



A Study on the Quality of life and Pattern of Sugarcane Cultivation with Reference to Phulpui Village

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Abstract

This paper examines the quality of life and pattern of sugarcane cultivation among the residents of Phulpui village in Mizoram. Phulpui Village is depicted as a growing and well-connected rural center by the thorough statistics in every category. The town has a good level of rural life with nearly universal access to water (81 households), a trend toward modern energy like LPG, and high satisfaction with living conditions and transportation. The majority of people are still content in the areas of economic possibilities and education, despite the fact that they provide the greatest potential for future development. Although specialised planting initiatives are growing, sugarcane is mostly grown in Mizoram as a commercial crop and is frequently included into the traditional slash-and-burn (jhum) technique. Methodology: Descriptive survey method was employed for the present study. Sampling: Simple random technique was employed for the present study in which 90 households have participated. Both primary and secondary data were employed for the present study. The study reveals that with respect to the quality of life satisfaction and sugar cane cultivation the residents of Phulpui Village were found to be well satisfied. However, there are few limitations and setbacks faced by Phulpui village and the main challenges show: (a) Infrastructure Gaps: The village lacks extensive tourist amenities, such as diverse restaurants, hotels, or advanced healthcare facilities. (b) Accessibility: Roads can be challenging, particularly for larger vehicles, and can be very slippery during the monsoon season. (c) Isolation: Its remote location means that residents are far from major urban centers. Overall, Phulpui is characterized as a developing, well-connected rural hub with high satisfaction regarding its peaceful, close-knit, and traditional environment.

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Introduction

Phulpui is a picturesque village located within the Aizawl district of Mizoram, India, and has garnered prominence for its rich cultural heritage, particularly exemplified by the Phulpui Grave—a site steeped in romance and legend. This grave marks the resting place of the ill-fated lovers Zawlpala and Tualvungi, whose poignant story of love and sacrifice has resonated through generations, making the site a significant landmark in the region. The village is not only a cherished symbol of love but also a vital tourist attraction, drawing visitors who seek to connect with its historical and emotional narrative.

Geographically, Phulpui is situated in the Aibawk taluka, a subdivision that is easily reachable from the state capital, Aizawl. It lies approximately 8 kilometers from the sub-district headquarters of Aibawk, where the tehsildar office is located, and is around 38 kilometers away from the Aizawl district headquarters. This accessibility enhances its attractiveness to tourists and

researchers alike, who are eager to explore the natural beauty and cultural significance that the village offers.

As of the most recent demographic and social assessments, Phulpui village has a total population of approximately 1,058 individuals. This population consists of roughly 544 males and 514 females, resulting in a sex ratio of 944 females for every 1,000 males. The sex ratio of Phulpui Village is 944 females per 1000 males. Such demographic data is crucial for understanding the socio-cultural dynamics within the village, reflecting not only the current population distribution but also the broader implications for community development and resources.

Moreover, the village exhibits a relatively young population, with around 181 children aged between 0 to 6 years. This statistic underscores the vitality and potential for growth within Phulpui, suggesting a future generation that could continue the cultural and social legacies of the village.

An essential aspect of Phulpui's community profile is its educational attainment, indicated by a literacy rate of about 82.70%. This figure reflects the efforts made to promote education within the village, with male literacy standing slightly higher at 82.72% compared to female literacy, which is recorded at 82.68%. These literacy rates not only provide insight into the educational landscape of Phulpui but also highlight the progressive strides being made towards equal educational opportunities for both genders.

Phulpui serves as an emblem of cultural heritage and romantic folklore in Mizoram. Its historical significance, accessible location, vibrant demographics, and commendable literacy rates collectively contribute to its status as an important site of interest for both tourists and researchers exploring the intricate tapestry of rural life in this unique region of India.

During this study conducted within the confines of the village, a thorough survey was administered, encompassing a total of 83 households. Data collection was meticulously structured into several distinct categories, each aimed at providing a comprehensive understanding of the village's populace.

Location of The Study Area

The designated study area is geographically situated at a latitude of 23°32'3.302" North and a longitude of 92°44'11.578" East, placing it within a specific set of coordinates that define its position in the context of global geography. This village is notably elevated at an altitude of 3,180 feet above sea level, which may have significant implications for both the climate and agricultural practices in the region. The resident population predominantly engages in the cultivation of sugarcane, which serves as a crucial cash crop, along with a variety of other agricultural crops that support their livelihoods and contribute to the local economy.

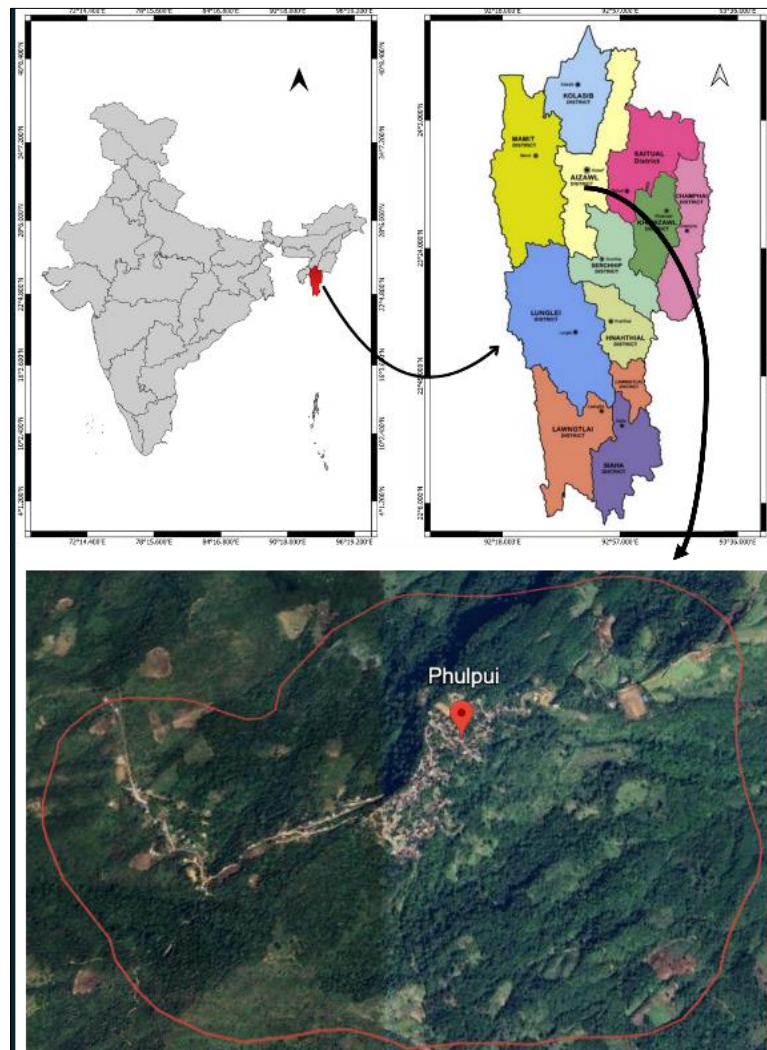


Fig 1:

It is essential to note that the census of 2011 tallied a total of 198 residential houses within the village, which indicates the housing density and may also serve as a point of analysis concerning living conditions and space allocation for the village's populace in relation to its geographical elevation and agricultural practices. Overall, this demographic, social and geographical overview establishes a foundational context for understanding the socioeconomic conditions and cultural practices within this village.

Scope OF the Study

The examination of the demographic characteristics of Phulpui village encompasses a comprehensive analysis of various parameters, including, but not limited to, the size, distribution, and composition of its population. This inquiry seeks to elucidate the intricate patterns that define the village's demographic landscape while also investigating the fundamental processes that drive fluctuations in population dynamics. These processes include, but are not confined to, the rates of birth and death, as well as the patterns of migration that collectively contribute to changes in the population over time.

Furthermore, this study delves into a range of social and economic factors that exert influence on these demographic processes. Such factors may encompass educational attainment, employment opportunities, healthcare access, cultural practices, and socioeconomic status, all of which can significantly affect birth rates, mortality rates, and migration patterns. By assessing these influences, the research aims to uncover the multifaceted implications they hold for the community of Phulpui, including the socioeconomic development of the village and the overall quality of life for its inhabitants.

Moreover, the findings from this study analysis will contribute to a broader understanding of how these processes shape societal outcomes in Phulpui and their implications for contemporary population theories and policies. In particular, the study seeks to inform the development of targeted strategies aimed at addressing the evolving dynamics of the population, thereby anticipating future needs and challenges. In doing so, it aspires to provide actionable insights for policymakers and stakeholders, fostering a well-informed approach to sustainable community development in the context of demographic variability. Through this detailed examination, the research endeavours to enhance the comprehension of population dynamics within Phulpui village and contribute to the wider field of demographic studies.

Objectives of the study

- To examine of the quality of life among the residents of Phulpui Village.
- To assess the pattern of sugarcane cultivation and its impact on the economic condition of Phulpui village.

Methodology

Descriptive survey method was employed for the present study.

Population and Sampling

Simple random sampling technique was employed for the present study. 90 households were selected for the present study. Both primary and secondary data were employed for the present study for assessing the quality of life and the pattern of sugarcane cultivation by each household.





Photo taken during Household Survey





Fig 2:

Analysis and Interpretation

(Quality of Life Among Residents of Phulpui Village)

Objective 1: Quality of Life among Residents of Phulpui Village

Quality of life is defined by the WHO as “individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”.

Little is known about the exact origin of the term "quality of life"; however, McCall (1975) suggested that popular usage seems to date back to 1961 when the phrase was used in a speech given by President Lyndon Johnson. Although originally the term was used most often in conjunction with such concerns as environmental pollution or urban deterioration, the context within which it is now used is much broader. Quality of life has also become a multi-national priority.

In recent years, the phrase "quality of life" has become part of the vocabulary of social scientists, advertisers and the man in the street, despite the fact that there has been little consensus about how the concept should be defined or measured. Early attempts to determine life's quality depended almost entirely upon the analysis of statistical indicators. In the 1970s, however, representative samples of the American public were interviewed to determine their subjective evaluations of their life quality, and similar assessments continue throughout most of the industrialized nations.

Quality of Life (QOL) is the extent to which objective human needs are fulfilled in relation to personal or group perceptions of subjective well-being. Human needs are basic needs for subsistence, reproduction, security, affection, etc. SWB is assessed by individuals' or groups' responses to questions about happiness, life satisfaction, utility, or welfare. The relation between specific human needs and perceived satisfaction with each of them can be affected by mental

capacity, cultural context, information, education, temperament, and the like, often in quite complex ways. (Constanza, R. et al. 2007)

The term "quality of life" overlaps but is not synonymous with a number of terms, including "well-being," "social indicators," and "way of life", among others (Andrews, 1980). Many investigators in this area have adopted the phrase "level of well-being" as one that seems to express the quality of life concept most succinctly.

The quality of life is the degree to which the experience of an individual's life satisfies that individual's wants and needs (both physical and psychological). Much of the debate about how quality of life should be defined has centered around subjective versus objective approaches. Rice further defines objective quality of life (OQL) as the degree to which specified standards of living are met by the objectively verifiable conditions, activities, and activity consequences of an individual's life, and subjective quality of life (SQL) as a set of affective beliefs directed toward one's life.

Thus, inherent in the objective/subjective debate is the question of who should determine how well the individual's wants and needs have been satisfied. The objective approach depends upon the judgment of an elite who have specified standards that they believe will satisfy human needs, The subjective approach allows individuals to define for themselves the quality of their lives and recognizes the possibility of a multitude of different orientations (Blisshen & Atkinson, 1980). In general, governmental agencies have preferred objective approaches while survey organizations with academic affiliations typically have adopted subjective approaches.

Objective Approaches

Western societies have compiled a flood of national and regional statistics that are considered essential for the operation of a modern society, and that have been used as indicators of the well-being of their people. The bulk of these

data relate to material aspects of life--to income, expenditures, savings, and the production of goods and services. While such monetary indicators are attractive because they are relatively easy to count, many investigators have argued against using them as the ultimate criterion against which quality of life should be assessed (Campbell, 1976).

Consequently, there has been a continuing effort to develop non-economic "social indicators." Nearly all of these social indicators describe events, behaviours, or characteristics of individuals that are reported through governmental agencies of one type or another. Most people are familiar with statistics of this type that report the incidence of marriages, divorces, births, crimes, college graduates, and employed women. None of these statistics depends upon the individual's description of his or her own life, and thus they are also objective indicators. While quality of life is experienced by individuals, it is closely related to the quality of life of social groups, communities, and nations. The aggregation of individual life experiences to produce a summary statement of the quality of life of a nation is one of the most difficult problems of quality-of-life research (Solomon *et al.*, 1980). Large multi-national quality of life research programs, such as that of United Nations Educational, Scientific and Cultural Organization (UNESCO) and the member countries of the Organization for Economic Cooperation and Development (OECD), have thus far concentrated on the development of objective indicators. This work is predicated on the assumptions that a single notion of well-being can be broadly applicable to all countries, and that identical measures and measurement techniques can be used in the different countries (Verwayen, 1980). The OECD member countries have developed a slate of social concerns and are seeking to develop social indicators to measure each of them. This group has defined a social indicator as a direct and valid statistical measure that monitors levels and changes over time in a fundamental social concern. A social concern is defined as an identifiable and definable aspiration of fundamental and direct importance to human well-being, such as literacy for example. Working groups, each composed of individuals from several countries, have been assigned to each concern

with the task of developing indicators for that concern. This and similar multi-national efforts represent the state of the art in social indicators research.

Subjective Approaches

Although it is assumed that the accumulation of goods and services serves as an instrument through which people enhance their feelings of well-being, previous research (e.g., Campbell, Converse & Rodgers, 1976) has shown that there is not necessarily a strong relationship between affluence and SQL. SQL assessments measure perceptions of well-being--how people feel about their lives--with quality of life being operationally defined in that manner. For example, Dalkey and Rourke (1973) wrote, "in our instructions to the subjects we defined the term 'Quality of Life' to mean a person's sense of well-being, his satisfaction or dissatisfaction with life, or his happiness or unhappiness" (p. 11-2 10).

Researchers (e.g., Campbell, 1981) who favor a subjective approach maintain that the only direct source of information on the feelings about a life is the individual living that life. The literature on SQL is therefore concerned with how and why people experience their lives in positive ways, including cognitive judgments and affective reactions (Diener, 1984). The measures that have most frequently been used in the subjective approach are measures of positive/negative affect and measures of satisfaction/dissatisfaction. -These two components are related but they are not identical and, in some circumstances, have been shown to move in opposite directions in relation to situational variables (Andrews & Withey, 1976; Campbell, 1981; Campbell *et al.*, 1976). Therefore, the following study has integrated the study of quality of life both in objective and subjective manner.

Socio-Economic Profile and Infrastructure Resilience of Phulpui Village

The total number of surveyed samples consists of 83 households.

The data reflects the ownership of household assets and access to communication and transport facilities, which indicate the socio-economic condition and infrastructure resilience of the village.

Table 2: Household Assets

Sl. No.	Particulars	No. of Families	Percentage (%)
1	TV	56	67.46
2	Fridge	66	79.51
3	Two-Wheeler	59	71.084
4	4-wheeler	37	44.57
5	Telephone/ Mobile	77	92.77
6	Washing Machine	55	66.26
7	Inverter	30	36.14
8	Computer set/Laptop	9	10.84
9	Cable TV Connection	26	31.32
10	Internet Connection	23	27.71

1. Television (TV)

A total of 56 families (67.46%) own a television. This shows that a majority of households have access to information and entertainment through broadcast media.

2. Refrigerator (Fridge)

66 families (79.51%) own a refrigerator.

This high percentage suggests improved living standards and the ability to store food safely, which contributes to better health and convenience.

3. Two-Wheeler Vehicles

59 families (71.08%) own a two-wheeler. This indicates good mobility and transportation access within and outside the village.

4. Four-Wheeler Vehicles

37 families (44.57%) own a four-wheeler vehicle. While less common than two-wheelers, nearly half of the households owning cars suggests moderate economic stability.

5. Telephone/Mobile Phones

77 families (92.77%) own telephones or mobile phones. This is one of the highest percentages, showing strong communication connectivity in the village.

6. Washing Machine

55 families (66.26%) have washing machines, indicating improved household convenience and living conditions.

7. Inverter

30 families (36.14%) own inverters. This suggests that some households are prepared for power outages, contributing to infrastructure resilience.

8. Computer Set/Laptop

Only 9 families (10.84%) own computers or laptops. This relatively low percentage may indicate limited access to digital education and online services.

9. Cable TV Connection

26 families (31.32%) have cable TV connections, suggesting

that while many households have televisions, fewer subscribe to cable services. Fewer cable television subscriptions may be attributed to better internet facilities that favour connectivity to the world online.

10. Internet Connection

23 families (27.71%) have internet connections. This shows that although mobile phone ownership is high, direct internet connectivity at home is still developing.

This indicates that Phulpui Village has a relatively strong socio-economic base, with high ownership of essential household appliances and communication devices. Mobile phone usage and refrigerator ownership are particularly high, reflecting modernization and improved standards of living. However, lower ownership of computers and internet connections suggests scope for digital development and technological advancement.

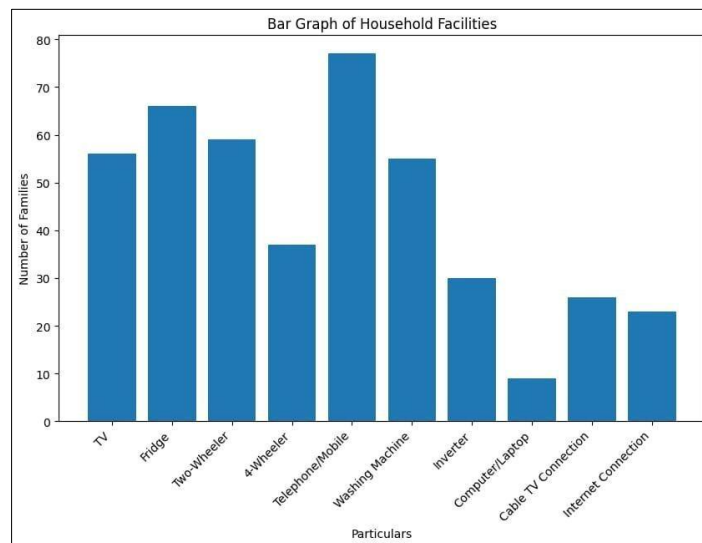


Fig 2: Household Facilities

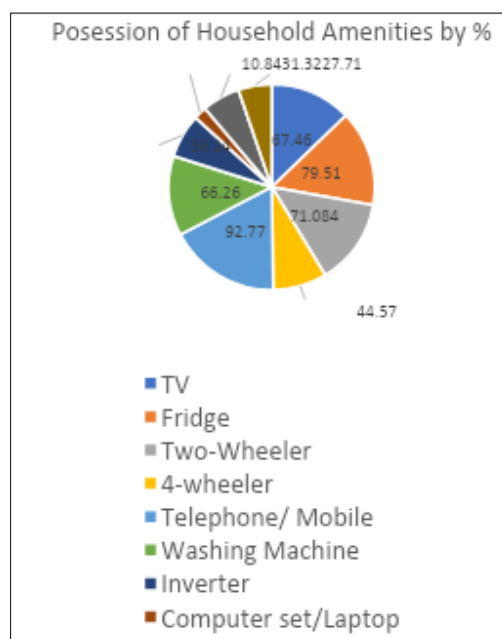


Fig 3: Household Amenities

Housing Infrastructure: Phulpui Village

An analysis of the housing conditions presents insights into the objective quality of life of any household. Detailed information about the structure and facilities of current homes in Phulpui Village, including number of rooms, toilets, kitchens, and sitting rooms etc partly reflects the socio-economic conditions of the residents.

1. Number of Rooms in Houses

The distribution of houses based on the number of rooms is as follows:

- 20 houses have 1 room
- 38 houses have 2 rooms
- 10 houses have 3 rooms
- 10 houses have 4 rooms
- 4 houses have 5 rooms
- 1 house has 6 rooms

This shows that the majority of houses (38) have two rooms, indicating moderate housing size. A smaller number of houses have larger room capacities (4–6 rooms), which may reflect better economic conditions. The presence of 20 single-room houses suggests that some families may live in more compact housing conditions.

2. Number of Toilets/Bathrooms

The data indicates:

- 64 houses have 1 toilet/bathroom
- 10 houses have 2 toilets/bathrooms
- 7 houses have 3 toilets/bathrooms

This suggests that most households have at least one toilet facility, which reflects improved sanitation standards. A smaller number of households have multiple toilets, which may indicate higher living standards and larger family sizes.

3. Toilets/Bathrooms Attached with Rooms

The study shows:

- 30 houses have 1 attached toilet/bathroom
- 3 houses have 2 attached toilets/bathrooms
- 2 houses have 3 attached toilets/bathrooms

This indicates that while some households have modern housing facilities with attached bathrooms, many still rely on common or separate toilet arrangements.

4. Separate Kitchen

- 60 houses have 1 separate kitchen
- 2 houses have 2 separate kitchens

This shows that most households maintain a separate space for cooking, which improves hygiene, ventilation, and living conditions.

5. Separate Sitting Rooms

- 53 houses have 1 separate sitting room
- 3 houses have 2 separate sitting rooms

This suggests that many homes have designated spaces for guests and family gatherings, reflecting organized housing structures.

6. Separate/Dedicated Sitting Rooms

- 28 houses have separated or dedicated sitting rooms
- This further highlights that a significant portion of households have structured interior layouts, indicating improved housing development.

The housing infrastructure in Phulpui Village shows moderate to good development. Most houses have two rooms, at least one toilet, a separate kitchen, and in many cases, a sitting room. While some houses are small (single-room), the presence of multiple-room houses and attached bathrooms suggests that housing conditions are gradually improving. Overall, the data reflects a village that is progressing in terms of residential infrastructure, sanitation, and living standards.

Advanced Infrastructure and Utility Assessment: Phulpui Village

1. Availability of Piped Water Facilities for Kitchen and Bathrooms

Out of the total households surveyed, while most of the households have water connection distributed through pipelines however, 65 households have internal water distribution system connecting kitchens and toilets while 12 households do not.

This indicates that the majority of households in Phulpui Village have access to piped water, which reflects a relatively good level of living standard.

2. Type of Toilets

The data shows that 80 households use septic tank toilets, while only 2 households use pit latrines.

This suggests that most households in the village have improved sanitation facilities. Septic tanks are generally considered safer and more hygienic compared to traditional pit latrines. The very small number of pit latrines indicates significant progress in sanitation development within the village.

3. Location of Toilets

Among the households surveyed, 44 toilets are located inside the house, while 14 are located outside the house.

This shows that the majority of households have indoor toilet facilities, which provide greater convenience, privacy, and improved hygiene. However, some households still use outdoor toilets, which may be less convenient, especially during bad weather or at night.

4. Availability of Proper Drainage System

The data reveals that 60 households have a proper drainage system, whereas 20 households do not. This suggests that most households benefit from adequate drainage facilities, which help prevent water stagnation and reduce the risk of waterborne diseases. However, the 20 households without proper drainage may face sanitation and environmental challenges.

5. Disposal of Garbage

Regarding waste disposal methods:

- 71 households use garbage collection vehicles,
- 3 households dispose of garbage in drainage gullies,
- 6 households dispose of garbage anywhere.

This indicates that the majority of residents follow proper waste management practices by using garbage collection services. However, a small number of households dispose of waste improperly, which could contribute to environmental pollution and health risks.

6. Availability of Grid Power Supply Facilities

Out of the total households surveyed, 75 households have access to grid electricity, while 8 households do not.

This shows that electricity coverage in Phulpui Village is high. Most households benefit from grid power supply, which supports daily living, education, communication, and economic activities. However, a few households remain without electricity, indicating a need for further infrastructure expansion.

The village demonstrates a high level of modernization in energy consumption, supported by various backup systems to mitigate grid instability.

7. Sources of Energy

LPG remains the main source of energy for households for cooking.

Of the 83 households surveyed, 78 use LPG (Liquefied Petroleum Gas) as their primary source of energy for domestic purposes. Meanwhile 37 households use charcoal for a subsidiary purpose.

This indicates that LPG is the most commonly used energy source in Phulpui Village, reflecting a shift toward cleaner and more efficient cooking fuel. However, a considerable number of households still rely on charcoal as a substitute in times of failure of supply and as a means to conserve LPG. This may however produce smoke and contribute to indoor air pollution. The absence of kerosene and firewood usage suggests improvement in access to modern energy sources.

To serve the domestic needs, most households are reliant on the use Liquid Petroleum Gas (LPG) is the primary fuel source for the majority of the community, ensuring and indicating the environment sustainability.

8. Use of Any Other Tools/Equipment for Household Energy

Out of the households surveyed, 14 households reported using other tools or equipment for household energy, while 45 households reported not using any additional tools.

This suggests that most households depend mainly on their primary energy sources (such as LPG or charcoal) without supplementary energy devices. The smaller number using other equipment may include items like electric appliances or alternative cooking devices.

9. Availability of Grid Water Supplies

Water security in the village is exceptionally high, with nearly all surveyed homes integrated into the distribution network.

Grid Water Access: 81 households have access to grid water supplies, while only 1 household reported a lack of access.

This shows that almost all households in Phulpui Village have access to grid water, indicating strong water infrastructure development. The very small number without access suggests that water supply coverage in the village is nearly universal, which is a positive indicator of development and public service delivery.

10. Use of Alternative Power Supply in Case of Power Supply Failures

The following data shows reliance on other sources of energy for lightings during power outages:

- 28 households use inverters,
- 4 households use lanterns,
- 16 households use candles,
- 30 households use emergency lights.

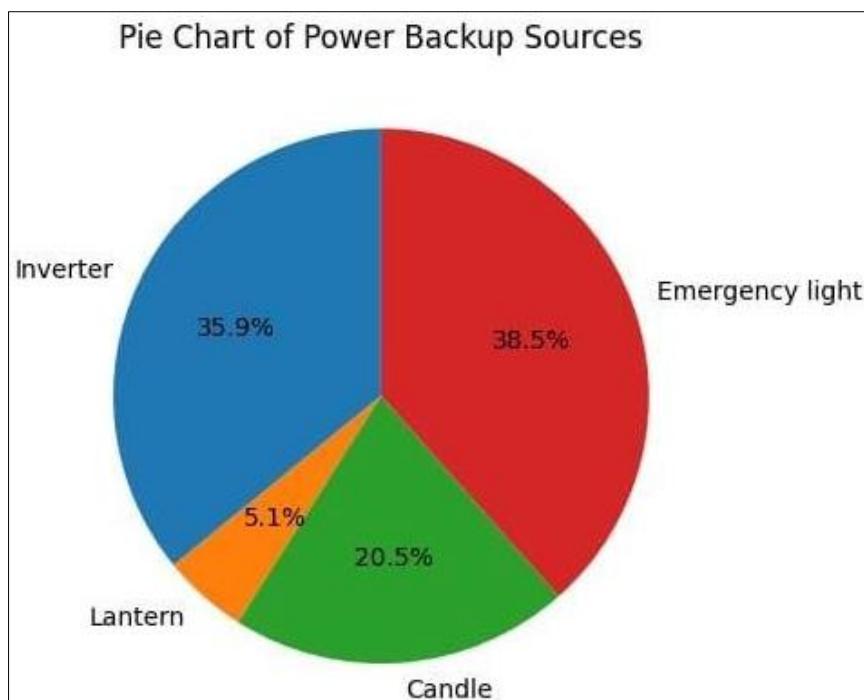


Fig 4: Power backup sources

The village demonstrates a high level of modernization in energy consumption, supported by various backup systems to mitigate grid instability.

Study shows that a Power grid supply is widespread, with 75 households connected and only 8 currently without grid access.

Emergency Lights: The most common solution, used by 30 households.

Inverters: High adoption of modern technology with 28 households.

Traditional Methods: 16 households rely on candles, while 4 use lanterns.

This indicates that many households in Phulpui Village are prepared for electricity disruptions by using alternative power sources. The most commonly used backup option is emergency lights, followed by inverters. The use of inverters suggests that several households have invested in more reliable backup systems, which reflects a moderate level of economic capacity and awareness. However, some households still depend on candles and lanterns, which may be less efficient and potentially unsafe compared to modern alternatives. Overall, the data suggests that while grid electricity coverage is high, power interruptions may still occur, and residents have adopted different coping mechanisms to manage such situations.

During the survey, households were interviewed and were asked about their satisfaction level of their present living conditions on 17 points. The following table shows the satisfaction level on Likert Scale.

This section of the research evaluates the living standards, economic sentiment, and infrastructure reliability of Phulpui Village. The data indicate a community with strong utility coverage and generally positive levels of satisfaction

regarding essential services.

Community Satisfaction and Economic Sentiment

The Likert scale data (ranging from 1-Very Dissatisfied to 5-Very Satisfied) provides insight into the quality of life and economic health of the village.

Living Conditions: General satisfaction is high, with 72.08% of respondents (scoring 4 or 5) feeling satisfied with their current living conditions.

Job Opportunities: Residents feel optimistic about the local labor market, with 51.94% expressing satisfaction with job availability.

Income Satisfaction: 60.48% of the community is satisfied with their monthly income. * Infrastructure Satisfaction:

Roads and Transport: Strong satisfaction was recorded for road infrastructure (67.5%) and transportation facilities (75.8%).

Education and Schools: 52.5% of respondents feel their village has adequate and well-functioning schools.

Digital Connectivity: Satisfaction with mobile phone internet connectivity is high at 62.81%.

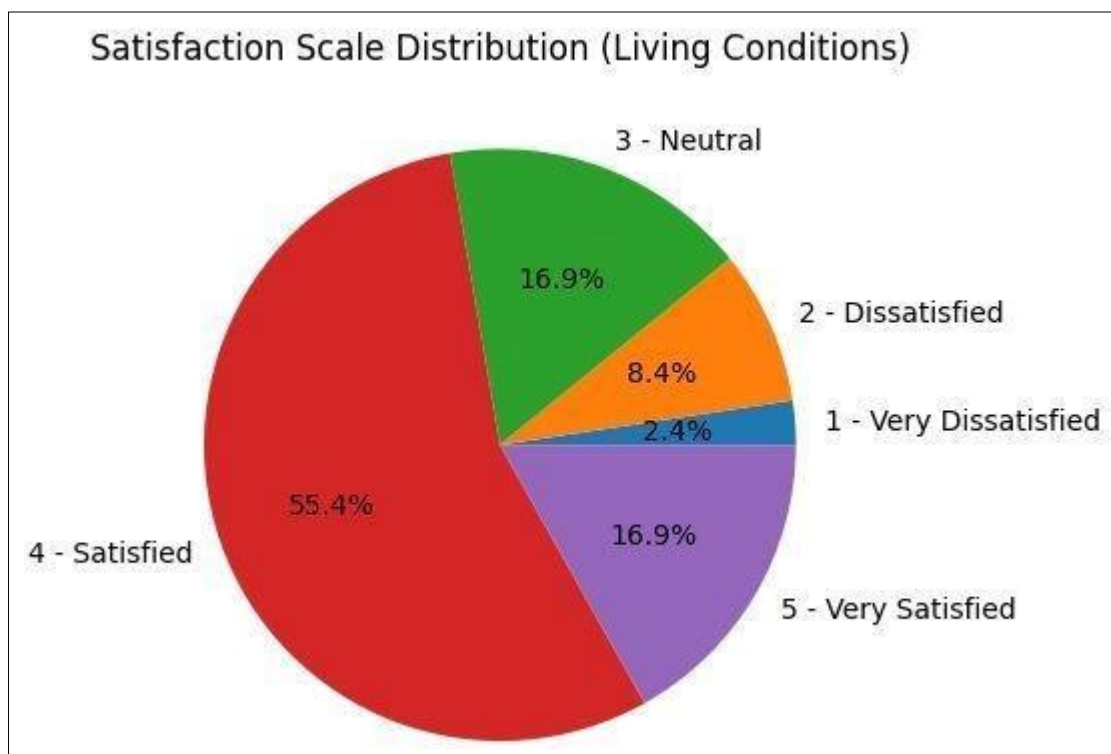


Fig 4: Living Conditions

Satisfied (4) → 55.4% (Majority)

- Very Satisfied (5) → 16.9%
- Neutral (3) → 16.9%
- Dissatisfied (2) → 8.4%
- Very Dissatisfied (1) → 2.4%

This shows that most respondents are satisfied with their current living conditions, and very few are dissatisfied.

Pattern of Sugarcane Cultivation at Phulpui Village

Objective 2: Pattern of Sugarcane Cultivation

Sugarcane cultivation is a significant agricultural activity in Phulpui village, located in Aizawl district of Mizoram, with the industry supported by local cooperative efforts. Phulpui sugarcane growers cooperative society Ltd. Is established in the area to support local farmers while Phulpui focuses on sugarcane, it is part of a broader agricultural landscape, which

also includes Wet Rice Cultivation (WRC) and shifting cultivation.

Phulpui is known to have potential for expansion in agriculture, particularly in sugarcane cultivation, with initiatives often focusing on enhancing production and improving infrastructural facilities

Sugarcane Cultivation in Phulpui Village

Table 3: No. of respondents for sugarcane cultivation

	No. of family
YES	63
NO	18
Total	81

Phulpui Village is a thriving agricultural community where sugarcane cultivation plays a significant role in the local economy. Out of a total of 81 families residing in the village, 63 families are actively engaged in sugarcane cultivation. This accounts for a substantial proportion of the village's population, highlighting the importance of sugarcane as a primary crop.

Sugarcane cultivation is a vital source of income for the majority of families in Phulpui Village. The crop is well-suited to the local climate and soil conditions, making it an ideal choice for farmers. The cultivation of sugarcane not only provides a means of livelihood for the farmers but also contributes to the local economy through the sale of sugarcane and its by-products

Approximate Area of Land Used for Sugarcane Cultivation

Table 4: Approximate area of land used for sugarcane cultivation

Tin	No. of family
½	2
1	10
1.5	9
2	13
2.5	2
3	8
4	2
5	7
6	1
7.5	1
33	1
Total	169
	56

In Phulpui Village, a total of 58 families are engaged in sugarcane cultivation to varying extents. Based on the household survey conducted, these families provided information about their approximate land use area under sugarcane cultivation, which altogether amounts to 169 tins of land. This data reflects the diverse scale of sugarcane farming practiced by the villagers, ranging from small to large landholdings.

Among the 58 families, 2 families are cultivating sugarcane on about 0.5 tin of land each, indicating a very small-scale or subsistence-level production. 10 families cultivate on 1 tin of land each, showing a slightly higher but still modest level of production.

9 families have around 1.5 tins of land under sugarcane, while 13 families make use of 2 tins each, which appears to be one of the most common landholding sizes for sugarcane cultivation in the village.

Additionally, 2 families reported using 2.5 tins of land, and 8 families use 3 tins, representing moderately sized holdings. A smaller group of 2 families cultivate sugarcane on 4 tins of land each, while 7 families have relatively larger holdings of 5 tins each. There are also a few families who own and cultivate even larger areas: 1 family with 6 tins, another with 7.5 tins, and notably, 1 family that cultivates a very large area of 33 tins under sugarcane.

Major Challenges Faced By Sugarcane Producer

Table 5: Challenges faced by sugarcane producer

Challenge	No. of family
Lack of irrigation	10
High cost of inputs	2
Pest and disease management	37
Marketing and price fluctuation	9
Others	Roads Transportation
	4 1

The village has a total of 81 families engaged in sugarcane production. However, these families face various challenges that affect their productivity and income. Let's take a closer look at the specific challenges faced by these families.

Irrigation system issues are a significant problem for 10 families. Sugarcane is a water-intensive crop, and inadequate irrigation can lead to reduced yields. The lack of access to reliable irrigation systems can force farmers to rely on rainfall, which can be unpredictable. This can lead to crop failures, reduced yields, and lower income for farmers.

The high cost of inputs is another challenge faced by 2 families. Sugarcane production requires significant investments in seeds, fertilizers, and pesticides. If the cost of these inputs is high, it can reduce the profit margins of farmers, making it difficult for them to sustain their livelihoods.

Pest and disease management is a major problem for 37 families. Sugarcane is susceptible to various pests and diseases, such as the sugarcane borer and smut disease. These pests and diseases can cause significant damage to the crop, leading to reduced yields and lower income for farmers.

Marketing and price fluctuation are significant challenges for 9 families. Sugarcane prices can fluctuate, affecting the income of farmers. If farmers are not able to get a fair price for their produce, it can impact their livelihoods. Marketing challenges can also make it difficult for farmers to sell their produce, leading to losses. Infrastructure issues, such as poor road conditions, are a problem for 4 families. Good road connectivity is essential for the transportation of sugarcane from the farm to the market. Poor road conditions can lead to delays, damage to the crop, and increased transportation costs. Finally, 1 family is dissatisfied with transportation services. Access to reliable transportation is crucial for farmers to get their produce to the market on time. If transportation services are not reliable, it can lead to delays, losses, and reduced income for farmers.

Average Annual Income from Sugarcane Production

Table 6: Annual income from sugarcane cultivation

Income of phulpui village		
Range in rs.	No. Of family	Amount
0-10,000	32	5,000 average
10,000-50,000	3	10,000
50,000-1,00,000	1	50,000
1,00,000-1,50,000	5	1,00,000
1,50,000-2,00,000	6	1,50,000
2,00,000-2,50,000	10	2,00,000
2,50,000-3,00,000	1	2,50,000
3,00,000-3,50,000	10	3,00,000
3,50,000-4,00,000	0	0
4,00,000-4,50,000	5	4,00,000
4,50,000-5,00,000	1	4,50,000
5,00,000-5,50,000	4	5,00,000
5,50,000-6,00,000	0	0
6,00,000-6,50,000	1	6,00,000
6,50,000-7,00,000	0	0
7,00,000-7,50,000	0	0
7,50,000-8,00,000	0	0
8,00,000-8,50,000	1	8,00,000

A survey on annual income was held on Phulpui village and it is found that

The average annual income from sugarcane products in Phulpui Village is a crucial indicator of the economic well-being of its residents. With a total of 81 families, the village has a diverse range of income levels.

- Low-income families:** 32 families earn below ₹10,000 per year.
- Middle-income families:** The majority of families earn between ₹1,00,000 and ₹5,00,000 per year.
- High-income families:** A few families earn above ₹6,00,000 per year, with one family earning ₹8,00,000.

$$\begin{aligned} \text{Average Income} &= \text{Total Income} / \text{Total Families} \\ &= ₹2,39,30,000 / 81 \\ &\approx ₹2,95,432 \end{aligned}$$

The average annual income from sugarcane products in Phulpui Village is approximately ₹2,95,432. This suggests that sugarcane production is a significant contributor to the village's economy, providing a decent standard of living for its residents. However, the income disparity highlights the need for support and resources for low-income families.

Let's recalculate the total income and average income considering the additional information.

$$\begin{aligned} \text{Total Income} &= ₹1,60,000 + ₹30,000 + ₹50,000 + ₹5,00,000 \\ &+ ₹9,00,000 + ₹20,00,000 + ₹2,50,000 + ₹30,00,000 + \\ &₹20,00,000 + ₹4,50,000 + ₹20,00,000 + ₹6,00,000 + \\ &₹8,00,000 \end{aligned}$$

$$\text{Total Income} = ₹2,39,30,000 \text{ (matches the given total income)}$$

Total Number of Families

$$\begin{aligned} \text{Total Families} &= 32 + 3 + 1 + 5 + 6 + 10 + 1 + 10 + 5 + 1 + 4 \\ &+ 1 + 1 = 79 + 32 = 81 \text{ (as initially mentioned)} \end{aligned}$$

Average Annual Income Calculation

$$\begin{aligned} \text{Average Income} &= \text{Total Income} / \text{Total Families} \\ &= ₹2,39,30,000 / 81 \\ &\approx ₹2,95,432 \end{aligned}$$

The average annual income from sugarcane products in Phulpui Village is approximately ₹2,95,432.

Utilization of Income from Sugarcane Production

Table 7: Utilization of income from sugarcane cultivation

Utilised	No. of family
Household expenses	49
Investing in farm inputs	30
Education and Health care	37
Savings	15
Others	2

It is evident from table 5 that the utilization of income by Phulpui families reflects their priorities and values. The families expenditure patterns reveal their focus on essential needs and services.

Allocation of Income

- Household Expenses:** 49 families (majority) prioritize household expenses, indicating a focus on basic needs like food, shelter, and clothing.
- Education and Health Care:** 37 families invest in education and health care, highlighting the importance of human capital development.
- Farm Inputs:** 30 families allocate resources to farm inputs, demonstrating their commitment to agriculture and livelihood sustainability.
- Savings:** 15 families prioritize savings, indicating a sense of financial prudence and security.
- Other Purposes:** Only 2 families utilize their income for other purposes, suggesting that most families focus on essential expenses.
- Prioritization of Basic Needs:** Most families prioritize household expenses, ensuring their basic needs are met.
- Investment in Human Capital:** A significant number of families invest in education and health care, recognizing the importance of human capital development.
- Agricultural Investment:** Farm inputs are a significant allocation, highlighting the importance of agriculture in the local economy.

Improvement on Standard of Living from Sugarcane Production

Table 7: Standard of living progress through sugarcane cultivation

Response	No. of family
Yes	55
No	32
Total	87

The study was conducted on Phulpui to understand whether sugarcane production has improved the standard of living of families. Out of a total of 87 families, 55 families (63.2%) responded 'Yes', indicating that sugarcane cultivation has had a positive effect on their living standards. Meanwhile, 32 families (36.8%) said 'No', showing that not all have

benefited equally. This suggests that while sugarcane production contributes significantly to the economic well-being of most families—by providing income, employment, and better access to resources—some still face challenges such as fluctuating market prices or high input costs. Overall, the data reflects that sugarcane production has generally improved the livelihood of the majority of families in Phulpui.

Market Structure on Sugarcane

Table 8: Market structure on sugarcane cultivation

Sold To	No. of family
Local market	11
Sugar mill	5
Middleman (traders)	42
Others	2

According to the survey, most of the Farmers in Phulpui Village (42 family) sell their sugarcane to middleman as Selling to a middleman is beneficial for producers because it provides access to wider markets, handles logistics like distribution and marketing, and offers valuable market intelligence. Middlemen also allow manufacturers to focus on production by taking over ancillary business functions, saving producers time and resources. For consumers, middlemen provide convenience, a variety of products, and can ensure fair pricing.

Other remaining family sells to local market, or for other purposes.

Most Farmers in Phulpui village sell their production to middleman than local market because selling to a middleman can be more beneficial than selling to a local market because it often provides access to larger markets, reduces risk, and saves time and resources. Middlemen handle logistics like transportation and storage, can buy in bulk, and offer market intelligence, allowing producers to focus on production and potentially earn a higher overall profit through access to wider distribution channels.

Satisfaction with Sugarcane Prices Among Phulpui Farmers

Table 9: Satisfaction level on sugarcane prices by residents of Phulpui farmers

Satisfy	No. of family
Yes	45
No	38
Total	83

In Phulpui village, the satisfaction levels of families regarding the price received for their sugarcane produce show a divided picture. Out of 83 families, 45 expressed satisfaction with the price they received, accounting for approximately 54% of the responding families. Meanwhile, 38 families, or about 46%, indicated they were not satisfied with the price.

The positive aspect is that a slight majority of the families are satisfied with the price they received for their sugarcane produce. This could be due to various factors such as fair market prices, better negotiation by farmers, or support from local authorities. On the other hand, a significant portion of the families are not satisfied, which suggests that there are challenges that need to be addressed.

Several factors could contribute to the dissatisfaction with sugarcane prices. One major factor is the fluctuation in market prices, which can affect the income of farmers. Additionally, the cost of production, including labor and inputs like fertilizers and pesticides, can be high, reducing the profit margins for farmers. The role of middlemen in the supply chain can also impact the price received by farmers, as they may not get the best price for their produce.

To improve the satisfaction levels of farmers with the price of sugarcane, several strategies can be employed. One approach is to provide training and support to farmers on market trends, pricing, and negotiation skills. This can help them make informed decisions and potentially get better prices for their produce. Another strategy is to promote fair trade practices and strengthen the bargaining power of farmers through cooperatives or farmer-producer organizations.

Improving infrastructure, such as roads and storage facilities, can also help reduce post-harvest losses and improve the quality of sugarcane, potentially leading to better prices. Furthermore, government initiatives and policies can play a crucial role in supporting sugarcane farmers. For instance, the government can provide subsidies or support for inputs like fertilizers and pesticides, reducing the cost of production for farmers.

Summary and Conclusion

The comprehensive data across all categories paints a picture of Phulpui Village as a developing and well-connected rural hub. With nearly universal water access (81 homes), a shift toward modern energy like LPG, and high satisfaction in transport and living conditions, the village shows a high standard of rural life. Economic opportunities and schooling remain areas where the majority are satisfied, though they present the most significant room for continued growth. Sugarcane in Mizoram is primarily cultivated as a cash crop, often integrated into the traditional slash-and-burn (jhum) system, though specialized plantation efforts are increasing. While jhuming dominates, sugarcane is also cultivated in settled valley areas, with production concentrated in specific areas that support the state's sugar and molasses production. However, there are few limitations and setbacks faced by Phulpui village and the main challenges show: (a) Infrastructure Gaps: The village lacks extensive tourist amenities, such as diverse restaurants, hotels, or advanced healthcare facilities. (b) Accessibility: Roads can be challenging, particularly for larger vehicles, and can be very slippery during the monsoon season. (c) Isolation: Its remote location means that residents are far from major urban centers. Overall, Phulpui is characterized as a developing, well-connected rural hub with high satisfaction regarding its peaceful, close-knit, and traditional environment.

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