

Master of Planning (Urban & Regional Planning), Second Year: Semester III

Course Code: 21URP305

Course Name: Elective II

Teaching Scheme Hours/Week			Total Lecture Hours	Credits	Evaluation Scheme			Total Marks	Passing %	Minimum Marks for Passing
Lecture L	Tutorial T	Practical P			Sessional SS	Jury JR	Paper PP			
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Course Aim

To provide choices to the students which will enhance their interest in the selected elective and go into the depth of the same.

Learning Objectives

1. To explore the selected subject and understand the nuances of it.
2. To develop understanding of principles of each subject
3. To carry out demonstrative activities which will help the students in better understanding of the selected subject.

Course Contents

The following mentioned electives are suggestive and the detailed Course contents shall be given by the Experts based on the Course Aim, Learning Objectives and Learning Outcomes.

1. Rural Planning and Development

- Introducing rural planning with its nature, objectives and need
- Role of planning in rural development
- Understanding methods of rural development and planning
- Introduction to Theories and techniques of regional planning
- Understanding current scenario of rural planning in India
- Policies and guidelines regarding rural planning in India

2.

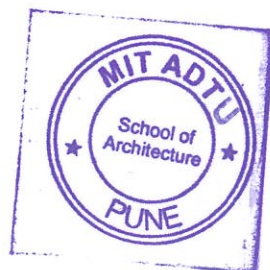
3. Planning for Sustainable Tourism

- Understanding concepts, definitions, scope in sustainable tourism
- Introduction to various types and classification of tourism
- Understanding the role of tourism in urban planning, its relation with urban development
- Identifying challenges in tourism development and solutions for it
- Nature and scope of a tourism plan
- Tourism policies in India

4. Planning for Disaster Mitigation & Management

- Introduction to disaster and its types, causes and effects
- Understanding impacts of disaster on urban and regional development
- Understanding concept of mitigation and management
- Understanding various approaches and methods of disaster mitigation and management
- Application of Geoinformatics in disaster management
- Disaster management in India (policies, guidelines, plans related to disaster mitigation and management, role of Govt. agencies and NGOs in Disaster management etc.)

5. City and Metropolitan Planning:



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- Defining cities, metropolitan cities, mega cities, metropolitan agglomerations, conurbations, and metropolitan regions
- Evolution of Metropolitan Regions in India
- Theories about the evolution of metropolitan regions
- Understanding growth and system of metropolitan cities, with its characteristics and issues
- Techniques for the delineation metropolitan regions
- Approaches to preparing metropolitan regional plans
- Impact of metropolitan growth on National development

Course Outcomes

On successful completion of this course, the students will be able to:

1. Develop proficiency in the selected subject in terms of knowledge.
2. Gain the knowledge of fundamentals of the selected subject.
3. To critically analyze the intricacies of selected subjects through illustrative activities.

Suggested Assignments

Exploratory Assignments shall be planned for Individual or group along with few demonstrations.

Resources

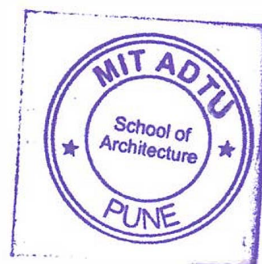
As per the subject selected.



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Dr. Ashwini Pethe
Principal
Mit School of Architecture
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Village Development Report for Loni- Kalbhor

Rural Planning Elective : Village Development Plan

Course Code: 21URP305



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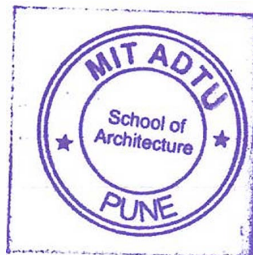
Master of Planning (Urban & Regional Planning)

Guided by:

Prof. Harshad Raisoni , Prof. Nikhil Vaidule Sir

Dr. Ashwini Pethe
Principal
Mit School of Architecture
MIT ADT University

Prepared by Nikita Gawali



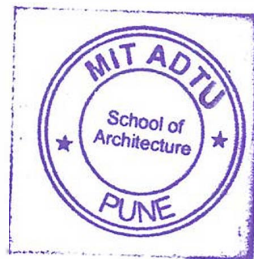
Second Year Semester III

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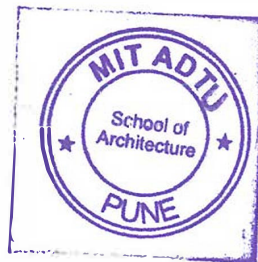

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1 Agriculture

Agriculture is the mainstay occupation of the village. Several crops are grown in the village. The geomorphology and physiography of the district is conducive for intensive agricultural use. The agricultural activities therefore, include food grains, plantation crops, vegetables and Flowers, Sugarcane, bajri, jowar are the major crops in the village. The vegetables and Flowers such as Cabbage, Coriander, Nishgndh, Marigold, etc are grown all around the year.



Figure 1: Sugar Cane

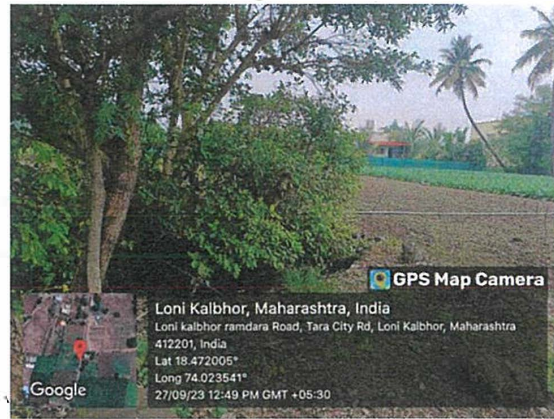


Figure 2: Dug Well in Farmland

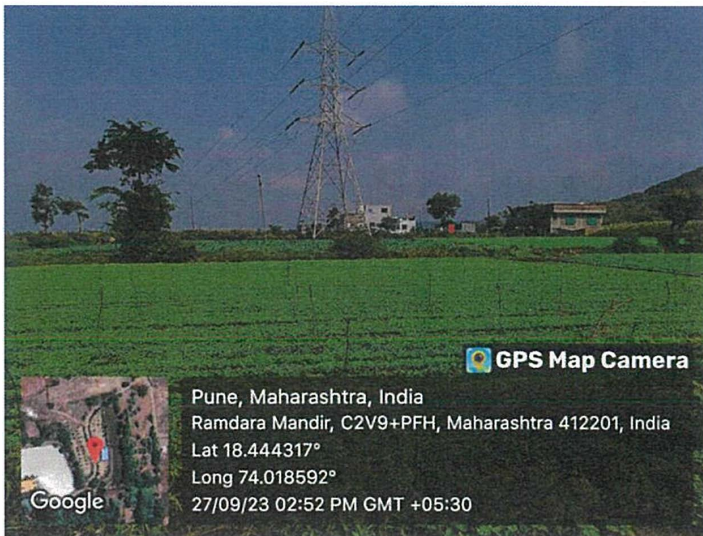
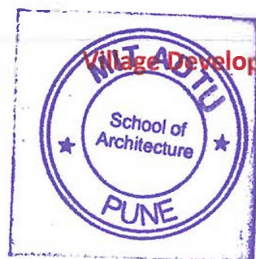


Figure 3: Farmland under Sprinkler Irrigation



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Loni Kalbhor Village predominantly employs agriculture, with 85% of land under this occupation, 11% built up, 2% forest, and 2% waste land.

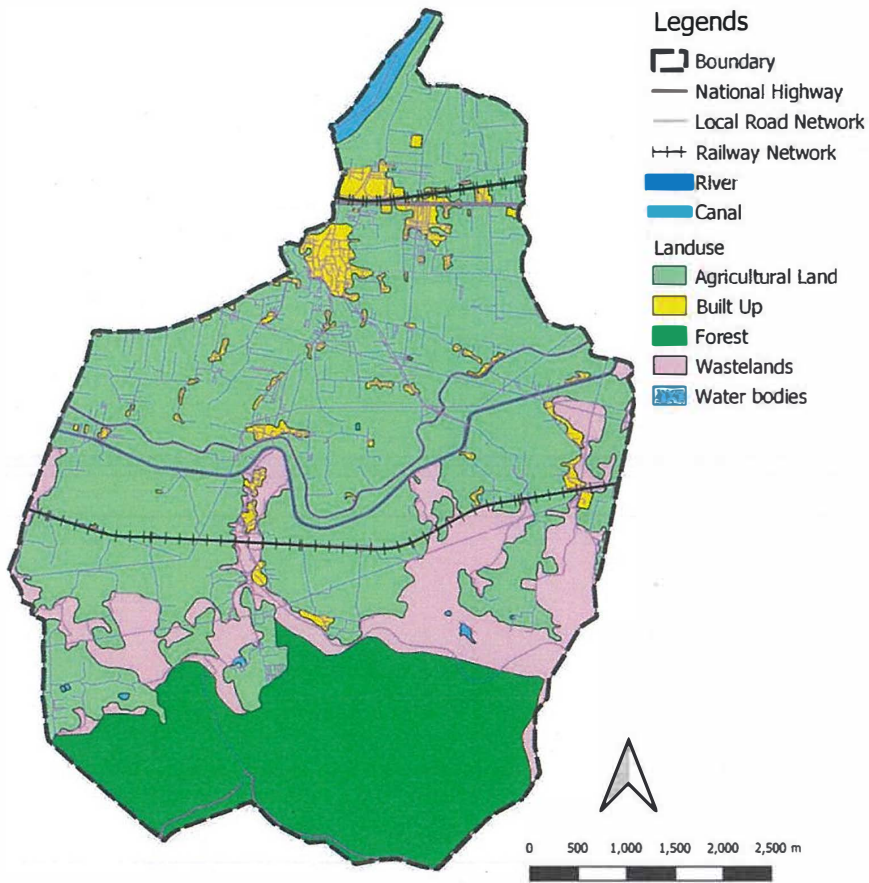
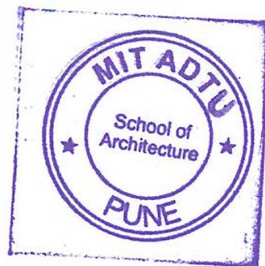


Figure 4: Landuse Map




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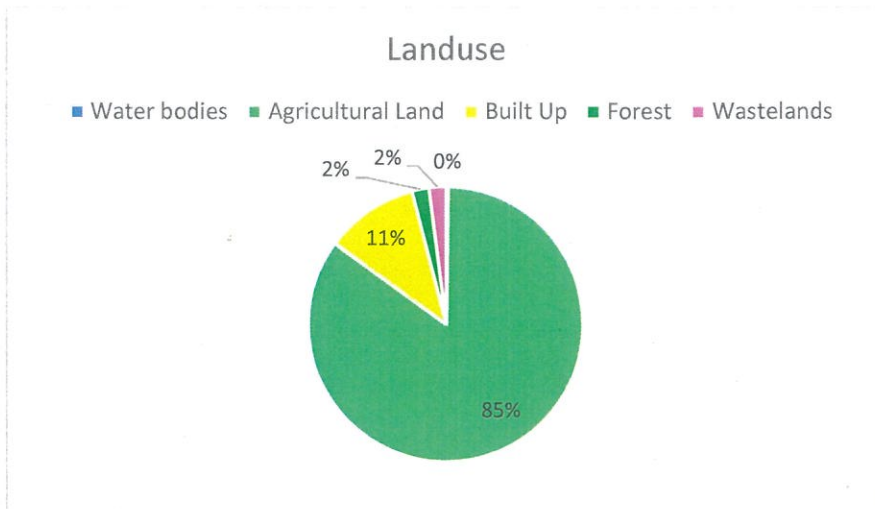
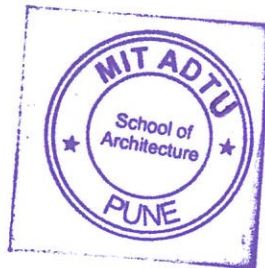


Figure 5: Landuse Piechart

1.1 Cropping Pattern:

Table 1: Cropping Pattern

Village	Farm Area (Guntha)	Crop name	Crop_Season
Loni-kalbhor	63532.2	Sugarcane	Adsali
Loni-kalbhor	0.4	Rice/ Paddy	Kharif
Loni-kalbhor	182	Maize (Makka)	Rabbi, Kharif
Loni-kalbhor	74	Gram / Chickpea / Bengal gram	Rabbi
	63788.6		
		Vegetables, Flowers	
	-	Maka	
	-	Cabbage	
	-	Coriander	
		Nishgandh	
		Marigold	




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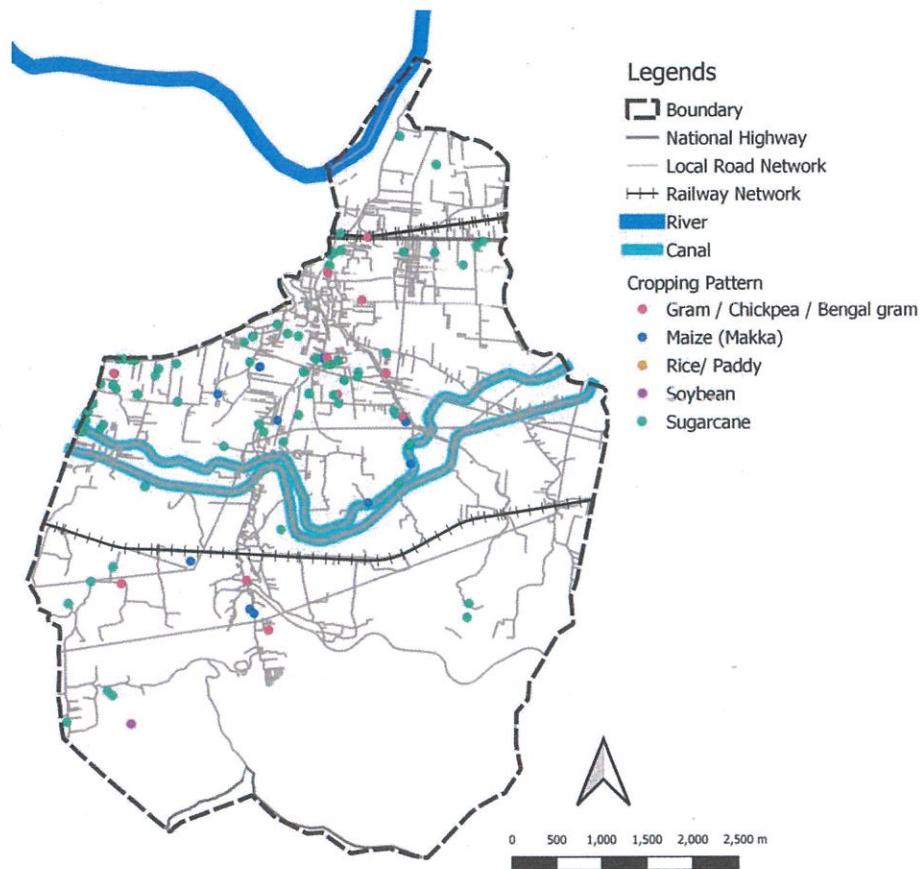


Figure 6: Cropping Pattern in Loni Kalbhor Village

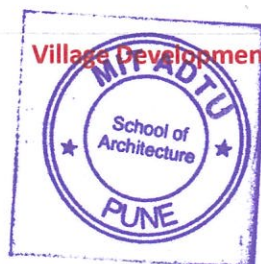
1.2 Agro diversity :

In the project area, many types of crop plants are grown along with some flowers. Sugarcane is the main crop followed by various types of flowers. Vegetable crops are also cultivated like Cabbage, Corriender etc. The cut flowers are Gulchadi, Zendu, Shewanti, Raja Rani, German Chandani, etc.

1.3 Faunal Diversity:

Due to continuous disturbance and interference of human beings, automobiles continuously on major highway wild animal diversity is very less. Some migratory birds visit this place during October to December in search of food and water. The common birds as well as migratory birds are found at the location of Ramdara Temple which has a pond. Some of them are White breasted kingfisher, Motha Bagala, Gaay Bagala, Indian Robbin, Bahiri sasana, Bharadwaj, village crow, House Sparrow, Black Drona, Kokil, and Titavi, Small Green Bee Eater, White-breasted Kingfisher, Brahmini Shelduck, Common Myana etc.


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Residents of the village have few number of Domesticated animals such as goats, buffalo, hybrid cow, bullock, dogs etc. Few other animals such as some Reptiles, hen, Squirrel, and Lizards etc were seen.

Flora of Loni is deciduous dominated by xerophytes. Most of the plants are scrubs and few are trees. Loni has hilly and undulating region with bushy plant species. Near Ramdara temple there is Hilly areas. Wild plant diversity is seen at this place. Except few trees, all plants are bushy and with scrub land ecosystem. The plants on this hill are Bor, Kavali, Sarcostema, Tarwad, Karanj, Maharuk, Khair, Neem, Ghaneri, Sindhi, Genduli, Pithavani, Giripushpa, Jatropa, Ramkathi, Babul, Hinganbet, etc. All these plants are dry deciduous and xerophytes. Ground flora consists of Xanthium, Echka, Alycicarpous, Congress, Amaranth, Chibuk kata, Dudhani etc. The climbers are wild Cucurbits, Genduli, Kavali, Combretum, etc.



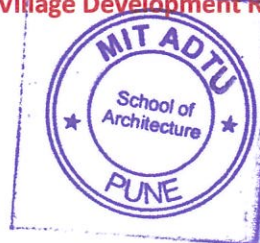
Figure 7: Hills Near Ramdara Temple

1.4 Village Facts related to Agriculture:

- Water Resource: Most of the farmlands have their own Dug well and some are having Bore well.
- Agriculture lands are converted into NA lands because of presence of MIT College and requirements for Hostels and Residential Increase.

1.5 Issues of the Village:

- Water conservation and rain water harvesting activities should be implemented.
- Ground water law is required.
- More efforts are required to conserve soil and water.
- Village does not have public nursery and garden to conserve plants.



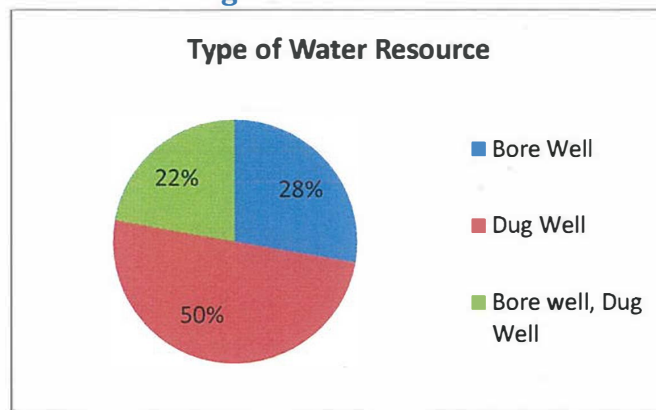

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- **Soil Degradation:** Soil erosion, depletion of nutrients, and soil contamination are significant concerns. Sustainable farming practices are needed to maintain soil health and fertility.
- **Pesticide and Herbicide Use:** The widespread use of pesticides and herbicides can have negative environmental impacts, including harm to non-target species, water pollution, and the development of pesticide-resistant pests.
- Many farmers do not regularly conduct soil testing, despite its importance in agriculture.

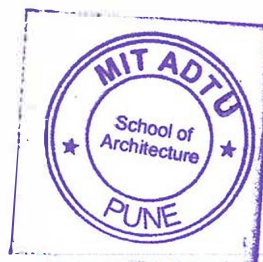
1.6 Survey Analysis:

A survey was conducted on agriculture, involving conversations with farmers about crop types, fertilizer usage, irrigation systems, soil testing, and financial expenditure.

1.6.1 Type of Water Resource for Agriculture?

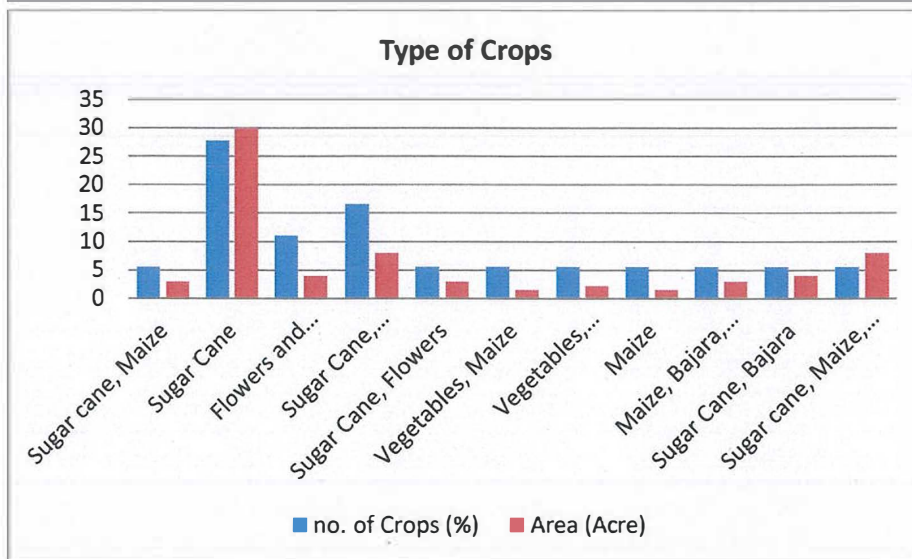
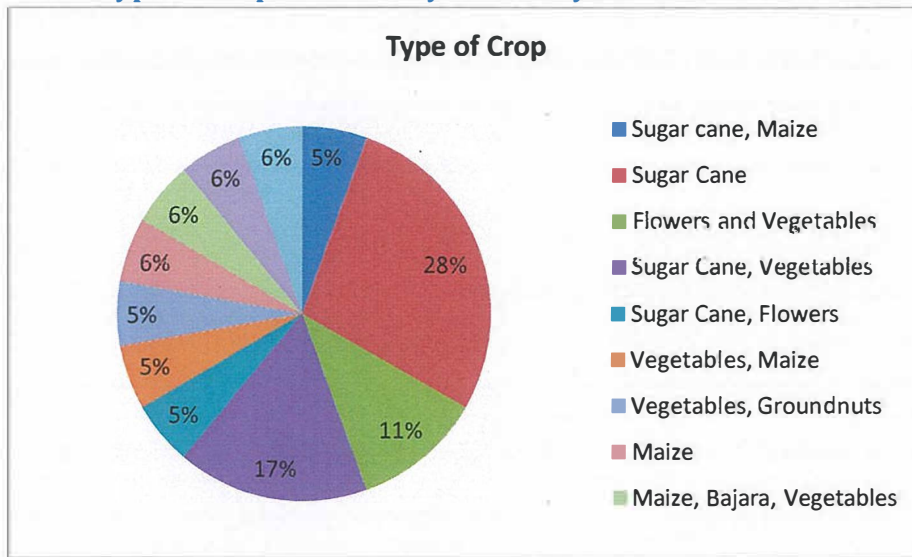


According to the data, the examined area has three main types of water wells: bore wells, dug wells, and a combination of both. The majority of wells are dug, accounting for 50% of all wells, demonstrating that conventional well-digging techniques are widely used. With 28% of all water sources being bore wells, they nevertheless account for a sizable share of the water supply while being less prevalent. Furthermore, the cohabitation of these two water sources in some areas is highlighted by the presence of 22% of instances where both bore wells and dug wells are present, potentially as a result of geological variances or community preferences. In order to manage water resources and guarantee local residents have access to dependable and clean water sources, it can be crucial to comprehend how these well types are distributed.



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1.6.2 Which type of Crops are mostly taken in your Farm?

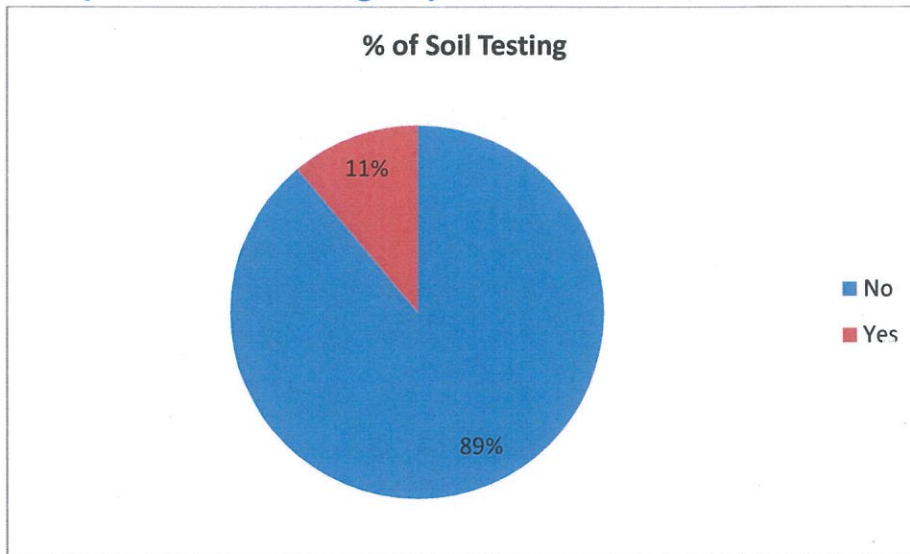


The data reveals a diverse range of cropping patterns in the surveyed area. Sugar cane is a prominent crop, indicating its economic significance. Additionally, mixed cropping patterns are common, suggesting strategies that include the cultivation of both cash crops (such as sugar cane) and staple crops (such as maize and bajara) or combinations of cash crops and vegetables. Diversification in agriculture, as seen with flower and vegetable cultivation, may indicate a focus on both subsistence and commercial farming. These cropping patterns reflect the complex and dynamic nature of agricultural practices in the area, where farmers may employ various strategies to optimize land use, income generation, and food security. Understanding these patterns is crucial for agricultural planning and resource allocation in the region.



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1.6.3 Have you done soil testing for your Farmland?

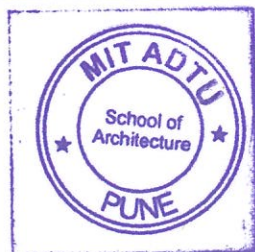


The data reveals a significant gap in the adoption of soil testing practices within the surveyed area. The vast majority (89%) of respondents have not conducted soil testing, indicating a potential lack of awareness, access to testing services, or motivation to assess their soil's quality and composition. Soil testing is a valuable tool for farmers as it provides crucial information about nutrient levels, pH, and other factors that can impact crop productivity. The relatively low percentage (11%) of individuals who have undergone soil testing suggests that there is an opportunity for education and outreach efforts to promote the importance of soil testing and its benefits in optimizing agricultural practices. Increasing awareness and access to soil testing services could potentially lead to improved soil management, higher crop yields, and sustainable agricultural practices in the area.

1.6.4 Are you Willing to continue with Agriculture or you want to shift for other income source? And Which?

The majority of farmers in the surveyed area are not willing to shift to another income source. Additionally, it mentions that some farmers are engaged in animal husbandry as a side business, and a very small number of farmers have jobs in addition to their agricultural activities.

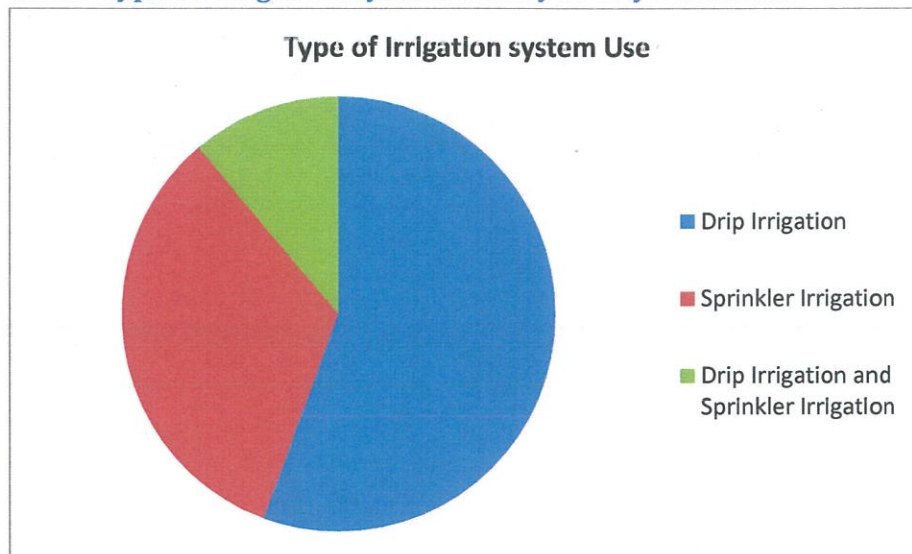
The analysis of this information highlights the strong inclination of the majority of surveyed farmers towards continuing with agriculture as their primary source of income. This suggests that agriculture remains the dominant occupation and livelihood choice in the surveyed area, possibly due to factors such as tradition, local agroecological conditions, or limited alternative employment opportunities. The engagement of some farmers in animal husbandry as a supplementary income source




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underscores the importance of diversification within the agricultural sector to enhance resilience and income stability. The presence of a small number of farmers with jobs outside of agriculture suggests that there may be some individuals who have explored opportunities beyond farming, but this remains a minority within the surveyed population. Understanding these dynamics is crucial for rural development planning and initiatives aimed at improving farmers' livelihoods and income security.

1.6.5 Which type of Irrigation system mostly use by Farmers?



The data reveals a diverse adoption of irrigation systems among the surveyed farmers. Drip irrigation is the most widely utilized system, indicating its popularity and recognition for its water efficiency and precise water delivery. Sprinkler irrigation, although less common than drip irrigation, is still widely used, highlighting its importance in agricultural practices.

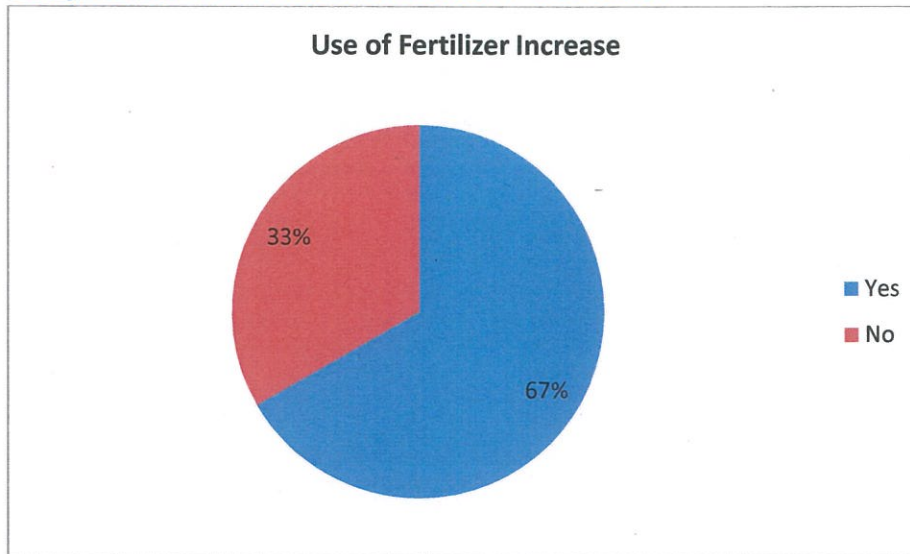
The presence of 11 instances where farmers use both drip irrigation and sprinkler irrigation suggests that some individuals employ a mix of these technologies, possibly to address varying crop water requirements or field conditions.

Overall, the data underscores the importance of modern irrigation systems in optimizing water use and enhancing crop productivity. Farmers' choices regarding irrigation systems can be influenced by factors such as crop types, water availability, and economic considerations. Understanding these preferences can inform agricultural policies and interventions aimed at promoting sustainable and efficient irrigation practices.


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1.6.6 Has your use of Fertilizer increase or decrease?



The data highlights that a majority of the surveyed farmers (67%) have made the decision to increase their use of fertilizers on their farmland. This increase in fertilizer application may be driven by several factors, including a desire to boost crop yields, respond to soil nutrient deficiencies, or improve agricultural productivity. The willingness to invest in increased fertilizer use suggests a commitment to optimizing crop production.

Conversely, a minority of farmers (33%) have not increased their fertilizer use. Their decision may be influenced by factors such as concerns about the environmental impact of excessive fertilizer use, cost considerations, or the belief that their current fertilizer application rates are sufficient for their specific needs.

Understanding these patterns of fertilizer use changes is essential for agricultural planning and interventions, as it provides insights into the dynamics of agricultural practices in the surveyed area. It can also inform efforts to promote sustainable and balanced fertilizer application practices that maximize agricultural productivity while minimizing negative environmental and economic impacts.

1.6.7 Amount of Money spent on Fertilizers, Chemicals, Seeds and Labours?

The data reveals varying levels of spending on fertilizers and chemicals among farmers, with the majority allocating around 30,000 to 40,000 rupees for these inputs. This underscores the significance of nutrient management and pest control in modern agriculture and suggests that farmers are investing in these inputs to optimize crop yields and quality.

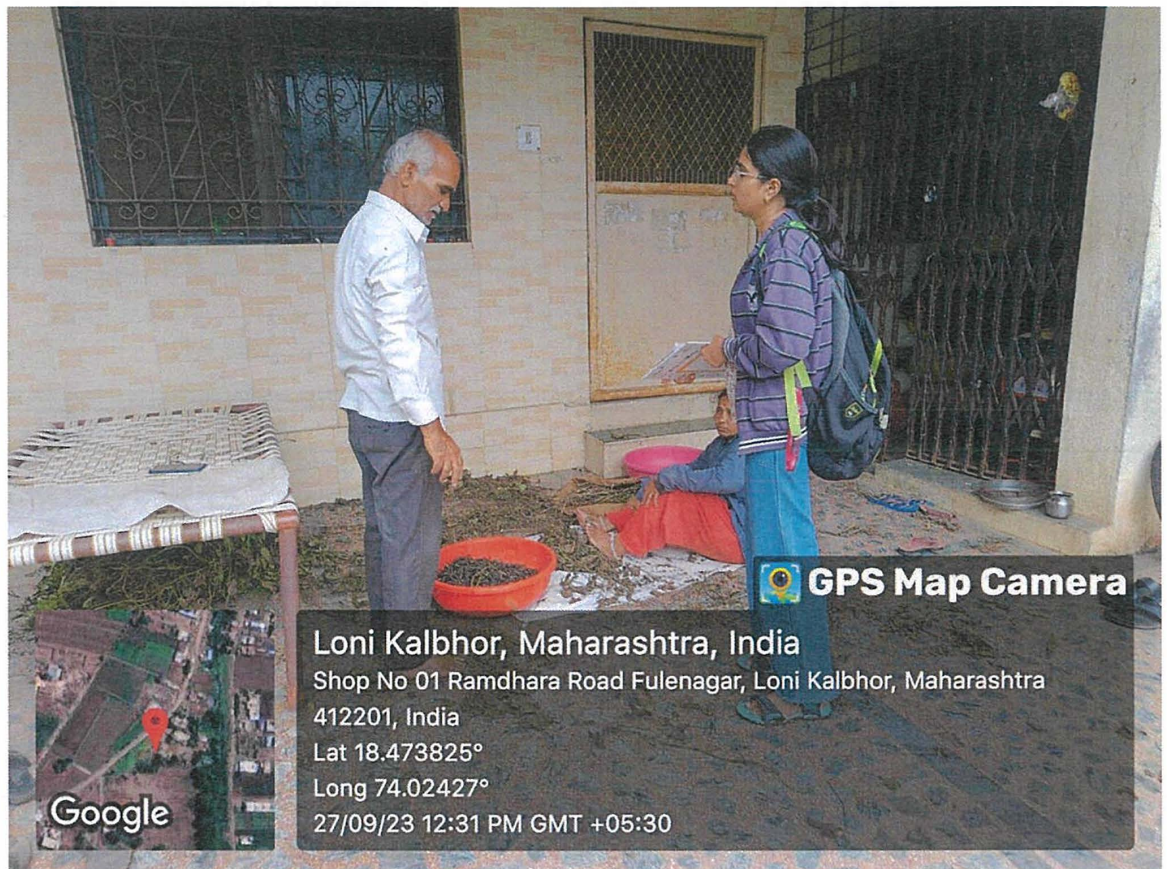
Additionally, the provided information highlights the importance of labor in agricultural activities, with labor charges ranging from 200 to 300 rupees per day. Labor costs are a significant consideration for farmers, as they play a crucial role in various farming operations.


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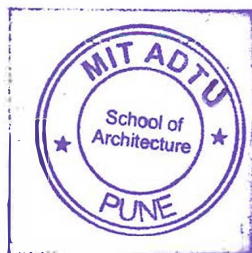


The notably higher expenses reported by some sugarcane farmers (around 1 to 2 lakh rupees) indicate the specific requirements and costs associated with sugarcane cultivation, a cash crop known for its resource-intensive nature.

Understanding these expenditure patterns is essential for both farmers and policymakers as it helps in assessing the economic aspects of agriculture and making informed decisions regarding input management and labor allocation to optimize farm profitability and sustainability.




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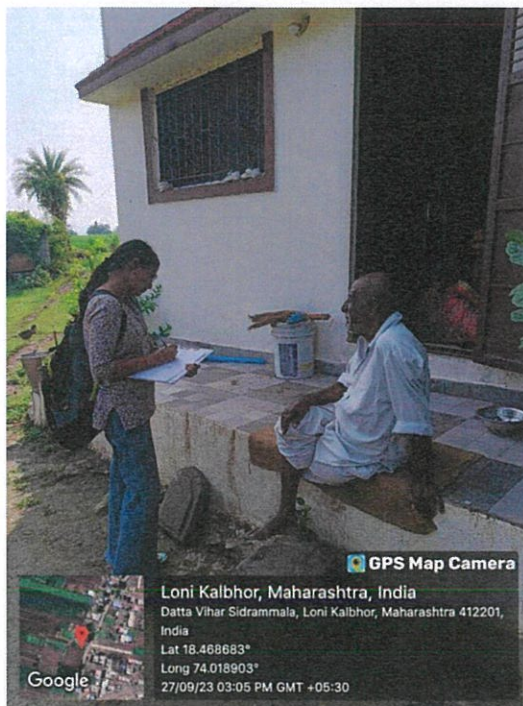


Figure 8: Farmers Survey conducted in Loni Kalbhor Village

The survey conducted in Loni Kalbhor Village offers valuable information about the agricultural practices and inputs used by local farmers. It highlights a progressive approach to

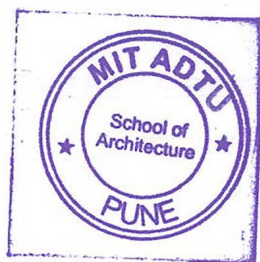

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farming with the adoption of drip and sprinkler irrigation systems and an understanding of the importance of fertilizers for crop productivity.

However, to gain a comprehensive understanding of the farmers' perspectives, it is essential to engage in more in-depth discussions or follow-up surveys that capture their sentiments and aspirations regarding agriculture. This information can be instrumental in tailoring agricultural interventions, providing support, and promoting sustainable farming practices that align with the needs and aspirations of the local farming community.

Overall, the survey data serves as a foundational step in understanding the agricultural landscape in the village, and further research and engagement with the farming community can provide deeper insights for informed decision-making and rural development planning.



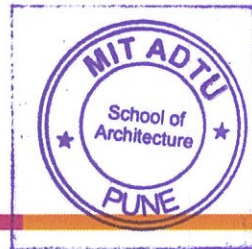

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Village Development Plan Agriculture


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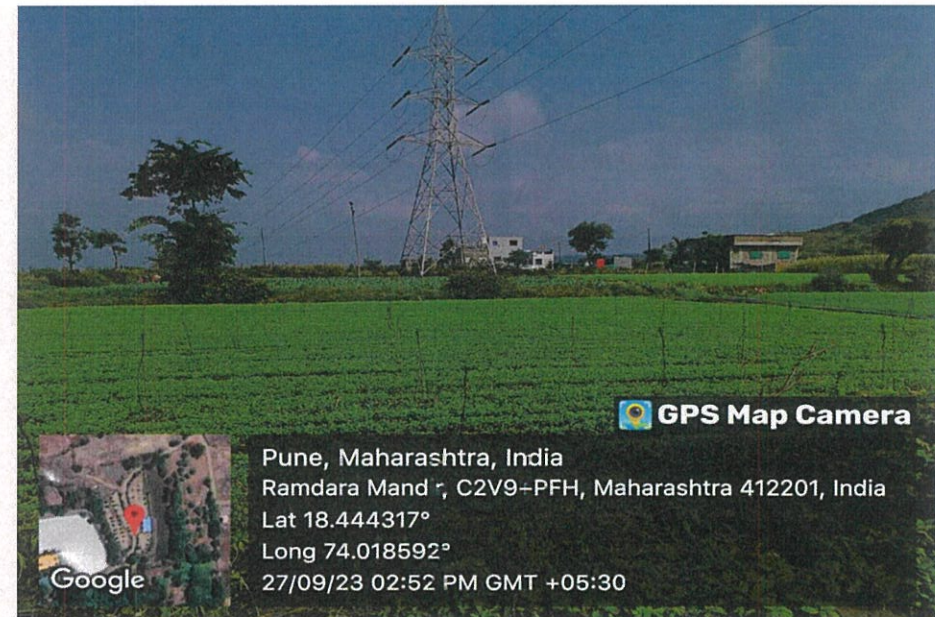
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Rural Planning

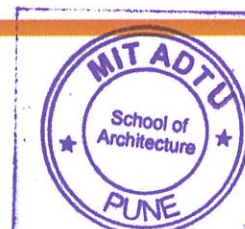
INTRODUCTION:



- Agriculture is the mainstay occupation of the village.
- Several crops are grown in the village.
- The geomorphology and physiography of the district is conducive for intensive agricultural use.
- The agricultural activities therefore, include food grains, plantation crops, vegetables and Flowers, Sugarcane, bajri, jowar are the major crops in the village.
- The vegetables and Flowers such as Cabbage, Coriander, Nishgndh, Marigold, etc are grown all around the year.



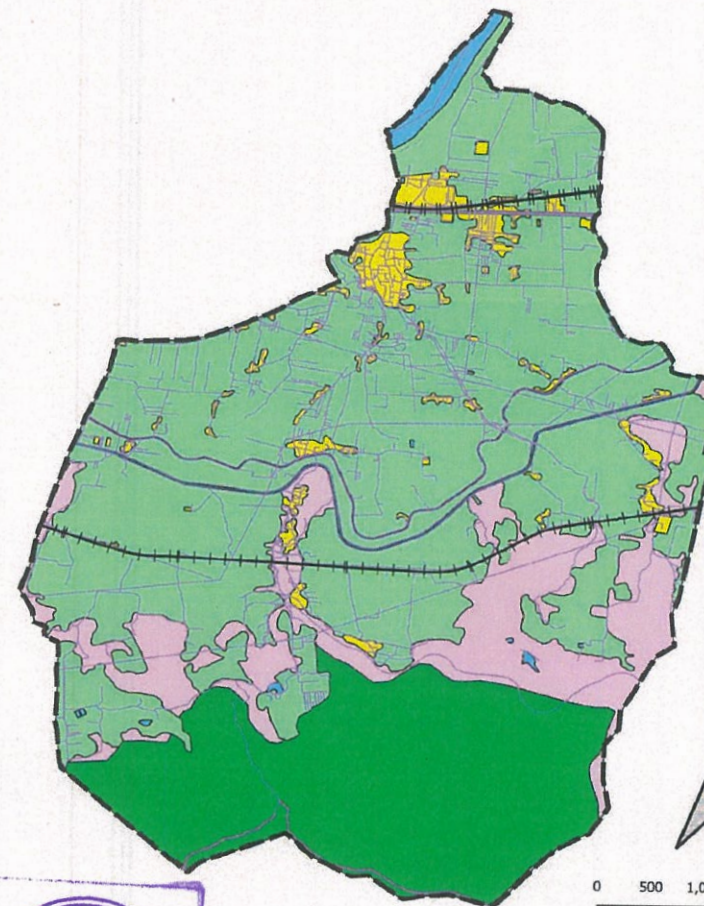
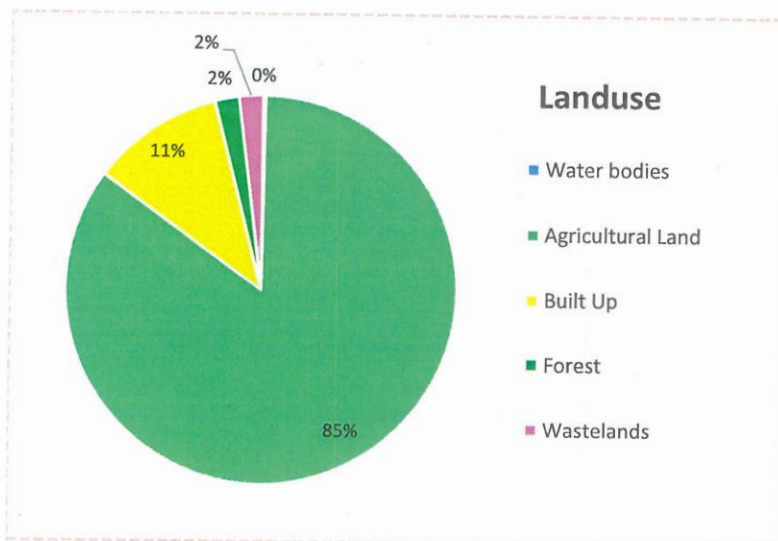
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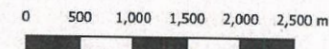


Loni Kalbhor Village predominantly employs agriculture, with 85% of land under this occupation, 11% built up, 2% forest, and 2% waste land.

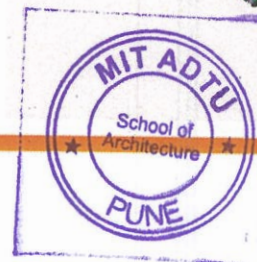


Legends

- Boundary
- National Highway
- Local Road Network
- Railway Network
- River
- Canal
- Landuse**
- Agricultural Land
- Built Up
- Forest
- Wastelands
- Water bodies

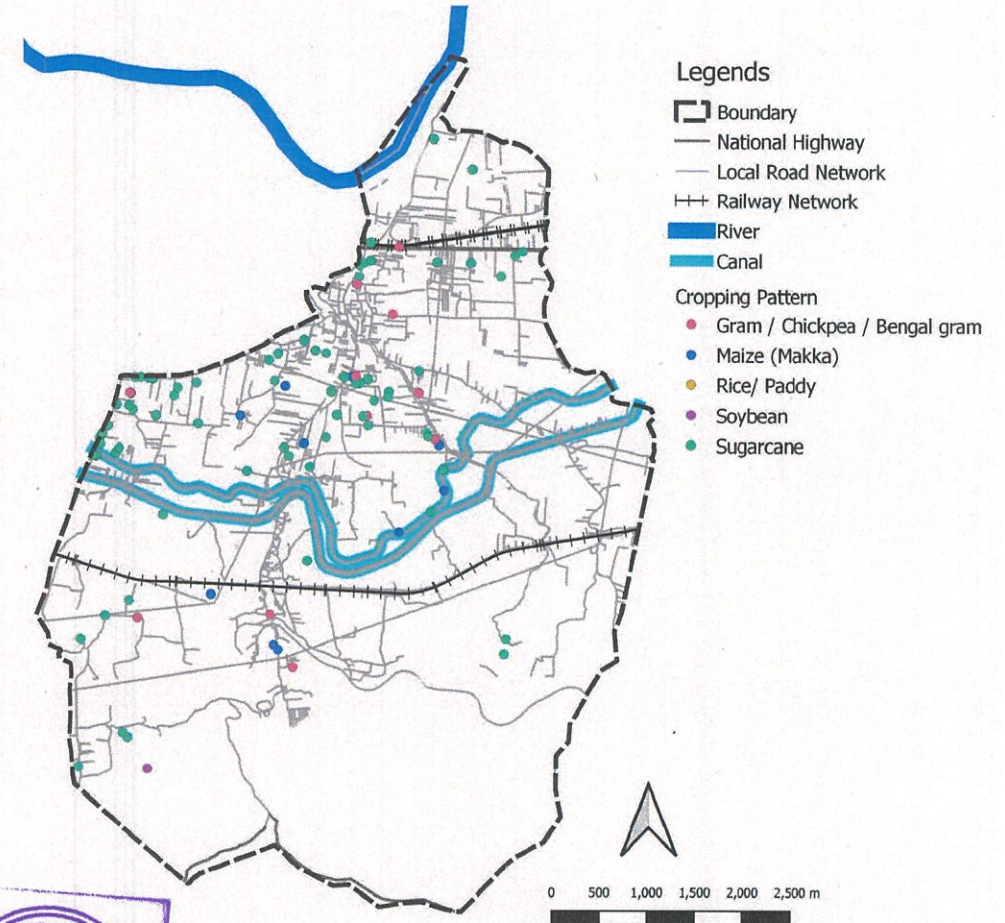


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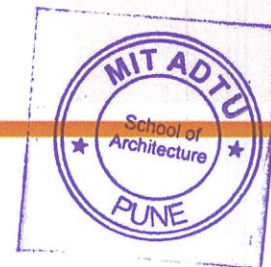


Cropping Pattern:

Village	Farm Area (Guntha)	Crop name	Crop_Season
Loni-kalbhor	63532.2	Sugarcane	Adsali
Loni-kalbhor	0.4	Rice/ Paddy	Kharif
Loni-kalbhor	182	Maize (Makka)	Rabbi, Kharif
Loni-kalbhor	74	Gram / Chickpea / Bengal gram	Rabbi
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		Vegetables, Flowers	
		Maka	
		Cabbage	
		Coriander	
		Nishgandh	
		Marigold	



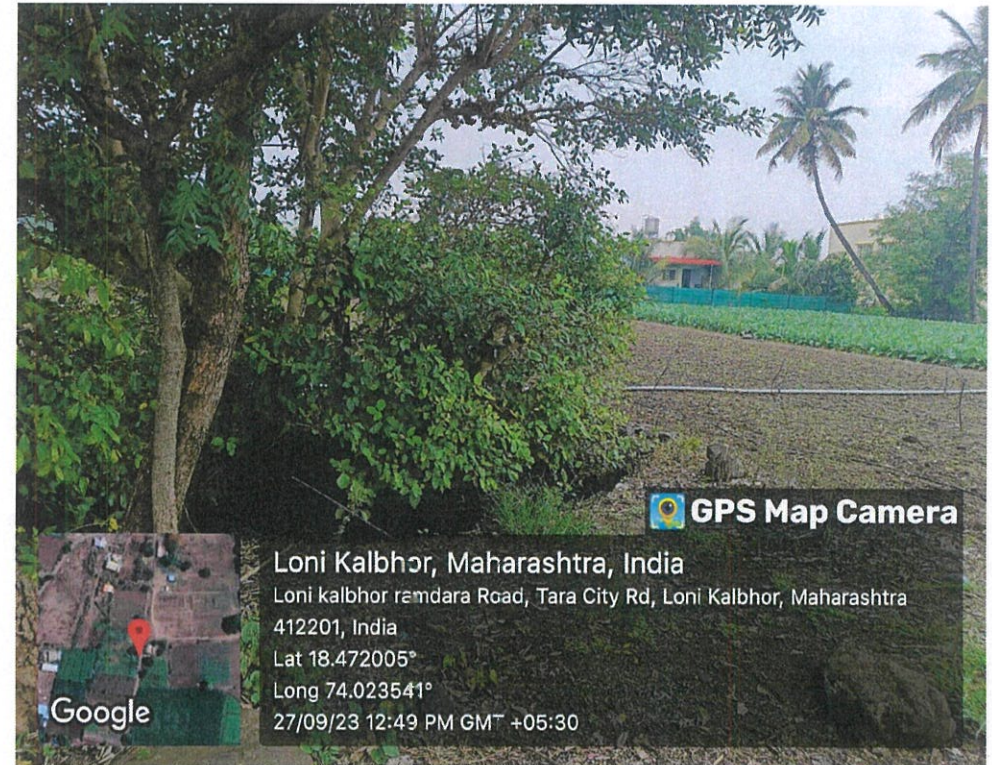

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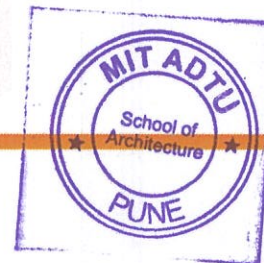
Village Facts related to Agriculture:

- Water Resource: Most of the farmlands have their own Dug well and some are having Bore well.
- Agriculture lands are converted into NA lands because of presence of MIT College and requirements for Hostels and Residential Increase.


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Dug Well in Farmland

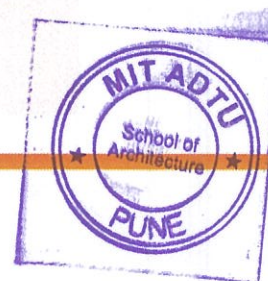


Issues of the Village:

- Water conservation and rain water harvesting activities should be implemented.
- Ground water law is required.
- More efforts are required to conserve soil and water.
- Village does not have public nursery and garden to conserve plants.
- Soil Degradation: Soil erosion, depletion of nutrients, and soil contamination are significant concerns. Sustainable farming practices are needed to maintain soil health and fertility.
- Pesticide and Herbicide Use: The widespread use of pesticides and herbicides can have negative environmental impacts, including harm to non-target species, water pollution, and the development of pesticide-resistant pests.
- Many farmers do not regularly conduct soil testing, despite its importance in agriculture.



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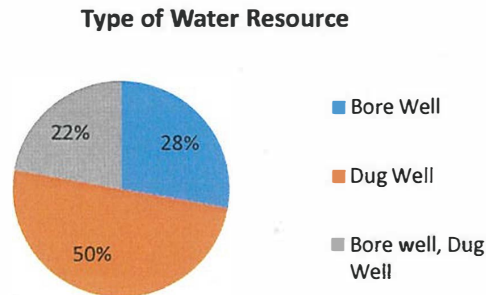


Survey Analysis:

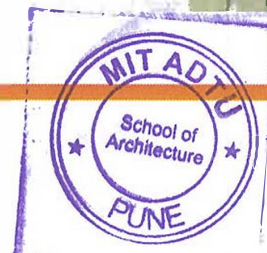
A survey was conducted on agriculture, involving conversations with farmers about crop types, fertilizer usage, irrigation systems, soil testing, and financial expenditure.

Type of Water Resource for Agriculture?

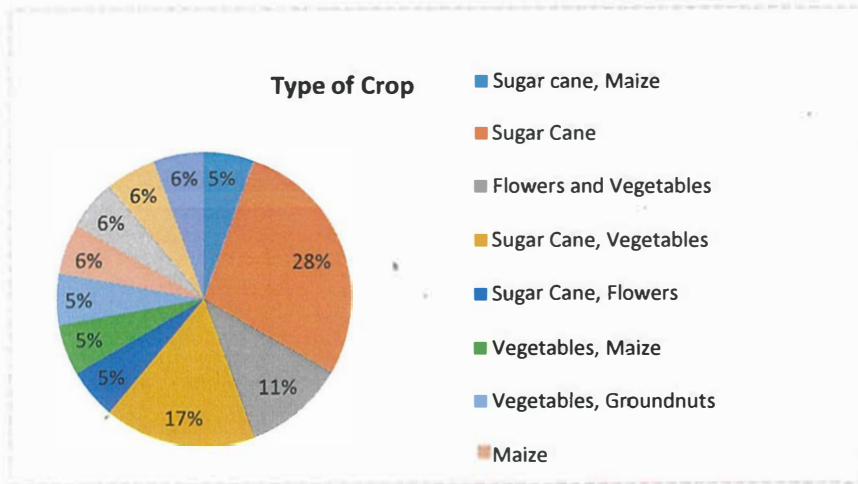
- three main types of water wells: bore wells, dug wells, and a combination of both.
- The majority of wells are dug, accounting for 50% of all wells, demonstrating that conventional well-digging techniques are widely used.
- With 28% of all water sources being bore wells, they nevertheless account for a sizable share of the water supply while being less prevalent.



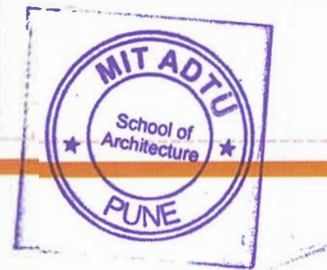
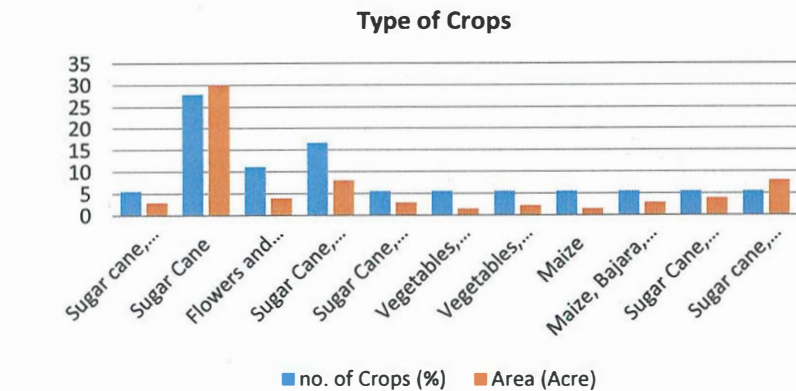

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Which type of Crops are mostly taken in your Farm?



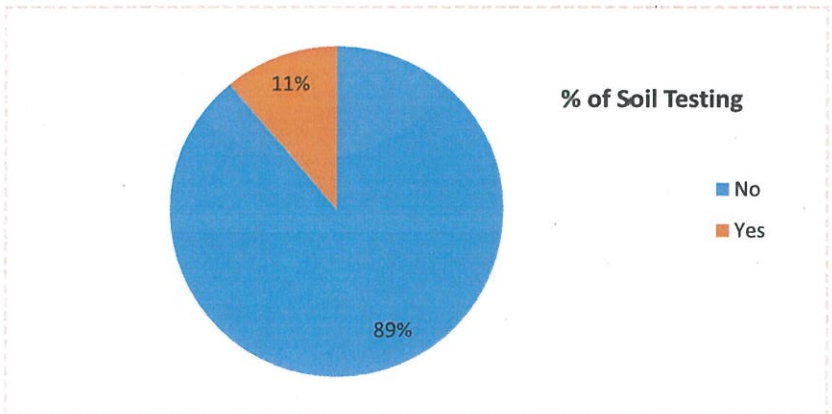
- a diverse range of cropping patterns in the surveyed area.
- Sugar cane is a prominent crop, indicating its economic significance.
- mixed cropping patterns are common, suggesting strategies that include the cultivation of both cash crops (such as sugar cane) and staple crops (such as maize and bajara) or combinations of cash crops and vegetables.
- Diversification in agriculture, as seen with flower and vegetable cultivation, may indicate a focus on both subsistence and commercial farming.
- These cropping patterns reflect the complex and dynamic nature of agricultural practices in the area, where farmers may employ various strategies to optimize land use, income generation, and food security.



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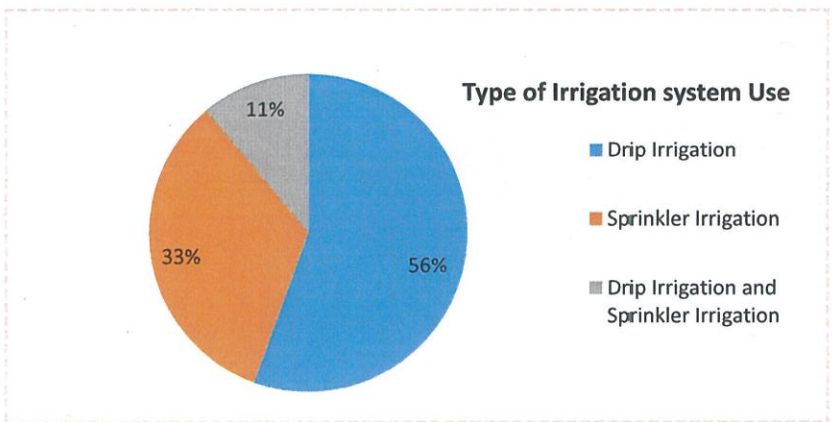


Have you done soil testing for your Farmland?



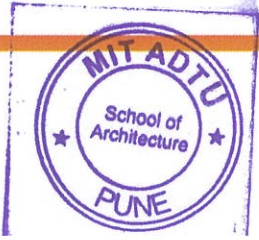
- A significant gap in the adoption of soil testing practices within the surveyed area.
- The vast majority (89%) of respondents have not conducted soil testing, indicating a potential lack of awareness, access to testing services, or motivation to assess their soil's quality and composition.
- Soil testing is a valuable tool for farmers as it provides crucial information about nutrient levels, pH, and other factors that can impact crop productivity.

Which type of Irrigation system mostly use by Farmers?



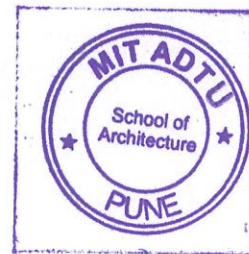
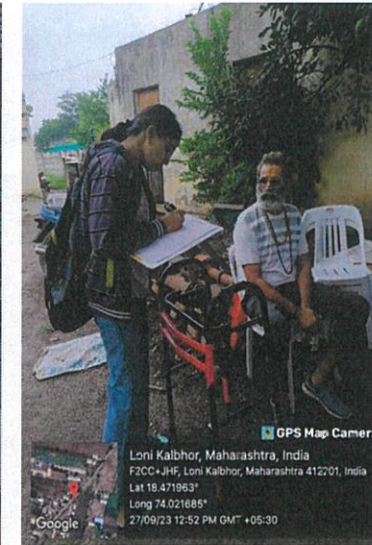
- Drip irrigation is the most widely utilized system, indicating its popularity and recognition for its water efficiency and precise water delivery.
- Sprinkler irrigation, although less common than drip irrigation, is still widely used, highlighting its importance in agricultural practices.
- The presence of 11 instances where farmers use both drip irrigation and sprinkler irrigation suggests that some individuals employ a mix of these technologies, possibly to address varying crop water requirements or field conditions.


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On Site Survey

- The survey conducted in Loni Kalbhor Village offers valuable information about the agricultural practices and inputs used by local farmers.
- It highlights a progressive approach to farming with the adoption of drip and sprinkler irrigation systems and an understanding of the importance of fertilizers for crop productivity.
- Overall, the survey data serves as a foundational step in understanding the agricultural landscape in the village, and further research and engagement with the farming community can provide deeper insights for informed decision-making and rural development planning.



Ashwini



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