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A case study on social economy profile of the farmer in Rupnagar District of Punjab, India

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Abstract
Rupnagar district in Punjab reflects the socio-economic and cultural dynamics of rural northern India, characterized by a diverse population engaged primarily in agriculture. This study examines five villages-Dhainpura, Kakrali, Dhangrali, Dhanauri, and Khairpur focusing on demographic patterns, economic practices, and social structures. Utilizing structured questionnaires, data was collected from 100 farmers to analyze factors such as landholding, education, and migration. Findings reveal significant challenges, including declining agricultural productivity, reliance on monoculture, and infrastructural deficiencies. While some farmers are adopting sustainable practices, many still face barriers to modern agricultural methods. The study highlights the need for targeted interventions to enhance rural development and improve living standards.

Keywords: Socio economic, migration, sustainability, caste system

Introduction
Rupnagar district, located in the northwestern part of Punjab, is a region that exemplifies the rural socio-economic and cultural patterns prevalent across much of northern India. Historically known as Ropar, this district has both a rich cultural heritage and a strong agricultural foundation. Like most districts in Punjab, it is home to a variety of small villages, each representing unique demographic patterns, economic practices, and social structures that together contribute to the fabric of rural life. The villages of Dhainpura, Kakrali, Dhangrali, Dhanauri, and Khairpur are among the many settlements in the district where the economy is deeply rooted in agriculture, traditional livelihoods, and a blend of modern and customary governance. Punjab, as a whole, has long been known as the breadbasket of India, largely due to the success of the Green Revolution in the 1960s and 1970s, which transformed agricultural productivity in the region (Sidhu, 2011) [10]. However, the benefits of the Green Revolution were not evenly distributed, and many rural areas, particularly small villages, continue to face socio-economic challenges. These challenges include declining agricultural productivity due to soil degradation, over-reliance on wheat and rice monoculture, and the depletion of groundwater resources (Kumar *et al*., 2017) [7]. As is typical of rural areas in India, these villages also face challenges related to infrastructure, healthcare, education, and employment, which impede their overall development (Sharma & Kaur, 2019). The population composition of the villages in Rupnagar district reveals significant diversity in terms of caste, occupation, and literacy levels. Jat Sikhs, who traditionally form the agricultural backbone of the region, constitute a significant proportion of the population, while other caste groups, including scheduled castes (SCs), also play important roles in the local economy and social structure (Singh & Kaur, 2020). Despite the presence of caste divisions, there is increasing social mobility, driven by education and migration to urban areas and abroad. Educational attainment, though gradually improving, remains uneven, particularly with a noticeable gap between male and female literacy rates (Jassal, 2015) [5]. While government efforts to enhance rural education through initiatives such as the Sarva Shiksha Abhiyan have yielded some results, there remain significant barriers to universal education, including poverty, gender bias, and inadequate school infrastructure (Pandey, 2018) [8]. Agriculture remains the dominant economic activity in Dhainpura, Kakrali, Dhangrali, Dhanauri, and Khairpur, with wheat and rice being the primary crops grown under the well-established crop rotation system of Punjab (Bhullar & Sidhu, 2020) [2].

However, the over-reliance on these crops, along with excessive use of chemical fertilizers and pesticides, has led to environmental concerns such as soil degradation and water scarcity (Gill & Aulakh, 2021) [4]. In response to these challenges, some progressive farmers in the region have begun exploring sustainable farming practices, including organic farming, agroforestry, and crop diversification, although such practices remain limited in scale (Bawa & Singh, 2020) [1]. The potential for agrarian reforms and innovation, including the adoption of modern farming technologies and efficient irrigation systems, offers a path forward for rural Punjab's economy (Dhaliwal, 2016) [3]. Migration, both internal and international, has become a key feature of rural Punjab's socio-economic landscape in recent decades. Many youth from these villages seek opportunities abroad, particularly in countries like Canada, the United Kingdom, and Australia, where well-established Punjabi diasporas offer networks of support (Tatla, 2012). Remittances from these emigrants play an important role in supplementing household incomes, improving living standards, and fostering consumerism in the villages (Sharma, 2019). This migration, however, also leads to social changes, such as shifts in family structures, an increasing number of women-led households, and a decline in traditional agricultural practices as labor becomes scarcer (Sidhu & Kaur, 2013) [10]. The infrastructural development in villages like Dhainpura, Kakrali, Dhangrali, Dhanauri, and Khairpur remains moderate. While there has been progress in terms of road connectivity, electricity, and water supply, significant gaps remain in healthcare and educational facilities (Singh & Sharma, 2021). Most villagers continue to depend on primary health centers (PHCs) for basic medical care, though these are often understaffed and ill-equipped. Access to advanced healthcare remains a major concern, with many residents having to travel to nearby towns or cities for treatment (Kaur, 2020) [6]. Similarly, while primary and secondary education is available in most villages, higher education requires traveling to district or state-level educational institutions, limiting opportunities for rural youth. Culturally, these villages continue to be deeply rooted in Punjabi traditions, with religious institutions, particularly gurdwaras, playing a central role in daily life (Puri, 2016). These institutions not only serve as centers of spiritual activity but also as hubs for social and communal decision-making. Local governance, historically based on the panchayat system, has evolved with the introduction of elected village councils, though informal decision-making by elder councils remains influential (Sandhu, 2019) [9]. Festivals such as Vaisakhi, Lohri, and Gurpurabs are celebrated with great enthusiasm, reflecting the importance of agriculture, harvest cycles, and Sikhism in the local culture.

Materials and Methods

Structured questionnaires were administered to households in the selected villages to gather information on socio-economic variables such as family size, income levels, occupation, education, and migration patterns. The study focused on five villages-Dhainpura, Kakrali, Dhangrali, Dhanauri, and Khairpur-located in the Rupnagar district of Punjab. These villages were selected based on their proximity to each other, their size, and their representation of rural life in the region. The interviews of 100 farmers were recorded. The selected villages exhibit a mix of traditional agricultural communities and those undergoing socio-economic changes due to migration and infrastructure development. By integrating both qualitative and quantitative methods, this study.

Socio profile of the farmer

According to RAWE, the socio profile contains different parameters. The socio profile of a farmer includes his\her

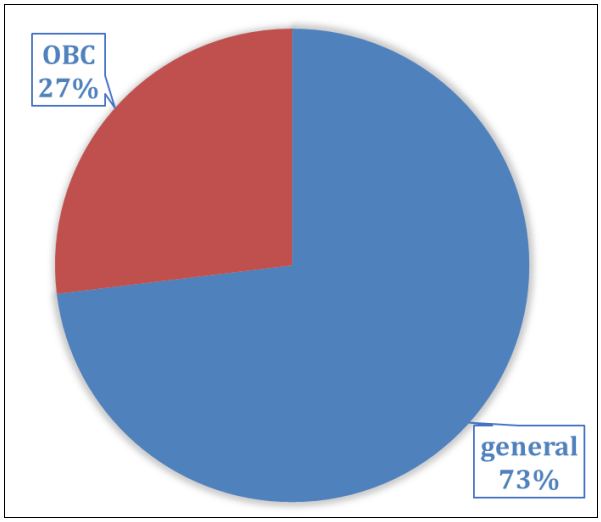

Fig 1: Caste

The caste distribution shows that a substantial majority identify as belonging to the general caste (approximately 50%). The Other Backward Classes (OBC) account for about 27%, while the remaining segments consist of Scheduled Castes and Scheduled Tribes. This indicates a diverse social background among respondents.

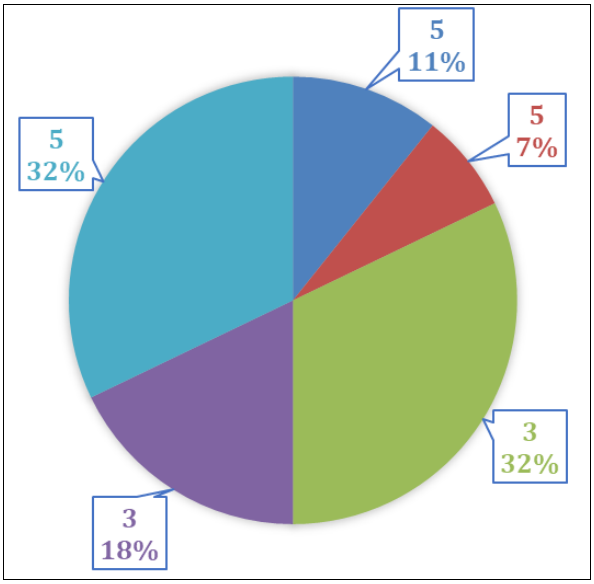

Fig 2: Age

The chart indicates the age distribution of respondents, with a significant number in the 31-40 age range (32%) and a similar proportion in the 18-30 range (32%). A smaller representation is noted in the 41-50 age bracket (11%) and even fewer in the 51 and above category (7%). This suggests a predominantly younger demographic engaged in agriculture.

Age Range	Percentage
18-30	32%
31-40	32%
41-50	11%
51 and above	7%

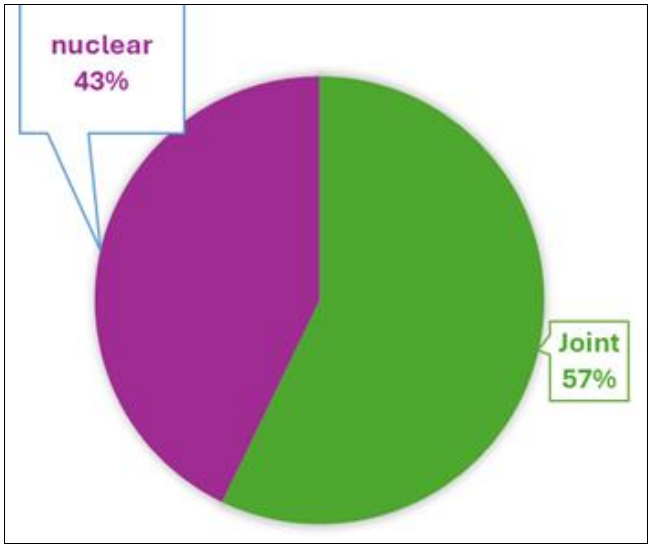

Fig 3: Family Type

The family structure reveals that 57% of respondents belong to nuclear families, while 43% come from joint families. This demographic detail may influence social support systems and labor availability for agricultural tasks.

S. No.	Dhangrali	Dhainpur	Kukrali	Dhanauri	Khairpur	Total
Joint	4	3	3	4	2	16
Nuclear	2	3	1	3	3	12

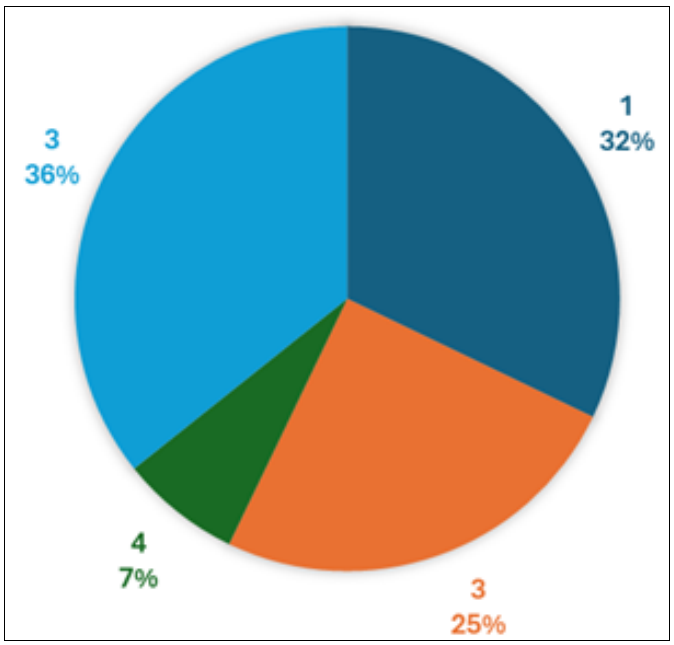

Fig 4: Area

Land	percentage	No of farmers
<3 acre	32%	9
3-5 acre	25%	7
5-10 acre	36%	10
>10 acre	7%	2

In terms of landholdings, a significant majority of respondents (63%) manage farms of less than 1 acre, reflecting a trend of small-scale farming. About 32% farm between 1-2 acres, while only 7% have landholdings of 3-5 acres. This suggests that most farmers operate on limited land, which may influence their agricultural practices and economic viability.

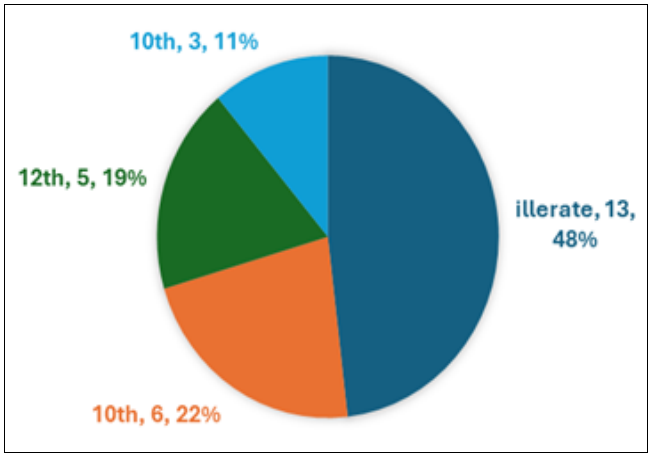

Fig 5: Qualification

Parameters	Percentage	Number of farmers
Illiterate	48%	13
10^{th}	22%	6
12^{th}	19%	5
Graduate	11%	3
Total farmers		28

Educational qualifications show that 48% of respondents are illiterate, which may impact their ability to access information and adopt modern agricultural practices. Other qualifications include completion up to the 10th grade (11%) and 12th grade (5%), indicating a need for educational initiatives targeting agricultural literacy.

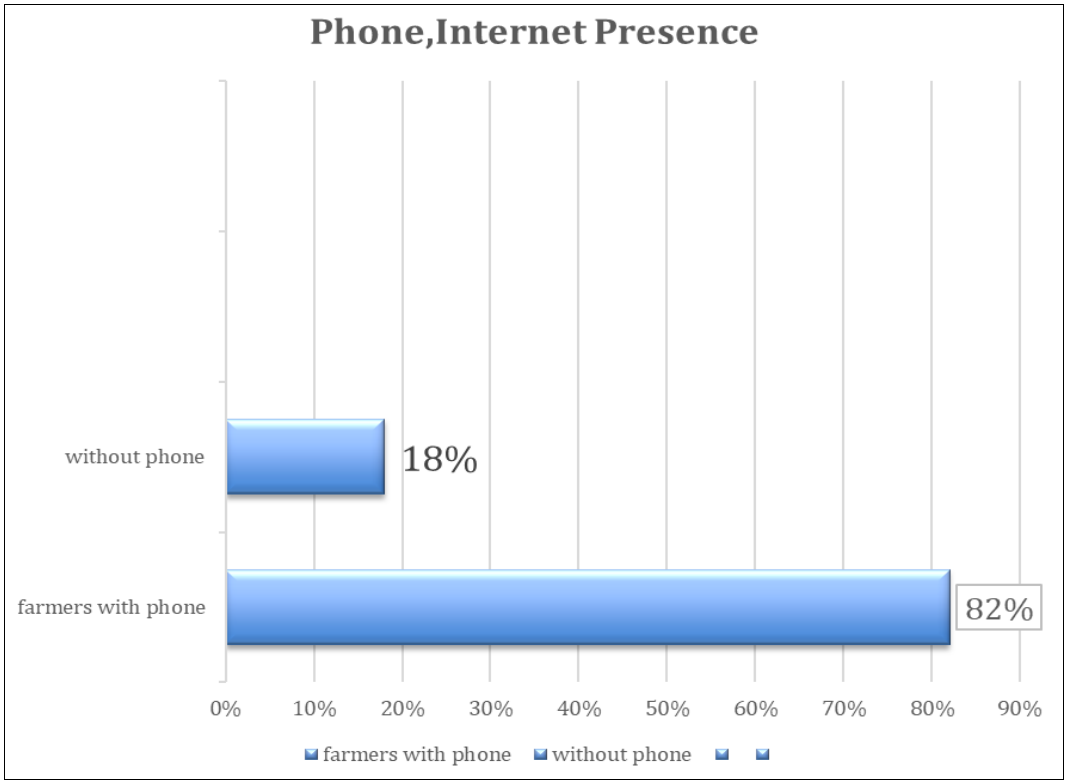

Fig 6: Availability of Mobile

The availability of mobile phones is high among respondents, with 82% reporting access. This could facilitate communication, access to agricultural information, and market connectivity, which are crucial for modern farming practices**:**

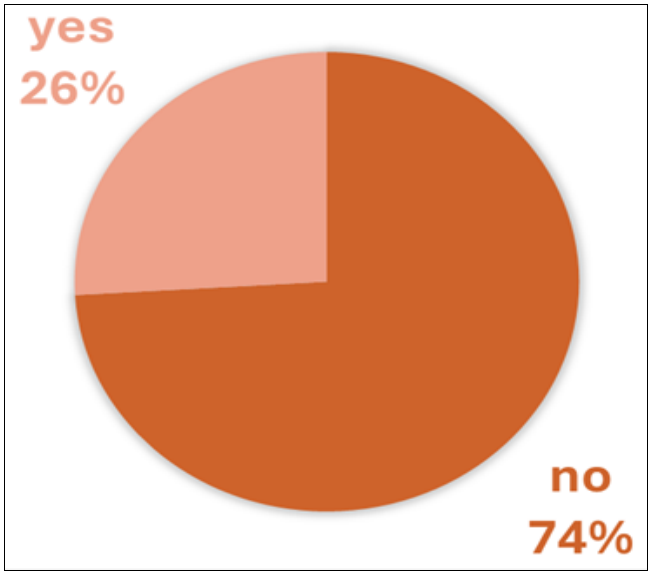

Fig 7: Schemes Adopted

A significant portion of respondents (74%) have not adopted any agricultural schemes, while 26% have participated in various initiatives. This suggests a gap in the awareness or accessibility of beneficial agricultural programs, which could improve productivity and sustainability.

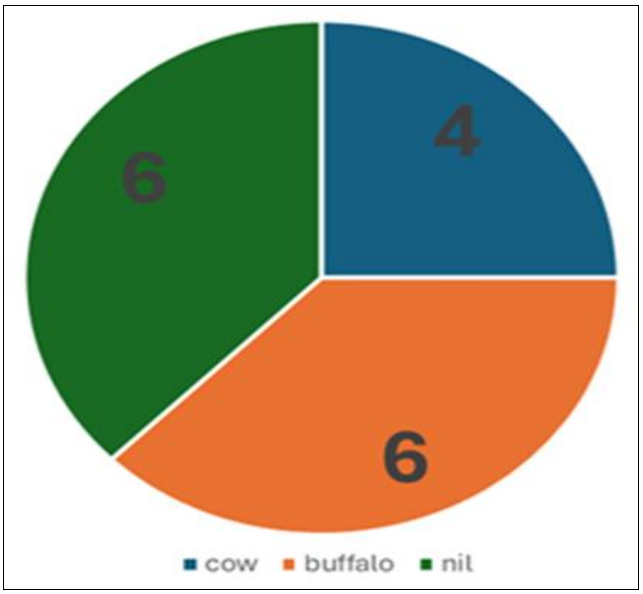

Fig 8: Livestock Type

Livestock ownership primarily consists of cattle, with 6 respondents indicating ownership, while 4 have buffalo, and some report having no livestock. This reflects the role of livestock in the farming system, possibly for dairy production or as draft animals.

Livestock Type	Number of Respondents	Percentage
Cattle	6	38%
Buffalo	4	24%
No Livestock	6	38%

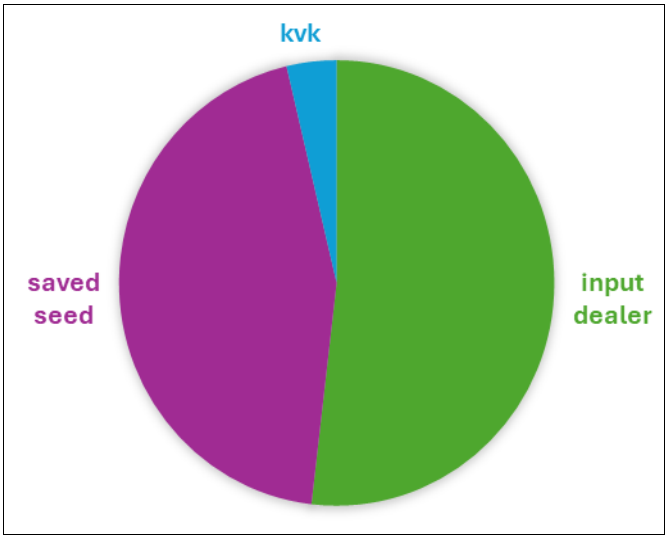

Fig 9: Source of Seed

Saved Stocks and KVK

The main source of seeds for respondents is through input dealers (approximately 50%), with some obtaining seeds from saved stocks and KVKs (Krishi Vigyan Kendras). This suggests a reliance on local markets for seed procurement, which could influence the quality and variety of seeds available to farmers.

Source of Seed	Percentage
Input Dealers	50%
Saved Stocks and KVKs	some

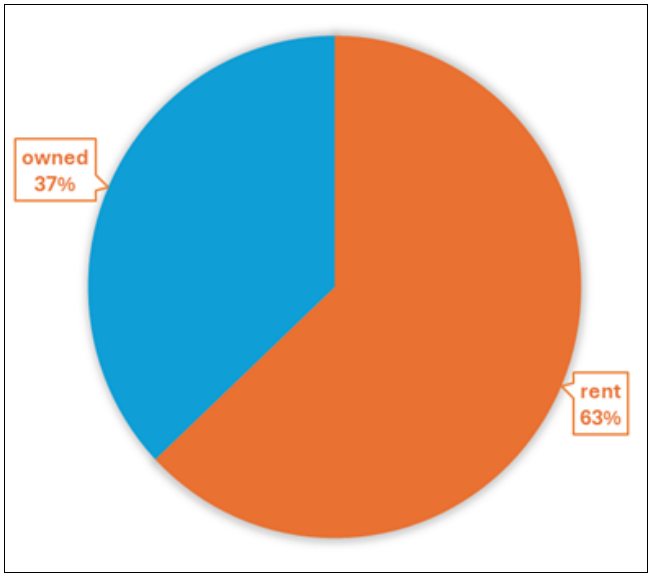

Fig 10: Machinery

The chart illustrates that a significant majority (63%) utilize rented machinery for farming operations, while 37% own their equipment. This reliance on rented machinery may suggest economic constraints or a lack of access to capital for purchasing equipment.

Machinery Use	Percentage
Rented Machinery	63%
Owned Equipment	37%

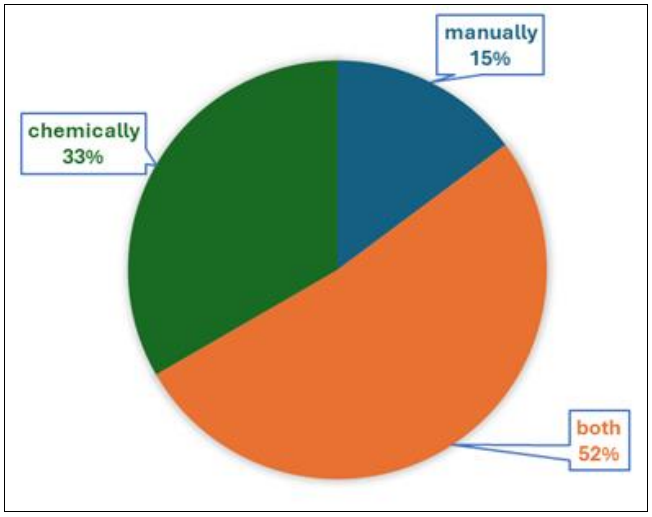

Fig 11: Weed Management

Weed management practices vary among respondents, with 52% employing a combination of manual and chemical methods. About 33% use chemical methods exclusively, while a small portion employs manual techniques only. This indicates a mixed approach to weed control, which may be influenced by resource availability and environmental considerations.

Weed Management Method	Percentage
Manual and Chemical	52%
Chemical Only	33%
Manual Only	15%

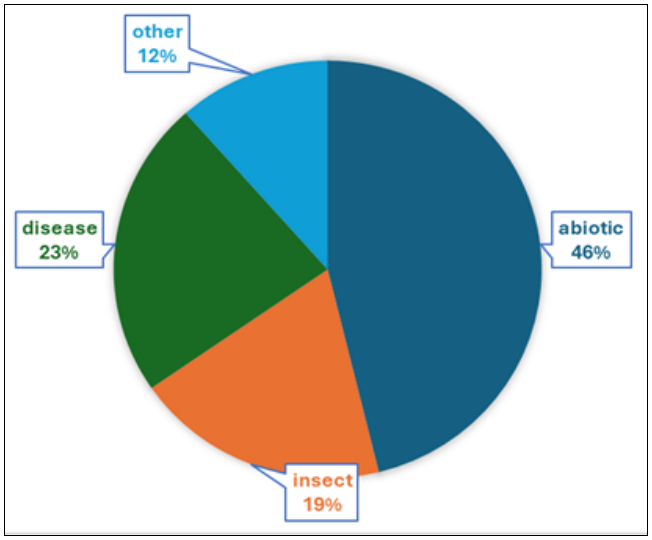

Fig 12: Yield Loss Parameters

The primary causes of yield loss identified include insect damage (19%) and diseases (19%), indicating that pest and disease management are critical challenges for respondents. Other factors contributing to yield loss include other unspecified reasons, which collectively highlight the need for improved agricultural practices and support systems.

Yield Loss Cause	Percentage
Insect Damage	19%
Diseases	23%
Other Factors	12%

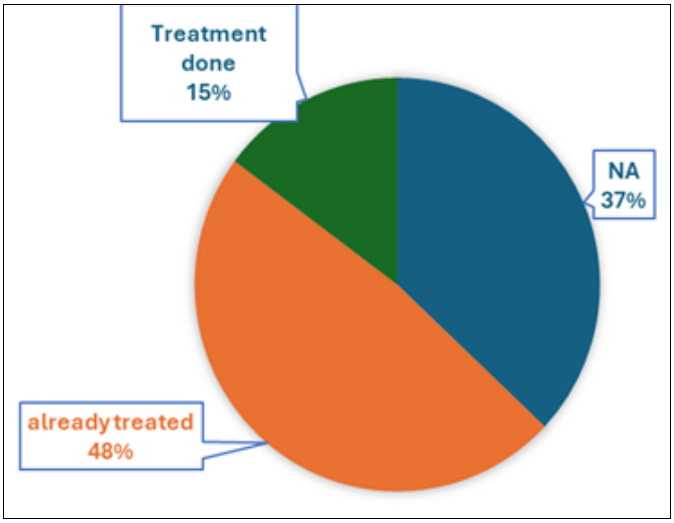

Fig 13: Seed Treatment

Regarding seed treatment, 37% of respondents report that their seeds are already treated, while others are either untreated or unaware. This points to a potential area for improvement in seed treatment practices to enhance crop yields and disease resistance.

Seed Treatment	Percentage
Treated done	15%
Already Treated	48%
Untreated/Unaware	37%

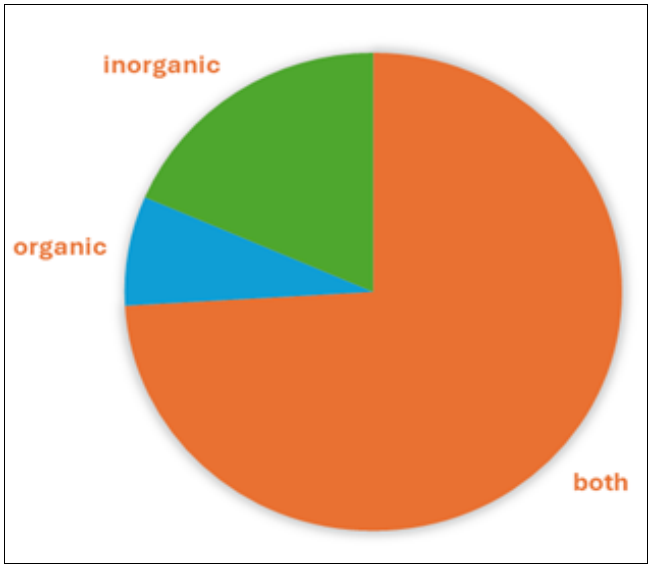

Fig 14: Manures

The use of manures is predominantly organic, with 52% of respondents relying on it, followed by 33% using inorganic manures. A smaller percentage (15%) utilizes both types. This indicates a trend toward sustainable practices, although the balance between organic and inorganic inputs could be further optimized.

Manure Type	Percentage
Organic	52%
Inorganic	33%
Both	15%

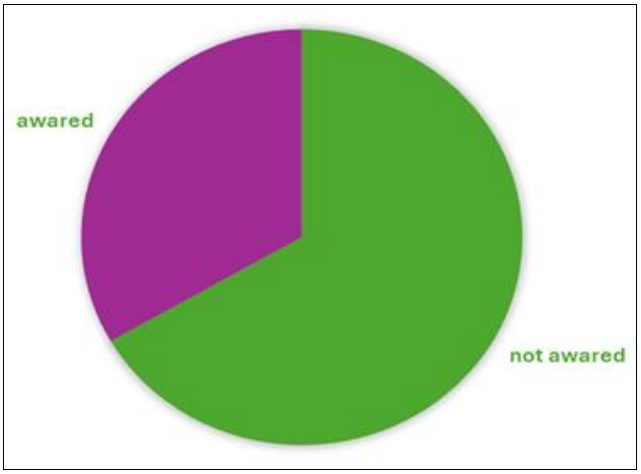

Fig 15: Perfect irrigation awareness

Awareness of perfect irrigation practices is notably low, with 63% of respondents indicating they are not aware of such practices. Conversely, only 37% are aware, which highlights a potential area for educational outreach to improve irrigation efficiency in agriculture.

Awareness of Irrigation Practices	Percentage
Not Aware	63%
Aware	37%

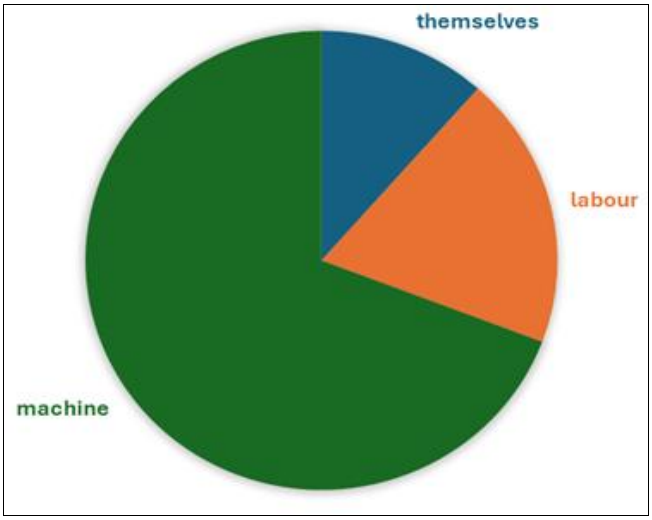

Fig 16: Harvesting Method

In harvesting practices, a significant majority (56%) harvest their crops themselves, while 33% rely on labor, and a small portion (11%) use machines. This indicates a labor-intensive approach to harvesting, which may affect efficiency and labor costs.

These detailed descriptions provide a comprehensive overview of the agricultural landscape represented in the charts, highlighting key demographics, practices, and areas for potential improvement.

Harvesting Method	Percentage
Self-Harvesting	56%
Labo	33%
Machines	11%

Conclusion

The socio-economic landscape of Rupnagar district's villages underscores the complexities faced by rural communities in Punjab. While agriculture remains the backbone of the local economy, challenges such as declining productivity, inadequate infrastructure, and limited access to education persist. The findings emphasize the necessity for innovative agricultural practices and educational initiatives to empower farmers. Furthermore, addressing the socio-economic disparities through targeted government programs could enhance the quality of life in these villages. Ultimately, fostering sustainable agricultural practices and improving rural infrastructure will be crucial for the overall development of Rupnagar district and similar regions in northern India.

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