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Edition

Agri-Allied Sector Entrepreneurship Opportunities in North East

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***State Agricultural Management and Extension Training Institute (SAMETI),
Aizawl, Mizoram***

&

National Institute of Agricultural Extension Management, Hyderabad



SAMETI, Mizoram & MANAGE, Hyderabad

Agri-Allied Sector Entrepreneurship Opportunities in North East

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This e-book is a compilation of resource text obtained from various subject experts of SAMETI, Mizoram & MANAGE, Hyderabad, on “Agri-Allied Sector Entrepreneurship Opportunities in North East”. This e-book is designed to educate extension workers, students, research scholars, academicians related to veterinary science and animal husbandry about the value addition of livestock products and their potential in creating entrepreneurial opportunities. Neither the publisher nor the contributors, authors and editors assume any liability for any damage or injury to persons or property from any use of methods, instructions, or ideas contained in the e-book. No part of this publication may be reproduced or transmitted without prior permission of the publisher/editors/authors. Publisher and editors do not give warranty for any error or omissions regarding the materials in this e-book.

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MESSAGE

National Institute of Agricultural Extension Management (MANAGE), Hyderabad is an autonomous organization under the Ministry of Agriculture & Farmers Welfare, Government of India. The policies of liberalization and globalization of the economy and the level of agricultural technology becoming more sophisticated and complex, calls for major initiatives towards reorientation and modernization of the agricultural extension system. Effective ways of managing the extension system needed to be evolved and extension organizations enabled to transform the existing set up through professional guidance and training of critical manpower. MANAGE is the response to this imperative need. Agricultural extension to be effective, demands sound technological knowledge to the extension functionaries and therefore MANAGE has focused on training program on technological aspect in collaboration with ICAR institutions and state agriculture/veterinary universities, having expertise and facilities to organize technical training program for extension functionaries of state department.

Agriculture and allied sectors are always been the backbone of the Indian economy and despite concerted industrialization in the last six decades; agriculture still occupies a place of pride. The significance of agriculture in the national economy arises from the role it plays in India's national income, employment and export. Developing entrepreneurship in agri business is as much useful is not so easy and simple. In fact, there are certain challenges before entrepreneurship development in agri-business as follows: Lack of required skilled manpower, Lack of infrastructural facilities, Problem of marketing, Competition with medium and large scale enterprises, Lack of awareness and appreciation about career in agro- entrepreneurship. Hence, all those involved in the endeavor of developing entrepreneurship in agri-business need to sincerely put in their best efforts its development. Then only, entrepreneurship development will take place in agri-business sector and in turn agri-business develops in the country.

It is a pleasure to note that, State Agricultural Management and Extension Training Institute (SAMETI), Aizawl, Mizoram and MANAGE, Hyderabad, Telangana is organizing a collaborative training program on "Agri-Allied Sector Entrepreneurship Opportunities in North East" from 24-26 November, 2021 and coming up with a joint publication as e-book on "Agri-Allied Sector Entrepreneurship Opportunities in North East" as immediate outcome of the training program.

I wish the program be very purposeful and meaningful to the participants and also the e-book will be useful for stakeholders across the country. I extend my best wishes for success of the program and I also wish State Agricultural Management and Extension Training Institute (SAMETI), Aizawl, Mizoram, many more glorious years in service of Indian agriculture and allied sector ultimately benefitting the farmers. I would like to compliment the efforts of Dr. Shahaji Phand, Center Head-EAAS, MANAGE, Hyderabad and Dr. B. Lalrosiami Khuhly, Faculty (AEM), SAMETI, Mizoram for this valuable publication.

Dr. P. Chandra Shekara
Director General, MANAGE

FOREWORD

‘Entrepreneurship’ has been the buzz word in recent years. It has fostered the creation of self-employment in both the young and the old. It is a viable venture that offers a secure livelihood particularly for those not engaged in the Government sector. The current pandemic and unemployment situation has brought to light the need and requirement of promoting entrepreneurial entities to the public so that more people can be motivated to take up entrepreneurial activities to meet their needs. The North East Region has a vast untapped potential especially in Agriculture and allied sectors. The people of Northeast have equal potential in terms of knowledge, experience and skill. However, they need to be made aware of the different business opportunities that lay before them. For this, the extension functionaries play a big role in spreading awareness, sensitizing the people and transferring of new technologies.



Hence, it was felt that the extension functionaries and officers need to be updated on the various knowledge and techniques that could further motivate the farmers and the unemployed youth to take up entrepreneurship ventures in agri and allied sectors.

I am pleased and delighted that our institute is conducting a free online training programme on ***Agri-Allied Sector Entrepreneurship Opportunities in North East*** during 24th -26th November, 2021 sponsored by the National Institute of Agricultural Extension Management (MANAGE), Hyderabad for the Middle Level Officers and Extension functionaries of the Departments of Agriculture and Allied Sectors. The programme includes relevant and important topics to expose the participants to various aspects of entrepreneurship. This training will help the participants to gain updated knowledge on various entrepreneurial opportunities available in agri and allied sectors in Northeast Region.

I hope that the participants from different parts of the Region would be immensely benefitted from this online course by interactions with the expert resource persons selected for this training. I have no doubt that the course will be intellectually rewarding the participants.

The compendium for the above said training programme has been designed to provide firsthand knowledge to the readers. I extend a warm welcome to all the trainees and wish them to have a fruitful and informative interaction.

C. LALNITHANGA
Director
SAMETI, Mizoram

PREFACE

North East Region in India has a great entrepreneurial potential in various sectors including, Agriculture, Horticulture, Animal Husbandry and Veterinary Science, Sericulture and Fisheries. It was felt that these opportunities are yet to be scouted and harnessed by not only the farmers but the youths as well. Awareness and sanitization in this matter is of dire need so that they can be introduced to the various opportunities that lay before them. This would enable to solve the problem of unemployment, raise the living standard increase the level of motivation.

The topics have been carefully selected to acquaint the trainees to the different entrepreneurial opportunities in agriculture and allied sectors. This book was made possible by the sincere efforts of the contributing authors/ resource persons.

This e-book is an outcome of collaborative online training program on *Agri-Allied Sector Entrepreneurship Opportunities in North East* during 24th -26th November, 2021. This book will be highly useful to field functionaries as well as extension workers who are working at the ground level. A myriad of topics from concept of entrepreneurship to scope and potential of entrepreneurship in Agriculture, Animal Husbandry, Horticulture, Sericulture sectors has been covered for the benefit of the readers.

The editors express sincere thanks to Mr. C. Lalnithanga, Director, SAMETI, Mizoram for encouragement in publishing this e-book. The financial aid provided by MANAGE, Hyderabad for this training program is duly acknowledged. We hope and believe that the suggestions made in this e-book will help to improve the ability of all the stakeholders to promote Agri-preneurship in Northeast Region.

November, 2021

Dr. Shahaji Phand
Dr. B. Lalrosiami Khuhly

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CONCEPT AND PRINCIPLES OF ENTREPRENEURSHIP

Dr. B.Lalrosiami Khuhly

Faculty (AEM), SAMETI, Mizoram

The entrepreneur

The term 'Entrepreneur' is derived from the French word *Entreprendre* which means 'to undertake'. The recognition of entrepreneurs dates back to eighteenth-century France when economist Richard Cantillon associated the "risk-bearing" activity in the economy with the entrepreneur. In England during the same period, the Industrial Revolution was evolving, with the entrepreneur playing a visible role in risk taking and the transformation of resources. Entrepreneur in English is a term applied to take upon him a new venture or enterprise and accepts full responsibility for the outcome. The entrepreneurship process starts when an individual recognizes an opportunity in the environment.

An entrepreneur is a person who takes the responsibility of initiating and establishing an enterprise or an organization under conditions of uncertainty. The person is hard working, optimistic, risk taker and sets high targets or goals and tries to achieve those amidst odd situations.

Joseph Schumpeter regarded the entrepreneur as an innovator with potentialities of doing things in a new way. Entrepreneurship, on the other hand, is a dynamic process with 'innovation' and 'risk bearing' as its two basic elements involving multiplicity of activities towards establishment of an enterprise.

Peter Druker defines an entrepreneur as "one who always searches for change, responds to it and exploits it as an opportunity. Innovation is the basic tool of entrepreneurs, the means by which they exploit change as an opportunity for different business of service."

The International Labor Organization defines entrepreneurs as people who have the ability to see and evaluate business opportunities; together the necessary resources to take advantage of them; and to initiate appropriate action to ensure success'.

Characteristics/Qualities of an Entrepreneur

Entrepreneurs have many of the same character traits as leaders, similar to the Great Man Theory of Leadership. Entrepreneurs possess several qualities, which according to Napoleon are 90 attributes. Some of those have been listed below.

- Independent & achiever
- Opportunity grabber
- Information seeker
- Believer in quality and efficiency
- Systematic planner
- Optimistic
- Urge to build
- Initiative
- Persistent
- Keen learners
- Risk taker
- Aggressive catalyst
- Dynamic and visionary
- Goal setter
- Hard working

- Persuasive and networker
- Independent and self-confident
- Well versed in managerial skill and strong team builder
- High IQ, EQ and SQ levels
- Go – getter & Never say die spirit

Types of entrepreneurs:

- i. **Innovative Entrepreneurs** – These entrepreneurs have the ability to think newer, better and more economical ideas of business organisation and management. They are the business leaders and contributors to the economic development of a country. Inventions like the introduction of a small car ‘Nano’ by Ratan Tata, organised retailing by Kishore Biyani, making mobile phones available to the common man by Anil Ambani are the works of innovative entrepreneurs.
- ii. **Imitating Entrepreneurs** – These entrepreneurs are people who follow the path shown by innovative entrepreneurs. They imitate innovative entrepreneurs because the environment in which they operate is such that it does not permit them to have creative and innovative ideas on their own. In our country also, a large number of such entrepreneurs are found in every field of business activity. Development of small shopping complexes is the work of imitating entrepreneurs. All the small car manufacturers now are the imitating entrepreneurs.
- iii. **Fabian Entrepreneurs** – Fabian entrepreneurs are those individuals who do not show initiative in visualising and implementing new ideas and innovations. On the contrary, they like to wait for some development, which would motivate them to initiate unless there is an imminent threat to their very existence. (Meaning of ‘Fabian’- He/she is ‘a person seeking victory by delay rather than by a decisive battle’ & ‘Drone’ is ‘a person who lives on the labour of others’)
- iv. **Drone Entrepreneurs** – Drone entrepreneurs are those individuals who are satisfied with the existing mode and speed of business activity and show no inclination in gaining market leadership. In other words, drone entrepreneurs are ‘die-hard conservatives’ and even ready to suffer the loss of business.
- v. **Social Entrepreneurs** – Social entrepreneurs drive social innovation and transformation in various fields including education, health, human rights, workers’ rights, environment and enterprise development. Dr. Mohammed Yunus of Bangladesh who started Grameen Bank is a case of social entrepreneur.
- vi. **Agricultural Entrepreneur** – The entrepreneurs who undertake agricultural pursuits are called Agricultural Entrepreneurs. They cover a wide spectrum of agricultural activities like cultivation, marketing of agricultural produce, irrigation, mechanization and technology.
- vii. **Trading Entrepreneur** – As the name itself suggests, the trading entrepreneur undertakes the trading activities. He/she procures the finished products from the manufacturers and sells these to the customers directly or through a retailer. These serve as the middlemen as wholesalers, dealers, and retailers between the manufacturers and customers.
- viii. **Manufacturing Entrepreneur** – The manufacturing entrepreneurs manufacture products. They identify the needs of the customers and, then, explore the resources and technology to be used to manufacture the products to satisfy the customers’ needs.
- ix. **Women Entrepreneurs** – Women entrepreneurship is defined as the enterprises owned and controlled by a woman/ women having a minimum financial stake

- of 51 per cent of the capital and giving at least 51 per cent of employment generated in the enterprises to women.
- x. **Inventors & Challenger Entrepreneurs** – Inventor entrepreneurs with their competence and inventiveness invent new products. Their basic interest lies in research and innovative activities & Challenger entrepreneurs plunge into industry because of the challenges it presents. When one challenge seems to be met, they begin to look for new challenges.
 - xi. **Life-Timer Entrepreneurs** – These entrepreneurs take business as an integral part to their life. Usually, the family enterprise and businesses which mainly depend on exercise of personal skill fall in this type/category of entrepreneurs.

Definitions of Entrepreneurship

- i. **According to Peter F. Drucker** “Entrepreneurship is defined as a systematic innovation, which consists in the purposeful and organized search for changes, and it is the systematic analysis of the opportunities such changes might offer for economic and social innovation”.
- ii. **According to Richard Cantillon** “Entrepreneurship entails bearing the risk of buying at a certain price and selling at uncertain prices.”
- iii. **In the words of Joseph A. Schumpeter** “Entrepreneurship is any kind of innovative function that could have a bearing on the welfare of an entrepreneur.”
- iv. **According to Robert K. Lamb** “Entrepreneurship is that form of social **decision making** performed by economic innovators.”
- v. **As per A.H.Cole** “Entrepreneurship is the purposeful activity of an individual or a group of associated individuals, undertaken to initiate, maintain or aggrandize profit by production or distribution of economic goods and services.”
- vi. The concept of Entrepreneurship has also been defined as “a special skill or ability to mobilize the factors of production – **Land, labour & capital** and use them to produce new goods and services”.
- vii. Entrepreneurship can also be described as a **process of action**, which an entrepreneur undertakes to establish his/her enterprise.

Concept and Principles of entrepreneurship:

- i. **Entrepreneurship involves decision making**, innovation, implementation, forecasting of the future, independency, and success.
- ii. **Entrepreneurship is a discipline** with a knowledge base theory and is an outcome of complex **socio-economic, psychological, technological, legal** and other factors.
- iii. **It is a dynamic** and risky process.
- iv. It involves a fusion **of capital, technology and human talent**.
- v. Entrepreneurship is equally **applicable to big and small businesses**, to economic and non-economic activities.
- vi. Different entrepreneurs might have some **common traits** but all of them will have some different and unique qualities.
- vii. **Entrepreneurship is a process**. It is not a combination of some stray incidents.
- viii. It is the **purposeful and organized search for change**, conducted after systematic analysis of opportunities in the environment.
- ix. **Entrepreneurship is a philosophy** and is the way one thinks, one acts and therefore it can exist in any situation, be it business or government or in the field of education, science & technology.

- x. Entrepreneurship is a **creative activity**.
- xi. It is the ability to **create and build something** from practically nothing.
- xii. It is a **knack of sensing opportunity** where others see chaos and confusion.
- xiii. Entrepreneurship is the **attitude of mind to seek opportunities**, take calculated risks and derive benefits by setting up a venture.
- xiv. It is made up of **activities to conceive, create and run** an enterprise.
- xv. Entrepreneurship is a **dynamic process of vision, change and creation**.

To sum up, “Entrepreneurship is a dynamic process of vision, change and creation. It requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. Essential ingredients include the willingness to take calculated risks-in terms of time, equity, or career, ability to formulate an effective venture team, creative skill to organize needed resources, the fundamental skill of building a solid business plan and, above all, the vision to recognize opportunity where others see chaos, contradiction, and confusion.”

Functions of Entrepreneurship

The various functions of entrepreneurship are **Innovation and creativity, Risk taking and achievement and organization and management, Catalyst of Economic Development, Overcoming Resistance to Change and Research**. These have been depicted, at a glance, with the help of the given Figure and are being discussed, in brief, below.



- i. **Innovation and Creativity** – Innovation generally refers to changing processes or creating more effective processes, products and ideas. For businesses, this could mean implementing new ideas, creating dynamic products or improving your existing services. **Creativity** is defined as “the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others. Creativity and innovation have always been recognized as a sure path to

- success. Entrepreneurs think **outside of the box** and explore new areas for cost-effective business solutions.
- ii. **Risk taking and Achievement** – Entrepreneurship is a process in which the entrepreneur establishes new jobs and firms, new Creative and growing organization which is associated with **risk**, new opportunities and achievement. It results in introducing a new product or service to society. In general, entrepreneurs accept four types of risks namely Financial Risk, Job Risk, Social & Family Risk & Mental & Health Risk, which are as follows:
- a) **Financial Risk** – Most of entrepreneurs begin by using their own savings and personal effects and if they fail, they have the fear of losing it. They take risk of failure.
 - b) **Job Risk** – Entrepreneurs, not only follow the ideas as working situations, but also consider the current risks of giving up the job & starting a venture. Several entrepreneurs have the history of having a good job, but gave it up, as they thought that they were not cut out for a job.
 - c) **Social and Family Risk** – The beginning of entrepreneurial job needs a high energy which is time consuming. Because of these undertakings, he/she may confront some social and family damages like family and marital problems resulting on account of absence from home and not being able to give adequate time to family.
 - d) **Mental Health Risk** – Perhaps the biggest risk that an entrepreneur takes it is, the risk of mental health. The risk of money, home, spouse, child, and friends could be adjusted but mental tensions, stress, anxiety and the other mental factors have many destructive influences because of the beginning and continuing of entrepreneurial activity. This can even lead to depression, when faced with failure.
- iii. **Organization and Management** – The entrepreneurial organization is a simple organizational form that includes, one large operational unit, with one or a few individuals in top management. Entrepreneurial management means the skills necessary to successfully develop and manage a business enterprise. A small business start-up under an owner-manager is an example of an entrepreneurial organization. Here, the owner-manager generally maintains strict control over business operations. This includes directing the enterprise's core management functions. According to Mintzberg, these include the interpersonal roles, informational roles and decision-making roles. The smaller the organization, the more concentrated these roles are in the hands of the owner-manager. The entrepreneurial organization is generally unstructured.
- iv. **Research** – An entrepreneur is a practical dreamer and does a lot of ground-work before taking a leap in his/her ventures. In other words, an entrepreneur finalizes an idea only after considering a variety of options, analysing their strengths and weaknesses by applying analytical techniques, testing their applicability, supplementing them with empirical findings, and then choosing the best alternative. It is then that he/she applies the ideas in practice. The selection of an idea, thus, involves the application of **research methodology**.
- v. **Overcoming Resistance to Change** – New innovations are generally opposed by people because it makes them change their existing behaviour patterns. An entrepreneur always first tries new ideas at his/her level. It is only after the successful implementation of these ideas that an entrepreneur makes these ideas available to others for their benefit. His/her will power, enthusiasm and energy help him/her in overcoming the society's resistance to change.

- vi. **Catalyst of Economic Development** – An entrepreneur plays an important role in accelerating the pace of economic development of a country, by discovering new uses of available resources and maximizing their utilization. Today, when India is a fast-developing economy, the contribution of entrepreneurs has increased multi-fold.

Reference:

1. Robert C. Ronstadt, Entrepreneurship (Dover, MA: Lord Publishing, 1984),p.28;
2. Howard H. Stevenson and David E. Gumpert, "The Heart of Entrepreneurship," Harvard Business Review (March/April 1985):p.85-94;
3. J. Barton Cunningham and Joe Lischeron, "Defining Entrepreneurship:' Journal of Small Business Management (January 1991): p.45-61.
4. Joseph Schumpeter, "Change and the Entrepreneur," in Essays of I. A. Schumpeter, ed. Richard V. Clemence (Reading, MA: Addison-Wesley, 1951),p.255.
5. Drucker Peter F., Innovation and Entrepreneurship, UK, Elsevier Linacre House, 2006
6. <https://www.taxmann.com/post/blog/entrepreneurship-concept-functions-need-and-its-relevance-in-indian-society/>

THE ENTREPRENEURIAL MINDSET: HOW TO THINK LIKE AN ENTREPRENEUR

LTL Fela

Chairman,

Tharthilthlentu (TiLi), Mizoram

I ask you, who is an entrepreneur? A typical online googled answer will give you, ‘An entrepreneur is an individual with an exclusive idea to initiate and establish a new venture and bring a change in the world.’

On the contrary, a businessman is an individual who runs a business with already existing business ideas and concepts. However, sometime down the line an entrepreneur's engagement will turn to be a business, but at that point, someone will come along and challenge the status quo to be the entrepreneur.

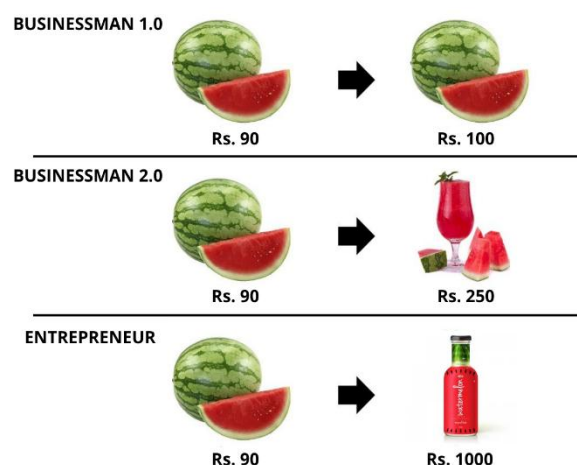
Businessman vs Entrepreneur

HEADS	Businessman	Entrepreneur
Innovation	No	Yes
Market	Be a player in already existing market	Creates a market or disrupts existing markets
Risk	Low	High
Competition	High	Low
Focus	Profit	Product

Thinking outside of the box

As cliché as it is, to be an entrepreneur you have to think outside of the box. One my nurture how to think out of the box by performing the following:

- Immerse yourself in experiences which you have not experienced before. For example, studying a new field, culture or religion. If you do study some other religion doesn't mean you have to be disturbed in your current beliefs; if it does disturb you then actually your belief system is quite a question mark. It's just for you to have a new angle
- Practice to visualize or draw your issues, ideas or solutions. This triggers our right brain processes much, which is our creativity center
- Often question the status quo; take the case of Facebook, Tesla etc. for example. Yes they are extreme cases, but you can also take the case of Tharthilthlentu

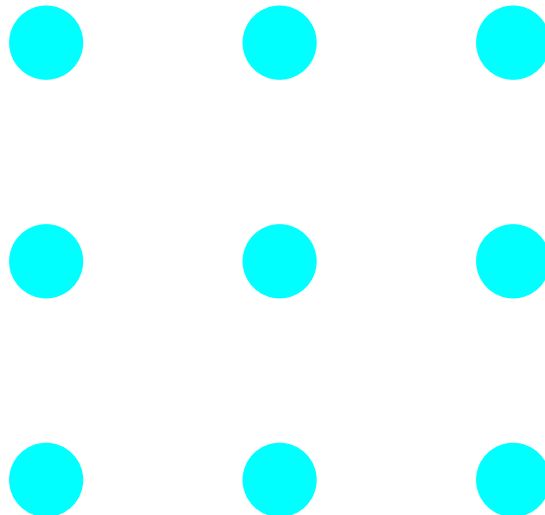
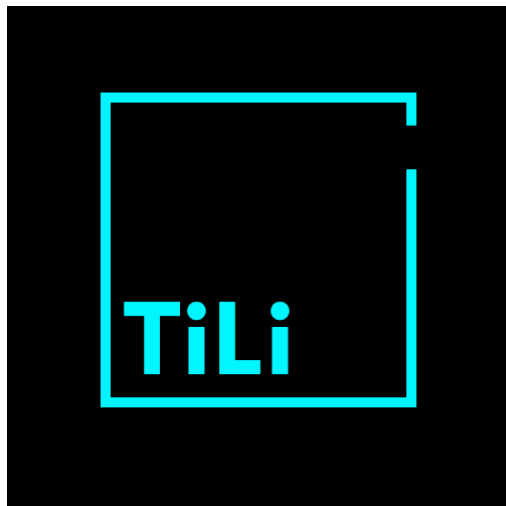


- Play with randomness. If something is not going the way you plan, but not exactly devastating to your project, play and work with it, a much better solution may be right around the corner. You can even ask a child for their take on how to go about it. Their fresh, unpolarised perspectives do give you a clean jolt time and again

Tharthilthlentu

Speaking of Tharthilthlentu, TiLi in short, is a society formed under Registrar Firms and Societies, Mizoram, who challenge the status quo of entrepreneurship in the region. The official name is Tharthilthlentu - Entrepreneurship & MSME Support.

They have introduced several new and innovative ideas in the region. The first Coworking Space in the region, first non-governmental body incubation center, introduced the first entrepreneurship reality show in the state and conceptualised Learning Space which is designed to spark entrepreneurial learning in the society.



What all, according to you, are entrepreneurial when it comes to Tharthilthlentu. What are your takes on

- The name
- The logo
- The activity

Any idea what 'TiLi' means?

Any idea what these 9 red dots are for?

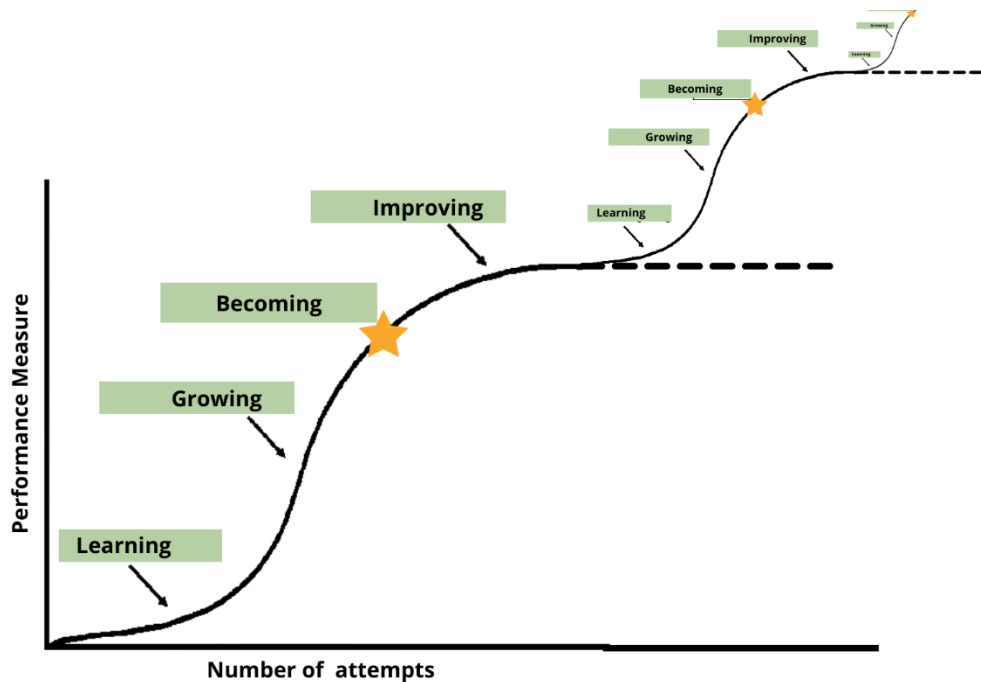
The Entrepreneurial Mindset

Like how all top world experts do, let's go ahead with the Top 10 format. So here are your 10 steps on how to think like an entrepreneur and be innovative: The Entrepreneurial Mindset

1. Find your Meaning
2. Figure out EOMI - Enthusiasm, Optimism, Motivation, Inspiration
3. Nike it - Be-friend your doubts
4. Be clueless, be crappy, no care

5. Become an LGBTI freak - Churn Baby Churn

- Learning
- Growing
- Becoming
- Improving



6. Accept the world is not fair and your unlucky
7. Improvise - If they tell you your product A is actually product B, say Hallelujah
8. Unique vs Value
9. Challenge Status Quo - Don't be bozoed rather polarise people
10. Bootstrap - Use whatever the hell nature gives it to you
11. Add on, startup young, say 9 to 12 years;

Case Example

Howard Schultz

The founder of starbucks got 275 No(s), rejection to invest money in his very promising venture, not understood at the time.

PK Vanlalitluanga

The owner and founder of PK Feeds; yes, not a cent close to Starbucks, but in our own context a local hero. A simple boy from Thanglailung town, was rejected by 15 banks he approached in Aizawl. Yes he had a humble background but he had dreams, so he pushed it out of the last bank manager he went to. He sat through the day in the second day he went, then finally got the air time of the bank manager. After the bank engages, now the bank is

willing to give more than he is willing to take. He is currently running his animal feed business. He recently pitched in the 'Chengrang leh Ngenmu 'Show, you can see for yourself here: <https://youtu.be/AykZxjQNxgs>

Entrepreneurial Skills

Qualitative

- Problem Identification
- Ideation
- Creativity
- Critical Thinking
- Communication
- Problem Solving
- Understand Decision Fatigue
- Not Giving Up

Quantitative

- B-plan
- Market Research
- Market Estimation
- Marketing & Branding
- Understanding Scalability
- Prototyping
- Building Core Competencies
- Product development
- Raising money

Stages of Entrepreneurship

Problem Identification → Ideation → Market Research → Prototype → Production -> Raising Funds

Two Key Features

1. Do you have freedom to make mistake?
2. Do you reflect on your experience and able to identify & internalize what you've learned

Question yourself

- What did you discover about yourself?
- What did you learn?

- What is it you going to do?
- How you going to do it?
- How much its goin to cost?
- Who you going to do it?

Benefits of Entrepreneurial Mindset:

- It Shifts Culture
- It Unleashes Potential
- It Sparks Leadership

Entrepreneur vs Entrepreneurial

It is important to know that an Entrepreneurial person may not necessarily be an Entrepreneur. This becomes even more crucial in context to places like Mizoram where a job is plainly equated to a government job, like it or not. But on the bright side this is just for now, until a few more years when the Entrepreneurs really start to make a dent in the economy and society.

However, it is important even for a government worker to be entrepreneurial. Challenge the status quo of how current government jobs are carried out. Apply all the Entrepreneurial Mindset in the government ecosystem and change things for the better. Because at the end, if all government workers shift their mentality and work likewise, we definitely will have the development we so crave for. If a government worker does become entrepreneurial one may argue that she is an Entrepreneur in the confines of the government setup, which will be an amazing achievement.

If such a feat ever happens, combined with the upcoming wave of Entrepreneurs, the future is more than bright.

Mastery

To reach the epitome of entrepreneurship you have to achieve mastery. Thousands of hours of intense focused practice & work, with the guidance and feedback of experienced people. One research says 10,000 hours it is; which translates to working 1 hours day, if you want to achieve your mastery in 30 years. 5 hours a day if you want to achieve your mastery in 6 years, approximately that is.

So the question now arises, **How do we have that Mastery, at macro level?** And how should we approach our work or careers?

Let's take a guide from one of Robert Greene's best, his book 'Master' where he studied in depth the world's most successful people and their mindsets. Yes, they are the very best our earth have been blessed with, but no harm in trying to draw learning's from it, the best we can.

Mindset 1: Primal Curiosity

Einstein was given a compass by his dad when he was 5 years old, he was completely mesmerised by the invisible force that moves the needle. He then set out on a journey to figure out more and you need not be told what has been done by him.

All masters seem to stay in touch with their Primal Curiosity. It is quite unique to oneself and sadly we lose touch with it as we get older, specially if we don't pay attention to it.

So it is important to reconnect With Primal Curiosity. Figure out, what did you naturally gravitate to before you fell into all the social pressures the world has bestowed upon you.

Mindset 2: Value learning above everything else

Every master makes a tradeoff for prime learning opportunities. The goal of apprenticeship is not money, title, diploma or degrees but the transformation of your mind and character.

Freddie Roach initially spent everynight in the boxing ring giving coaching for free while keeping his telemarketing role as a day job. The boxers than start to value his expertise and contribution and then begins to pay him for his coaching. After decade, he then coaches the world's top boxer Manny Pacquiao

Another example from our local lay of the land, Mr. Lalhriatkima from New Serchhip. He did not care about certifications or degrees. He did not complete his mechanic course for the sake of the certification but did not mind living for home due to family problems, as he knows he already is skilled enough, when he was in his last stages of getting certification. On top of that he blindly and simply gives reviews on the Royal Enfield website regarding their engine issues. Since all the feedback were genuine the company even asked him to join and work for them but due to family matters rejected but eventually Royal Enfield just give him mechanic certification, without him even asking for one. He also participated in the 'Chengrang leh Ngenmu' episode 3, see for yourself here: <https://youtu.be/f2RJNlpL05E>

Mindset 3: Gather skills and combine skills in a unique way

Yoku Matsuoka, filled with uncertainty, became an electrical engineer. In her final years she confided to her professor of her childhood curiosity to play tennis with a robot. Much to her surprise her professor took her to his robotics lab, where she then continues pursue her childhood dream. She then even reconnects with the fascination she has with the hand. After years, she designed one of the world's most advanced robotic hand. She then got intrigued with how the brain commanded the hand to move; she then further learned neuroscience, and received a doctorate. With these two advanced skills, knowledge and experience, combined the two and created Neurobotics.

Atomic Habits

Having known how to have mastery at a macro level, but at the end what is most, or rather important first is your micro level of mastery. So there, let's take another guide from one of the best books on personal development, which will take us on the path of thriving entrepreneurship. The book is called Atomic Habits by James Clear.

What is a habit?

Google says, 'A settled or regular tendency or practice, especially one that is hard to give up.' Yes, quite difficult to give up and are automatic in nature and sadly or interestingly, you are what you repeatedly do.

But small adjustments can lead to massive transformation. Tiny 1% adjustment on daily basis, in a course of 1 year you become 37 times better. 37 times better health, 37 times better finances or relationships; Even if not th 37 but a fraction of that will significantly transform your life.

What is Success?

In the most common case success is the outcome we aspire or in others goal driven, say being a millionaire, six packs or even pursuing to date that specific person, which by default concentrates only on the final outcome but mostly ignores the process of getting there, the system let's say.

But truly success springs not from focusing on the goal solely, but strongly building a system, the way to get there.

How to be Successful?

- Concentrate on system and habits
- Concentrate of financial habits
- Concentrate of your health habits

Habit formation

Cue → Crave → Response → Reward

Working on project, bored is cue → Entertain yourself is craving → Response is check your phone → Reward is your entertain

This repeats and you find yourself distracting yourself every time you find boredom. So you need to have healthy habits

Create Healthy Habits

How do we create healthy habits, here is a process as laid out by James.

- Make it Obvious
- Make it Attractive
- Make the Response Easy
- Make the Reward Satisfying

To Do

- Figure out current habits. Create a Habit Scorecard
- Keep track of two things, your cues and rewards
- Journal say 30 mins a day; see yourself as detail as possible

Closure

Much has been shared and said. As much discussed, at the end for an entrepreneur what is most important is having our hands dirty. Conformity in our society has much become an issue, so as an entrepreneur one needs to analyse and identify situations entrepreneurially. Remember, You become ONE when you start. With that let us end with a quote

‘If 50 million people say something foolish, it is still foolish. ’ - Somerset Maugham

Few Tips & Tricks



Power pose - Amy Cuddy

Amy Cuddy, a former Harvard Business School professor, suggested that our body language governs how we think and feel about ourselves, and thus, how we hold our bodies can have an impact on our minds. In other words, by commanding a powerful stance, we can make ourselves actually feel more powerful. The evidence of power posing came from a study that Cuddy completed while at Harvard University, where participants sat in either a high-power

pose (expansive posture) or low-power pose (leaning inward, legs crossed) for two minutes. Cuddy found that those who sat in the high-power pose, felt more powerful and performed better in mock interviews than those who had not.

It's important to understand that Cuddy's research had two major findings. The first was that people who sat in high-power positions felt more powerful than their low-power pose counterparts. The second was that the power posing actually changed their body chemistry. Cuddy's study suggested that those who adopted high-power poses demonstrated an increase in testosterone and a decrease in cortisol. Cuddy interpreted these hormonal effects as further evidence of increases in feelings of power.

Listening with your Eyes

The importance of listening in business is enormous. Studies show that listening has a positive relationship with eye contact. Maintaining good eye contact with an individual in any interaction always strengthens your credibility.

When you make good eye contact and nod, people tend to feel that you are taking interest in them and are in sync with their thoughts. It demonstrates respect. Thus, making good eye contact makes you come across as more engaged, friendly, and confident as a person.

Resist the temptation to get distracted when a person is speaking. Eye contact also provides you with a lot of non-verbal information about what the speaker is thinking and feeling, which by looking away you would miss. Therefore, focus 100% on the speaker and the message.

On a lighter note, don't let your eye contact become so much that it becomes an eye sore to the speaker!

Remember: Failing to make eye contact indicates arrogance, boredom and insult to the speaker, even if you didn't mean it.

Drawing an Inspiration - The story of Nick Vujicic

Nick Vujicic is an Australian-American born without arms or legs. As a kid, his disability had a deep emotional, physical and physiological impact on him. He was constantly bullied in school but having faced it all, there came a time when he



managed to accept his disability. This was undoubtedly the first step to a happy life.

Not just accept shortcomings, but conquer: Nick did not just accept his physical disability happily, but he played football and golf, swims and even surfs! He kicks and even types with the little foot of his, while also lifting things between the two toes that pop out of his left thigh.

When most normal people struggle with their studies, Nick went on to establish his organization, Life without Limbs in an effort to lend hope to the many in need of it.

If a man without limbs can surf and indulge in sports, work effortlessly to motivate the world, think the next time when you term a thing impossible. This man says he has got enough to thank God for, can we even remember when we thanked him last?

ECONOMIC GROWTH AND DEVELOPMENT OF AGRIBUSINESS IN NORTH EAST

Principal

ETC, SIRD, Kolasib, Mizoram

ECONOMIC GROWTH:

- Economic growth can simply be defined as a rise in GDP. Economic growth includes changes in material production and during a relative short period of time, usually one year.
- Economic growth is obtained by an efficient use of the available resources and by increasing the capacity of production of a country. It facilitates the redistribution of incomes between population and society.
- Economic growth only comes from increasing the quality and quantity of the **factors of production**, which consist of four broad types: **land, labour, capital**, and entrepreneurship. The **factors of production** are the resources used in creating or manufacturing a good or service in an economy.

The GDP is the total of all **value added** created in an economy. The **value added** means the value of goods and services that have been produced minus the value of the goods and services needed to produce them, the so called **intermediate consumption**.

MEASUREMENT OF ECONOMIC GROWTH:

- Economists and statisticians use several methods to track economic growth. The most well-known and frequently tracked is the gross domestic product (GDP). Over time, however, some economists have highlighted limitations and biases in the GDP calculation.
- Gross domestic product (GDP): GDP stands for "Gross Domestic Product" and represents the total monetary value of all final goods and services produced (and sold on the market) within a country during a period of time (typically 1 year). Even though GDP is the most commonly used measure of economic activity, it, alone, does not indicate the health of an economy.





AGRIBUSINESS

• **Agribusiness** involves all agricultural business activities from production to consumption, including the supply of agricultural inputs as well as the processing and distribution of agricultural products. In **developing** countries and emerging economies, **agribusiness** is one of the main generators of employment and income. Agribusiness includes

all the activities within the agricultural food and natural resource industry involved in the production of food and fibre.

- The term agribusiness was coined first by Goldberg and Davis in 1957
- Individual agribusinesses may sell items to farmers for production; provide services to other agricultural businesses; or be engaged in the marketing, transportation, processing, and distribution of agricultural products.
- *Agriservice* is activities of value to the user or buyer. The activities are an intangible product.
- *Marketing* is providing the products and services that people want when and where they want them.
- Agribusiness provides people with food, clothing, and shelter. It also provides jobs for millions of people in science, research, engineering, education, advertisement, government agency etc. The development of agribusiness industry can help stabilize and make agriculture more lucrative and create employment opportunities both at the production and marketing stages. There is no doubt that agribusiness industry has a lot of potential to improve rural incomes and can play a very significant role in creation of employment for rural youths.
- A well-developed agribusiness system in a country can make enables millions of farmers and agripreneurs to capitalize the emerging opportunities of the agriculture and allied sector. The development of agribusiness sector is the need of future to strengthening rural employment, food security and living standard of peoples in the country.

OBJECTIVE OF AGRIBUSINESS

- Develop a competitive and sustainable private sector led agribusiness sector
- Increase productivity/ reduce yield gap
- Commercialization of agriculture
- Advance high potential sectors: horticulture, livestock & fisheries
- Use of modern technology
- Reducing cost of production
- Value addition
- Export agriculture

AGRIBUSINESS SYSYTEM/ SECTOR:

- *The agribusiness input sector* includes all resources involved in producing farm commodities. Examples include seed, fertilizer, machinery, fuel, and credit.

Production efficiency can also be linked to improvements in these agricultural inputs. This sector provides 75% of the input used in production agriculture.

- **The agribusiness output sector/ production sector** includes any agribusiness that affects an agricultural commodity between production and the consumer. Examples include transporting, selling, storing, and inspecting. Approximately 20 million people are employed in this sector of agribusiness. This sector has been the cause of much of the change in agribusiness. They, in turn, have been changed by development in other areas of agribusiness, particularly in technology.
- **The agriservices sector** includes people who research new ways of producing and marketing food, protect food producers, and provide specialized services to all areas of agriculture. Public and private agencies are responsible for the actions of the agriservices sector. This sector employs millions of people in a variety of businesses ranging from grain elevators to fruit and vegetable processing plants to super markets to fast food restaurant

NATURE OF SUCCESSFUL AGRIBUSINESS

- Clean objectives
- Planning
- Sound organisation
- Research
- Finance
- Proper plant location, layout and size
- Efficient management
- Healthy working environment

SCOPE OF AGRIBUSINESS IN NE

- North Eastern region of India is known for its diversified cultural heritage and biodiversity. The region comprises of eight states namely Arunachal Pradesh, Assam, Mizoram, Meghalaya, Nagaland, Tripura and Sikkim with a landmass of 2.6 million sq. km accounting for 7.9 per cent of India's total geographical area. The region is well endowed with natural resources, rich fertile soil, water resources, dense forest, high rainfall (ranges between 1500 mm to 12000 mm), mega biodiversity and flora and fauna. The climate and soil are suitable for setting up orchards and plantation crops.
- With the emergence of globalisation, economic integration among nations has become a necessity. Cross-border trade is the most important medium of the current wave of globalisation. In this process, knowingly or unknowingly the north east economy has emerged in to a new dimension of cross-border trade (informal trade) with neighbouring nations and that increases social welfare of the poor masses of the region. Under the "Look East" policy, India seeks economic cooperation with ASEAN and other neighbouring countries through the gateway of the region. The region has more than 98 per cent international border, sharing international boundaries with China in the North, Myanmar in the East, Bangladesh in the South West, Nepal in the West and Bhutan to the North West. This provides opportunity for cross border trade/ international trade.



- The NE region has vast potential in livestock production due to the availability of fodder as a form of extensive grasslands, waste land and feasible climatic conditions to manifest a way for sustainable livestock farming
- Strengthening of post harvest value chain including storage and transportation for seamless marketing utilizing suitable platform and other regional markets along with appropriate product branding would help the region in increasing the producer share in consumer rupee
- Extending support for formation of farmer's associations, producer's organization and cooperatives etc besides helping the farmers in production enhancement and marketing to fetch better returns is very much needed. This on the other hand will strengthen the bargaining power of the farmer.

CONSTRAINTS THAT NEED TO BE ADDRESSED IN NE AGRICULTURE

- Adherence to traditional agricultural practices
- Problems of property right
- Over-dependence on monsoonal rains with poor irrigation infrastructure
- Poor transport and market infrastructure
- Small size of operational holdings, ranging from 0.60 ha in Tripura to 1.33 ha in Meghalaya as compared to 1.42 ha at all-India level
- High vulnerability to natural calamities, and degradation of prime agricultural land
- Low adoption of improved crop varieties
- Weak institutional credit delivery system
- Appropriate entrepreneurship development
- Increase investment in agriculture R&D
- Strengthen regional database

POTENTIAL OF DOMESTIC MARKET IN PROMOTING AGRI-ENTREPRENEURSHIP

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Abstract

The main objective of this paper is to identify the market potential of domestic products for inspiring entrepreneurs in Mizoram. The key lines to encourage potential entrepreneurs are the quote of George Washington Carver, who once said **‘Start where you are, with what you have. Make something of it and never be satisfied’**

We all know that even after 35 years of Statehood, the state of Mizoram is totally dependent on the Central government and import almost everything from outside the state. Looking at the present scenario in all sectors whether primary, secondary or tertiary sector, many people lose hope frustrated, and lack confidence in the existing system of the governments. There is a misconception of job among many people by considering ‘employment in the government sector as the only job. This is mainly because only the government job could give security to the household economy while all other sectors are not as beneficial as government jobs. This indicates the failure of government machinery and an unfavorable environment for other sectors to grow.

However, in recent times, youngsters realized the importance of entrepreneurship to make a living and many considered relying solely on the government job is ‘madness’ as it cannot accommodate everybody rather the central government is moving toward disinvestment and privatization which hardly impacted the government sector depending state like Mizoram. This new attitude is the light of hope that we really need to tap, encourage and make use of it as an alternative opportunity for many to start their own business. Thus, this paper identifies eight essential commodities having domestic market potential in Mizoram for entrepreneurs such as

- 1) Rice
- 2) Potatoes
- 3) Onion
- 4) Dal
- 5) Egg
- 6) Tomato
- 7) Amul
- 8) Sugar

There are agri-prenership potentials in all these selected items to be primary **Producers, Sellers or Processors** of the products. Apart from these items, this paper also identifies the potential of markets for the food processing industry like fruits and beverages etc, for inspired entrepreneurs.

SCOPE AND POTENTIAL OF ENTREPRENEURSHIP IN AGRICULTURE SECTOR IN NORTHEAST INDIA

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Northeast regions of India is known for its diversified cultural and biodiversity. The region comprises of eight states namely Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim with a landmass of 2.6 million sq.km accounting for 7.9 per cent of India's total geographical area and has a population of approximately 45 million people (Census, 2011) that account for 3.7 percent of the country's total population. About 5.3 million hectares is under various crops while 1.67 million ha is under jhum (shifting) cultivation. The per cent utilization of cultivable area is about 62 % and which is less than the national averages of 70 % percent. The region is endowed with natural resources and has unique features such as fertile land, water resources, dense forest, high rainfall, mega biodiversity, flora and fauna. The region has more than 98 per cent international border with China, Myanmar, Bangladesh, Nepal and Bhutan.

In spite of ample natural and human resources, the NE region is still lagging behind as compared to many states of India. The region has agrarian economy and agriculture provides livelihood support of about 70 percent of the region's population. It produces merely 3 percent of the country's food grains production and continues to be a net importer of food grains even for its consumption. The agricultural production system is characterized mainly Complex diverse risk-prone (CDR) type, low cropping intensity, subsistence farming, undulating topography and defective land use pattern with an annual soil loss of 4.6 tons/ha. The NE region has untapped potential to enhance the income of the farming population by promotion of location specific crops, horticultural and plantation crops, fisheries and livestock production by using appropriate technologies and suitable strategies for diverse agro-climatic condition of the region.

Diverse agro-climatic conditions, varied soil types and abundant rainfall, rich agricultural resources needs strategic exploration to accelerate the process of agriculture development and for inclusive growth. This can be achieved through the realization of the immense scope and potential for agribusiness and entrepreneurship in agriculture sector. Entrepreneurship helps in developing a nation's economy, improves production and labour market, builds job opportunities and finally increases employment rate.

Agribusiness is an emerging specialized branch of management sciences that deals with the science and practice of agricultural commercialization. Agribusiness sector in India encompass four distinct sub-sectors in relation to forward and backward linkages viz. agricultural inputs; agricultural production, agro-processing, and marketing and trade. Thus, agribusiness encompasses activities from farm level production, processing, marketing, trade and supply of inputs and services for these activities.

Agribusiness sector in in NER needs more organized entrepreneurial initiative to suffice the demands of growing middle class-consumers and improve rural employment generation, augment farm income and raise revenue through intensified participation in export trade.

Constraints in Agricultural Entrepreneurship development in Northeast:

The hilly terrain constitutes nearly two third of the region's total geographical area and large size holding are not feasible. About 80 per cent of the farmers in the region belongs to small and marginal category. Moreover, with increase in population, the average size of land holding is gradually reducing over the years.

The small and marginal farmers in the NE region faces difficulties in converting their farm into enterprise due to lack of information, investment, innovation and market exposure.

- Inadequate infrastructures in transportation, and marketing challenge the sustenance and growth of agriculture entrepreneur and agribusiness.
- Funding constraint for investment is one of the major issues of budding entrepreneurs in the region.
- Inadequate extension services and research on best farming practices suitable for NER for commercial production and also on various aspects of agricultural value addition on technical, financial, marketing and legal aspect.

Scope and potential for Agricultural Entrepreneur and Agricultural Business in NER:

The NE region has untapped potential to enhance the income of the farming population by promotion of location specific crops, horticultural and plantation crops, fisheries and livestock production by using appropriate technologies and suitable strategies for diverse agro-climatic condition of the region. With increasing access to agricultural resources and due to presence of a wide supply demand gaps, the potential agribusiness and entrepreneurship venture may be categorized as production, processing, input and agro-allied services.

Production Ventures:

The region has vast potential in livestock farming and production of meat, milk and eggs. Production of inland/freshwater and ornamental fish culture gains interest among the farmers due to vast opportunities and demand.

The region is rich in different horticultural crops and the production and productivity have been increased in recent years. The NE region has vast export potential horticulture commodities such as fruits, vegetables, spices etc.

Organic products demand are increasing as people have become equally health-conscious due to the increased use of pesticide in farming which creates an opportunity for farmers to shift towards the organic farming.

There are massive scale of opportunities for beekeeping and apiary.

Exports of vegetables and flowers cultivated under greenhouse conditions.

Processing Ventures:

There is a scope for secondary and tertiary processing from primary level agricultural commodities during the rise in standards of production.

Fruit Processing

The agro-climate favours production of rich and exotic fruits such as Avocado, Kiwi, Dragon fruits, Mangosteen, Persimmon, passion fruits, blueberry, fig, rambutan and strawberry and landraces crops identified and GI tagged for worldwide commercialization like Queen Pineapple of Tripura, Kachai lemon of Manipur, Tezpur Litchi of Assam, Khasi Mandarin of

Meghalaya and Malbough banana. The surplus of fruits in the region can be utilized in the processing industry.

Spices Processing

Popular GI tagged spices from northeast include Lakadong turmeric of Meghalaya, Ginger from Mizoram, King Chillies of Nagaland, Mizo Chilli of Mizoram and Large Cardamom from Sikkim. There is a need for strategic investment for export of value-added forms such as spice powder, curry powders, spice oils and oleoresins to maximize returns in the spice sector.

Agricultural input ventures

There is scope for biotechnology application in the field of agriculture to seed, bio-resist agents, microbes harvesting for bakery items etc.

Need for bio-pesticides and bio-control agents is increasing, on the hand, for crop production. Farm tools and implement manufacturing.

The implementation of various Central schemes and programmes and such other initiatives along with the recently declared packages under Aatmanirbhar Bharat would help the region in achieving the much needed growth in Agriculture sector and Agribusiness in the next few years.

References :

1. Kadirvel G. et al . Agri-business in Northeast India: Current Status, Potential Ventures and Strategies. Current Journal of Applied Science and Technology.2020; 39(33):74-85.
2. Amrutha P. and Bidyut C. Deka . Growth in Agriculture and Allied Sectors in Northeast India and Prospect; Prospect of Northeast Agriculture in Post Covid-19 Scenario; E-book, ICAR,ATARI (June ,2020):1-14.
3. Sushma Singh (2020).Harnessing Agricultural Potential in North Eastern Region . <https://moneymint.com/agricultural-in-north-east-india/>

PROSPECTS OF SERICULTURE AS AN ENTERPRISE

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What is Sericulture?

The word Sericulture is derived from the Greek 'sericos' meaning 'silk' and the English 'culture' meaning 'rearing'. Sericulture refers to the conscious mass-scale rearing of silk producing organisms in order to obtain silk from them. The first authentic reference to silk is found in the chronicles of the Chou king of China (2200 B.C.)

Rearing of Silkworm

Silk is a fibrous protein of animal origin. The majority of silk producing insects belong to the Order: Lepidoptera, Superfamily: Bombycoidea and Families Bombycidae or Saturniidae. Nearly 95% of commercial insect silk comes from the mulberry silkworm *Bombyx mori* and is known as mulberry silk. Commercial silk from all other sources is collectively called Non-mulberry silk. Silk is the most elegant textile in the world with un-paralleled grandeur, natural sheen and inherent affinity for dyes, high absorbance, light weight, soft touch and high durability and known as the "Queen of textiles" the world over. Mulberry (*Bombyx mori*) accounted for 74.7 %, Eri (*Samia ricini*) 16.3 %, Tasar (*Antheraea mylitta*) 8.4%, and Muga (*Antheraea assama*) 0.6% of the total raw silk produced. Sericulture activities spread across 52,360 villages, silk industry in India is one of the largest generators of employment and foreign exchange for the country.



STATUS OF SERICULTURE IN INDIA

India is the second largest producer of silk next only to China, accounting more than 18% of the global raw silk production. The total raw silk production is 35.82 MT in the year 2020. NE region contributes 18% of India's total silk production. India has the unique distinction of being the only region producing four varieties of silk viz. Mulberry, Tasar, Muga and Eri. Assam is known for producing all the four types of silk. Among these, Muga, the Non-mulberry silkworm rearing and its silk production stand a unique position not only in Assam but also in the global map of Sericulture

94% Muga silk and 62% of Eri silk is produced in Assam and placed in the 3rd position in silk production in the country. In Mizoram the productive area under silkworm plantation is 5716 acres. A total of 5651 nos. of families and 209 villages are engaged in Sericulture activities in Mizoram.

Sl.No	Sector	Sericulture farmers	Seri families in No.)	Seri Villages in (No.)
1	Mulberry	4197	5651	209
2	Eri	745		
3	Muga	668		
4	Oak-tasar	41		

The consumption of dfls, production of reeling cocoons and production of raw silk of mizoram for the year 2019-20 are as given below:-

Sl.No.	Sector	Dfls (L/No.)	Cocoon production	Raw silk Production
1	Mulberry	16.26	735.916 MT	83.303 MT
2	Eri	1.091	9.819 MT	7.855 MT
3	Muga	1.0	40.00 Lakhs No.	0.796 MT
4	Oak-Tasar	0.08	3.2 Lakhs No.	0.053 MT

TYPES OF SILKWORM

There are four types of silkworm:

1. Mulberry silkworm

Scientific name- *Bombyx mori*)

Local name (Thingtheihmu pangang)

Host plant – Mulberry (*Morus alba*)

Local name (Thingtheihmu)



MULBERRY SILKWORM
LARVAE



MULBERRY COCOON



MULBERRY MOTH

2. **Eri silkworm**

Scientific name- *Samia ricini*

Local name (Mutih pangang)

Host plant – Castor (*Ricinus communis*)

Local name (Mutih)

Kesseru- (*Heteropanax fragrans*)

Local name (Changkhen)



ERI SILKWORM LARVAE



ERI COCOON



ERI SILKWORM MOTH

3. **Muga silkworm**

Scientific name- *Antheraea assama*

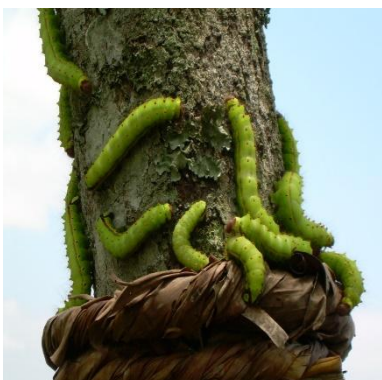
Local name (Bul pangang)

Host plant – Som (*Persea bombycina*)

Local name (Bul)

Soalu (*Litsaea polyantha*)

Local name (*Nauthak*)



MUGA SILKWORM LARVAE



MUGA COCOON



MUGA MOTH

4. Tropical Tasar silkworm

Scientific name- *Antheraea mylitta*

Host plant- Arjun (*Terminalia arjuna*) and Asan (*Shorea robusta*) and Temperte

Tasar Silkworm

Scientific name- *Antheraea proylei*

Local name (Sasaw pangang)

Host plant (Oak tree)

Local name (Sasua)



TASSAR SILKWORM LARVAE



MUGA COCOON



TASAR MOTH

WHAT IS ERI SILKWORM?

Eri silkworm is a polyphagous insect and feeds on the leaves of several food plant. The silkworm is multivoltine, producing 6 broods in a year. Primary host plants are Castor (*Ricinus communis* L), Kessuru (*Heteropanan fragrans* • Tapioca (*Manihot esculenta*, Crantz.), • Wild castor (Jatropha curcas L.), • Papaya (*Carica papaya* L.), • Barkessuru (*Ailanthus excelsa* Roxb.), etc

The systematic position of Eri moth is:

Phylum-Arthropoda

Class-Insecta

Order-Lepidoptera

Genus-*Phylosamia*

Species-*ricini*

Life cycle

The life cycle of *Phylosamia ricini*, is completed through (a) eggs (b) larva (c) pupa in cocoon and (d) adult moth . In summer, the life cycle is completed in 44-48 days and in winter it takes about 85-87 days.



WHAT IS ERI CULTURE?

- The name of 'Eri' of the particular silk variety is derived from the Assamese word 'Erai' which means castors, the leaves of which are the main food of eri silkworm.
- The rearing of the Eri silkworm larvae for the production of eri silk is termed as the Eri-culture.
- The Eri silkworm is multivoltine and polyphagous sericin producing insects. Eri culture is traditional agro-based small scale industry, primarily practiced to meet the partial need of warm clothing.



Rearing of wilk worm



Ripening worms of Eri



Eri cocoon

Eri silk is also known as endi or erandi, ranks next to tassar in commercial importance. It is multivoltine silk spun from open-ended cocoons. Eri is popularly known as 'poor man's silk' and also termed as the Ahimsa silk as unlike other types of silks, the pupa is not killed during the process of reeling. Production of Eri silk took the fastest place amongst other silk production due to its marketable by-product i.e. pupae and its minimal requirements in comparison with Mulberry and Muga culture.



Raw silk of eri



Product of Eri silk (Poor man's silk)

PACKAGE AND PRACTICES FOR CULTIVATION OF ERI SILKWORM FOOD PLANTS

CASTOR CULTIVATION

- ❖ Castor (*Ricinus communis*) is grown as annual plant or by a few as biannual plants for feeding purpose to eri silkworm.
- ❖ Propagation is done by sexual method, by sowing of seeds in the field prepared systematically for raising.

SOIL TYPES

- ❖ Red soil, sandy loam soil, light alluvial soil is suitable for castor cultivation. Light clay or light sandy soil with higher organic matter is ideal for better yield.



CLIMATE

- ☐ Castor can withstand long dry spell and heavy rain. It grows well in relatively dry and warm region having sufficient rainfall.
- ☐ The ideal season for plantation is March to April and September to October in the north east region of India.

TILLAGE

- ☐ Land should be pulverized by 2-3 times ploughing followed by cross ploughing to a depth of 20-25 cm.

SPACING

- For castor cultivation pit system of plantation is followed with size of 20*25*25 cm pits are to be prepared maintaining 1*1m spacing.
- Apply 1kg FYM in each pit as basal dose and mixed properly with soil.

SEED TREATMENT

- Soak castor seed in water for 24 hrs and treat with Bavistin or Thiram @3gm/kg for 10-15 minutes before sowing to check fungal infestation.

**SEED SOWING**

- Two seeds per pit at a depth of 2.5-3.0 cm are to be sown.
- Germination takes place after 7-10 days.

LEAF YIELD AND HARVEST

- Leaf can be harvested four time in a year in North eastern region from same plantation.
- The first harvest of 40-50% leaves can be done after 70 to 75 days of sowing for rearing purpose.
- Subsequent harvest can be done at 1 month of interval after each harvest.
- The optimum quality castor foliar yield has been recorded 12-14 MT leaves/ha/year.



KESSERU CULTIVATION

- **Kesseru (*Heteropanax fragrans*) belongs to the family Araliaceae and it is soft wooded perennial tree grown in plain as well as hilly tracts of northeastern India.**
- The productive life of Kesseru is more than 25 years and annual leaf yield per hectare is found almost 20-25 MT from a properly maintained farm.
- Systematic Kesseru plantation is recommended and popularized among the farmers for large scale commercial eri silkworm rearing.

PROPAGATION

- Kesseru is commonly propagated from seedlings by collecting seeds from wild grown or cultivated plantation.



KESSERU TREE



KESSERU PLANTATION

LAND SELECTION AND PREPARATION OF NURSERY BEDS

- Flat, elevated and well drained land in shady place should be selected for preparation of nursery beds
- Mix sand with the soil, level it and raise the bed 15-20 cm with a bed size (6*2m) to accommodate 800 seeds per beds.

SEED COLLECTION

- Fruits start ripening during February and March.

SEED TREATMENT

- Seeds should be treated with Indofil M-45 or Bavistin @3 gm /kg of seed to control fungal infection.

SEED SOWING

- The ideal season for seed sowing is February to March.
- Seeds are sown in 2.5cm deep and 10 cm apart in rows made at a distance of 15cm.
- Germination takes place after 16-18 days of sowing.



KESSERU SEEDLING

SOIL TYPE

- Kesseru grows well in acidic soil. Sloppy as well as flat high land with proper drainage system.

SPACING

- Pits of 30*30*30cm size are to be prepared at 3*3m spacing to facilitate intercropping.

TRANSPLANTATION

- Transplant 14-15 months old seedlings in May-June of 25 to 30 cm height into pits and preferably during cloudy weather or in the afternoon.

POLLARDING AND PRUNING

- Pollard Kesseru plants at 1.50 m height after 4-5 years to induce more branching and conduct subsequent pruning at 1.75 m height.

HARVESTING

- Leaves can be harvested after 3-4 years of planting and per plant yield 16 kg of leaves per harvest.

**TRAY METHOD REARING****BUNCH METHOD OF REARING****KESSERU SEEDLING**



PROSPECTS OF ERI SERICULTURE

- The nature bestowed Mizoram with immense resources for production of Eri silk. The conducive climate condition, vast area of potential land, availability of man power are major points to attribute for success of the Eri culture.
- If the farmers are assisted to raise systematic plantation of Kesseru (*Heteropanax fragrans*) a perenial evergreen trees in 1.0 acre of land and planted 500 nos. of seedling along with Castor plant and another eri foodplants in a collective management approach where these two foodplants will fetch the food for eri silkworm in long and short term gestation period.
- Subsequently consumption of dfls will be increased and the yield of cocoon will also be increased. In addition, they will produce nutritive pupae which will be sold in the market for additional income.



SILKWORM PUPAE

UNIT COST FOR ESTABLISHMENT OF ERI FARM WITH REARING HOUSES AND REARING EQUIPMENTS:

UNIT AREA : 1.0 ACRE OF LAND PER FARMER

Sl.No.	COMPONENTS	Amount in (Rs.)
1	LAND DEVELOPMENT AND RAISING OF PLANTATION (Cost of host plant seedling, seed and land preparation)	25,000.00
2	REARING HOUSE	50,000.00
3	REARING EQUIPMENTS (Rearing trays, mountage, paraffin papers, Net, bed disinfectants etc.)	20,000.00
	GRAND TOTAL	95,000.00



REARING HOUSE

ECONOMIC RETURNS

- The outcome of the eri sericulture shall contribute significantly and expected to uplift the rural economy. It will create locally employment opportunities through sericulture.
- It is estimated that established Eri plantation will earn revenue of around Rs. 1,61,000/-/acre/annum depending upon the quantity of dfls reared, number of crops, cocoon rates and selling of the pupae.
- The Castor food plant can be used in 3 months after planting for rearing as it is an annual plants while other primary host plant Kesseru takes 3 years after planting for rearing, if maintained properly it can give foliage upto 25-30 years.

COST OF REARING PER CROP

Sl.No.	No.of Dfls to be reared in one crop	Cost of Dfls in (Rs)
1	200 dfls	3.00
	TOTAL	600.00

ERI SILKWORM (*Philosomia ricini*) SEED

ECONOMIC RETURN PER CROP IN 200 DFLS

Sl. No	Economic return/crop in cocoon (kgs)	Economic return/crop in pupae (kgs)	Selling of cut cocoon @Rs 500/kg in (Rs)	Selling of pupae @Rs.200/kg in (Rs)
1	16	124	8000.00	24,800.00
		TOTAL	32,800.00/-	

NET PROFIT FROM 200 DFLS: Rs. 32,800/- (Selling of cut cocoon Rs.8000/- and Selling of pupae Rs. 24,800/-) - Rs.600/- (Cost of 200 Dfls) = **Rs 32,200.00/-**

GROSS RETURN PER YEAR:

Sl. No	No. of dfls to be reared	No. of crops	Cocoon production	Pupae production	Selling of cut cocoon @Rs 500/kg in (Rs)	Selling of pupae @Rs.200/kg in (Rs)
1	1000 dfls	5	80 kgs	620 kgs	40,000.00	1,24,000.00
		TOTAL			1,64,000.00	

GROSS RETURN PER YEAR: Rs. 164,000/- (Selling of cut cocoon Rs, 40,000/- and Selling of Pupae Rs.1,24,000/-) – Rs.3000/- (Cost of Dfls) = **Rs. 1,61,000.00**

THE ADVANTAGES OF ERI CULTURE

- The eri silkworm is hardy, resistant to diseases and hence crop are assured.
- Eri worms are reared indoor like mulberry and hence rearing conditions can be maintained and loss due to pest and disease are negligible.
- Eri worms are polyphagous in nature. The food plants are abundantly available in nature and are interchangeable during the period of scarcity.
- Generally the life cycle of Eri silkworm (one crop) complete within 20 to 30 days depending on the weather condition and rearing technique.
- Due to delicacy of eri pupa it enhance the economic returns from this culture.
- The eri products like quilt and chaddar have high market value.

CONSTRAINTS OF ERI CULTURE

- The rearers are marginal agriculture farmers. They practice the culture as a secondary source of income at their leisure time to have warm clothing and also for the pupae for self consumption.
- Due to lack of any systematic plantation of host plants, the eri rearers often face short supply of leaves, which lead to the production of inferior quality cocoons.
- The eri culture is practised mostly by the poor families, who cannot afford to have a separate rearing house.
- Lack of an assured seed supply network to the rearers.

CONCLUSION

Sericulture being cottage industry plays an important role in employment generation, poverty alleviation and socio-economic development of rural areas. It is one of the most profitable activity in rural sector and many educated youth are taking up this activity under self-employment scheme as it is giving better yields than cash crop. Sericulture activities are eco-friendly and economically viable agro-based avocations, also for the state of Mizoram due to topography, climatic condition, fertility in soil Sericulture activities is one of the ideal occupation especially in rural areas of the state.

DAIRY PROCESSING AND MARKETING: A JOURNEY OF ANNA FOOD PRODUCTION

Daniel Lalawmpuia

Proprietor, Anna Food production, Mizoram

Anna food production has started its business in 2020. Our objective is to produce and manufacture food production (items) in Mizoram as well as to export outside the state. It started with different types of Dairy products like Lassi, Dahi, Rasmalai and Milkshake with an aim to improve and proceed step by step. We have set up a small factory in Tlangnuam, Aizawl and started to distribute to many outlets in Aizawl and soon will be sending to other parts of the state also.

Starting new business in such remote area has never been easy, it takes a lot of handwork, dedication and mental preparation. Items like Lassi, Rasmalai, Dahi have been introduced in the network for quite some time in Mizoram but, to maintain the brand and its creativity for new ideas there has to be a new Model to gain the market shares and leadership.

Our main foundation is to make the current items (Lassi, Dahi, Rasmalai etc.) even better in the market. Development of new taste and flavour, developing new items/dishes, and promoting for brand recognition in the market are some of the company's target activities. Recently we are proud to introduce our new inventory, Gulab Jamun prepared from milk. We believe that our clients will appreciate the new products we have introduced.

During 2021, by the blessings of God and a kind help from the Industries Department of Mizoram we have been allotted 3600 sq/m Industrial Growth Land site at Luangmual. We are in the process of advanced Milk Processing with Plant and Fruits processing for a new benchmark. We hope and expect to have huge productions.

Under the guidance of Agriculture Department, an MOU has been signed with MOVCDNER to start the projects, soon we will be promoting Fruits Processing plant. Horticulture department has also appreciated and promoted the idea. Hence, regarding processing, a training schedule program was conducted in connection with the farmers. We have gained immense experience and knowledge in terms of operating the Fruits & Plant process so that we could conduct and operate well in future. The department has a big role in our network we are lucky enough having such a great mentor in our project.

Anna food production also set up a new corner at Tennis Court Aizawl planning to spread in another town soon. One of our objectives is to promote in Local Business Support and to Grow the model of entrepreneur in Mizoram. We are fortunate and proud to have taken up in this segment. Anna Food production has started its journey with a small hope. Entrepreneurship has gained momentum in the recent years in Mizoram. With many potential entrepreneurs and budding business persons involved in agri and allied sector, we had to dedicate ourselves fully to keep up with the competition in the entrepreneurial world. It had been a tough road as a start-up, but the hardship was all worth it. We are now content with what we have achieved so far, but we will continue to innovate, build, improve and foster the activity that we have started.

I hope that many other young minds will follow suit and take up more entrepreneurship activities to become independent and self-sufficient.

AGRI-ALLIED SECTOR & POTENTIAL IN NORTH EAST REGION

Gunajit Brahma

Managing Director, Jeev Anksh Eco Products Pvt. Ltd

Organic Agriculture

- Process of farming technique whereby no artificial chemicals or other inputs are used.
Oldest form of farming!
- No Pesticide
- No Chemical
- No Urea

Allowed

- Natural farming
- Vermicompost
- Cow dung (domestic)
- Farm yard manure (FYM)
- Farm based compost
- Natural inputs
- Jeevamrut, Pashuamrut, etc.

Organic Certification for Domestic

NPOP



National Programme for Organic Production

Individual / FPO/FPC, Agribiz, etc.

Upto 250ha. or 1875 bigha/plot

Time: 3 years; 1 year for Forest produce

Cost: **Rs. 35,000 - Rs. 50,000 p. a.**

Accepted by Domestic and

PGS



Participatory Guarantee System

Farmer Group certification

Min. 5 farmer member

Time: 3 years

Cost: **Rs. 1,200 per annum**

Accepted by only few Domestic

Organic Certification for Export

- **NOP** - National Organic Production, USA
- **European Union** - Swiss Organic Standard
- **JAS** - Japan Agricultural Standards
- **COS** - Canadian Organic Standards
- Rest of world accepts NOP and few countries accept NPOP

Production

- Indian Standard & European Standard same

Processing/Handling

- Indian and American standard

Trading

- All different standards

Organic Northeast

1. NPOP Farmland - 1.18L ha.
 - Sikkim, Assam & Meghalaya - 1.087L ha.
 - NPOP managed by APEDA
2. PGS Organic
 - 437 LGs, 18000 farmers
 - PGS managed by MoA&FW
3. Jaivik Bharat
 - 23 companies from NE
 - Almost all tea supplier
 -
4. Schemes & Policies
 - MOVCD - INR 600 Cr
 - PKVY – KVKs

Products in Demand

Certified NPOP:

- Rice - Black, Red, Joha, Sticky
- Pulses - Tur/Arhar, Green, Black Gram
- Turmeric - Fresh & Dry (Flakes & Fingers)
- Ginger - Fresh & Dry (Whole, Flakes)
- Chilli - Dry (stemless, sorted)
- Pepper - Black & White
- Honey - Natural & Wild
- Herbs & Leaves - Moringa, Garcinia, etc.
- Dry Flowers - Roselle, Marigold, Hibiscus, etc.

Potential organic products from Northeast that has a Domestic as well as a Global market

Potential Organic Products

P & G

Rice (Black, Joha, Red, Sticky)
Pulses like Arhar, Urad, Beans

H & S

Herbs
Spices like Ginger, Turmeric, Chilli, Pepper

F&V

Fruits & Vegetables
Sorted & Cleaned

Textile

Handloom, Silk, Bamboo Fiber

Potential markets across the world for promoting & marketing organic NER

Potential Global Market for NER

ASEAN

Easy trade agreements
Free Trade. Less Paperwork

M.E & J

Easy trade agreements
Example of Pineapple

USA

Certification is a must.
Biggest market.

EU

Stringent Food Laws. But big business if quality matches

Agri Tourism

Agritourism or agrotourism, involves any agriculturally based operation or activity that brings visitors to a farm or ranch.

Categorisation:

- Direct-to-consumer sales (e.g., farm stands, u-pick)
- Agricultural education (e.g., school visits to a farm)
- Hospitality (overnight farm stays)
- Recreation (e.g., hunting, horseback riding), and
- Entertainment (e.g., hayrides, harvest dinners)

WWOOF

- WorldWide Opportunities on Organic Farms (WWOOF)
- 120 countries 7000+ members in India
- 400 agri-hosts in India
- NER - 11 hosts

Other Marketplaces

- Air BnB
- Couch Surfing
- Social Media
- Self Promotion – Website
- Email/Whatsapp

SWOT ANALYSIS



Agro Tourism



WED June 2-3, 2018



Tenzing Bodosa



With **Mr. Michael Jensen** (World Bank)



Lakadong Turmeric



Iona & Krijgn with **Dano Sha Tlang**, Jowai





Iona's Video

With **Mr. Wanbor** (Krishi Ratna awardee)



With MAS **Maqbool Lyngdoh Suiam**



Black Rice





Thank You!

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