A Review on Integrated Farming System Practiced in Mizoram

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ABSTRACT:

'Integrated Farming System' has been variously defined by many scientists. There are many ways to define sustainable agriculture, but they all come down to the same meaning : It's a plan for increasing farm income without depleting natural resources or harming the environment so that farmers can provide for a wide range of consumer demands. An example of a definition that relates to farming is :

- “Farming system", which is defined as a strategy for managing a resource to achieve economic and sustainable agriculture production to meet diverse requirements of farm livelihood while preserving the resource base and maintaining a high level of environmental quality" (Lal and Miller, 1990).
- A farming system is the interconnected and mutually reinforcing collection of agro-economic activities practiced in a given agricultural context. It's a strategy whereby farm families divide up their resources among a number of different farm businesses in order to maximize the farm's potential for profit. Agriculture includes crop farming, animal farming, aquaculture farming, agro-forestry, and agro-horticulture (Sharma et al., 1991).
- When a farming family decides to invest in a variety of agricultural activities—including crop farming, livestock farming, aquaculture, agro-forestry, and fruit growing—they are implementing a farming system. In a study (Pandey et al).
- A farming system is the set of practices and resources used to produce agricultural goods (cropping systems, horticulture, livestock, fishery, forestry, poultry) for market. Rather of upsetting the delicate ecological and socioeconomic balance, it works with the environment to achieve national goals (Jayanthi et al., 2002).
- The farm family, the crops system, and the livestock system make up the farming system (Fresco and Westphal, 1988), which is the decision-making unit that turns raw materials (land, capital, and labor) into finished goods (Fresco and Westphal, 1988).

Crops, livestock, poultry, fish, sericulture, etc., are all part of the farming system. Particularly for small and marginal farmers, the returns from a combination/integration of one or more

operations with cropping are higher than those from a single enterprise if it is carefully chosen, planned, and executed.

Several factors influence the success of farm integration, including:

1. Soil and climate conditions of a particular area
2. Availability of materials, including land, people, and money.
3. Current resource utilization rate.
4. Economics of Integrative Farming System
5. Farmer management expertise

Benefits or Advantages of Integrated Farming System

Sharing inputs or resources, using labor efficiently, conserving and utilizing farm biomass (including non-conventional feed and fodder resources), using manure and animal waste effectively, regulating soil fertility and health, generating income and jobs for many people: these are all aspects of IFS. It maximizes storage capacity and offers a wide variety of goods. The IFS is a plank in the strategy to protect the planet's natural resources for the benefit of future generations :

1. IFS can boost productivity by intensifying crop and allied operations, which means more money can be made from the same amount of land in less time.
2. To maximize profits, recycle one component's waste. Therefore, production costs can be lowered by linking the recycling of unwanted materials with the removal of unnecessary intermediaries in the supply chain. In calculating net profit over basic cost, the ratio improves.
3. There's a chance to keep the production base's potential alive for a lot longer thanks to organic supplementation achieved through the efficient use of waste products from related components.
4. Various natural components are combined to form a wide range of dietary options, making for balanced food.
5. Environmental protection: In IFS, waste materials are recycled efficiently by connecting relevant parts, which significantly reduces environmental pollution.
6. Recycling allows for efficient use of leftover materials from IFS operations (such as crop residues and animal wastes). Thus, less fertilizers, agrochemicals, feeds, energy, etc., are required.

INTRODUCTION :

The term "integrated farming system" (IFS) refers to a set of farming practises that work together to maximize nutrient utilization and minimize environmental impact through the use of a small number of crop varieties, animal species, and ancillary businesses. The primary and secondary outputs of one system are used as inputs to another system in IFS, demonstrating the interconnected, interdependent, and interlocking character of these two systems. Integrated farming's primary benefit is that its various aspects work together to cut down on the amount of outside help needed. It is founded on the ideas that "there is no waste" and "waste is only a misplaced resource," the latter of which may be repurposed and used as a valuable commodity by a different business.

Sustainable agriculture is a holistic strategy for improving agricultural output and resource management in order to balance economic, environmental, and social concerns. The IFS method aims to alleviate poverty, ensure food security, and preserve the environment all at once. When possible, it includes switching the inputs and outputs of two separate businesses. Creating nutrient-rich vermicompost from cattle manure combined with crop residues and farm waste is one such example.Due to the high cost of production and inputs, most farmers' efforts go unrewarded. However, the development of IFS has made it possible for smaller farms to compete with their larger counterparts. When compared to monoculture methods, which focus on only one aspect of farming, integrated farming systems are widely recognised as the superior method. Integrated biosystems are agricultural methods that combine fish and livestock production or crop and animal production. The "waste" from one component becomes an input for another component, lowering costs while increasing output and/or revenue in this system of interconnected businesses.

Basic Facts About Mizoram :

1)	Location	: 21°56`N to 24°31`N, and 92°16`E to 93°26`
2)	Area	: 21,087 km^2
3)	Maximum Dimension	: North to South - 285 kms., East to West – 115 kms
4)	Climate	: Summer : 20-29°C, Winter : 7-22°C
5)	Highest Point	: Phawngpui (2,157 metres)
6)	Lowest Point	: Tlabung (21 metres)
7)	Total population	: 1,091,014 (2011 cencus)
8)	Rural population	: 50.35%
9)	Urban population	: 49.65%
10)	Density	: 42 per sq. Km
11)	Working population	: 40.8%

Break-up of workers in percentage

- Cultivators : 54.9%
- Agricultural Laborers : 5.7%
- Household Industries : 1.5%
- Other Workers : 37.9%

Agriculture System in Mizoram :

A largely hilly state, Mizoram has a long history of agro-forestry practices ranging from traditional shifting (jhum) cropping to the most modern agro-forestry models influenced by science. Despite the fact that it is well-documented that 'jhum' leads to significant soil, water, and biodiversity erosion as well as low crop yield, it is still the predominant mode of land use. The induced agro-forestry practices in Mizoram have the potential to replace nomadic agriculture, but these systems are again not well-designed to address the varying biophysical, socio-cultural, and economic needs of the local population. This study provides an overview of the various agroforestry systems in use in Mizoram and describes some of the agro-forestry research trials currently being conducted in the state.In many rural communities in the Tropics, subsistence

farming is based on shifting cultivation, a prevalent agricultural practice. Soil fertility, crop yields, and food security have all been brought into question by the recent strong trend towards shorter fallow periods. In this study, we take a different approach than previous studies by focusing on areas with extreme topography, such as the state of Mizoram in northeast India, where the average slope is over 33 degrees. This is because the potential for extremely substantial soil erosional losses in these areas may require novel approaches.

Our purpose in doing this literature evaluation is to help guide and improve the quality of future scientific investigations into shifting farming in Mizoram. Our research indicates that nutrition and water supplementation, optimizing crop choice, extending the site usage time, boosting the fallow recovery rate, and regulating the burns and their environmental implications are the most viable ways to improve shifting cultivation. Inter-row farming between contour hedgerows with nitrogen-fixing shrubs, slope terracing, agro-forestry with anti-erosional plants, and bamboo forest harvesting are all viable alternatives to shifting cultivation. We also highlight the key research issues that need to be answered before any of these alternatives can be suggested as part of land use planning efforts. Overall, we conclude that many potential solutions to the challenge of decreasing fallow times in shifting agriculture on steep slopes are likely to include the clever and careful application of commercial fertilizer in combination with organic matter additions.

BODY :

The majority of Mizoram's rural population lives off the land in the state's eleven districts. Nearly 80% of the population relies on farming for their livelihood. In addition to agriculture, piggery, poultry, and dairy farming are the most common forms of livestock husbandry in Mizoram. Animal husbandry is typically used as a means to supplement the income of those already engaged in agriculture. Since most jobs in agriculture are seasonal, integrated farming offers a chance for year-round employment. The farmers' income was increased, and the farmers' families were able to find gainful employment, thanks to the adoption of an integrated farming system that included horticulture and livestock. Animal manures are an excellent source of organic matter that can be used to boost crop yields and soil fertility.

Table 1 Land Capability Class in Mizoram

Class	**Percentage Distribution**	**Expected Area in the State**
I	-	-
II	1.26	26,460
III	9.43	1,98,030

IV	18.43	3,82,830
V	-	-
VI	11.08	2,32,680
VII	57.75	12,12,750
VIII	2.25	47,250

Integrated Farming System @Thingkah Village, Lawngtlai, Mizoram

Introduction

Rural residents of Mizoram's Lawngtlai District rely heavily on agriculture for their livelihood. Nearly 80% of the population relies on farming for their livelihood. In addition to agriculture, the most common forms of livestock farming in the area include piggery, poultry, and dairying. Animal husbandry is typically used as a means to supplement the income of those already engaged in agriculture. Since most jobs in agriculture are seasonal, integrated farming offers a chance for year-round employment. The farmers' income was increased, and the farmers' families were able to find gainful employment, thanks to the adoption of an integrated farming system that included horticulture and livestock. Animal manures are an excellent source of organic matter that can be used to boost crop yields and soil fertility.

Mizoram native and Thingkah villager Mr. K. Lalengliana has been practising integrated farming since 2006. The farmer owns 5 hectares of land, and via integrated farming, he is steadily growing both his revenue and the diversity of his crops.

Details of the IFS

To make the most of the farmer's overall land holdings of around 5 ha, he has divided his agricultural enterprises into distinct parcels.
The upper half of the farm features a water collection system that may be used for irrigation and other tasks.
Planting field crops like rajma and soybean along the bottom section of the farm's boundary helps to boost agricultural income and maintain soil fertility. The majority of the area is devoted to growing cereal crops, which is one of the farm's primary functions.
From 2016 onward, he has devoted 1 acre of his farmland to growing rajma. He sold the 1.8 quintals of rajma he had harvested from one hectare at Rs 120 per kilogram. He made an annual total of Rs 2,16,000/- through Rajmah.
ii. Soybean field: Since 2016, 1 hectare of land has been dedicated to growing soybeans. There were 28 quintals of soybeans harvested per hectare. Soybean farming brought in an annual revenue of Rs 1,87,600.

III. A Farming Method Based on Horticulture
i. Vegetable plot: Five distinct crops, including brinjal, tomato, chili, roselle, and winged beans, are being grown on an area of 1 hectare in the farm's geographic center. Since 2012, he has used this kind of mixed cropping. Vegetable sales brought in an annual revenue of Rs 2,87,500.
ii. Banana block: In 2015, banana cultivation began on a 1-hectare plot of land. At the farm's bottom boundary, 973 individual plants were put in. He averaged 16-18 metric tonnes of bananas every year, selling them at a profit of Rs. 3,20,000/-.

IV. Piggery

In 2016, KVK Lawngtlai District brought two new, better pig breeds to Mr. K. Lalengliana's pig farm: large white Yorkshires and Hampshires. He had a total of 104 piglets and 10 sows throughout the 2018-2019 year. In 2016, 2017, and 2018, farmers earned an average of Rs. 1.3 lakh, Rs. 5.1 lakh, and Rs. 6.7 lakh from the sale of piglets and adult pigs for meat purposes, respectively.

Output/Impact:

i. The impact in terms of income of the different interventions in the IFS is described in the table and chart below:

Sl. No.	Component	Annual income (Rs.)	Remarks
1.	Pulses and oilseeds	4,03,600.00	Rajmah and soybean cultivation
2.	Horticulture	6,07,500.00	Assorted vegetables and banana
3.	Piggery	6,70,000.00	Income generation recorded during 2018-19

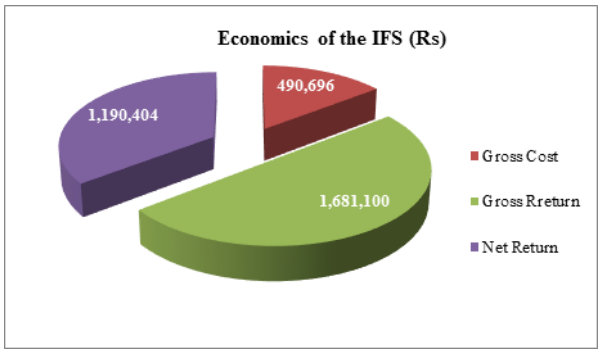

Table 2 Economics of the IF

Here are some things for the farmer to keep in mind both before and after implementing IFS:

There was a high occurrence of pests and diseases, no proper irrigation, a low yield, and only the local variety of crops were cultivated before the intervention. After the intervention, there was a decreased occurrence of pests and diseases, timely irrigation of crops at regular intervals, a higher yield, and the introduction of an improved variety of crops and pig breeds.

Income Variation (In Indian Rupees)

An annual salary of Rs. 5,12,750.00 before IFS

Annual Salary of Rs. 11,90,404.00 after IFS

Darlak Village, Mamit District, Mizoram Integrated Farming System

Introduction

The KVK gave a demonstration of their integrated farming system at the farm of a notable progressive farmer in the village of Darlak. The farmer's particulars are as follows:

Ms. Lucy Lalduhsaki

VL Remruatpuia, Farmer

3.0 hectares

Components broken down

A tiny, low-cost pig stable was constructed on top of the dyke to house the pigs, and the total area of the ponds was 0.22 hectares.

The fish can be harvested after 8 months, when they have grown to an average weight of 600 g. At the current price of Rs 150.00/Kg, the pond might generate a possible income of Rs 3,75,000.00 from the capture of an anticipated 25 q of fish.

ii) Dairy-cum fish culture: a cow shed is constructed close to a 0.28 ha pond for easy drainage of cow excrement and urine.

Fish grown in this manner are normally collected after 6 months, occasionally up to 8 months, when they have gained an average of 600 g in weight. About 28 q of fish were captured and sold by the farmers at Rs 150.00 each Kg, bringing in a total of Rs 4,20,000.00.

So that she could make the most money from her land, she planted banana trees, papaya trees, and dragon fruit trees on the edges of the fishery.

Bananas were grown as an additional source of income surrounding the ponds. Bananas of the Local Cavendish kind, by far the most popular in the region, were grown. It cost two rupees for each banana. She has made Rs. 80,000/- thus far by selling the bananas at local markets and shops.

a. Papaya: Papaya, along with other horticultural crops, was grown on the banks and intercropped for extra income. Red Lady and Hawaiian Solo were two of the plants that flourished. Papaya cost Rs. 60/- per kilogram. in the moment, she can sell her papayas in local markets for Rs. 5,20,000/-.

c. Dragon Fruit: Dragon fruit is grown both independently and in combination with other plants, such as papaya, in horticulture. Fruit cost Rs 250/- per kilogram. The sale of Dragon Fruit has provided her with an immediate revenue of Rs. 20,00,000/-.

Results and Influence : In terms of the farmer's bottom line, the intervention yielded the following results:

Table 3: The Financial Impact of the Measure

Sum total of money spent (in Indian rupees).Earnings before taxesROI (Rupees)proportion of BC

20,30,000 33,95,000 13,65,000 1.67

Variable Tuning

After the intervention, production increased, growth accelerated, profits increased across the board, and animal waste was used to its full potential on the farm.

Earnings development (in Rs.

IFS increased the budget from Rs. 9,000,000 to Rs. 33,950,000.

N. Vanlaiphai's Integrated Farming System Mizoram's Serchhip District

Introduction

The Serchhip District is located in the heart of Mizoram, yet its territory actually stretches farther to the east. Location: Between coordinates N23°35'58'82" and N23°00'20'84" and E92°41'06'00" and E92°40'39'63" It is flanked to the north by Aizawl District, to the east by Champhai District, and to the south and west by Lunglei District. In the south-east corner of the province, it shares a boundary line with Myanmar. The district covers a total of 1421.60 square kilometres, or 6.74 percent of the state's total land area. The district has an average annual rainfall of 1680 mm, with temperatures ranging from 4 degrees Celsius to 34 degrees Celsius, and a height ranging from 500 metres to 1889 metres above mean sea level.

Mr. F. Vanlalchhara, an innovative farmer from the village of N. Vanlaiphai in the E. Lungdar Block, hosted the intervention on his farm. The farmer owns a total of 1.5 hectares of land.

Factor in particulars

I. Cultivation of Pigs and Cum Fish

Along with the water tank (3ft2), we built two pig sties measuring 6 feet by 8 feet. The pig waste is piped directly into the system that feeds the fish. They were kept for breeding purposes, and eventually gave birth to eight piglets of the Rani breed, each of which was estimated to be worth Rs 6000/-.

Aquaculture, Part Two

The fish pond was stocked with common carp and grass carp fingerlings, and after 9 months, the net profit was Rs. 1,80,000.00.

III. A Farming Method Based on Horticulture

Vegetables such as tomato, cabbage, and leafy mustard were cultivated on a cultivable area of 0.2 ha, yielding around 8 q. of tomato, 10 q. of cabbage, and 50 kg of leafy mustard, with a gross annual income of Rs. 80, 000/-.

the poultry section

In addition, 20 Vanaraja, a dual-purpose bird, were kept in a tiny poultry unit set up in the adjoining fish pond. This new facility will allow the farmer to earn more money from the sale of eggs and meat, increasing the IFS's profitability.

Results / Effects

The intervention's positive effects are demonstrated by the data in the accompanying table, which also includes a comparison of the parameters' evolution before and after farmers began using integrated farming techniques.

Table 3 Economics of the intervention

Component	Gross cost	Gross returns	Net returns	BC ratio
Piggery cum fish	1,05,000.00	3,08,000.00	2,03,000.00	2.9
Horticulture based	22,500.00	80,000.00	57,500.00	3.5

Changes in parameters

Prior to the procedure: Mr. Vanlalchhara of the hamlet of N. Vanlaiphai in the E. Lungdar block of the Serchhip District is a hardworking productive farmer. Out of his 1.5 ha of property, 1.0 ha is used as a fish pond, leaving 0.5 ha for horticulture that is currently underutilised. The fish pond is the primary source of revenue, but the production is low because of insufficient investment and inefficient use of available farm resources.

After the KVK Serchhip's intervention, he participated in numerous training sessions. He practises Integrated Farming by raising pigs and chickens with the help of KVK Serchhip. The production of fish was increased thanks to the construction of two pig sties and the subsequent use of pig manure as fish food. He kept on his backyard chicken farming by raising the versatile Vanaraja breed. He planted horticulture crops, including a variety of vegetables he compressed, over the remaining 0.4 hectares of his land**.**

Paddy cum Fish Culture @Tuisenphai Champhai District, Mizoram

Introduction

The Champhai district, which includes the Tuisenphai of the Khawzawl region, is mostly a rice-growing region due to its favorable topography and abundance of water. Local farmers often cultivate rice fields in the lowlands. The long history of farming on the area, however, has resulted in steadily diminishing rice harvests. They tried planting for both summer and winter harvests (double cropping) to improve their earnings. Extremely severe winter temperatures rendered double cropping ineffective due to frost.

Shri. Pu. Sanghluna of Tuisenphai village in Mizoram's Champhai district recognized the diminishing economics of rice farming farmers and the high demand for fish in Khawzawl and its surrounding areas, and he came up with the idea of paddy cum fish culture.

Specifics on the Part

I. Paddy Fish Farming The rice fields are flooded and the planting is finished by mid-July. The second full week of November is traditionally rice harvest time. A 2-foot-wide and 2-foot-deep trench was dug inside the main field, parallel to the bunds. The paddy field is around 1.1 ha in size, with 0.449 ha being used for paddy cum fish farming in several blocks of rice fields. There is a steady supply of water in Shri. Sanghluna, so after the paddy is harvested, the fish can be retained for breeding and sold to other farmers. He started selling fingerlings in May, at a price of 3 to 5 rupees each, anticipating a yearly profit of 80 to 125,000 rupees. After the paddy was picked, the field was often turned into a temporary fish pond. He may potentially earn Rs 55,000 per year from harvesting about 17 quintals of paddy. Mulberry trees, groundnut trees, winter vegetable trees, and other horticultural crops were planted along the paddy field's borders.

Two Mulberries

The Sericulture Division planted 1,300 mulberry trees on his farm. He might earn between Rs 8,000 and Rs 10,000 per year.

And finally, a worm composting bed

He learned about vermicomposting while attending classes at the Krishi Vigyan Kendra in the Champhai District. His interest in trying Azolla in his paddy field peaked during KVK-sponsored training. The composting bed was purchased from KVK in the Champhai Region. He created a vermin compost bed with the Azolla and water hyacinth he collected from his field on a weekly basis and then applied the finished compost to his vegetable and horticulture crops.

Output/Impact

The following is a component-by-component analysis of the system's post-intervention economics and graphical representation:

Table 4 Component-wise income generation

Sl. No.	Components	Average annual Income (Rs.)	Remarks
1.	Paddy cum fish culture	1,75,000.00	Income generated from fish fingerlings mostly
2.	Mulberry and other horticulture crops	10,000.00	Maximum profit from mulberry
3.	Vermicomposting	-	Used as input in his own farm mostly

Table 5 Economics of the IFS

Gross cost (Rs)	Gross Return (Rs)	Net Return (Rs)	BC Ratio
1,30,000	2,90,000	1,60,000	2.2:1

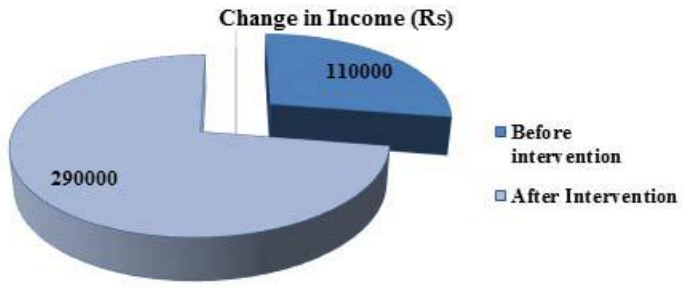

Table 6 Change in income before and after intervention

Integrated Farming System @Hnahthial, Lunglei District of Mizoram

Introduction

Hnahthial, Mizoram, is home to innovative farmers who have adopted the Integrated Farming System. Approximately 0.25 hectares of Mr. Lalhmingsanga Sailo's land is devoted to his tiny farm. Perhaps the first in his community or even his district to implement an Integrated Farming System, which featured piggery cum fisheries as a key component, he may have been a pioneer. For the past two years, ever since the KVK became involved, the farmer has been reaping the benefits of his labor. Since meat and fish are the key sources of protein in the area, the intervention was particularly adaptable because the method has been proved to give a considerably bigger production of fish than conventional farming.

Information about the IFS

He constructed a pig sty on the slope of his farm pond with local materials to cut costs. The farmer got piglets from three different litters of Large White Yorkshires. The pigsty's waste, including excrement and urine, was thrown directly into the pond. In a composite fish culture, Indian Major Carp and Exotic Carp were reared together. Two thousand fish fry were released into the pond. Feed supplements were not given to the fish, which considerably decreased production expenses. The area dedicated to pig cum cultivation is 0.25 ha. Vegetable-and-fish-growing aquaculture.

Outcome

The KVK facilitated the farmer's ability to maximise his farm's financial returns. Below is a table detailing the economic impact of the various farming endeavours:

Table 7 Economics of the different enterprises

Intervention	Gross cost (Rs.)	Gross return (Rs.)	Net return (Rs.)	BC Ratio
Piggery	16800	43500	26700	2.58
Fisheries	14500	32000	17500	2.2
Vegetable cultivation	15700	54300	38600	3.45

The chart below represents the comparison between the 1st and 2nd years in terms of the economic achievement of the intervention which was conducted at the farmer’s farm. The income generated during the second year was high because of the reduction of the cost of cultivation:

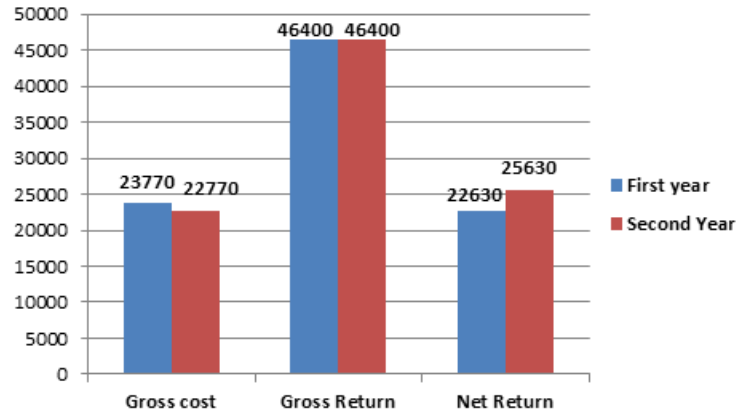

Table 8 Comparison between the 1st and 2nd year of the IFS

The benefit-cost ratio was also calculated to be 1.95 and 2.23 during the 1st year and 2nd year respectively.

Impact

As part of the NICRA Project, KVK, Lunglei intervened in pig cum fish farming (IFS) by showcasing applicable technologies. About three progressive farmers from the adjoining town of Hnahthial helped to carry out the intervention. Mr. Lalhmingsanga Sailo, an innovative farmer from the village of Hnahthial, had excellent results from the intervention performed on his farm and was well-praised for his work. He has no trouble selling his fish and cattle at the farmers market because they are in such high demand in the town. Because of him, pig cum fish breeding has become an important economic activity in his hometown.

CONCLUSION:

This literature analysis shows that the use of IFS in agriculture in the state of Mizoram has resulted in substantial changes. In Jhuming, a significant amount of farmland has been abandoned. In a similar vein, both crop production and yield in Jhuming agriculture fell. It is also evident that during the study period, total acreage shrank while output and yield saw no growth. These shifts were prompted in large part by the state government's NLUP scheme and the low output and yield of crops in shifting cultivation. Area, output, and yield have also drastically decreased for crops that rely on shifting cultivation, such as rajma, soybeans, brinjal, tomato, chili, roselle, and wing beans, as well as fruit crops including bananas, papaya, and dragon fruit. The input in terms of labor and cost also rose and decreased in livestock husbandry, including piggery, dairy farming, fish, and mulberry production. But it was also pointed out that horticulture crops like banana, cabbage, turmeric, ginger, passion fruit, and orange have great promise in improving people's standard of living in rural areas. Although the territory under horticultural crops is somewhat smaller, this is mostly owing to the favorable terrain and workable climatic conditions. Our research showed that Mizoram's agroecological circumstances are ideal for cultivating a wide variety of crop species and cultivars, but that the state's economically disadvantaged farmers were unable to take use of this rich agro-biodiversity. Reduced yields from arable land, challenging topography, and a lack of supporting infrastructure all work together to slow agricultural progress and have a significant impact on what gets planted where. The resulting food insecurity and malnutrition have led to widespread adjustments in farming methods and dietary recommendations. Fruits, vegetables, and spices are all valuable commodities that should be cultivated first and foremost. Horticultural crop yields are found to be significantly greater than cereal crop yields in the current study on Mizoram's total crop production and yield. Flood plains and river basins that have access to irrigation can also benefit from system rice intensification. Horticultural crops like bananas, pineapples, and jackfruits grow in abundance but are rarely harvested for their full potential. Adding value to these underutilized crops is one way to save farms and revive the economy. Improved agricultural productivity and yield will require the careful selection of cultivars adapted to different climates and different altitudes. A forward-thinking farmer in Hnahthial village saw great results from the intervention carried out on his farm, and the outcome from the IFS was also lauded. He has no trouble selling his fish and meat in the village market because of the high demand. As a result of his efforts, pig cum fish farming has become a central component of the agricultural economy in his village. Moreover, with the help of the KVK, farmers were able to achieve maximum revenue production from their farms as a result of increased productivity, increased growth rate, increased profit from all enterprises, and optimal utilization of animal waste in the farm. To ensure that all rural farmers reap the benefits of the NLUP, which is funded by the state government, it can be expanded and strengthened. Discourage environmentally harmful and economically unfeasible shifting farming practices. As a result, it's important to formulate and enact a policy that would ensure the long-term success of crop farming.

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