	Lawngtlai
1	2	3
1	Total Population	73,620
2	Male	38,776
3	Female	34,844
4	Sex ratio (out of 1000 male)	972
5	Density (2001)	39
6.	Literacy %	64.70

Source: Statistical handbook of Mizoram 201

CULTURE AND EDUCATION

The main communities inhabiting Lawngtlai District are the *Lais, Chakmas, Bawm, Pang etc.* These are famous cultural heritage among such tribes. In the eastern side of the district where Lai communities are the main inhabitants, *Chawnglaizawn, Sarlamkai and Pawhlohtlawh* are the main cultural dances. In Chakma occupied area of the district, there are various tribes of backward classes. In these areas, the main religion is Buddhism whereas in the eastern side i.e. Lai occupied area; Christianity is prevailing

as the major religion. The common languages spoken in the district are Lai, Chakma and various dialects of other backward tribes i.e. Pang, Bru, Bawm etc. These communities have different folk dances, habits and customs of their own. The common cultural dances of the Chakmas are Nua Jhumo Naach and Biju Naach.

The inhabitants of Lawngtlai District are very backward in various ways, the standard of living is very low and literacy percentage of the district is also the lowest amongst the eight districts in Mizoram. In 2001, 96.4 percent of the villages of the district were having at least a primary school, which is higher than the State's share (89.4 percent). Both the tehsils have significantly more primary schools. Some 28.8 percent of the villages have middle schools, which is lower than State aggregate of 58.3 percent. Both the tehsils have nearly the same proportion of middle schools as district Lawngtlai as a whole. In terms of secondary schools, the district has 16 such educational institutions; however, the tehsils of Chawngte and Lawngtlai have 9 and 7 secondary schools respectively. When comparing the data regarding the population served by such institutions in these two tehsils, the picture is not very encouraging. It is significant to note that the district of Lawngtlai is industrially backward, but at the same time, it also lacks industrial training schools, which should be given proper attention by the government. The literacy status of the district is not very encouraging (64.74 percent) compared to the State average of 88.80 percent. Male literacy is higher (70.90 percent) and female literacy is 57.81 percent. Literacy in tehsil Lawngtlai is comparatively better (68.64 percent) than in tehsil Chawngte and also better than the overall district aggregate.

HEALTH CARE SECTOR

The utilization of healthcare facilities by the households depend on the knowledge and awareness about the existence of these facilities, for which field workers need to be trained to motivate and make the rural poor aware.

Place of Child Birth

A majority of the children born in sample households were at home. However, there are significant variations across the communities. For example, a high proportion of children of Buddhist households (81.86 percent) and Muslim households (79.22 percent) were born at home as compared to 18.14 percent and 20.78 percent of the births in Government hospitals. Thus, the system of institutional deliveries is very poor.

Assistance in Child Birth

The dependence on untrained dais in child delivery assistance is modest (43.28 Percent). This is more in Buddhist households (55.41 percent) than Christian households (39.41 percent). Nearly 42 percent of the delivery of children is performed by trained midwife/Accredited Social Health Activists (ASHA). Those children born in institutional care have also received pre and post-natal care, whereas the proportion of such children is comparatively low. Keeping the above in view, there is an urgent need to extend the coverage of institutional deliveries of children so that better pre and post natal care is provided.

Immunization

The data relating to the status of immunization of children against Polio, DPT and BCG show encouraging results. Almost all children have been given Polio drops. Similarly, almost all children have received a doze of immunization (DPT, BCG. etc.). Nearly 97 percent of the households have immunized their children below the age of 5 years against at least one type of disease. However, the proportion of the children fully immunized is comparatively lower (93.07 percent) (see Table 3.18). Thus, National Rural Health Mission (NRHM) needs to be strengthened in the district.

Morbidity

Malaria is the most common health problem faced by 43.35 percent of sample households. Fever, pain in stomach, cough and cold, typhoid and jaundice are also prevalent. Besides, complications during pregnancy and child births are also health problems faced by rural households. On an average, Rs. 361 has been incurred per household on meeting health related expenditure. The expenses incurred are comparatively more for Christian households (Rs. 407) than Muslim households (Rs. 242). On the whole, the dependence on private sources for medical treatment is significantly high as compared to government hospitals. This is because services at government hospitals are inadequate and poor in quality, which compels the people to rely on private sources. Keeping the above in view, there is an urgent need to strengthen the NRHM so that it may be able to meet the health needs of the poor rural households and lessen their dependence on private sources which most of the time is beyond the reach of the poor households, and being costly forces them into debt.

BANKING AND ALLIED SECTORS

There are few commercial banks and post offices, not many paved roads, or adequate power supply as compared to the State average. However, in terms of agricultural cooperative societies and cooperative banks per lakh population, the situation is comparatively better in the district. It is interesting to note that there are wide variations across the tehsils of the district Lawngtlai. For example, Chawngte has better road and power supply than agricultural cooperative societies and cooperative and commercial banking facilities. The existing gaps in availability of the basic infrastructure in the tehsils of the district need to be filled in. A well developed banking, communication and institutional infrastructure is sine qua non for rural transformation of district Lawngtlai and keeping in view the dismal scenario, there is an urgent need to improve the available infrastructure through the Bharat Nirman programme.

LOCAL BODIES AND RURAL DEVELOPMENT

The panchayats are the administrative blocks at the grass root level and enjoys full freedom in planning and developing the area under its jurisdiction. They are also known as the Village Council. Lawngtlai district is divided into 3 sub-divisions viz Lawngtlai town, Sangau town and Chawngte town which has a geographical area of 1304.84, 565.91 & 686.35 sq.kms respectively. The district has 3 MLA constituencies and is divided into four rural development blocks for efficient implementation and monitoring of various developmental programmes of both the Central and the State Government. The following offices are function within both the R.D. Blocks.

LAWNGTLAI BLOCK: This block also constitutes a part of Lawngtlai District. Lawngtlai town is both the district and block headquarter. The following have been established:

1. Office of the Deputy Commissioner.
2. District Rural Development Agency (DRDA).
3. Block Development Office.
4. Office of the Superintendent of Police.
5. District Civil Supply Office.
6. Office of the Executive Engineer (PHE).
7. Office of the Executive Engineer (PWD).
8. Office of the Sub Divisional (P&E).
9. Chief Medical Office.
10. District Agriculture Office.
11. District A.H. & Veterinary Office.
12. District Horticulture Office.
13. District Education Office.
14. Krishi Vigyan Kendra

BUNGTLANG 'S' R.D. Block:

- i) Sub-Divisional Office (Civil)

SANGAU R.D. BLOCK:

- i) Block Development Officer.
- ii) Circle Officer, Agriculture Department.

CHAWNGTE R.D. BLOCK: This R.D. Block constitutes a part of Lawngtlai District. Its headquarter is at Chawngte. Within the block, the following offices have been established:

1. Sub-Divisional Office (Civil).
2. Block Development Office.
3. Range Office (Forest).
4. Soil Office.
5. Sub Divisional Office (PWD).
6. Sub Divisional Office (PHE).
7. Sub Divisional Office (Power & Electricity).
8. Sub Divisional Police Office

Existing Farmer Organizations in Lawngtlai District:				
Sl. No.	Name of Sector	Organization	No.	Activities
1	Agriculture	i) All Mizoram Farmer's Union (AMFU)	60	Thrift, credit and marketing
		ii) SHGs		Thrift, credit and marketing
2	Horticulture	i) Florist Association	1	Flower production & marketing
		ii) Passion Fruit Grower Association	15	Passion Fruit Production & marketing
		iii) Turmeric Grower Association	61	Turmeric production & marketing
3	Fisheries	Fish Farmer Union	6	Fish production & marketing

CHAPTER- II. AGRICULTURAL SCENARIO OF THE DISTRICT

CROPS

The major land use identified within Lawngtlai District is built up land, Agriculture land. Forest, water bodies and other (current shifting cultivation) wetland rice cultivation is practiced in the flood plain of Chhimtuipui River, Tuichawng river, Ngengpui river and Thega river. Rice (*oryza sativa*) is the only crop cultivated during the Kharif season. During Rabi season, some vegetable like mustards, cauliflowers etc., are cultivated in small patches of valley field in a scattered manner. Agriculture / Horticulture plantations like Orange, Banana, pineapple etc., have been practiced near habitation in various places. The following table depict land use pattern in Lawngtlai District.

Table: Land use pattern of Lawngtlai District (area in hectares)

SI. No	CATEGORY	AREA HECTARE	% TO TOTAL
			GEOGRAPHICAL AREA
1	2	3	4
1	BUILT UP LAND		
1.1	Town	267.50	0.13
1.2	Village	910.00	0.46
2	AGRICULTURE LAND		
2.1	Kharif	1192.50	0.59
	FOREST		
3.1	Evergreen/Semi evergreen forest	43752.50	21.97
3.2	Old abandoned Jhum		
3	a) Misc. tree forest	16640.50	8.36
	b) Bamboo forest	41579.50	20.89
3.3	Forest Plantation	175.00	0.09
3.4	Young abandoned jhum/scrub	76750.50	38.54
4	WATER BODIES		

	River/Stream/Lake	1405.00	0.71
4.1			
	OTHERS		
5.1	Shifting cultivation	14192.50	7.13
5.2	Land with scrub (barren)	2253.50	1.13

Source : State Remote Sensing Centre, Aizawl

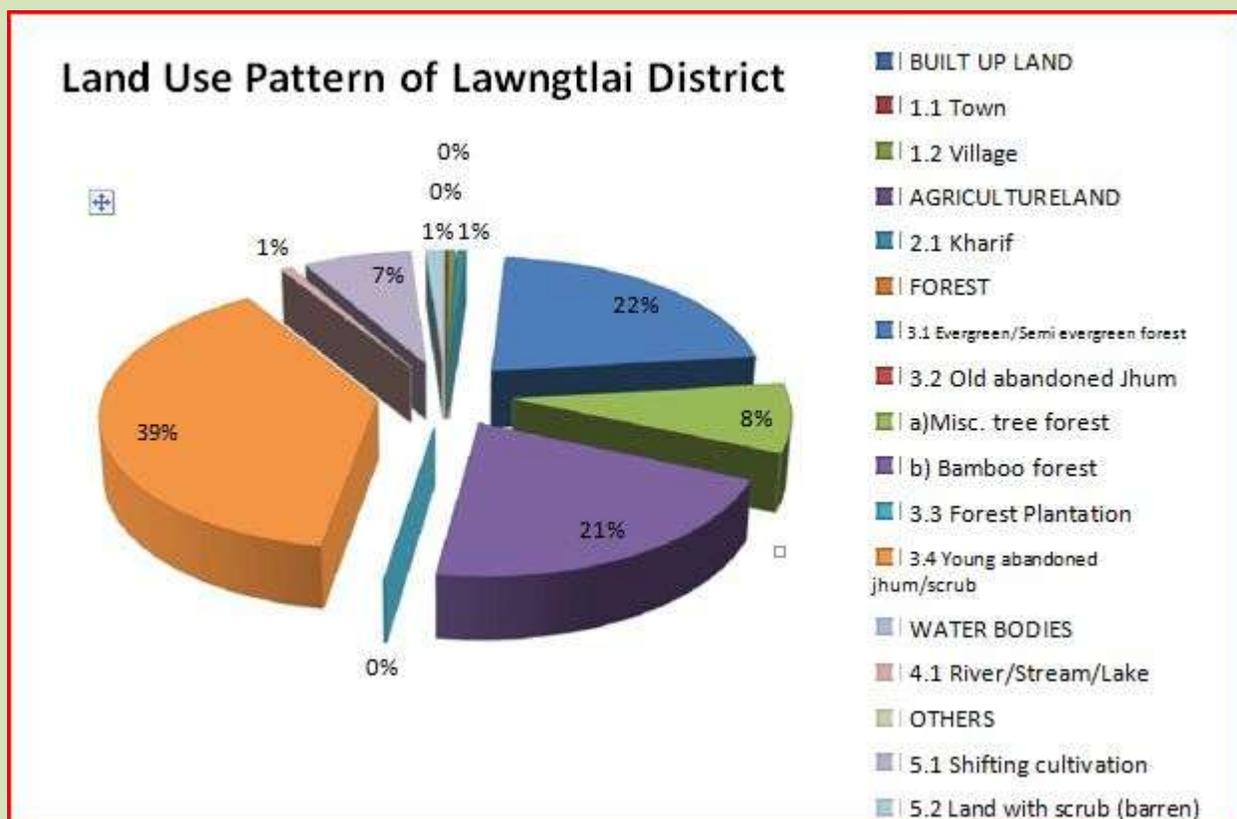


Fig: Land Use Pattern of Lawngtlai District

Table: Irrigation source in Lawngtlai district (area in ha):

Sl. No	Particulars	Lawngtlai		Mizoram	
		Area in ha	% to total area	Area in ha	% to total area
1	Total net sown area	4185	19.8		
2	Lift irrigation			370	4.5
3	River diversion schemes	837	0.85	3521	90.5

Source: District Agriculture Office, Lawngtlai

Table: Soil Type of Lawngtlai District

Sl. No.	Soil type	Area in Sq.Km	%
1	Very deep, dark brown to yellowish red, clay loam to clay, very strongly acidic, well drained	1114.89	43.6
2	Deep, yellowish brown to brownish yellow, clay loam to sandy clay loam, strongly acidic poorly drained	685.30	26.8
3	Dark yellowish brown to yellowish brown, clay loam, strongly acidic	756.91	29.6
	TOTAL	2557.1	100

The major crops in the district are rice, maize, sesamum, potato. In terms productivity, the average yields of principal crops are lesser than the state average.

The production and productivity of principal crops are indicated below:

Table: Production profile of principal crops of Lawngtlai District:

Sl.No	Crop	Area (in ha)	Dist. Production (in M.T)	Dist. Yield Kg/ha	State Yield Kg/ha
1	Rice	3374	2386	707	1936
2	Maize	348	49	284	1935
3	Sesamum	107	25	233	614
4	Potato	8	4	500	2460
5	Soya bean	21	11	523	992
6	Rice bean	12	5	416	1009
7	Cow pea	23	12	521	837
8	Sugar cane	5	3	600	25968

Source: District Agriculture Office, Lawngtlai

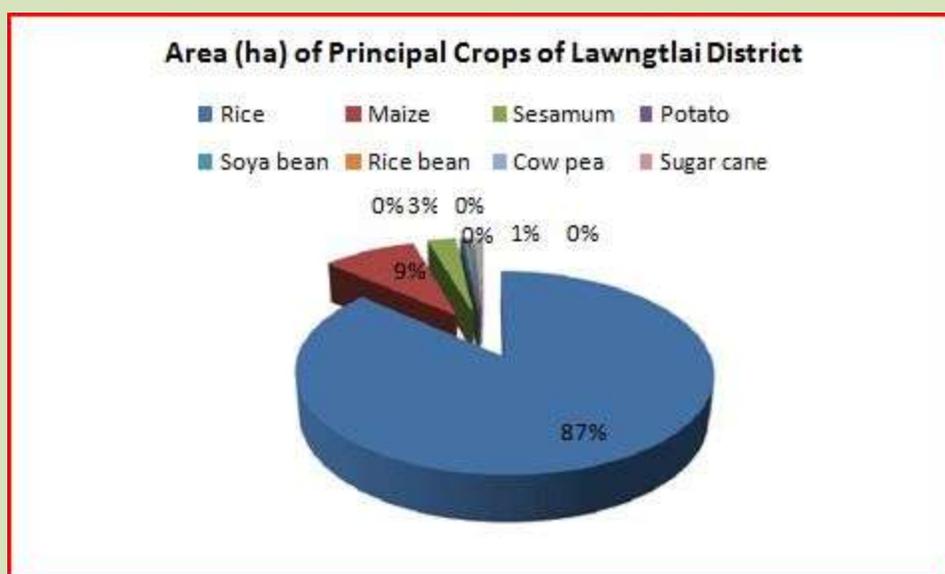


Fig: Area (ha) of Principal Crops of Lawngtlai District

Table: Factors affecting productivity of major crops in Lawngtlai District

Sl.No.	Crop	Constraints
1	Paddy	Use of Low Yielding local varieties, Improper management
2	Banana	Unscientific management, Cultivation of varieties with low production capacity
3	Ginger	Rhizome rot ,improper management practices
4	Mango	Fruit and shoot borer attack, use of Low yielding varieties
5	Maize	Use of Low yielding varieties
7	Soybean	Improper management practices, Use of Low yielding varieties

LIVESTOCK

Poultry, piggery and dairying are the major activities in the district in addition to agriculture. People take up animal rearing mainly to supplement their meager income from agriculture. The population and Production of livestock and Poultry in the district is detailed below:

Table: Population and Production of Livestock & Poultry in Lawngtlai District

Category	Population (Livestock census 2007)	Production		
		Milk in Tones (2010-11)	Eggs No. in lakh (2001-02 to 2010-11)	Meat in tones (2001-02 to 2010-11)
Cattle				
<i>Crossbred</i>	183	175		462.4
<i>Indigenous</i>	2943	774		
Buffalo	147	20		8.8
Sheep				
<i>Crossbred</i>	125			
<i>Indigenous</i>				

Goats	5231			1.9
Pigs				
Crossbred	24,901			301.5
Indigenous				
Rabbits				
Poultry				
Hens	92,601			60
<i>Desi</i>			28	
<i>Improved</i>			10	
Ducks	906			
Turkey and others	4			
Dogs	4200			

Source: Statistical Abstract of Mizoram, 2011

FISHERIES

Table: Area & Production of Fish in Lawngtlai District

Category	Area (Ha)	Production
Fish seed production (in lakh)	-	27
Area of Fish Pond	609	-
Production of Fish(in Quintal)	-	3640
No. of Fish Pond		1224 (Private)

Source: Statistical Abstract of Mizoram, 2011

Table: Schemes and Plans under Crop/Livestock/Fisheries Sector in the District

Sl. No.	Name of Scheme
1	AGRICULTURE
	IWMP IPM RKVY NFSM NLUP Seed Village Scheme
2	HORTICULTURE
	Technology Mission IWMP IPM RKVY NFSM NLUP
3	ANIMAL HUSBANDRY & VETERINARY
	RKVY NLUP FDP
4	SERICULTURE
	NLUP RKVY
5	FISHERY
	NLUP RKVY

CHAPTER- III. CONSTRAINTS IN AGRICULTURAL PRODUCTION

CROPS

1. Reduction in productivity due to adoption of age old traditional cultivation practices.
2. Destructive practice of jhuming cultivation.
3. High cost of inputs, little scope for farm mechanization, suitability of only minor irrigation and exorbitant costs of transport.
4. Lack of proper land use planning.
5. Lack of rain water harvesting structure to supplement meager water supply during lean season for consumption and agricultural purpose.
6. Lack of post harvest infrastructures like cold storage facilities, go downs, etc.
7. Lack of adequate quality seed and planting materials.
8. Owing to the remoteness of the district, transport and communication facilities are inadequate
9. Farmers of the district are not aware of latest technologies.
10. Inadequate marketing facilities.
11. Occurrence of Citrus decline in the past which discouraged the moral of the farmers to go for further cultivation of citrus especially Khasi mandarin.

LIVESTOCK

1. Poor productivity due to rearing of indigenous livestock and poultry.
2. Lack of sufficient germplasm.
3. Non availability of quality feeds.
4. High cost of concentrate feeds.
5. Lack of awareness in production of livestock and poultry scientifically.
6. Major constraints for the growth of livestock sector are difficult terrain, inaccessibility and communication.
7. Lack of credit support.

8. The involvement of State government's corporations towards livestock industries is negligible.

FISHERIES

1. Scarcity of exotic fingerlings.
2. Lack of technical guidance.
3. Absence of Ice Plant.
4. Poor financial condition of farmers to take up fish farming.
5. Poor transport and communication.
6. Acidity of water body.

CHAPTER- IV INSTITUTIONAL SUPPORT FOR AGRICULTURAL DEVELOPMENT OF THE DISTRICT

CROPS

1. Department of agriculture:

The District Agriculture officer is the head of the office assisted by one Sub Divisional Agriculture Officer and 6 Agriculture Extension Officers and 5 Gram Sewaks who are carrying out extension activities within the district.

2. Krishi Vigyan Kendra (KVK):

Krishi Vigyan Kendras (Farm Science Centre), an innovative science based institutions, were thus established mainly to impart vocational training to the farmers and field level extension workers. The concept of vocational training in agriculture through KVK grew substantially due to greater demand for improved agricultural technology by the farmers. They not only required knowledge and understanding of the intricacy of technologies, but also progressively more and more skills in various complex agricultural operations for adoption on their farms. The effectiveness of the KVK was further enhanced by adding the activities related to on-farm testing and Front-Line Demonstration on major agricultural technologies in order to make the training of farmers location specific, need based and resource-oriented.

Mandates of Kvk:

In order to achieve the above mandates, the following broad objectives would help the KVKs to develop their specific objectives.-

- ✚ To promptly demonstrate the latest agricultural technologies to the farmers as well as extension workers of State Departments of Agriculture/Horticulture/ Fishery/ Animal Science/ NGOs with a view to reduce the time lag between the technology generation and its adoption.

- ✚ To test and verify the technologies in the socio-economic conditions of the farmers with a view to study the production constraints and to modify the technologies to make them appropriate.
- ✚ To impart trainings to the practicing farmers/ farm women, rural youth and field level extension functionaries by following the methods of “Teaching by doing” and “Learning by doing”.
- ✚ To back-up with training and communication supports to the district level development departments viz. Agriculture/ Horticulture/ Fisheries/ Animal science and NGOs in their extension programmes.

Table: Staff Position of KVK Lawngtlai

Sl. No.	Name	Designation	Discipline	Date of Joining
1.	Dr. Michelle C	Programme Coordinator	A.H & Vety.	28.7.2015
2.	Lallawmkimi Vanlalliani	Subject Matter Specialist	Horticulture	23.04.2008
3.	Sheela Tayeng	Subject Matter Specialist	Agril. Extension	28.04.2008
4.	Vanlalruati	Subject Matter Specialist	Home Science	22.04.2008
5.	C. Rualthankhuma	Subject Matter Specialist	Agronomy	04.03.2010
6.	Dr. Lalthazuali	Subject Matter Specialist	A.H & Vety.	04.05.2011
7.	Esther Zonunpuii	Subject Matter Specialist	Plant Protection	11.12.2012
8.	Samuel Lalhruaitluanga	Programme Assistant (Computer Programmer)	-	21.04.2008
9.	Malsawmkima	Programme Assistant	Agriculture	10.12.2012
	Vanchhawng	(Farm Manager)		
10.	Jonathan Lalrinliana	Programme Assistant	Agril. Engineering	18.12.2014
11.	C. Lalmangaihsangi	Assistant	-	6.12.2013
12.	Vanlalruati Hnamte	Jr. Steno.-cum-Comp. Operator	-	18.3.2015
13.	H. Lalmachhuana	Driver	-	29.02.2008

14.	Lalchhantluanga	Driver	-	29.02.2008
15.	Vanlalnelzualpuia	Supporting Staff	-	10.07.2008
16.	Henry Lalthakima	Supporting Staff	-	10.07.2008

3. Agricultural Technology Management Agency (ATMA):

Agriculture Technology Management Agency (ATMA) in Lawngtlai district with technical support from KVK takes up the following activities:

1. Training of farmers inter, within state and within district.
2. Organization of demonstration on Agri. and allied Sector. Farmer to Farmer technology dissemination at demonstration plot.
3. Exposure visit of farmers interstate, within state and within District.
4. Mobilization of farmer groups of different types including farmer interest groups, women groups, farmer organization, commodity organization and farmers cooperatives etc.
5. District level exhibition, kisan mela, fruit/ vegetable shows
6. Information dissemination through printed leaflets etc and local advertisement.
7. Development of technology packages on electronic.

4. Lead Bank:

State Bank of India functions as the lead bank in the District.

5. Other banking institutions:

HDFC, Canara Bank, Mizoram Rural Bank, Apex Bank.

6. Farmers clubs and voluntary organizations:

All Mizoram Farmers Union, Lawngtlai District is a voluntary organization with the aim of overall development of the farming community.

7. Polytechnic colleges and vocational higher secondary schools: Nil

LIVESTOCK

1. Department of Animal Husbandry:

Department of Animal Husbandry & Veterinary in Lawngtlai District is headed by District Veterinary Officer and the DVO office is located in the district headquarter, Lawngtlai. They provide clinical assistance and intervene scientific farming technologies to farmers. They are also actively engage in diagnosis of epidemic or endemic diseases along with emerging diseases within the district. The district is equipped with one (1) District Veterinary Dispensary, four (4) Rural Animal Health Centre (RAHC) and one (1) Artificial Insemination Centre, attached to DVO's Office.

2. Department of Dairy Development: Nil

3. Poultry Development Centre: Nil

FISHERIES

1. Department of Fisheries:

District Fishery Development Office, Lawngtlai District, Lawngtlai

CHAPTER- V. RESEARCH AND DEVELOPMENT ORGANIZATIONS RELEVANT TO DISTRICT'S AGRICULTURE

CROPS

1. District Agriculture Officer's Office:

The District Agriculture Office is located in the district headquarter Lawngtlai. They are responsible for the supply of inputs like chemicals, seeds, fertilizers etc. They implement several Government schemes like NFSM, RKVY, and NLUP etc and have a good linkage in conducting several activities through kissan mela, farmer's exposure tour and conducting trainings to the farmers.

Address for communication:

District Agriculture Officer
Lawngtlai District, Lawngtlai
Pin: 796891
Ph: 03835-232514

2. Divisional Horticulture Officer's Office:

The District Horticulture Office is located in the district headquarter, Lawngtlai. They provide technical inputs to the farmers like seeds, plant protection chemicals, farm equipments etc. They implement several Central and State government schemes like National Horticulture Mission, RKVY, and NLUP etc.

Address for communication:

Divisional Horticulture Officer
Lawngtlai District, Lawngtlai
Pin: 796891
Ph: 03835 233289

LIVESTOCK

1. Department of Animal Husbandry:

Department of Animal Husbandry & Veterinary in Lawngtlai District is headed by District Veterinary Officer and the DVO office is located in the district headquarter, Lawngtlai. They provide clinical assistance and intervene scientific farming technologies to farmers. They are also actively engage in diagnosis of epidemic or endemic diseases along with emerging diseases within the district. They also implement different Government Schemes like RKVY, NLUP etc. The district is equipped with one (1) District Veterinary Dispensary, four (4) Rural Animal Health Centre (RAHC) and one (1) Artificial Insemination Centre, attached to DVO's Office.

Address for communication:

District Veterinary Officer
Lawngtlai District, Lawngtlai
Mizoram: 796891
Ph: 03835-232362

FISHERIES

The Department is headed by the District Fishery Development Officer and is located in the district headquarter, Lawngtlai.

Address for communication:

District Fishery Development Officer
Lawngtlai District, Lawngtlai
Pin: 796891
Ph: 03835-232052

CHAPTER- VI. PLANS AND SCHEMES FOR PROMOTION OF AGRICULTURE

Crops

1. National Bank for Agriculture and Rural Development (NABARD): a. Village Adoption/Village development Plan

The plan aims at the holistic and integrated development of backward villages.

b. Micro credit innovation (KCC)

NABARD formulated a model KCC scheme in consultation with major banks.

c. Farmers club programme

NABARD promotes the formation of farmers club for procuring inputs and selling their produce.

LIVESTOCK

1. National Bank for Agriculture and Rural Development (NABARD): a. Village Adoption/Village development Plan

The plan aims at the holistic and integrated development of backward villages.

b. Micro credit innovation (KCC)

NABARD formulated a model KCC scheme in consultation with major banks.

c. Farmers club programme

NABARD promotes the formation of farmers club for procuring inputs and selling their produce.

FISHERIES: Nil

CHAPTER- VII. FARM MACHINERY SUITABLE TO THE DISTRICT

1. Power Operated Farm Implements:

1. Power Tiller
2. Mini Power Tiller
3. Brass cutter
4. Tractor
5. Mist sprayer

2. Manual Operated Farm Implements:

1. Dao/machete
2. Curved & bend Dao
3. Spade
4. Knapsack sprayer
5. Sickle
6. Hand hoe
7. Rake
8. Secateurs
9. Pruning saw
10. Seed dibber
11. Pedal type paddy thresher
12. Groundnut decorticator
13. Maize thresher
14. Fruit harvester
15. Japanese cono weeder

CHAPTER- VIII. ANNEXURE

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

District Agriculture Officer:	03835 232514
Divisional Horticulture Officer:	03835 233289
District Veterinary Officer:	03835 232362
District Fishery Development Officer:	03835 232052









STAFF INFORMATION:

Sr. No.	Name of Staff	Designation	Area & Discipline of Work	CORRECT & Valid Contact Number	E-mail address
1.	Senior Scientist & Head	Dr. Michelle C. Lallawmkimi	Animal Science	9436155858	michellelawmkimi@gmail.com
2.	Scientist (Horticulture)	Vanlalliani	Horticulture	9089819714	vielm2011@gmail.com
3.	Scientist (Agril. Extension)	Sheela Tayeng	Agril. Extension	9436749560	stayeng2013@gmail.com
4.	Scientist (Home Science)	Vanlalruati	Home Science	9436177123	vanlalr2@gmail.com
5.	Scientist (Animal Science)	Dr. Lalthazuali	Animal Science	9612674096	trez021vet@gmail.com
6.	Scientist (Agronomy)	C. Rualthankhuma	Agronomy	8414051259	rtkhum@rediffmail.com
7.	Scientist (Plant Protection)	Esther Zonunpuui	Plant Protection	9612566873	esyzoralte@gmail.com
8.	Programme Assistant	Jonathan Lalrinliana	Agril. Engineering	8575392402	-
9.	Programme Assistant	Malsawmkima Vanchhawng	Farm Manager	9436177113	ms_vanchhawng@yahoo.co.in
10.	Programme Assistant	Samuel Lalhruaitluanga	Computer Programmer	9436155410	esem2009@yahoo.com
11.	Assistant	C. Lalmangaihsongi	-	9089603187	manui7@rediffmail.com
12.	Stenographer-cum-Comp Operator	Vanlalruati Hnamte	-	8575461779	teruatihnamte13@gmail.com

13 .	Driver-cum-Mechanic	H. Lalmachhuan a	-	98627898 32	-
14 .	Driver-cum-Mechanic	Lalchhantluang a	-	84150661 14	-
15 .	Supporting Staff	Vanlalnelzualp uia	-	87309309 90	-
16 .	Supporting Staff	Henry Vanlalthakima	-	89746870 01	-



Group photo of staff,kvk Lawntlai

DISCLAIMER:

Information in this e-publication is compiled from various secondary sources by subject experts i.e. KVK professionals in district and compiled by editors. The information in this book is meant to supplement the working knowledge of development stakeholders in North Eastern Districts. The e-publication contains information about [district information], the information is not advice, and should not be treated as such. Editors are not responsible for any mistake or lacuna or plagiarism in this e-publication as information is compiled by KVKs from secondary sources. This e-publication is only for academic/developmental purposes, and not for commercial use. The main idea behind this e-publication is creating awareness and sharing information. Although the editors and publisher have made every effort to ensure that the information in this book was correct at publishing time, the editors and publisher do not assume and hereby disclaim any liability to any party for any loss, damage, or disruption caused by errors or omissions, whether such errors or omissions result from negligence, accident, or any other cause. This is pre-publication copy, uploaded to be reviewed by authors and peers.

