

Integrated Regional Planning Approach for Balanced Development in Kamrej Taluka, Surat-Gujarat, India.

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ABSTRACT

Balanced regional development has been a central objective of planned development in India, given the country's vast size and diversity. While development analysis is commonly conducted at the state level, the internal heterogeneity of states necessitates a more localized approach. In this context, the district—and further, sub-district units such as talukas—emerges as a practical and effective scale for planning and implementation. This study focuses on the Kamrej taluka region of Surat district as a representative planning unit. Planning is understood as a systematic process involving formulation and implementation of strategies to achieve socio-economic development. It encompasses both sectoral planning, which targets individual economic sectors, and regional planning, which aims to reduce spatial disparities. Traditional town planning has emphasized key urban components such as housing, infrastructure, transportation, utilities, and open spaces, ensuring their integration into a cohesive and functional urban system. The paper highlights that effective planning must address not only physical infrastructure but also social and economic dimensions, particularly in underdeveloped and tribal regions where poverty and resource exploitation are prevalent. Despite significant investments in infrastructure, there has been comparatively limited focus on beneficiary-oriented schemes. Identification of backward regions requires consideration of development potential, existing constraints, and the need for targeted interventions. The study underscores the importance of data-driven delineation of such regions to design appropriate development strategies aimed at improving living standards and achieving inclusive growth.

INTRODUCTION

Planned development in India has historically been guided by the objective of achieving balanced regional development, considering the country's vast geographical expanse and socio-economic diversity. Since independence, national planning efforts have recognized that uneven development across regions can lead to economic disparities, social inequality, and regional imbalances. Traditionally, economic and social development has been analyzed at the state level; however, many Indian states are comparable in size and population to entire countries and consist of multiple sub-regions with distinct physical, economic, and socio-cultural characteristics. As a result, state-level analysis often fails to capture intra-regional disparities and localized development challenges (Government of India, 2001).

To address this limitation, planning focus has gradually shifted toward smaller administrative units such as districts. District-level planning has emerged as a more effective approach, as districts represent the core administrative framework through which development programmes are implemented. Although districts may still encompass diverse characteristics, they provide a more manageable and context-sensitive unit for planning and policy execution. In this study, the selected region is Kamrej taluka, which forms part of Surat district in

Gujarat, representing a rapidly developing yet regionally diverse area requiring systematic planning intervention.

Planning, in general, refers to a structured process involving the formulation of strategies, policies, and programmes aimed at achieving economic growth, social development, and environmental sustainability. Broadly, planning can be categorized into two approaches: sectoral planning and regional planning. Sectoral planning focuses on the development of specific sectors of the economy, such as agriculture, irrigation, manufacturing, transportation, energy, and social infrastructure. In contrast, regional planning emphasizes the spatial distribution of development activities and aims to reduce regional disparities by promoting balanced growth across different areas (Chand & Puri, 2012).

Urban and regional planning practices have evolved over time, but early planning efforts primarily concentrated on addressing fundamental urban needs such as housing, commercial and industrial land use, transportation networks (railways and roadways), water supply, sanitation, energy provision, and recreational spaces. A well-conceived town plan ensures that these elements function both independently and as an integrated system, while also being economically feasible and contextually appropriate to the designated site (Hall, 2014).

The planning process plays a crucial role in shaping the socio-economic conditions of a region. Its ultimate objective is to enhance the quality of life of the population by improving living standards, generating employment opportunities, and providing a healthy and sustainable environment. This objective becomes particularly significant in underdeveloped or tribal regions, where a large proportion of the population lives below the poverty line and faces issues such as limited access to basic services, economic marginalization, and social exclusion. In such areas, planning must address not only physical infrastructure but also social and economic dimensions, including education, healthcare, livelihood opportunities, and social equity.

Historically, development strategies in backward regions have emphasized protective measures against exploitation, such as land alienation, unfair money lending practices, and unsustainable extraction of forest resources. Infrastructure development—particularly in transportation, irrigation, and public utilities—has received a major share of public investment. However, beneficiary-oriented schemes aimed directly at improving individual livelihoods have often received comparatively less attention, highlighting the need for more inclusive and targeted planning approaches (Planning Commission, 2008).

The identification of backward regions for planning purposes requires a systematic assessment based on specific criteria. Such regions typically exhibit: (a) significant development potential, (b) the presence of inhibiting factors that prevent the realization of this potential, and (c) the need for targeted interventions to overcome these constraints. Effective regional planning also depends on the availability of reliable quantitative data at appropriate geographical scales, enabling the selection of relevant indicators and informed decision-making.

In this context, the present study aims to analyze the planning needs and development potential of the Kamrej taluka region. By examining its physical, socio-economic, and infrastructural characteristics, the study seeks to contribute to a more balanced and sustainable regional development framework.

OBJECTIVES

a) Study of Existing Conditions

- To examine the current status of the Taluka Centre in terms of land use, infrastructure, population, and development patterns.
- Helps in understanding the baseline conditions of the area.

b) Identification of Issues and Problems

- To identify key challenges such as inadequate infrastructure, traffic congestion, poor services, and unplanned growth.
- This step highlights the gaps in development that need attention.

c) Analysis of Social and Physical Infrastructure

- To assess the availability and condition of social amenities (schools, hospitals, community spaces) and physical infrastructure (roads, water supply, drainage, etc.).
- Also includes evaluation of public and semi-public buildings.

d) Preparation of Physical Planning Proposal

- To develop a comprehensive planning proposal for Kamrej Taluka Centre.
- Focuses on improving land use, infrastructure, connectivity, and overall livability in a sustainable manner.

LITERATURE REVIEW

Concept of Town and Classification

A town is a settlement where multiple functions such as economic, cultural, administrative, and social activities are concentrated. These functions shape the structure and importance of towns within a larger regional system. The concept of centrality plays a key role in defining towns, where settlements act as service centers for surrounding hinterlands.

Gatzweiler classifies towns based on their centrality and functional importance into small and medium-sized towns. Medium-sized towns are further divided into:

- Big medium-sized towns (50,000–100,000 population)
- Small medium-sized towns (below 50,000 population)
- Small towns (low-order centres with limited functions)

Similarly, as per the URDPFI Guidelines, towns are classified based on population:

- Small Towns: < 50,000 (plain areas)
- Medium Towns: 50,000 – 5,00,000
- Large Cities: > 5,00,000

These classifications highlight the importance of small and medium towns in regional planning and balanced development.

Role of Small and Medium Towns

Small and medium towns play a crucial role in reducing regional disparities and managing urbanization. They act as growth centres, supporting rural hinterlands by providing employment, infrastructure, and services. Rapid rural-to-urban migration, driven by “poverty-push” and “prosperity-pull” factors, has increased pressure on large cities. Strengthening smaller towns can help reduce migration and promote equitable development.

However, many such towns have historically developed as administrative centres and lack strong economic bases. Therefore, enhancing their economic viability and infrastructure is essential for sustainable regional development.

National-Level Development Studies

The Planning Commission (1997) study on Integrated Tribal Development Projects (ITDP) evaluated development approaches focusing on protection, education, health, and economic aspects. It identified key issues such as lack of infrastructure, limited accessibility, and socio-economic backwardness in tribal areas, emphasizing the need for targeted interventions.

The IDSMT Scheme (1979–80) aimed to develop small and medium towns to reduce migration to large cities by improving infrastructure and generating employment. Later, it was integrated into the UIDSSMT Scheme (2005), which focused on planned urban infrastructure development including water supply, sanitation, and governance reforms.

Studies by Kunzmann highlight the importance of territorial capital, emphasizing local skills, community participation, and institutional cooperation for sustainable development of medium-sized towns.

Rural Development and Infrastructure

Rural development remains a critical aspect, as a significant population resides in rural areas. Studies indicate that inadequate infrastructure, poverty, and unemployment in rural regions lead to migration toward urban centres. Research by A.K. Jain suggests integrating rural and urban planning by creating “cities in the field” with urban-level facilities.

Keshab Das highlights that lack of basic infrastructure such as roads, water supply, sanitation, and housing is a major constraint in rural development. Public investment and land reforms are essential to improve infrastructure and economic conditions.

Further, Udaya S. Pant emphasizes the role of Panchayati Raj Institutions (PRIs) in decentralized planning and implementation, advocating for greater empowerment, transparency, and community participation.

Public Participation and Sustainable Planning

Modern planning approaches emphasize participatory planning. Studies by Amado et al. show that involving stakeholders and local communities improves decision-making and ensures sustainable outcomes. Public participation enhances transparency, accountability, and efficiency in urban planning processes.

International Perspectives on Medium-Sized Towns

The ESPON Programme (2006) highlights the importance of small and medium towns in spatial development, focusing on their economic performance, accessibility, and regional role. Similarly, studies indicate that medium-sized cities can contribute significantly to regional growth, innovation, and economic resilience.

Research also shows that medium-sized cities are increasingly attracting investment due to lower costs, availability of labour, and reduced congestion compared to metropolitan cities.

Planning Guidelines and Policy Framework

Various national and international guidelines emphasize the development of small and medium towns:

IDSMT Guidelines (1995): Focus on reducing migration and strengthening towns as growth centres.

UIDSSMT Guidelines (2005): Aim at improving urban infrastructure and governance.

Sustainable Residential Development Guidelines: Promote integrated and context-specific development.

Creative City Strategies (INTELI, 2011): Encourage innovation-based development tailored to local conditions.

These guidelines stress the importance of integrated, sustainable, and participatory planning approaches.

Summary of Literature Gap

The literature highlights the importance of small and medium towns in regional development, infrastructure provision, and migration control. However, gaps remain in:

- Integrated planning at taluka/local level
- Context-specific strategies for rapidly developing regions
- Effective implementation of policies at the grassroots level

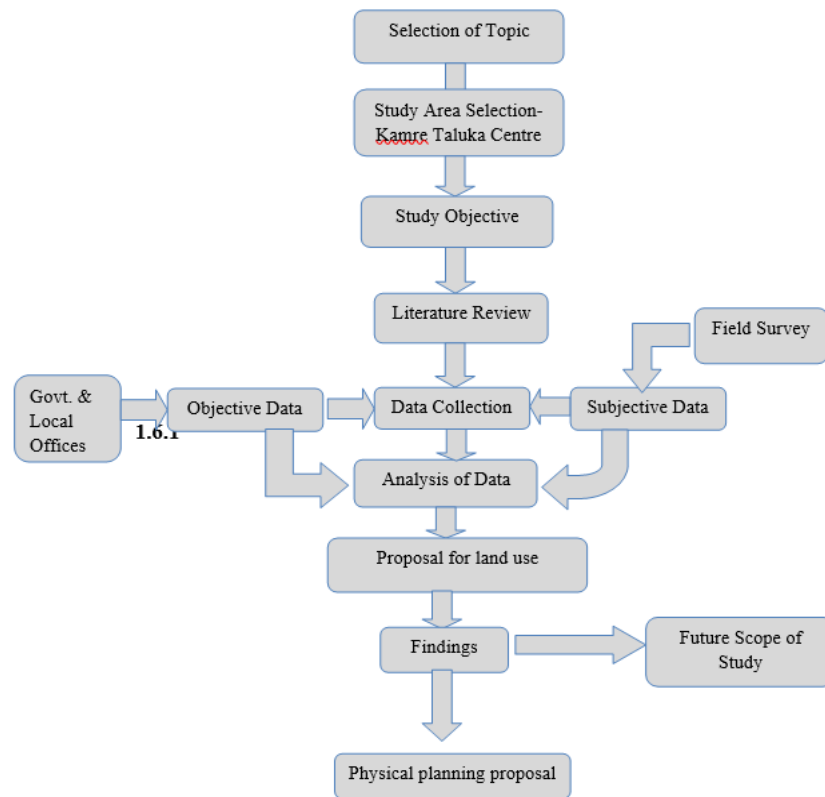
Conclusion

The reviewed literature establishes that strengthening small and medium towns is essential for balanced regional development. Effective planning requires integration of physical, social, and economic aspects along with strong governance and community participation. This forms the basis for analyzing and proposing development strategies for Kamrej Taluka Centre.

METHODOLOGY

The methodology adopted for the study follows a systematic and sequential approach to understand the existing conditions, identify issues, and propose a suitable physical planning framework for the Kamrej Taluka Centre.

The major stages involved in the study are described below:



1.6 Methodology Flow Chart

Selection of Topic

The study begins with the identification and selection of the research topic, focusing on physical planning and development of a Taluka Centre. The topic is chosen considering its relevance to regional planning and the need for balanced development.

Study Area Selection

The study area selected is Kamrej Taluka Centre in Surat District, which represents a rapidly developing region with mixed urban and rural characteristics. The area is chosen to analyze its growth pattern, infrastructure status, and planning requirements.

Study Objectives

Clear objectives are defined to guide the study. These include:

- Understanding existing conditions
- Identifying issues and problems
- Analyzing infrastructure and services
- Proposing a physical planning framework

These objectives form the basis for further data collection and analysis.

Literature Review

A comprehensive literature review is carried out to understand:

- Concepts of town planning and regional development
- Role of small and medium towns

- Planning standards and guidelines (URDPFI, IDSMT, UIDSSMT, etc.)
- Previous studies and policies

This helps in establishing a theoretical and policy framework for the study.

Data Collection

Data collection is a crucial stage and is divided into two types:

a) Objective Data Collection

- Collected from Government and Local Offices
- Includes:
 - Population data
 - Land use data
 - Infrastructure details
 - Maps and official records
- Provides quantitative and factual information

b) Subjective Data Collection

- Collected through Field Surveys
- Includes:
 - Observations
 - Public opinions
 - User perception of services
- Helps in understanding ground realities and local issues

Data Analysis

The collected data (both objective and subjective) is analyzed to:

- Identify existing land use patterns
- Evaluate infrastructure and service gaps
- Understand growth trends and development issues
- Highlight strengths, weaknesses, opportunities, and constraints

This stage forms the foundation for planning proposals.

Proposal for Land Use

Based on the analysis, a land use proposal is prepared:

- Allocation of land for residential, commercial, industrial, and public uses
- Improvement in circulation and connectivity
- Provision of open spaces and amenities
- Ensuring sustainable and efficient land utilization

Findings

Key findings are derived from the analysis and proposals:

- Identification of major issues and challenges
- Assessment of infrastructure deficiencies
- Opportunities for future development

Physical Planning Proposal

A comprehensive physical planning proposal is developed, which includes:

- Improved land use planning
- Infrastructure development (roads, water, drainage, etc.)
- Enhancement of public and semi-public facilities

- Sustainable and balanced development strategies

Future Scope of Study

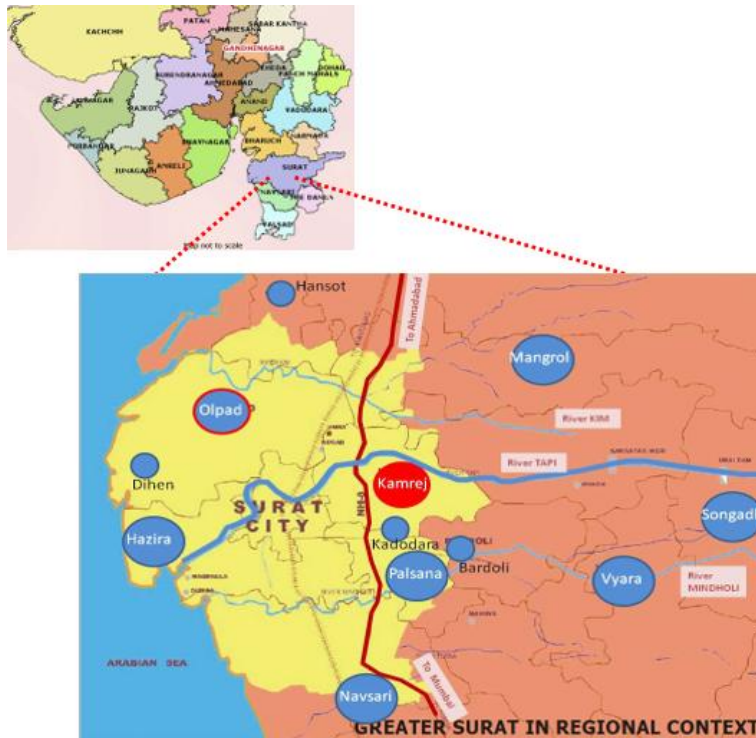
The study concludes by identifying areas for future research and development, such as:

- Detailed sectoral planning
- Implementation strategies
- Policy recommendations
- Scope for smart and sustainable development

Conclusion

The methodology ensures a logical and integrated approach, starting from data collection to analysis and final planning proposals. It combines both quantitative data and field-based observations to develop practical and sustainable solutions for the Kamrej Taluka Centre.

DATA COLLECTION



Location with respect to regional context

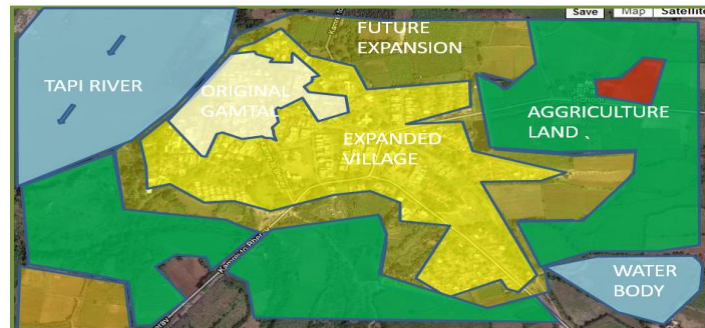
The data for the study of Kamrej Village was collected through a combination of primary and secondary sources, ensuring a comprehensive understanding of socio-economic conditions, infrastructure, and public service delivery. The data collection process is broadly classified into socio-economic data, planning data, and technical data.

Socio-Economic Data

Socio-economic data was collected through household surveys and field observations covering 50 households in the study area. The data includes occupation, housing conditions, infrastructure access, and basic amenities.

DATA ANALYSIS AND INTERPRETATION

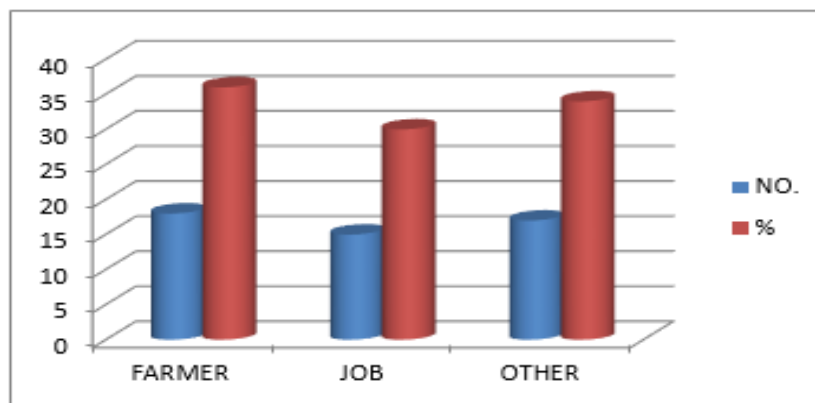
Kamrej Village



LAND USE OF KAMREJ VILLAGE

Socio-Economic Profile

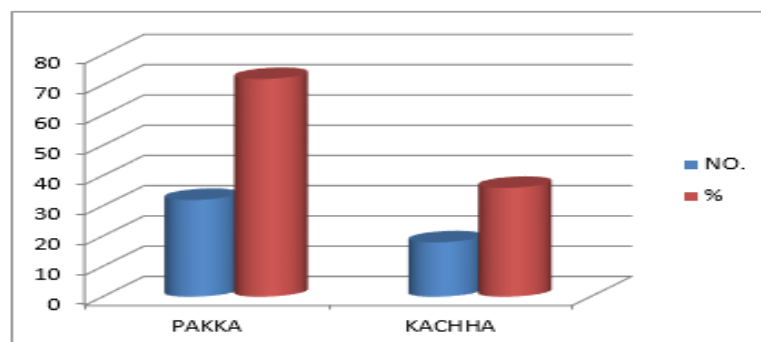
Economic Status



- The occupational structure of Kamrej village shows a balanced distribution of livelihoods:
- Farmers constitute 36%, indicating a significant dependence on agriculture.
- Job holders account for 30%, reflecting the influence of nearby urban centers.
- Other occupations (34%) include business, labor, and services.

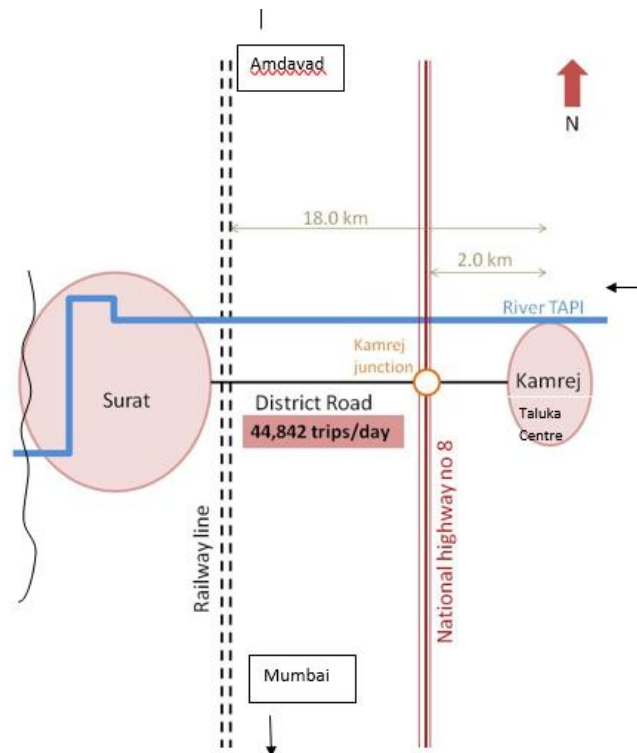
This indicates a mixed economy, transitioning from rural to semi-urban characteristics.

Housing and Accessibility



- 72% of houses are connected by pakka roads, while 36% are still dependent on kachha roads. This reflects moderate infrastructure development, though internal connectivity needs improvement.

City linkage

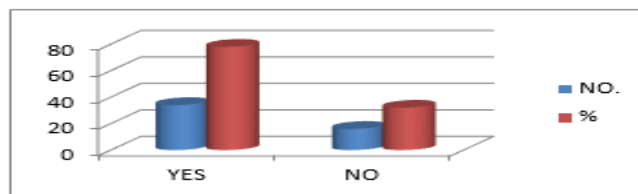


Kamrej Taluka centre w.r.t Surat City District Centre

Communication Facilities

- 78% households have cable connection, indicating good access to media and information.

Sanitation Facilities

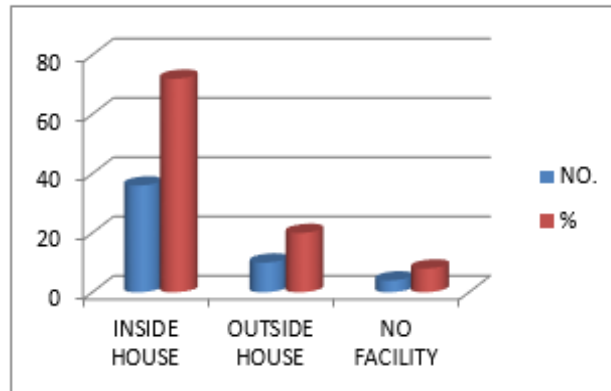


TOILET FACILITY	NO.	%
INSIDE HOUSE	36	72
OUTSIDE HOUSE	10	20
NO FACILITY	4	8

- 72% households have toilets inside the house.
- 20% use outside toilets, while 8% lack facilities.

This shows good sanitation coverage, but efforts are needed for universal access.

Open Space Availability



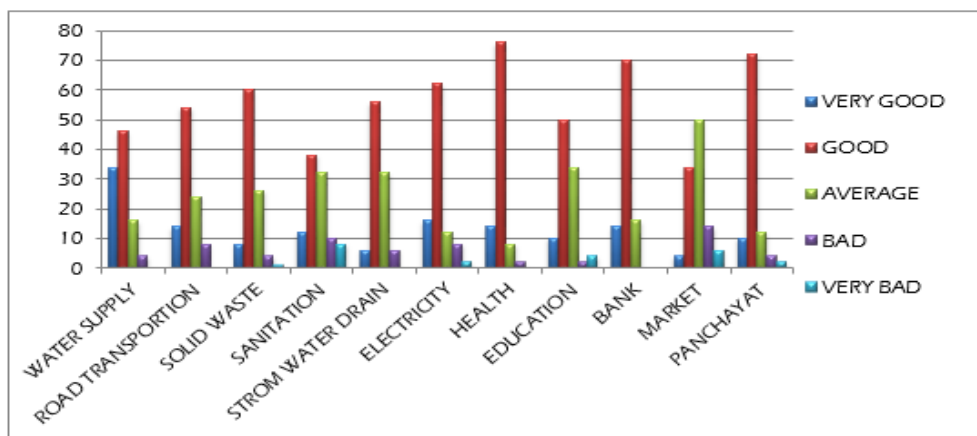
- 60% houses have open space, while 40% lack it. This indicates moderate environmental quality with scope for better planning.

Vehicle Ownership

- Bicycle ownership is highest (46%), indicating reliance on non-motorized transport.
- Cars (24%) and tractors (8%) show limited motorization.

Planning Data Analysis

Perception of Services



The perception analysis reveals the following:

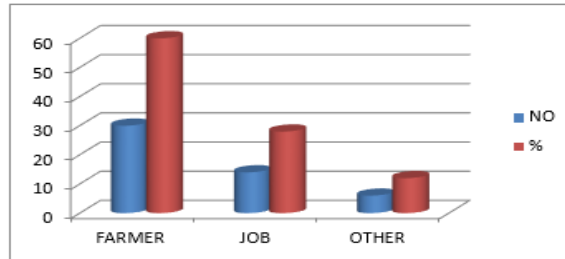
- Water supply and electricity are rated mostly good to very good, indicating satisfactory service delivery.
- Road transportation is rated good (54%), but with some dissatisfaction (8% bad).
- Solid waste and sanitation services are mostly average to good, indicating scope for improvement.
- Storm water drainage has relatively lower satisfaction, highlighting drainage issues.
- Health and education services are rated good, but still require enhancement.
- Market and banking services show mixed responses, indicating infrastructure gaps.

Overall, Kamrej shows moderate to good service levels, but requires improvements in drainage, waste management, and transport infrastructure.

Kholvad Village

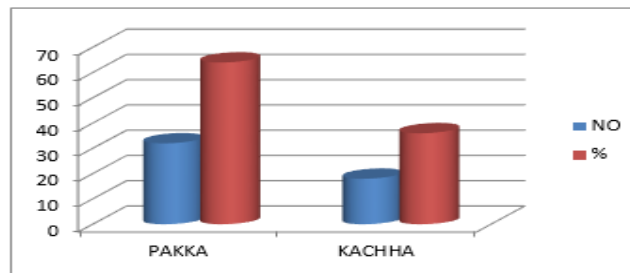
Socio-Economic Profile

Economic Status



- Farmers constitute 60%, showing strong dependence on agriculture.
 - Job holders are 28%, and other occupations are 12%.
- This indicates a predominantly rural economy compared to Kamrej.

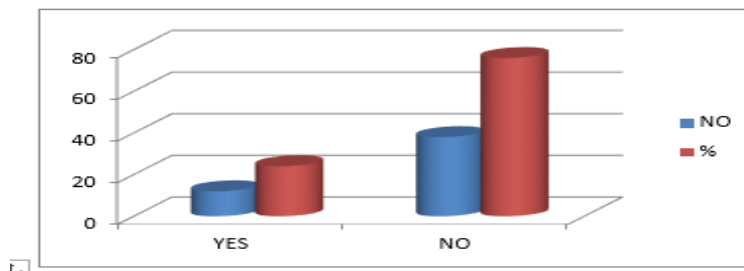
Housing and Accessibility



- 64% houses have pakka road access, while 36% have kachha roads.
- Housing type:
 - Semi-pakka: 44% (highest)
 - Pakka: 36%
 - Kachha: 20%

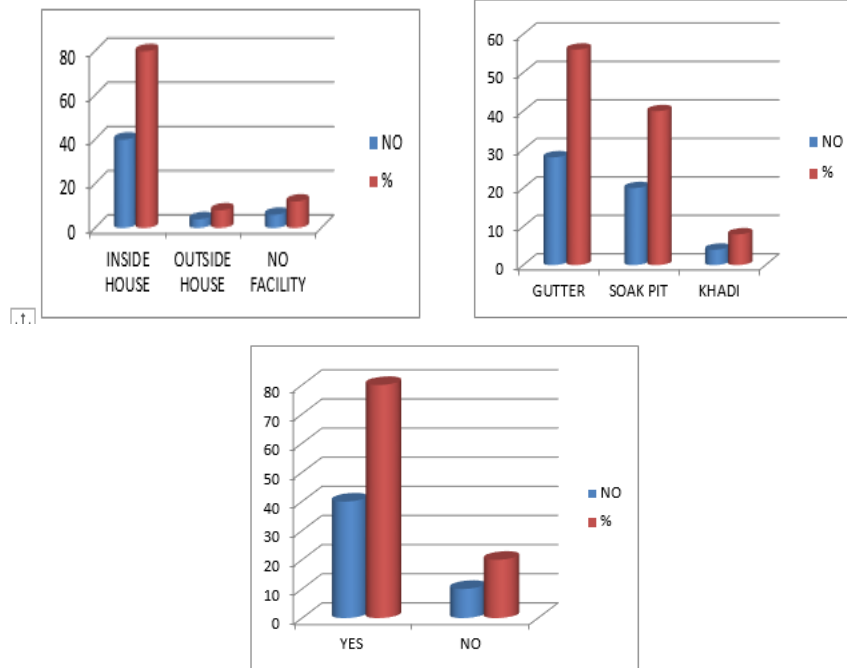
This reflects moderate housing quality with scope for improvement.

Communication Facilities



- Only 24% households have cable connection, while 76% lack it, indicating low access to media services.
- Telephone connectivity is also limited.

Sanitation and Water Supply

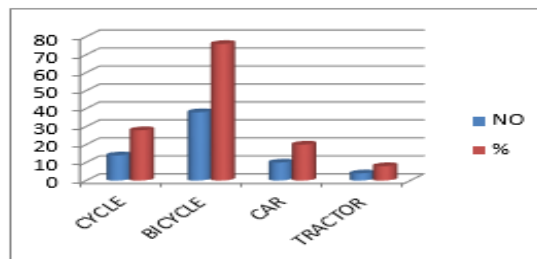


- 80% households have toilets inside the house.
- 80% have tap water connection, indicating good basic service coverage.

Open Space

- 84% houses have open space, showing better environmental conditions compared to Kamrej.

Vehicle Ownership



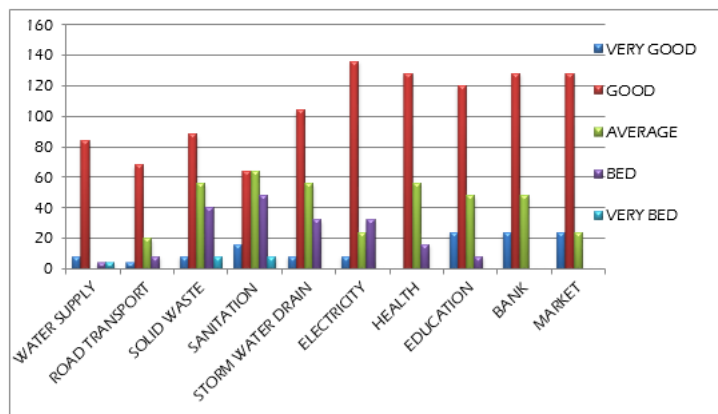
- Bicycle usage is dominant (76%), showing low motorization and dependency on basic transport modes.

Wastewater Disposal

- Majority (56%) use gutter systems, while 40% depend on soak pits.
- Some wastewater is discharged into khadi, indicating environmental concerns.

Planning Data Analysis

Perception of Services



- Water supply and electricity are rated highly (good to very good), indicating strong service performance.
 - Road transport is moderately rated, with some dissatisfaction.
 - Solid waste and sanitation show mixed responses, indicating inefficiencies in management.
 - Storm water drainage is a concern due to inadequate infrastructure.
 - Health services show lower satisfaction compared to other services.
 - Education, banking, and market services are generally rated good.
- Overall, Kholvad shows better basic amenities (water, sanitation) but lacks advanced infrastructure and service efficiency.

Comparative Analysis (Kamrej vs Kholvad)

Parameter	Kamrej	Kholvad	Observation
Economy	Mixed	Agriculture-based	Kamrej more urbanized
Housing	Mostly pakka	Semi-pakka dominant	Kholvad needs improvement
Road Access	Better	Moderate	Both need improvement
Cable/Communication	High	Low	Digital divide in Kholvad
Sanitation	Good	Better	Kholvad slightly better
Open Space	Moderate	High	Kholvad better environment
Transport	Moderate	Low	Both depend on bicycles
Services	Moderate-good	Basic-good	Kamrej more developed

RESULTS

The analysis of socio-economic, planning, and technical data of Kamrej and Kholvad villages reveals the following key results:

Socio-Economic Results

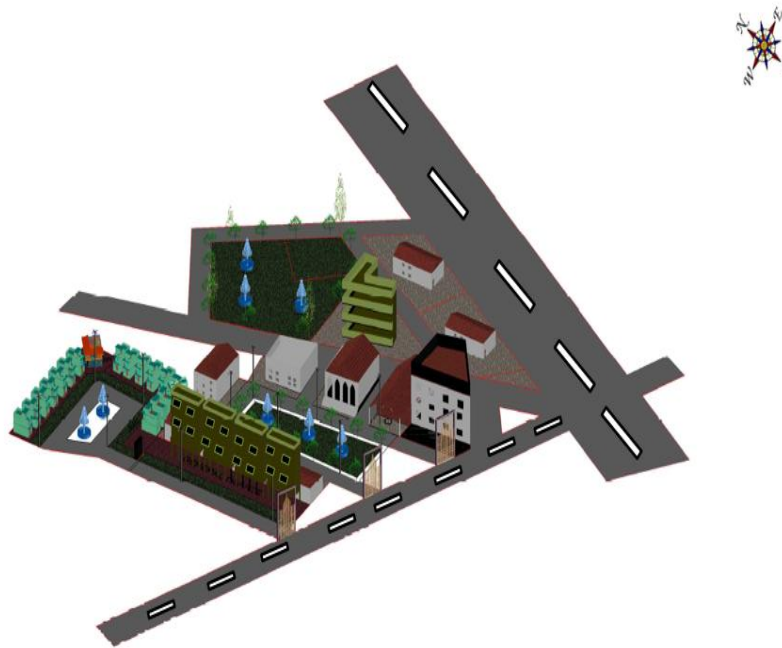
- Kamrej village shows a mixed economic structure, with balanced participation in farming, jobs, and other activities, indicating a transition towards urbanization.
- Kholvad village is predominantly agriculture-based (60%), reflecting a more rural character.
- Housing conditions in Kamrej are relatively better, with a higher percentage of pakka houses, while Kholvad has a dominance of semi-pakka houses.

- Access to basic amenities such as water supply and sanitation is satisfactory in both villages, with Kholvad slightly better in toilet and tap water coverage.
- Communication facilities (cable and telephone) are significantly higher in Kamrej, indicating better connectivity and modernization compared to Kholvad.
- Vehicle ownership in both villages is dominated by bicycles, indicating low level of motorization and dependence on non-motorized transport.

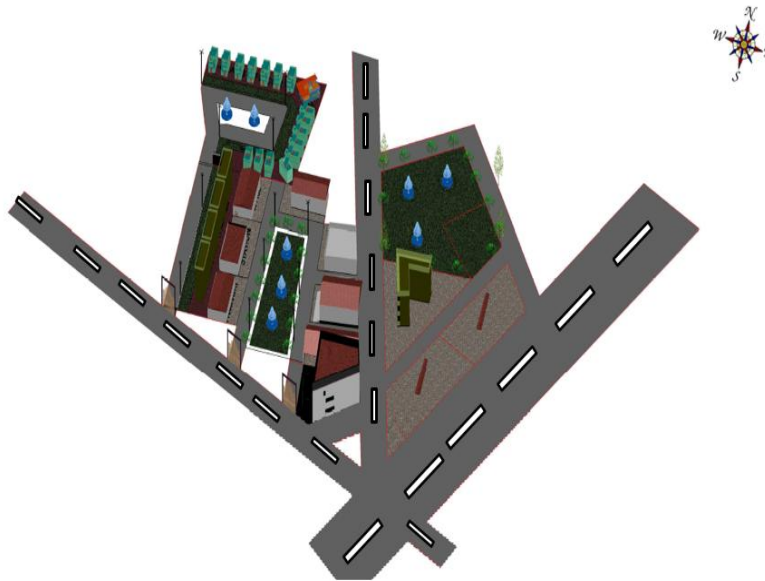
Infrastructure and Service Results

- Water supply and electricity services are rated good to very good in both villages.
- Road connectivity is moderate, with a considerable number of houses still connected through kachha roads.
- Solid waste management and sanitation systems are average, showing need for improvement in waste disposal and drainage systems.
- Storm water drainage is inadequate, leading to waterlogging and flood-prone conditions, especially in low-lying areas.
- Public services such as health, education, and administrative offices are frequently used, but require improvement in infrastructure, staff, and facilities.

Planning and Functional Results



PROPOSAL FOR SEVASADAN



PROPOSAL FOR SEVASADAN

- Kamrej functions as a semi-urban centre with better access to administrative, commercial, and communication facilities.
- Kholvad acts as a rural settlement with dependency on nearby centres like Kamrej for higher-order services.
- Kamrej Char Rasta emerges as a major activity node, but faces traffic congestion, parking issues, and inadequate transport facilities.

CONCLUSION

The study concludes that Kamrej and Kholvad villages exhibit different levels of development, with Kamrej being more urbanized and Kholvad retaining rural characteristics. While both villages have made progress in basic infrastructure such as water supply and sanitation, several critical gaps remain.

The major issues identified include:

- Inadequate drainage and storm water management
- Poor solid waste disposal systems
- Insufficient transport and road infrastructure
- Lack of organized public spaces and amenities
- Infrastructure deficiencies in public offices and service centers

There is a strong need for integrated and sustainable planning interventions that focus on:

- Improving physical infrastructure (roads, drainage, waste management)
- Strengthening public services and institutional facilities
- Enhancing connectivity and transport systems
- Promoting balanced regional development between rural and semi-urban areas

Overall, the findings highlight the importance of developing Kamrej as a growth centre to support surrounding villages like Kholvad, ensuring equitable distribution of resources, improved living standards, and sustainable development.

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