INTEGRATED PLANNING OF A RURBAN CLUSTER: A CASE OF LUCKNOW CITY

A Dissertation

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MASTER OF URBAN AND REGIONAL PLANNING

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Integrated Planning of a Rurban Cluster

by

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BABU BANARASI DAS UNIVERSITY LUCKNOW

JUNE, 2022

CERTIFICATE

It is certified that the work contained in Dissertation entitled **"INTEGRATED PLANNING OF A RURBAN CLUSTER: A CASE OF LUCKNOW CITY"** been by **Km. Ruby, (Roll No.1200106015)** for the award of **Master of Urban and Regional Planning,** from Babu Banarasi Das University has been carried out under our supervision and that this work has not been submitted elsewhere for a degree.

The matter embodied in this dissertation has not been submitted by her for the award of any other degree of this or any other Institute.

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Date: June-2022
Place: Lucknow

ABSTRACT

In recent years urbanization has become synonym to development. Since last few years, fast paced growth of cities and rapid transformation from rural land use to urban land use has been seen. Developing countries like India has experienced huge shift in the economy from agrarian base to service oriented employment. The settlement may be organic, with heterogeneity yet very well reflects the interwoven social fabric. As a result of urbanization the urban sprawl is approaching the rural hinterlands. The line of distinction is fading away between urban and rural. The area with diffusion of urban and rural activities is termed in this study as RURBAN. These Rurban centres are new emerging towns that are governed by rural local bodies, the activities possess in these areas are urban in nature. Lack of infrastructure and services in such settlements creates disparity among rural and urban settlements, access for which to each settlement is a herculean task. The word Rurban (Rural+Urban) refers to a geographic territory /landscape which possess the economic characteristics and lifestyles of an urban area while retaining its essential rural area features. The research attempts to develop an understanding of issues and challenges, possibilities and potential and development guidelines for this upcoming new centres of urban growth. Gaps in planning for such Rurban centres are identified and integrated plan for an identified cluster is to be prepared.

Key Words: Analysis of sustainable livelihood security, Rurban, Rural Development, Integrated village development plan, NRuM ICAP, Rurban Mission, Quality of Life & Economic wellbeing,

Aim:

To develop guideline for Integrated planning of Rurban cluster.

Objective:

1. To study existing planning theories for planning of a Rurban cluster.
2. To study the relevant national and international cases.
3. To assess and appraise the methodology adopted in Rurban Mission.
4. To identify the gaps in terms of integration between spatial, social and economic factors.
5. To evolve an integrated methodology to plan a Rurban cluster as a future urban area.

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Last but the least, I am obliged to my **parents** and my **family** for giving me freedom to explore and grow professionally and also for supporting me.

Km. Ruby

CANDIDATE'S DECLARATION

I hereby declare that the work, which is represented by me in this dissertation, entitled "**Integrated Planning of a Rurban Cluster: A case of Lucknow City",** in partial fulfillment of the requirements for the award of the degree of **Master In Urban And Regional Planning** submitted to the **School of Architecture and Planning, Babu Banarasi Das University Lucknow,** is an authentic record of my own work carried out during the period from July 2021 to June 2022 under the supervision of **Prof. Mohit Kr. Agarwal**, School of Architecture and Planning B.B.D. University Lucknow, Uttar Pradesh, India.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree of this or any other institute.

Date: June, 2022

Place: Lucknow

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

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Place: Lucknow

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CHAPTER: 1 INTRODUCTION

1.1 Background

India is facing urban transformation at a rapid rate from predominantly rural habitation system and rural economy to urban system. Since last few years, fast paced growth of cities and rapid transformation from rural land use to urban land use has been seen. Rural population in India as per 2011 census statistics counts to be 833 Million, forming 68% share of total population. Moreover, the growth rate of rural population was observed to be 12% during the 2001-2011 period and growth in term of absolute number of villages was shown to be 2279 unit during the same decade. Population residing in villages/rural areas face mass poverty, Illiteracy, low level of income, high unemployment rate and poor nutrition and thus health conditions. Lack of infrastructure and services in such settlements creates disparity among rural and urban settlements, access for which to each settlement is a herculean task. For this issue to be addressed in a holistic manner, there is a need to see rural development integrating with rural-urban context. Disparity between rural and urban areas needs to be bridged by expanding and strengthening urban-rural linkages, thus focusing on integrated development. Policies supporting urban-rural integration and providing public investments to encourage the movement of resources and goods across various locations and sectors are important step in this direction. Physical, knowledge and communication connectivity in villages needs to be ensured, reducing urban rural disparities which would generate employment and guide inclusive development.

With 68.84% of total population being rural, constituting to be 1.2 billion, approximately 65% of people do not have access to sanitation facilities, 29% of rural population is unserved by adequate safe & sustainable water. On an average, villagers have to travel 2km to reach an all-weather road, and about 52% of rural population do not have an access to all-weather road and reside away from main village. On an average 58,648 villages are unserved by village-level telephone connectivity, although tele-density has improved by an increase to 148.54 in year 2015. A total of 8.97 lakh rural HH and 32,227 villages still are not provided with electricity.

Most part of village settlement in our country are a part of a cluster of habitations, those are in close proximity of one other. Such masses stereo typically have prospective for progress and act as economic booster, thus have location based& competitive benefits. Thus policy directives for such settlement clusters are required. These clusters after developing them are categorised as ‘Rurban’. Hence GOI has proposed the Shyama Prasad Mukherjee Rurban Mission (SPMRM), whose goal was providing physical, social and economic infrastructure and amenities thus developing such clusters. Such advantages of these clusters also optimize the benefits of amenities provision. SPMRM aims at

developing 300 such clusters i.e. Rurban clusters over the period of next three years. Provision of required amenities would strengthen these clusters for which resources and funds will be mobilised through scheme convergence, over and above cost will be financed through critical Gap Funding which will be made available under the mission, for integrated and focused development of these Rurban cluster.

1.2 Rurban Cluster

The word Rurban (Rural+Urban) refers to a geographic territory /landscape which possess the economic characteristics and lifestyles of an urban area while retaining its essential rural area features.

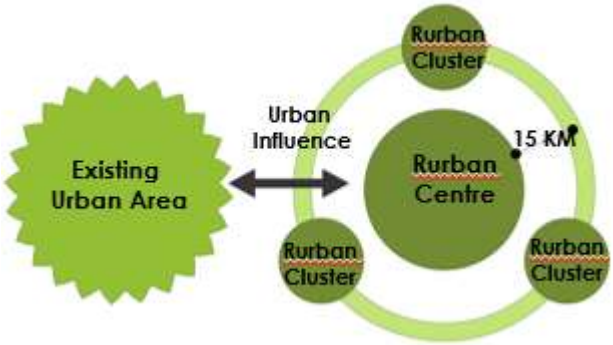


Figure 1 The Gujarat Model of Rurban Development

1.3 National Rurban Mission

Government of India, has launched the Shyama Prasad Mukherji Rurban Mission (SPMRM) under Ministry of Rural Development, aimed at developing such rural areas by provision of economic, social and physical infrastructure facilities. The Mssion was launched on 21st February, 2016.

1.4 Mission's Aim

The Mission aims at development of 300 Rurban clusters, in the next five years. These clusters would be strengthened with the required amenities, through convergence of various schemes of the Government.

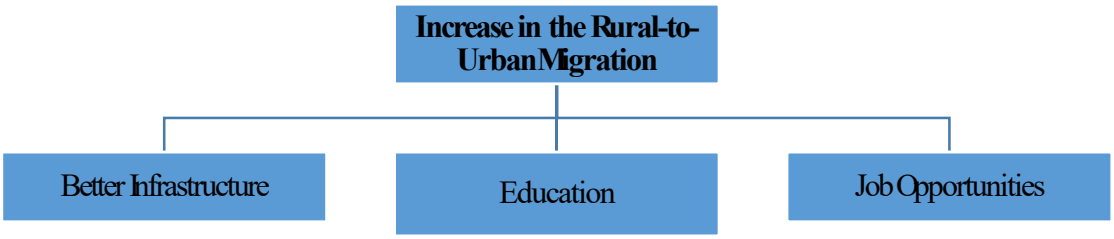
1.5 Mission's Vision

Development of a cluster of villages that preserve and nurture the essence of rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature, thus creating a cluster of "Rurban Villages".

1.6 Why we need RURBAN?

There has been an increase in the rural-to-urban migration for various reasons, such as better infrastructure, Education, job opportunities. This has led to overcrowding of cities and creation of ghost towns or villages. There is a need to create independent villages that provide the same facilities as urban areas but still retain the rural character and community

spirit. Large parts of rural areas in the country are not stand-alone settlements but part of a cluster of settlements, which are relatively proximate to each other. These clusters typically illustrate potential for growth, have economic drivers and derive locational and competitive advantages. These clusters once developed can then be classified as Rurban.



1.7 List of 100 Approved Clusters By NRuM

Table1 List of 100 Approved Clusters By NRuM

STATE	NAME OF CLUSTER
Haryana	Balla, Barara, Samain, Uchana Khurd, Kosli, Badli
Uttar Pradesh	Mau Mustkil, Kashai, Dasna Dehat, Bans Gaon, Chitehera, Rudhau Mustkil, Patehara Kalan Urf Kubari , Pate, Silana, Barokhar, Juggaur
H.P.	Sangla, Hinner
J&K	Gole Gujral, Khumryal
Uttarakhand	Athoorvala, Bhaktanpur-Abidpur
Punjab	Dhapali, Harsa Chhina
Bihar	Bairia, Nauranga, Kuchhila, Sonbarsa
Chhattisgarh	Madpal, Loharsi, Murmunda, Kunda
Jharkhand	Bhandaridh, Palani, Dharambahd)
Odisha	Samasingha, Banapur, Tala Basta, Thakurmunda, Utkela
West Bengal	Khirkundu- Namajgram- Niala, Garalgachha, Chandrahati-I, Jyer-Dwarbasini, Jala Biswanathpur, Parbatipur, Malian
Goa	Xeldem
Gujarat	Vadinar, Ravapara, Ambaji, Bhiloda
Madhya Pradesh	Simrol, Nawda Panth, Ratibad, Achatt, Gunga, Delakhari, Khaniwada
Maharashtra	Sirsala, Sultanpur, Loni Kalbhor, Ashti, Jogeshwari, Wadoda, Muktainagar
Rajasthan	Jurahara, Budsoo, Majivala, Salawas, Gogunda
Karnataka	Haragadde, Kangrali, Danapuram
Nagaland	Pedi

Andhra Pradesh	Kuppam, Kambadur, Singarayakonda, Venkatachalam, Aruku Valley
Kerala	Aryanad & Vellanad GPs, Puthenvelikara & Kunnukara GPs Mangatidam & Kottayam Malabar GPs, Puthupally & Manarcad GPs
Tamil Nadu	Kuthambakkam, Vaniyangudi , Velayuthampalayam, Madukkarai , Suthamali
Telangana	Allapur.S, Ryakal, Jukkal, Sarangapalle
Arunachal Pradesh	Tuting
Manipur	Khangabok
Mizoram	Aibawk
Meghalaya	Chisim Apal
Tripura	Hrishyamukh, Nirbhoypur
Sikkim	Namcheybong

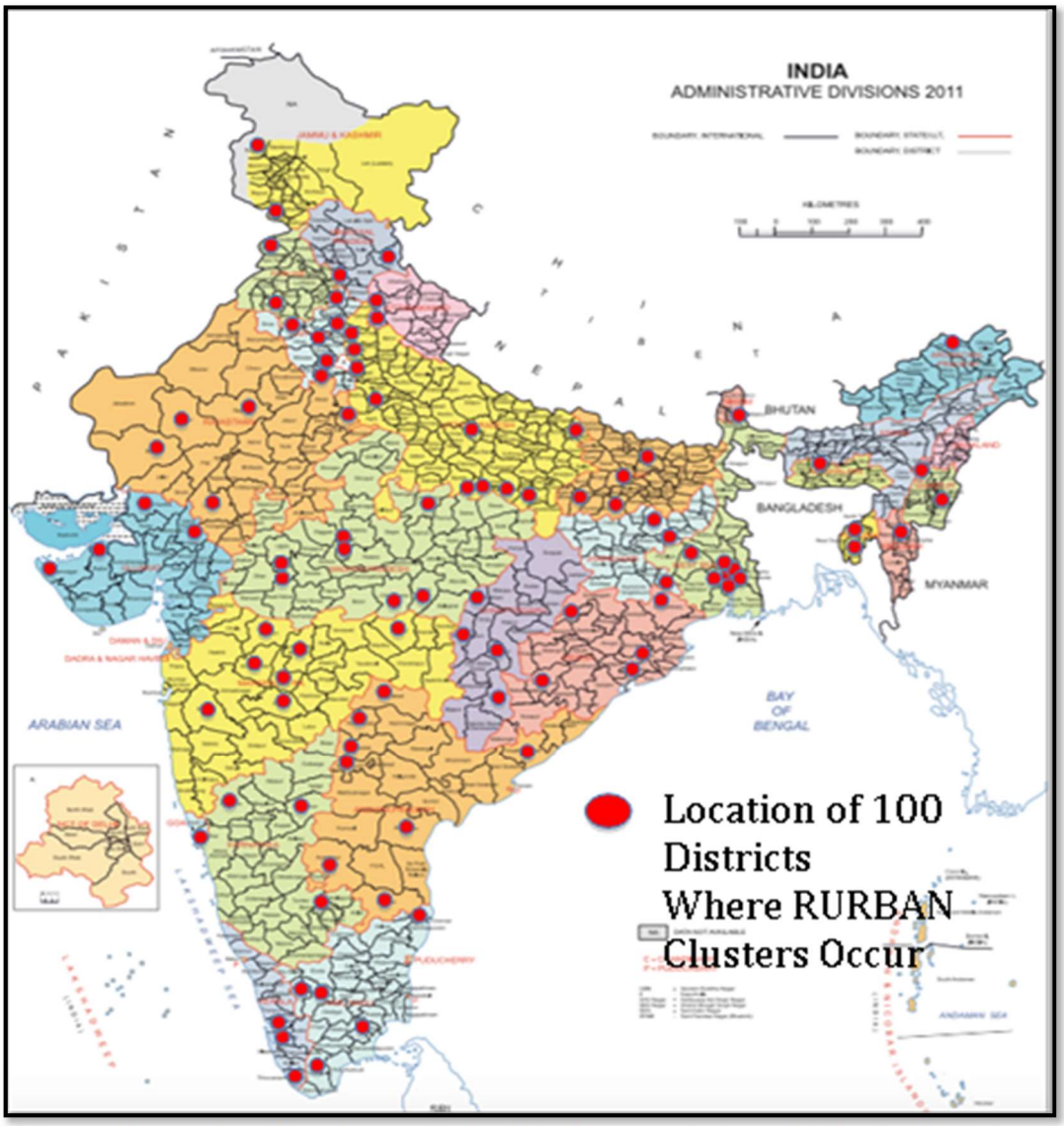


Figure 2 Source: Base Map Census of India, 2011. Location of Clusters Marked by the Author

1.8 Inferences of Research Papers

Table 2 List of Research Paper with Inferences

Paper Name	Author	General	Objectives	Conclusion
Rurban Centres: The New Dimension of Urbanism	Neha Pranav Kolhe, Dr. Krishna Kumar Dhote	International Conference on Emerging Trends in Engineering, Science and Technology-2015	To develop a understanding of issues and challenges, possibilities and potential & development guidelines for this upcoming new centres of urban growth.	Rurban centres are mostly governed by rural local bodies whereas the rising population demands for urban local bodies.
Analysis of sustainable livelihood security: a case study of Allapur s rurban cluster	Supratim Guha, V. R. Mandla, Dillip K. Barik, Pritam Das & V. M. Rao	Journal of Rural Development, July 2018	This study shows the current scenario of sustainable livelihood security index of Allapur S Rurban cluster, located in the newly born Telengana State	The stakeholders in the upgradation of management of natural resources by developing the balance among the economic, ecological and social factors of sustainable development.

Urbanising the Rural: Reflections on India's NRuM.	Chandni Singh, Andaleeb Rahman	Asia & the Pacific Policy Studies, 11 March 2018	The study highlight ways in which the mission can avoid some past pitfalls of development interventions in India	The Rurban Mission is a promising step it focuses on creating employment opportunities in smaller clusters across India.
Integrated Urban Development for Smart City Building through Rurbanization Approach	Anwesha Aditi & Abhinav Tiwari	National Conference on Sustainable & Smart Cities 2015: 10-11 April 2015	To focus on fringe growth through the concept of Rurbanization that promotes minimization of the rural-urban divide through infusion of urban patterns and services in rural-urban area.	The concept development of rurban-centres that preserve the facilities that are urban in nature and act as a promoter in empowering them through transformation by fostering inclusive growth for our future 'smart' cities.

1.9 Aim

To develop guideline for Integrated planning of Rurban cluster.

1.10 Objectives

1. To study existing planning theories for planning of a Rurban cluster.
2. To study the relevant national and international cases.
3. To assess and appraise the methodology adopted in Rurban Mission.
4. To identify the gaps in terms of integration between spatial, social and economic factors.
5. To evolve an integrated methodology to plan a Rurban cluster as a future urban area.

1.11 Scope

1. To make policies for minimizing the gap between Rurban cluster development.
2. Formulation of draft vision and goal for future growth of the cluster.

1.12 Limitations

1. To focus only on infrastructure of Rurban cluster rather than urban infrastructure.
2. To focus only on development plan rather than its financial aspects.
3. Study will be limited to only identified cluster.

1.13 Methodology

1.13.1 Conceptualization Stage:

This was carried out through literature review focusing primarily on understanding the concept and process of cluster development. The literature review from several articles, reports, GOI publications etc. has been carried out to understand the need for cluster development. This was followed by formulation of aims and objectives of the study.

1.13.2 Data Collection:

Data collection was from primary and secondary sources. Primary source of data included a mix of visual survey, interviews with local residents, Panchayat Heads. Old people were interviewed because of their long experience and knowledge. Elected representatives i.e. Sarpanch of the village is also interviewed.

1.13.3 Data Analysis:

Analysis is done at 2 stages. Firstly, at the mission level and secondly at cluster level. At first stage, ICAP of the Rurban Mission is critically analysed. Second stage includes selection of Rurban cluster based on population Size, population growth Rate and Density. This includes analysis of land use and connectivity of the villages using GIS spatial mapping. Infrastructure status in the villages is also judged. Physical, Social and Economic Infrastructure is also compared.

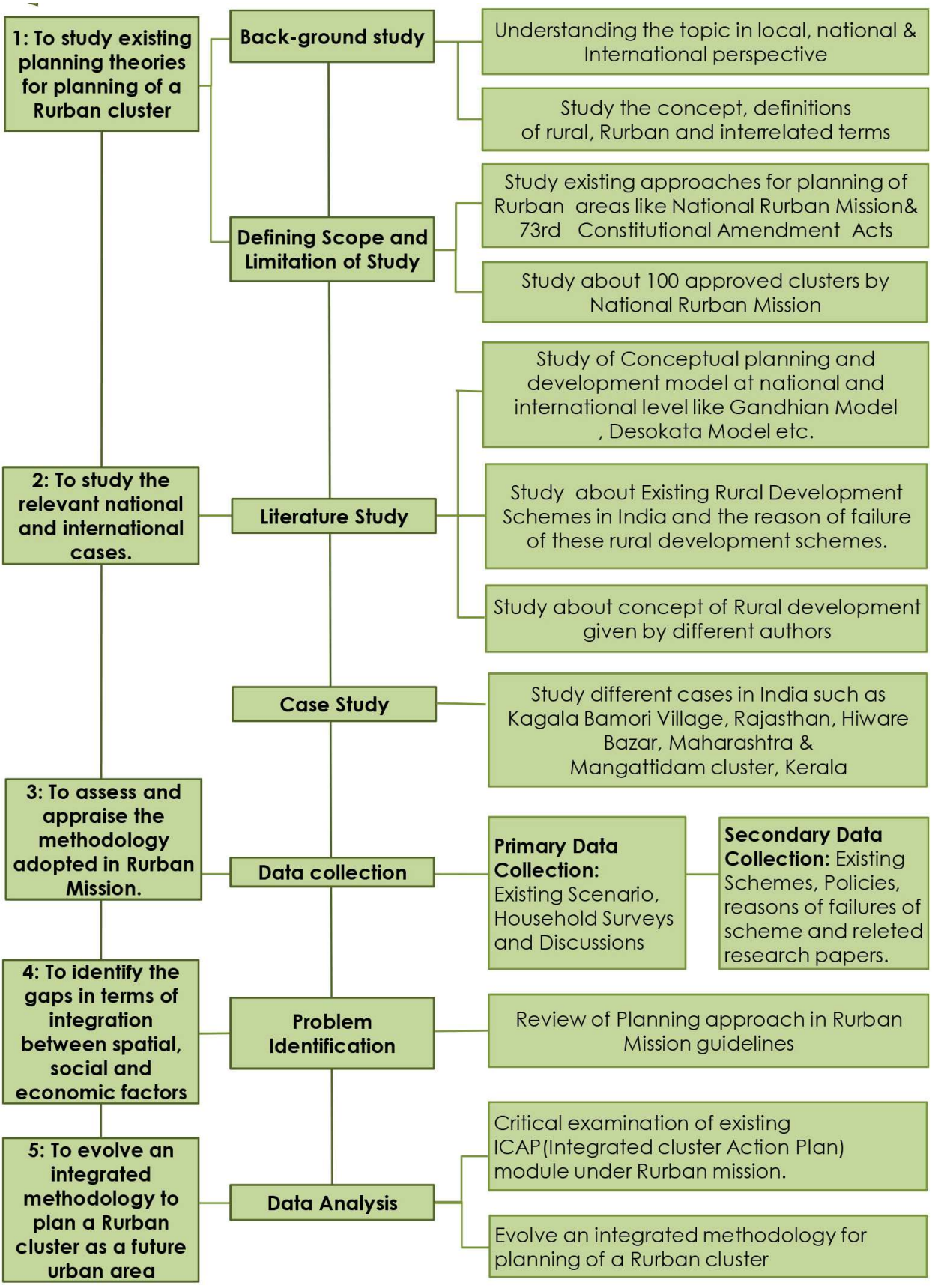
1.13.4 Strategy & Proposals:

New Methodology will be proposed for the development of the Rurban Cluster. Spatial planning and implementation strategies for the selected cluster will be suggested for the development of the cluster.

1.13.5 Analysis

Existing ICAP methodology was compared with other plan making methodologies to identify the gaps, which can integrated methodology.

In order to apply the newly evolved methodology, one cluster is selected by Government of India. Cumulative function Index is the Technique used to select the cluster, which is a mathematical technique employed in a settlement level study in order to analyse the overall rank of settlements in a system.


1: To study existing planning theories for planning of a Rurban cluster
Back-ground study
Understanding the topic in local, national & International perspective
Study the concept, definitions of rural, Rurban and interrelated terms
Defining Scope and Limitation of Study
Study existing approaches for planning of Rurban areas like National Rurban Mission& 73rd Constitutional Amendment Acts
Study about 100 approved clusters by National Rurban Mission
2: To study the relevant national and international cases.
Literature Study
Study of Conceptual planning and development model at national and international level like Gandhian Model , Desokata Model etc.
Study about Existing Rural Development Schemes in India and the reason of failure of these rural development schemes.
Study about concept of Rural development given by different authors
Case Study
Study different cases in India such as Kagala Bamori Village, Rajasthan, Hiware Bazar, Maharashtra & Mangattidam cluster, Kerala
3: To assess and appraise the methodology adopted in Rurban Mission.
Data collection
Primary Data Collection: Existing Scenario, Household Surveys and Discussions
Secondary Data Collection: Existing Schemes, Policies, reasons of failures of scheme and releted research papers.
4: To identify the gaps in terms of integration between spatial, social and economic factors
Problem Identification
Review of Planning approach in Rurban Mission guidelines
5: To evolve an integrated methodology to plan a Rurban cluster as a future urban area
Data Analysis
Critical examination of existing ICAP(Integrated cluster Action Plan) module under Rurban mission.
Evolve an integrated methodology for planning of a Rurban cluster

CHAPTER: 2 LITERATURE STUDY

This section includes the literature starting from the definitions of Urban, Rural and Rurban and other related terminologies various authors, and in both global and Indian contexts. Rurban settlement is cluster of villages, thus concept of villages is also understood. It also includes acts/policies and good practices of village planning in Maharashtra and Rajasthan suggesting, planning and management solutions to be adopted. Concept of Rural development and existing rural development schemes and approaches are explained in order to understand reason of their failure, which helped in understanding gap in our rural development approaches.

2.1 Defining Urban, Rural and Rurban

It is imperative to examine the current definition in changing environment as the definition of urban and rural areas are changing itself. Since these areas are governed by different local administrative institutions with variable capabilities, potentials and implication for development of the local areas (Bhagat, 2002).

Two important criteria namely size of population and the percentage of non-agricultural workforce are being used worldwide for the existing classification of rural-urban areas. These criteria indicates industrial activities as the major force behind urbanisation, and rural areas are treated as residual areas and synonym with agricultural activities.

An urban area can also be defined as 'the region surrounding the city'. Non agriculture activities are the major source of income of most of the inhabitants of urban areas. These areas have high density of structures e.g. residential and commercial structures, better amenities and better linkages through good transport and communication infrastructure and thus such areas are highly developed.

An urban area can be categorized by "high human populace density &several built landscapes in association to the areas adjacent to it". Urban may also be called as be cities, municipalities or suburbs.

On the word of J. Weeks "Urban is defined as a feature that integrates component of populace density, societal& economic institutes and transitioning of the natural environs into a built landscape". If an urban is a place biased characteristic, then we can describe an urban area as "Physical congregation of individuals whose lives circled about non-agricultural activities". The vital characteristics of an urban area here is synonym 'non-agricultural' (Weeks, 2008). Urban is a complex system. It is a function of following four factors (1) Population size (2) land area (Space), (3) ratio of population to area (density), and (4) economic & social arrangement and organization" (Weeks, 2008)

There is no universally accepted criteria to define urban. The criteria to define 'urban' is different in different part of the world. It also varies with periodic reclassification i.e. it can also be different within a nation state over a period of interval, thus making straight comparisons are hence tough. A space can be classified as urban on the basis of more than

one of the given indicators: "administrative criteria or political boundaries (e.g., area administered by a municipality or town committee), No. of inhabitants (minimum population threshold for a typical urban region is 5,000 people, this also varies worldwide ranging from 200 &50,000), population concentration, economic structure (e.g., main working population is involved in non-agronomy activities, or if there is extra employment) or the existence of city level amenities (Pucca roads, electrification, sanitation facilities etc.)". In 2010, 3.5 billion people subsisted in areas that can be categorized as urban.

2.1.1 Global Scenario:

Canada: "An area with more than1000 population, with minimum population density of 400 sq.km".

United States: "Agglomerations of 2500 or more population, with minimum population densities of thousand persons per square mile. United State classifies urban into two types, first one is urbanized areas with minimum population of 5000 persons & another one is urban groups of at least twenty-five hundred and less than 50000 occupants".

Netherlands: Urban can be defined as "Municipalities with a minimum population of 2000 persons. Semi-urban areas can be defined as Municipalities with a population below 2000 inhabitants but with not more than 20 per cent of their main male working residents involved in primary sector of economy, and it also includes distinct residential municipalities of commuters".

2.1.2 Indian Scenario:

Following criteria has been adopted in Indian census to define urban areas:

(a) All places with administrated institution like municipality, Municipal Corporation, notified area committee etc.:

(b) The places which satisfy demographic criteria:

(i) Minimum population 5,000,

(ii) Minimum Density of 400 per sq. km,

(iii) 75% of main male workers engaging in non-agricultural sector.

2.2 Other Related Terminologies

2.2.1 Statutory Towns:

The primary class of urban space is called as statutory Towns. Such settlements are notified by the respective State/Union Territory Government under law. Irrespective of their demographic characteristics, municipal committees etc.

2.2.2 Census Town:

The Census town is the secondary category of towns. These areas do not have urban local bodies but do satisfy demographic criteria of an urban area.

2.2.3 Urban Agglomeration (UA):

As per Census of India, 2001 "An urban agglomeration is a contiguous urban spread consisting of a town and its adjacent outgrowths. It can either be formed by multiple spatially adjoining towns either with or without outgrowths of these contiguous towns.

At least one statutory town is must for any such settlement to be an agglomeration and minimum population criteria of whole of the agglomeration would be 20000. The basic condition for varying combination of settlements to be agglomeration will be contiguity.

2.2.4 Peri Urban Area or Fringe Area

Fringe areas are the area lying between the consolidated rural and urban regions. It is also a zone of Transition where rural and urban uses mix and generally clashes.

2.2.5 Urban Sprawl

Urban sprawl is also considered to disperse urbanization also horizontal spreading. The disproportionate and uncontrolled spreading of an urban area into the nearby rural areas, creating less dense, unplanned patches of development is called as urban sprawl.

2.2.6 Urban Village

Urban villages are villages or areas with rural but surrounded and engulfed by the growth of the urban area. Urban village usually lack in term of infrastructure. These are distinctive residential district whose functional form and character is defined by a special community.

2.3 Villages

In India, the rural areas have no clear definition. Census has given definition of the urban areas, and all those areas which do not satisfy the parameters of urban are classified as rural areas. The rural areas or the villages, also have different characteristics according to their population size, dependence on or proximity urban centre respectively, economic activities, traditional values and social customs. Census of India has attempted to classify the urban and rural areas according to population size which effects in terms of characteristics of the city/town. But no such classification has been given for the rural areas where the characteristics of rural areas can be categorised and used for future planning.

The village is the oldest permanent community of man. “Human society has been cradled in the rural group” as per Bogardus. Typical character of rural are means population living in a limited physical space and have common ways or interests. Village and rural area has physical area and population more than that of a Hamlet and less than a city or a town. Also most of the people have primary sector as their dominant sector of economy. A small settlement area in a rural surrounding, with size usually ranked between hamlet and a city, is defined as village as per Thesaurus dictionary. It is also defined as a rural space with the population ranging from 500 persons to 250 as per National Geographic society.

2.3.1 Types of Villages (Classification on the basis of Pattern)

I. Nucleated Village:

The pattern of settlement mostly visible in paddy cultivating areas. In this type of village, dwelling units are typically clustered together. Their livestock are often housed along with them or nearby them. This type of villages enjoys the benefit of residential closeness neighbourhood, community feeling etc.

Figure 3 Nucleated Village

II. Linear Village:

In a linear village, dwelling units are in form of parallel rows and the agricultural fields are at a distance from the house. Each dwelling is surrounded by small gardens. This linear village enjoys the social advantage of residential proximity and economic benefit of living on one's land.

Figure 4 Linear Village

III. Dispersed Village:

Dispersed villages don't have definite structure and the houses are scattered and diffused. These villages do not have any definite shape or structure. Dispersed villages are usually seen in hilly areas.

Figure 5 Dispersed Village

IV The Mixed Village:

It is the mix of nucleated &dispersed pattern of settlement and is a basically big compact habitation surrounded by some small hamlets at a distance.

2.3.2 Types of Villages (Classification on the basis of Size)

I. Khas:

Khas is typically the sardar or main village. When population of the sardar village settle at a distance and call it after their main village, then the term khas is used.

II. Pura:

The place of ancient habitation and where chief habitats are in nearby areas is called Pura. This habitat can also be known as the nucleus of the area.

III. Nanglay:

One village is surrounded by few satellite villages forming a group of villages.

IV. Khurd:

The term khurd usually depicts small villages because Khurd in urdu language means small or sun. Thus this term is derived from urdu word i.e. barkhurda

V. Kalan

The term kalan is used at the end of a large villages i.e. Bound Kalan

VI. Khera

The term Khera is used for the higher land of the village or small colonies. It is also used for habitation where the ruins of an ancient fort are found.

2.3.3 Types of Villages (Classification on the basis of Population size and Level of infrastructure)

Table 3 Types of Villages on the basis of population & level of Infrastructure

Hierarchy	Population	Infrastructure
Primary Village	1000 - 2000	Primary School , Post Box, Dispensary, Bus Stop, Retail Shops
Central Village	2000 - 3000	Middle School, Branch Post Office, Primary Health Centre, Bus Stop, Anganwari, Bank, Link Roads, Communication Centre, Retail Commercial
Service Village	3000 - 4000	High School, Sub Post Office, Health Centre, Bus Stop, General Provision Store, Retail Shops, Public Office, Commercial Bank
Growth Centre	4000 - 5000	Agro based industries and employment center. Economic activities will be production, handling and processing of dairy products
Focal Village	5000 - Above	High. Secondary School, Degree College, Post Office, Telegraph Office, Centre For Surgery And Hospitalisation, Bus Stand, Veterinary Dispensary, Co-Operative Banks, Milk Centre, Library, Pumps/Diesel Pumps, Food/Grain Distribution Centre, Industrial Point, Gathering Ground, Fair Parks, Anganwari.

2.4 Village Census & Settlement Pattern in India

As per Census,2011 76.46% of the rural population lives in the villages with less than 5000 and hence, the identification of village clusters keeping in view the contiguity even if they have less than 2500 population in plain areas if reasonable number of villages are located in the clusters may also be considered under the mission.

Table 4 Population census of villages in India

Population Size	Total Villages	Total Population	% of Rural Population
Less than 200	82149	8179066	0.98
200-499	114726	39683027	4.76
500-999	141761	103291220	12.39
1000-1999	139136	197496806	23.70
2000-4999	96388	288637987	34.63
5000-9999	18641	123808537	14.85
10000+	4682	72366805	8.68
Uninhabited	43384	-	-
Total	**6,40,867**	**833463448**	**100.00**

2.5 Concept of Rural Development

In developing countries, rural development is a significant issue specially pertaining to economic development. Rural population forms the majority of share in developing

countries and some formerly communist societies. 63% of total population of Asia pacific region are rural. This large share of population suffers from evils like persistent poverty, socio economic disparities in terms of income, employment and infrastructure. These factors depict the significance of rural development. Policy makers, realising this significance creates programs and projects to fulfil rural development objectives. Rural development is a multifaceted phenomenon; therefore, it has no entirely recognized delineation of rural development. Regardless of these conflicts, it is universally accepted that people are the center for rural development (Okore, 1992). With development, positive change in economic, social, political and cultural lives of rural inhabitants takes place. The main idea for rural development as per Sen, 1999 is that it improves the ability of inhabitants to shape their lives in a positive manner. As per Madhu 2000, it is concerned with socio-economic and spatial measures in order to enhance an individual's ability to sustain their own wellbeing.

The United Nations defines Rural Development as: "Rural Development is transition by which efforts of inhabitants are united with the efforts of administration for betterment of social, economic and culturable conditions of the community and enabling them for full contribution to national programme. It is a process that brings about change in the community from traditional way of living to the more progressive one. It can also be expressed as a transition towards progress". Definitions of Rural Development by various author are given below.

Table 5: Definition of Rural Development by different author

Author	Definition	Key Word
UN report, GOI, 1966	Rural Development is transition by which efforts of inhabitants are united with the efforts of administration for betterment of social, economic and culturable conditions of the community and enabling them for full contribution to national programme	economic, social and cultural conditions
world bank report, 1975	An effort for the betterment of social and economic life of rural poor i.e. landless, small and marginal farmer, tenants etc.	Economic & Social life
Shah, 1986	Main idea of rural development is improving Quality of Life and economic well-being.	Quality of Life & Economic well being
Prasad, 1991	Rural development involves management of resources as in its organizing, and utilizing for the purpose of meeting basic needs of rural population.	Basic Need
Singh, 1988	A process of management and utilization of goods and services with people's participation and choice for the purpose of improving the quality of life, though, conserving the environment for sustainability of the process.	Quality of Life

2.5.1 Indicators of Rural Development

Agoro Community Development Association (ACDA) identified the following indicators of rural development,

- Improvement in agricultural productivity,
- Decrease in rural unemployment,
- Equitable distribution of income and wealth,
- Public participation in decision making and fair distribution of influence and power.
- Free access to public amenities by removing social barriers,
- Welfare indicators such as levels in literacy, life expectancy, schooling, level of nutrition, mortality rate, electrification and rural roads,
- Social change: Attitude, belief and values

2.5.2 Theories of Rural Development

Explanation and prediction are two main functions that are expected to be performed by a theory.

No universally acceptable theory of development exists. Different theories apply in different context. Rural development is contained within the concept of development. All the hypothesis of development will also apply to rural development. A brief overview of theories relating to rural development is explained in the section below:

I. Classical Economists

Classical economist argues about the concept of circularity and also the interrelationship between investment, technology and profit. The concept explains that the level of investment will affect level of technology, and level of investment will depend on profit which is again is partially dependent on level of technology and circularity exists in the fact that level of technology again is dependent on level of investment. The classical economists believed in the idea that economic growth will naturally lead to development.

II. Modernization Theory

Modernization theory or Free world model of development is the idea that explains or governs the argument of the capitalists' school. Main idea of this kind of development is transfer of technology and removal of all kind of social and ideological barriers in the process of development (Dhewan K.)

In other words, the modernization theory displayed "American way of life", as the top most level of modernity. It presents that development can only be achieved by the process of urbanization and industrialization along with the technological transfer in the field of agriculture.

Modernization theory offers following useful insights in the context of rural development:

- Importance of use of modem technology for increasing the productivity in agriculture

-Institutional change i.e. replacement of traditional obsolete institution by the new democratic body.

However, this theory failed to predict the adverse impact of capitalist market on the environment thus making it unsustainable.

III. Gandhian Model

Holistic and people centric are the two-major characteristic of the Gandhian approach for rural development. Gandhian model is dependent on following premises and values:

1) Real India is villages and not in urban areas,

2) The development of rural areas is only possible when the exploitation of these rural areas is stopped. Gandhiji's considered exploitation of rural areas by urban dwellers as 'Violence',
3) 'Simple living and high thinking' implies persuasion of spiritual and moral principles of life and reduction of materialistic desires of human,
4) Dignity of labor:Every inhabitant should earn for himself by physical labor,
5) Use of Swadeshi products and services,
6) Balancing themeans and ends.

It is clear that no theory of development is such that it is universally accepted. After analysis of all the theories it can be accepted that for India, model of rural development must be people centric i.e. Gandhian theory. Human resource is inexhaustible and thus it is the only resource which can lead us to sustainable development. One principle in the 21st century should be that the humans are the means and the ends of development.

IV. The Desakota Model

In Asian context, McGee and Ginsberg did not accept the distinction of urban and rural in the process of urbanisation. He describes a new kind of settlements with new characteristics:
A cluster of central cities, fringes, satellite towns, exurbs, agricultural land uses, forming a complex and compound regional system. In this model, five regions were recognized.
1. Major big city
2. Regions surrounding the city with high interaction with the core in form of daily commuting, known as peri-urban regions
3. The desakota regions, settlements along the corridor which connects a city core to the minor town centres
4. Densely populated rural areas
5. Less dense frontier regions
This model has recently been tested through various case studies like Shenyang-Dalian region of china. Wang analysis for this case study proves that this results in labor and socio-economic changes in fringe areas. The tendency of this desakota region is towards diversification of occupational pattern and rural economics. There is speed decline in population engaged in farming but the productivity of agriculture has increased.

V. The Networked Model

Douglass has realized the potentials and realities of urban-rural linkages in the process of regional planning, which is a paradigm shift in the context of rural or regional development. His principle states that Instead of making one large city as a dominant center for a big region, this concept is based on making clusters of small settlements, each of which will have its own potentials, specialization and relationship with hinterlands. This model seems quite similar to the famous growth pole model. Difference between the two lies in the style of planning proposed. In growth pole model, one urban node is the most dominant spatial actor, demarcation whose hinterland is rather a fruitless task, thus regional boundaries are not defined. Incentives to attract industrial development is he center for developing policies Focus is also given on economic infrastructure and upgrading connectivity infrastructure. On the other hand, in Networked model, needs to upgrade both rural and urban roads and also provides enough emphasis on local roads within the village or the city within the region. Administrative or district boundary is very important for policy provision. Improving local infrastructure at household level and thus improving the quality of daily

life in the region is considered key for development in this model. With the concept of balanced development in mind, with the point of view of growth centers, an integrated network of dynamic centers will be provided to counterbalance a large city as compared to an artificially promoted growth center.

2.6 Previous rural planning efforts in India

Main focus of development planners is independence was on 'rural sector'. Therefore 'planning Commission' was set up in 1950, for the purpose of preparation of development plan for the country. Several 5-year plans were prepared for effective and efficient utilisation of nation's resources. First plan was prepared in 1951 and now it has reached 11th FYP. During this time, several changes in policy framework have been made for rural development. In the beginning it aimed at the all-round balanced development with a goal to increase nations income steadily improve standard of living of the people. Major development of consecutive five-year plans are given below:

2.6.1 Five Year Plans

I. The First Five Year Plan (1951-56)

Idea for the 1st FYP was to improve social and economic standard of the country. Rural development programmes were given priority due to rural population being in majority. Major objectives of the programme were to improve economic disparity as a result of Second World War and partition of the nation to create balanced all round development. For economic and social development Community development program was launched which focussed on agricultural development, power, irrigation, transport, employment, health and education.

II. The Second Five Year Plan (1956-61)

Panchayati raj was introduced in 1959, which assisted the extension of CDP activities all over the nation. Major goals in the plan are:

i. 25% hike in national income,
ii. Development of heavy and basic industries increasing industrialisation.
iii. Provision of employment opportunities at large scale, and
iv. Equity in distribution of income and wealth

The Khadi and Village Industries Programme, intensive Agricultural District Programme, intensive Agricultural District Programme, Village Housing Projects Scheme and Package Programme, were introduced for rural reconstruction in this period.

III. The Third Five Year Plan (1961-66)

Major emphasis was on poverty reduction, promotion of economic prosperity, self employment in this plan period.

States were started to be involved in the plan making process. Data compilation for resources, priorities, performance evaluation etc. were to be done by the state government. All these plans were supposed to be suitable to climate, geography, tradition and custom of the respective state.

Applied Nutrition Programme, Intensive Agricultural Area Programme, The Rural Industries Projects, High Yielding Variety Programme, Tribal Development Block Programme, Rural Works Programme, etc. Were some of the important rural development programmes during this period.

IV. The Interim Planning Period (1966-69)

Due to severe drought in 1966 and 1977, economic conditions in the country worsened. Therefore, government declares a 'Plan Holiday', and Instead of FYPs, government

prepared three annual plans from 1966-1969. During this period, green revolution was also witnessed where high yielding seeds and new chemical fertilizers were introduced.

V. The Fourth Five Year Plan (1969-74)

Rural Employment, Small Farmers Development Agency, Drought Prone Area Programme, Tribal Area Development Agency, minimum Needs Programme, Pilot Intensive Rural Employment Programme, and Command Area Development Programme were the main programmes during this plan period.

These programs were not much into reducing poverty and employment generation but overall development of the nation was to be accelerated.

VI. The Fifth Five Year Plan (1974-79)

The major rural development programmes in this plan period were: Hill Area Development programme,Food for work Programme, Special Livestock Production Programme, Training of Rural Youth for Self-employment and Desert Development Programme. The Planning Commission was reconstituted by the Janta Governmentand a new strategy in planning was announced. Instead of 'Growth with Social Justice', the objective was changed to 'Growth for Social Justice'

VII.The Sixth Five Year Plan (1980-85)

Removal of poverty was the most important objective. Methodology adopted for accelerating rural development involves:

- Improved agricultural productivity
- Providing access to vulnerable section of the society for assets, inputs and marketing services, thus developing this section of the society
- In order to promote self-employment and wage employment among rural poor, skill formation and up gradation to be promoted.
- Employment opportunities to poor and employment through NREP during lean agricultural season.
- Access to basic minimum needs

The major rural development programmes during this period DWCRA, National Rural Employment Program (NREP), were Integrated Rural Development Programme (IRDP), and the 20-Point Programme.

VIII. The Seventh Five Year Plan (1985-90)

Vision of this plan was expansion and continuation of poverty eradication programmes. This plan also focused on urban poor along with rural poor's. Employment generation and poverty eradication is the main focus of this plan (Government of India, 1985).The major rural development programmes during this Plan Period were: Integrated Rural Energy Planning Programme,Jawahar Rozgar Yojana, Special Livestock Breeding Programme, Indira Awas Yojana, and Million Wells Scheme.

IX. The Eighth FiveYear Plan (1992-97)

The major programmes during this Plan period are: IRDP, Million Wells Scheme, Jawahar Rozgar Yojana and Indira Awas Yojana.

X. The Ninth Five Year Plan (1997-2002)

Common Minimum Programme of the Government and the Chef Ministers' Conference on basic minimum services was the background behind the objectives of the Ninth FYP. Suggestions given in the plan are as follows:

- Agriculture and rural development to be prioritised
- Improving economic growth rate of the nation without inflammation
- Nutritional security for weaker section of the society
- Provision of minimum services
- Environmental sustainability via public participation.

XI. The Tenth Five Year Plan (2002-2007)

Goal of the plan is to create 50 Million employment opportunity recognising the growth of labour force. Special emphasis will be given to employment intensive sectors of irrigation, agriculture, agroforestry, information and communication technology, small and medium enterprises etc.

XII.The Eleventh Five Year Plan (2007-2012)

Schemes likeIndira Awas Yojana (IAY), Drought Prone Area Programme (DPAP), National Rural Employment Guarantee Scheme (NREGS), and Mid-Day Meal Scheme, DRDA Administration are continuing in this plan Along with this, in 14 districts WB aided Drought Prone Area Programme projects are being implemented in 6 years. Second phase of this will also continue during Eveleth plan. Department of International Development (DFID) is helping the implementation of M.P. Rural Livelihood Programme (MPRLP). Land Management Institute (WALMI),Gokul Gram, DRDA Administration Yojana,community development programme and Godan Yojana and will be continued in 11th FYP too. Backward Regional Grant Fund (BRGF) scheme will be implemented in twenty four of the 48 districts as a successor to Rashtriya Sum Vikas Yojana (RSVY)

XIII. The Twelfth Five Year Plan (2012-2017)

Focus will be given on 'horizontal' issues through 'vertical' programs which cut across the sectors.

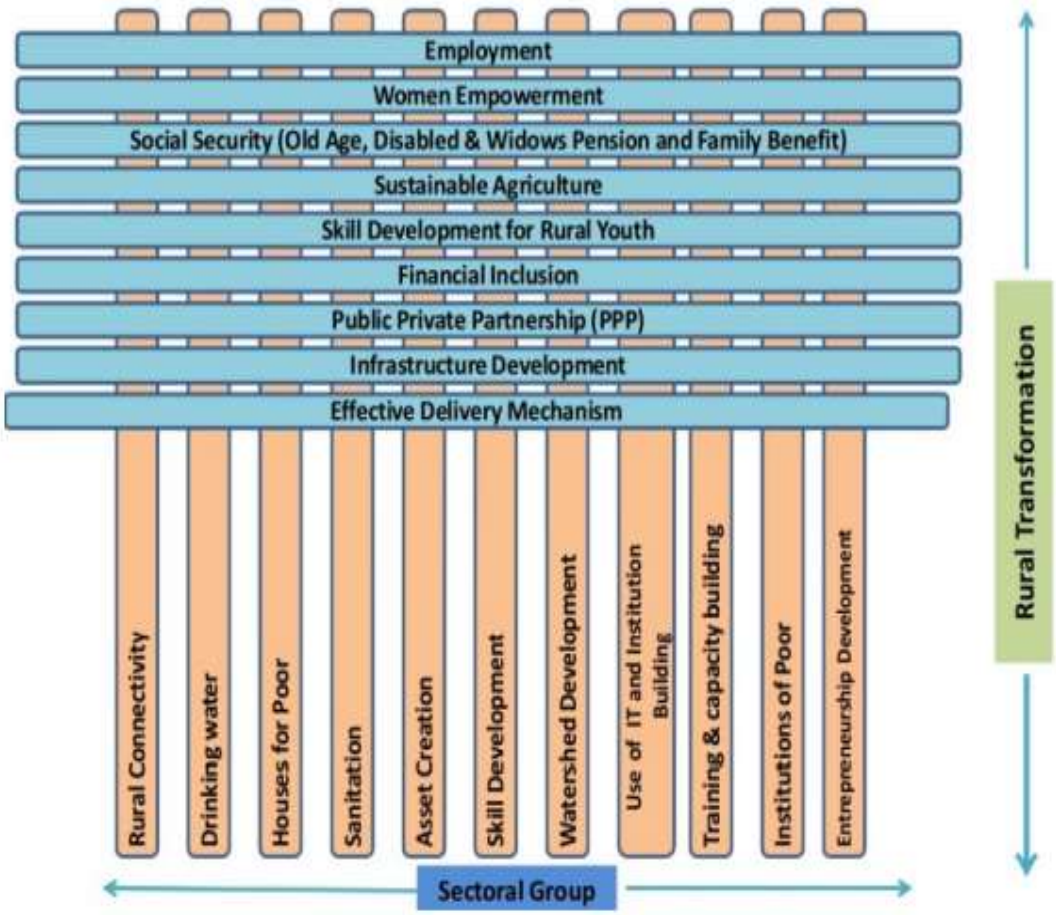


Figure 6 Plan outlay for rural development in Five Year Plans

2.6.2 Plan Outlay for Rural Development in Five Year Plans

Table 6 Plan Outlay for Rural Development in Five Year Plans

	Agriculture	Irrigation	Village Small Scale Industry	Sub Total
First FYP	14.8%	29.7%	2.1%	46.6%
Second FYP	11.8%	9.2%	4%	24.9%
Third FYP	12.7%	7.8%	2.8%	23.3%
Annual FYP	16.6%	7.1%	1.9%	25.7%
Fourth FYP	14.7%	8.6%	1.5%	24.8%
Fifth FYP	13%	9.8%	1.5%	24.3%
Annual FYP	14.4%	10%	1.5%	25.9%
Sixth FYP	14.7%	10.6%	1.8%	27.1%
Seventh FYP	14.27%	5.01% 7.93% 8.7%		19.28%
Eight FYP	12.67%			20.6%
Ninth FYP	4.9%			13.6%

Source: Indian Agriculture in Brief, 19th Edition, N. Delhi, 1982, pp 89-92 Indian Five Year Plans, Planning commission, GOI

When plan outlay of all five-year plan is reviewed, it is noticed at rural development and agriculture is accorded the highest priority in all the five-year plans. This can be seen by high percentage of total outlay in each plan allotted to agriculture and allied activities, small-scale industries, community and rural development, flood control and major and medium irrigation projects. In 7th FYP, new ministry for Rural Development was created by bifurcation from Agriculture Ministry. Maximum allocation is always given to rural ministry as compared to other departments and ministries. More recently, a steep decline in funds allocation to rural sector was observed from 46% to just 16% (Bagchi, 2007).

2.7 Approach for Rural Development in India

Number of programmes have come up during each five-year plan to bring about rural development in systematic manner.

Table 7 Approach of rural development under various schemes

Approach	Programmes	Emphasis
Multipurpose Approach	Community Development Programme (1952)	Self-help and self-reliance is the key work Aims at all round development of villages
Sectoral Approach	Intensive Agricultural District Programme (IADP) (1960)	Intensive development of selected sectors namely, age/culture with concentration in area of comparative advantage
Target Approach	Small Farmers Development agency (SFDA), Marginal Farmers Development Agency (MFDA), Antyodaya.(1971)	Growth with social justice for promotion of weaker section of rural area
Area Development Approach	Command Area Development Programme (CADP) (1974)	Spatial planning and reduction of regional imbalance
Basic Needs Approach	Minimum Needs Programme (1972)	Equalization of social consumption
Employment Oriented	Integrated rural development Programme TRYSEM, (1979) DWCRA, Jawahar Rozgar Yojana, (1989) Indira Awas Yojana,	Removal of unemployment, poverty through sectoral and area integration

2.7.1 Multi-Purpose Approach:

Activities related to agriculture, irrigation, animal husbandry, sanitation, co-operation, village and small-scale industries, health, transport, housing, and communication, welfare of women and rural employment are included in the rural development efforts in early fifties. These efforts worked for very short span of time. Major issues in such efforts are:

i. Created disparity among rich and poor
ii. Did not provide for the felt needs of people
iii. Could not create modernization through education and awareness.
iv. Lacked public participation

This approach was an important approach for laying down the foundation of rural development in India.

2.7.2 Sectoral Approach

In 1960s, food shortage was the major issue in hand. Strategies for locating potential sectors, areas capable of high yield of agricultural production came into the picture due to great concentration on food production. Thus, the Intensive Agriculture Development Programme was launches inc1960 (IADP) and in 1963 intensive Agricultural Area Programme (IAAP) were launched. Both Intensive Agriculture Development Programme and intensive Agricultural Area Programme were landmarks in the development of rural areas especially agricultural development.

2.7.3 Target based Approach

New concept in rural development came up to provide for the lagging region or sector of the society. This concept involves focus on a specific group of people with the aim of improving their social and economic lives. This specialised group of people or target group in other words consists of small and marginal farmers, landless labours. Following programmes were designed for such section of the society: Marginal Farmers Development Agency (MFALDA) and Small Farmer Development Agency (SFDA).

2.7.4 Area based development

Area development approach aimed at reducing spatial disparity in the region these programmes were successful in implementation.

2.7.5 Basic need Approach

Basic goal of the approach is to remove poverty and inequality, equitable distribution of resources, and provision of employment. Basic needs include human rights, public participation, justice, employment and also community and personal consumption.

2.7.6 Employment Approach

In 1978-79, a Multi-sector, multi-level and multi-section concept of integrated rural development was introduced in order to improve quality of life of rural poor and ultimately to overcome the limitation of above mentioned approaches. It is based on Gandhian concept of Antyodaya, with aim for welfare and development of rural poor. Several rural employment programmes were introduced. It is observed that there have been shifts in approaches which varies from programmes to programmes, social, economic and political conditions and varies with time also. Approaches mostly focussed on problems rather than on need or development. Spatial Planning approach is not used in any of the programmes. (Bagchi, 2007)

2.8 Existing Rural Development Schemes in India

Table 8 Existing Rural Development Scheme in India

Schemes	Objective	Funding (Central/ State)
Indira Awas Yojana (Started on 01.01.1996)	To provide shelter to rural poor.	60/40
MGNREGA (02.02.2006)	To improve livelihood security in rural areas. least 100 days of definite wage employment in a year to every HH	90/10
National Rural Livelihoods (Started in June, 2011)	Livelihood provision. To reduce poverty in the rural areas.	60/40
Saansad Adarsh Gram Yojana Started on (11.10.2014)	To make identified Gram Panchayats as Adarsh Gram.	By converging funds of various schemes
Pradhan Mantri Adarsh Gram Yojana (PMAGY) (Started during 2014-15)	To ensure integrated development of the selected villages having more than 50% SC population into "model villages".	Converging funds of various schemes ; gap-filling funds =20 L/village
Vidhayak Adarsh Gram Yojana ((2015-16)	To make identified Gram Panchayats as Adarsh Gram.	By converging funds of various schemes
Swa-Prerit Adarsh Gram Yojana (SPAGY) (Started from 2015-16)	To make identified Gram Panchayats as Adarsh Gram in partnership with all those who are desirous of contributing to this cause apart from infrastructural development.	By converging funds of various
National Rural Health Mission	Effective and reliable primary health care thus reducing urban rural disparity	100:0
Rajiv Gandhi Grameen Vidyutikaran Yojana	Electricity to every rural households. Free of charge electricity connection to every BPL with no charge.	90:10 (as a loan by rural electrification corporation to states' govt.

2.9 Reason of Failure of Rural Development Schemes

Table 9 Reasons for failure of various Rural Development Schemes

AUTHOR	REASON
Kulkarni (1989)	Delay in actual sanctioning of loans and releasing of the subsidy amount by the development authorities.
World Bank , 1989	Inability to ensure continued access to institutional credit for disadvantaged rural HH.
Thippaiah and Devendra Babu (1986)	Non-identification of proper persons as beneficiaries, non-availability of trained personnel, misuse of loans & poor repayment position &lack of infrastructural facilities
Rao and Natarajan (1988)	Under financed beneficiaries, the IRDP loans not being utilized to the extent of their real objectives.
Hirway (1988)	IRDP emphasized on self-employment. Rural poor are mostly illiterate and incapable of managing assets. Wage employment would have been a better approach
Kulkarni, (1987)	The traditional dominance of the rich and powerful political personnel links in the rural areas, expanding population illiteracy and unemployment inherent inferiority complex and lack of enthusiasm and confidence among the rural poor.

2.10 PURA (Provision of urban amenities to rural poor)

The scheme was announced in year in 2003. The concept of PURA was given the book by Dr. A.P.J. Abdul Kalam 'Target 3 Billion'. Main goal of the scheme is to provide livelihood opportunities and basic amenities to rural areas. This was done in order to reduce rural to urban migration by bridging the urban rural urban divide. Public Private Partnership (PPP) was to be used to providing livelihood opportunities and urban infrastructure in rural areas in order to improve the quality of life of rural inhabitants. Area defined for PURA is a cluster or a region of 20 – 30 village with 20,000 to 100,000 inhabitants, in Hill or desert –cluster of 30-50 villages with the population of 7,500 to 15,000 people.

2.10.1 PURA 2.0 (2012)

PURA was reconstructed in 2012 by the former Rural Development Minister Jairam Ramesh. New PURA combined provision of basic amenities with economic regeneration. It was to be launched in PPP mode as well and aims to harness the effectiveness of private

sector. Rather than knowledge connectivity, focus was on water supply, sanitation and electricity and other physical infrastructure etc.

2.10.2 Criticism of PURA

Rs 3 crores provision was made for creating social and economic infrastructure for the purpose of creating conductive environment for economic investments in villages, whereas requirement was of Rs. 100 crores. Appropriate attention was not given to implementation of economic activities in the pilot projects, they were mostly infrastructure oriented. Lack of appropriate institutional structure was another hurdle in implementation of the scheme along with the lack of dedicated professional support. Lack of state center coordination, and no ownership at state level also contributed to the failure. Lack of spatial component and scheme convergence was another problem.Major focus was economic development and not spatial mapping and development. After taking the learnings from PURA, Shyama Prasad Mukherjee Rurban Mission (SPMRM) was launched for the purpose of providing high quality urban facilities and amenities in the villages along with retaining the culture of rural life.

2.11 Case Studies

2.11.1 Case Study I - Kagala Bamori Village

I. Location

Kagala bamori village lies in the administrative boundary of Kishanganj block in Baran district of Rajasthan.

Table 10 Detail of Kagala Bamori Village

Development Scheme	Pradhan Mantri Adarsh Gram Yojana
Population	1099 Nos
Total household	246 Nos
Total Area	890 Ha

Figure 7 the location of Kagala Bamori Village in Rajasthan Map

II. About the village

Kagala bamori village lies in the administrative boundary of Kishanganj block in Baran district of Rajasthan. SC population dominates the village, whose share comes out to be 37.30 % of total population of the village. It covers an area of 890 Ha, with habitat of 6 Bastis namely Chandragiri,Kirad Basti, Sahariya Basti., Bairwa Basti and Phelu Ki Tapari.

III. Steps undertaken to prepare the plan

In order to prepare the plan, a participative approach was carried out for 6 days starting from day zero. Panchayats and villages were taught to analyse the existing condition during this period. Following that stock taking of facilities and Household survey was conducted. Following activities were carried out during the process:

1. Stock Taking: The first step to understand the existing condition in participative manner is stock taking. Panchayat members, village community and committee learns how to analyze the current situation with the help of a resource person who is a facilitator too. They become aware of the existing condition, the problems and potentials with the help of house to house survey, transects etc.

2. Visioning: The sector specific functionaries, with the help of visionaries will prepare
(a) Charter of services offered by them and
(b) 5-year vision plan for achieving the expected advancement in their own sectors. SWOT analysis will be carried out with the group of representatives formed earlier. After sharing the SWOT analysis with Panchayat, a common vision will be developed.

3. Problem Prioritization: Five or four problems will be prioritised in each sector from the list of problems identified in the stock taking exercise which will be most pressing with an urgent need to be addressed.

4. Problem and Solution Analysis: Problem and solution tree was used to analyze the prioritized problems. Cause is identified for every prioritized problem and impact of these problems will also be analyzed. Use of problem tree analysis will help create awareness among public that some time, their own action causes a problem e.g. when enough attention is not given to a children's immunization, deaths and diseases occur. After cause identification, next step involves solution identification.

5. Action Planning: Actions to produce desired results are identified by the villagers with the help of facilitator. Such actions can be classified at three different levels
(a) Communal level,
(b) Panchayat level and
(c) Service provider level.
Detailed action plan is then drafted which specifies key actives, resources required, responsibilities, monitoring indicators, implementation time table and follow up mechanism

6. Follow-up and Monitoring Mechanism: Once the villagers agree on the action plan, they decide if the organizational capacity is adequate for its implementation.

7. Consolidation and Technical Inputs: For every 10 Gram Panchayats, one technical committee will be established to administer the planning process.

A. Problems & Proposals for the village development

Problem and Reason matrix was created for every sub-system in the village. Eg. Cause of Ground water level depletion is over-exploitation of ground water. For this purpose various proposals have been proposed like Ground water recharge measures, Awareness program on rain water harvesting and Afforestation to increase green cover. Such proposals were made for every other problem identified like Poor Connectivity, Sewage problem etc.

Table 11 Comparison of Existing and Proposed Resource

Resources Requirement	**Existing Resource**	**Proposed/Shortfall**
1 Upper Primary School	1 Primary school	Need to upgrade into Upper Primary
1 Post office	-	1 post office
1 Bank	-	1 bank
1 PHC sub centre	1 PHC sub centre	-
1 Aganwadi Centre	1 Aganwadi Centre	-
1 Community hall	1 Community hall	-
Drainage line alongwith all hemlet	Not properly maintained in 3 hemlet	in 3 hemlet Drainage line in three hemlet
5 Common toilet	2 Common toilet	3 Common Toilet
19 Hand pump	16 Hand pump	3 Hand pump
2 Irrigation tank	2 Irrigation tank	-
6 Tube well	4 Tube well	2 tube well

Figure 8 Pics of Kagala Bamori Village, Rajasthan

2.11.2 Case Study II – Hiware Bazar, Maharashtra

I. Location

Village named Hiware bazaar lies in Ahmednagar district of Maharashtra.

Table 12 Detail of Hiware Bazar, Maharashtra

Development Scheme	Adarsh Gram Yojana
Population	1500 Nos
Total household	180 Nos
Total Area	976 Ha

Figure 9 location of Hiware Bazar Village in Maharastra Map

II. About the Village:

Village named Hiware bazaar lies in Nagar Taluka in Ahmednagar district of Maharashtra. The village experienced dramatic transformation through efforts of community involvement and panchayat leadership. The village covers an area of 976 Ha, experience erratic and uneven rainfall of 400mm annually. Out of 976 Ha, 70 Ha is covered under Forest, a little above 50% i.e. 500Ha is arable. Irrigated land has increased from 123 Ha in 1999 to 300 Ha now. Population of village as per 2001 census is 1,150 persons, but now as per 2011 census, it has reached to 1500.

III. What was the village like before?

Problems faced by the villagers are land degradation, low agricultural productivity, health problem, low literacy rates and other social evils of the society. In late 70s, water scarcity was a huge problem in the village which had worse impact on productivity of the area. Thus in 1972, using EGS funds, a percolation dam was built to solve the problem. During 1989-90, only 12% of land was cultivable land, thus 50% of people had migrated out by then. With few sources of income left, inhabitants began making, drinking and selling country liquor. This lead to series of social evil in the society like conflicts, crimes and disputes. People started moving out. Condition came to a point where only poor performing government officials were posted there, police completely ignored the village. There was no governance or law or order in the village left. Village lacked in terms of basic amenities as well, no sanitation, health facility, water problem, only one government school till 4th grade, 7m from the village.

IV. What the village is now?

Economic status of inhabitants has improved. \Income of each resident is twice of the top ten percent of nation's rural population. Average income has increased by about 20 times in last five years. 54 millionaires exist in the village. Land under irrigation has increased to 300 Ha which was mere 120Ha in 1999. To solve the water problem, number of well have increased to 217, which earlier was just 97. Multi-cropping began in the village, with four crops being cropped instead of one earlier. Milk production in the village has increased to 3000liters/day which was merely 150liters/day in early 1990s. This was the result of

dramatic improvement in grass production, which in 2000 to 2004, improved from 100meter to 1000 meter. Poverty in village has gone down to only 7 families being below BPL, against 180 HH in 1992. Physical infrastructure has improved drastically with underground drains, schools, veterinary clinic, PHC, gymnasium, library, Open Air Theater, solar street lights and literacy level of 100%. Aim of 100% digital literacy is being carried forward by the Sarpanch. Telephone and TV ownership is 100% in the village. Social situation is impressive in the village, Women are head of the family, a mosque has been constructed just for 2 Muslim family in the village. Degraded forest and land have been regenerated by the villagers by planting 35 lakh trees in last 20 years. Fauna like birds, deer etc. came with forest and flora. Thus, village developed in a sustainable and holistic manner will focus on economic, social and environmental sustainability.

V. How did the change happen?

The procedure began with the most significant issue faced by the inhabitants i.e. water scarcity. A watershed development and afforestation programme was initiated in 1993 by building continuous 420,000 contour trenches by doing shramdaan. It was done along the hill near the village. With recharge of adjacent well, irrigated land increased to 70 Ha which earlier was 20 Ha. Village enjoyed 50% surplus of water by year 2006. Another issue in hand was poor functioning of village school which was also tackled simultaneously. Teachers deputed to the school were more of a punishment posting because of poor reputation of the school. Thus teaching quality at the school degraded. In order to correct the situation, school was locked for two months with the demand of better teachers from district administration. Eventually their demand was met. Later up gradation of school was carried out to improve standard of education in the village. Village was included in 'Adarsh Gram Yojana' by Maharashtra government in 1994. Under this Yojana, 2 percolation tank, 52 earthen bunds, 9 check dams on downstream nallah and 33 loose stone bunds were constructed. Enforcement measures also came into picture like ban on tree felling, family planning, ban on sale of liquor, ban on free grazing, cropping policy, ban on tube wells etc. V. Issues and Hurdles Opposition by residents and political opposition is the major problem faced while implementation of the plan. Success in re-afforestation was successful due to good relation with forest department. Establishing this relationship was the tough task and took a lot of efforts. Trust among the community was missing thus getting the support of community was a huge task. Participatory decision making and transparency in decision making clearly helped the implementation process.

Table 13 Comparison of Before and after Aspects

Aspects	**Before**	**After**
Educational Infrastructure	1 Primary school	Converted to high school
Literacy Rate	30%	95%
No. of Wells	97	217
Irrigation Land	120 ha	300 ha

Milk Product	150liters/day	3000liters/day
Telephone and TV ownership	Poor	100%
Economic Status	Poor	Improved (Income of each resident is twice of the top ten percent of nation's rural population)

Figure 10Earthen Structure, Percolation Tank, Check Dam &Open Well

2.11.3 Case Study III – Mangattidam cluster, Kerala

Mangattidam cluster lies in Kannur district of Kerala State.

Table 14 Detail of Mangattidam cluster, Kerala

Development Scheme	Shyama Prasad Mukherji Rurban Mission
Population	34652 Nos
Total household	3815 Nos
Total Area	33.09 Sq.Km

Figure 11 Map Shows the location of Mangattidam cluster in Kerala Map

- Improvement of infrastructure for the economic and social development of the clusters.
- New employment opportunities have been created.
- Agricultural production is improving.
- Educational and Health care institutions are upgraded to provide good services to the citizens.
- Supply of piped drinking water supply.
- The skill development activities and training is providing new hopes to the youth of these areas.

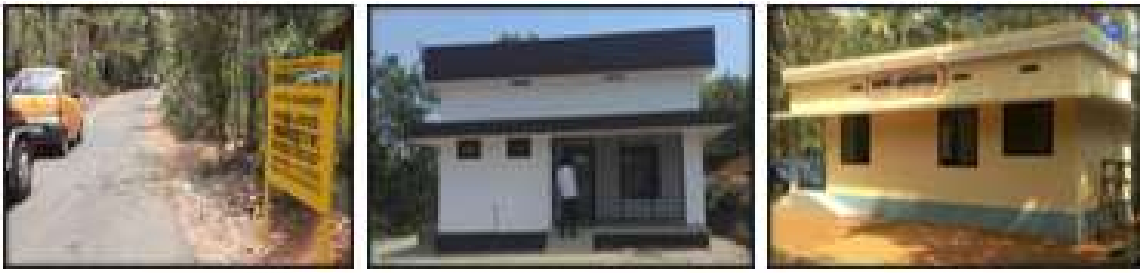


Figure 13Construction of Road, Veterinary Sub centre & Day Care Centre

Figure 12 Construction of Marketing Center, Plastic E Waste Management Unit & Counselling Centre for Teenage Girls

CHAPTER: 3 REVIEW OF EXISTING ICAP METHODOLOGY (RURBAN MISSION)

This section reviews existing ICAP methodology as proposed under SPMRM mission. New methodology is then evolved after integrating the gaps identified.

3.1 Mission Documentation and Its critique

Table 15 Documentation and critique of ICAP methodology under Rurban Mission

Documentation	Critique
Definition of cluster	
A 'Rurban cluster', would be a cluster of geographically contiguous villages with a population of about 25000 to 50000 in plain and coastal areas and a population of 5000 to 15000 in desert, hilly or tribal areas.	In remote areas of Jammu and Kashmir, Himachal Pradesh, Sikkim and Arunachal Pradesh (Due to topographical constraints) -not possible to find clusters of hamlets/villages with 5000 to 15000 population in geographical contiguity. For Hill Areas, Flexible Population Criteria, Even with cluster of hamlets
Selection of cluster	
1st sub-district is selected within a district and then cluster is identified within the sub district. Tribal as well as non-tribal clusters are identified. Parameters used for selecting a non-tribal cluster are: • Decadal Growth in Rural population • Decadal growth in non-farm work force participation • Presence of economic cluster • Presence of place of tourism & Religious significance • Proximity to transport corridor	One of the parameter is Economic Potential of Cluster may also include performance in MNREGA and other employment generation schemes initiated by state government. Other parameters that can be added are: • Facilities and functionality of the settlement with its hierarchy • Distance from Urban centre • Population density • % female literates
Delineation and notification of planning area	
Delineation and Notification of Planning Area 1. Steps to delineate cluster as planning area a. Planning area to be show on a map with GIS coordinate on scale of 1:8000 b. Include full plot numbers	

2. To notify the planning area and publish it in two local newspapers.	
Cluster profiling	
Cluster Profiling is done at two levels: 1. General Profiling includes demography, socio-economic and Administrative profiling. 2. Component Profiling includes 14 components are been listed out as ideal component for the cluster. These are: (i) Skill development training linked to economic activities (ii) Agro Processing, Agri Services, Storage and Warehousing. (iii) Fully equipped mobile health unit. (iv) Upgrading school/higher education facilities. (v) Sanitation (vi) Provision of piped water supply. (vii) Solid and liquid waste management. (viii)Village streets and drains. (ix) Street lights (x) Inter-village road connectivity. (xi) Public transport. (xii) LPG gas connections (xiii)Digital Literacy. (xiv)Citizen Service Centres- for electronic delivery of citizen centric services/e-gram connectivity.	Following addition in 14 components can be made: • For inter village road connectivity efforts to be made to explore the possibilities of introducing battery driven vehicle (e-rickshaw) – eco-friendly mobility. • Option for piped gas supply (biogas or gas generated through agricultural waste) to be encourages to reduce the dependence on fossil based gas. • Mission components may also include rainwater harvesting – Massive groundwater extraction in rural areas.
Deficiency analysis and identification of needs	
Comprehensive assessment will be done on economic profile of the cluster. This study will not be limited to the cluster level only, but will be done at block and district level too. Deficiency with respect to 14 identified components will be identified too.	
Identification & delineation of mission component	
Vision for the cluster will be framed next and the same will be validated with a stakeholder consultation across various levels: PRI/ District/ State. 14 Project components will support the vision statement.	
Scheme convergence	
Possible schemes that would converge with each identified component will be identified.	
Investment and phasing	
Component and Investments will be phased out for the construction period of 3 years.	Fund Release Mechanism – Proportion of funds to be earmarked for incentive for implementation of ICAP and projects

Obtaining Gram Sabha resolution	
Wide Stakeholder consultation will be there at level. After stakeholder consensus on ICAP, the Gram Sabha resolution will be needed. ICAP will then be submitted to MoRD with draft notification of cluster as Planning Area. ICAP will be appraised by the National Mission Management Unit and presented to the expert unit for validation. Validated ICAP will then be sent for approval to the Empowered Committee. 1st instalment of CGF will be released after approval.	Capacity Building Exercises: Both national & regional workshops to make aware the concerned Departments of the State Governments and sensitize them about the ICAP and detailed spatial plan – Disseminate good practices like Baripatha village, Orissa-100% solar powered.
Revision of ICAP	
DPRs will be prepared for the individual projects.	

3.2 Identification of Gaps in Existing ICAP Methodology

Conceptually, in any plan making process, three aspects are considered. These are 'Current and future urban conditions analysis', 'spatial composition & conception', and 'building & decision making', all of which are supported by various methods. Scientific methods is the method that support "analysis of current & future urban conditions describe the current & future population of the settlement, economy, society and physical environment.

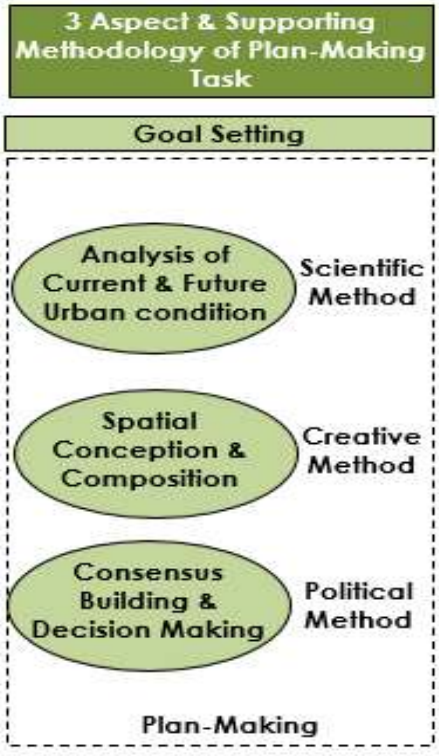
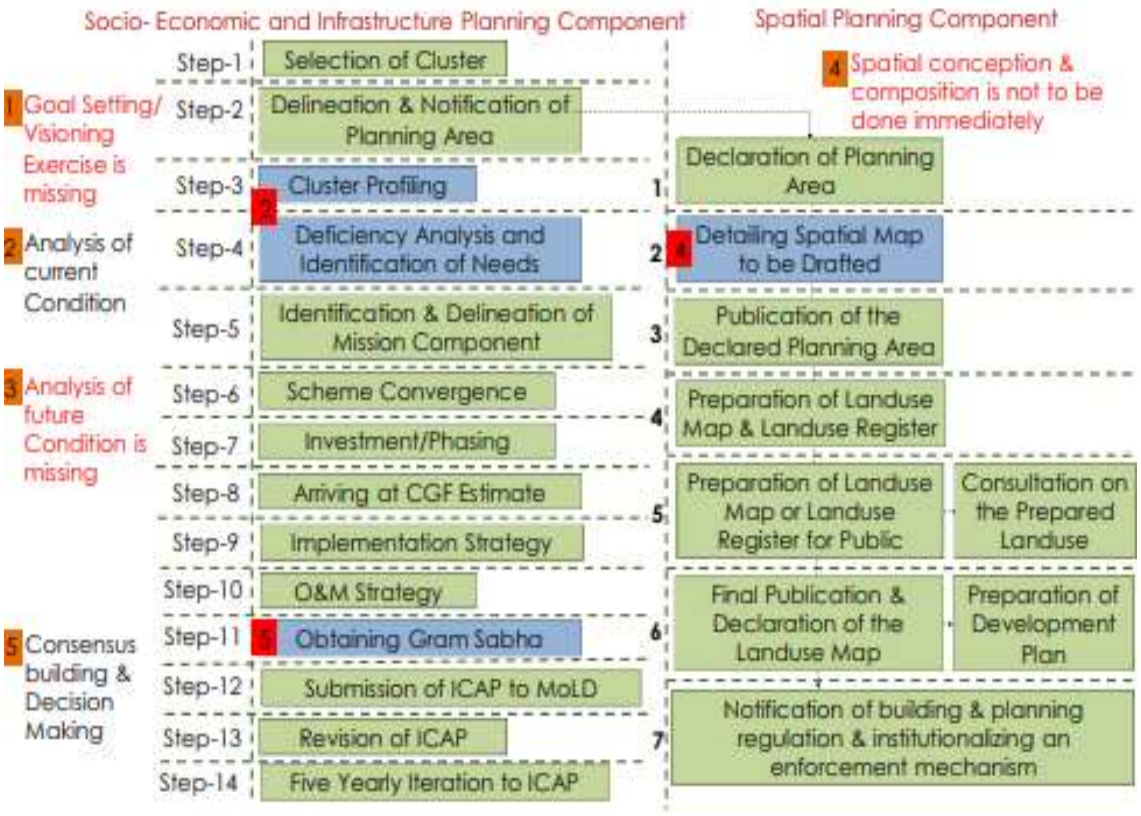


Figure 14 3 Aspect & Supporting Methodology of Plan-Making Task

'Spatial conception and composition' is supported by creative methods to provide spatial solutions based on demands. Political method supports 'consensus building and decision making'. This three-part division is a conceptual categorization of planning methods, and actual tasks and methods may have two or three aspects at the same time.
ICAP Methodology is compared with this methodology of plan making task and various development plans in India and thus missing steps/ gaps are identified in the process. Comparison is made between Village Development Plan Process, Gram Sabha Development Plan, City Development Plan, Housing for all Plan of Action etc.

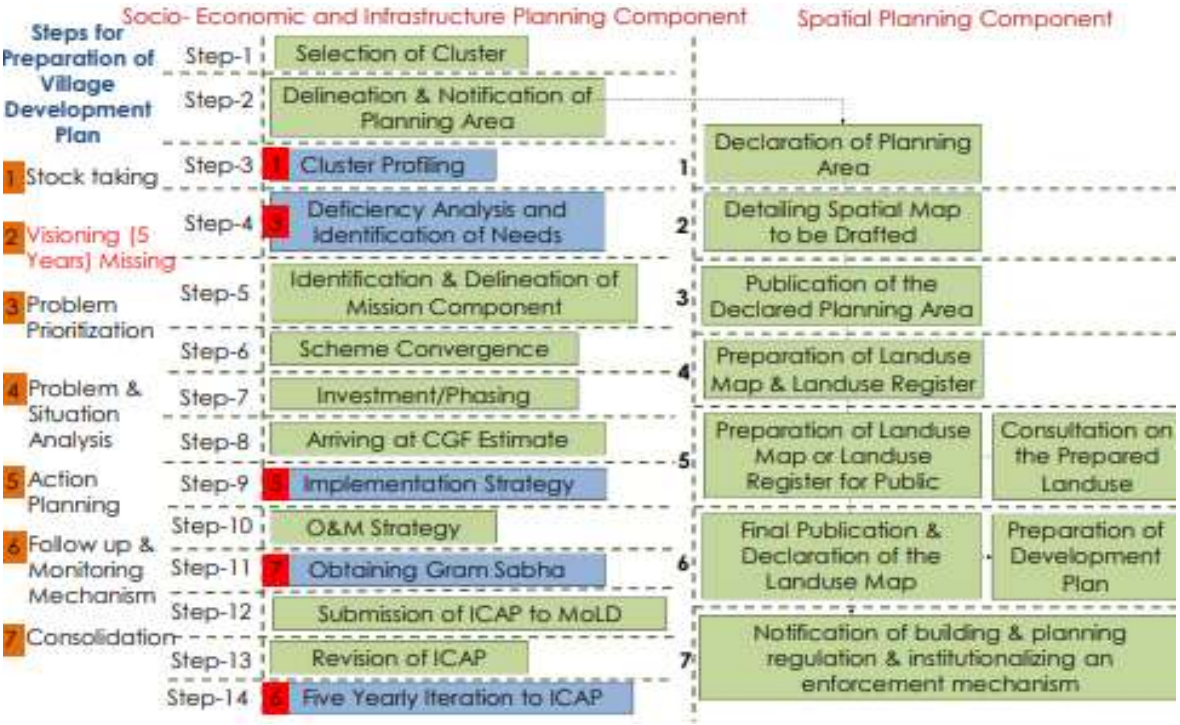
3.2.1 Comparison of ICAP Methodology with conceptual Plan Making Methodology



Following steps are missing in the existing methodology:

1. Visioning exercise: which provides future perspective about the cluster.
2. Analysis of Future Urban Condition: ICAP focuses on existing conditions only. Future expansion is not considered.
3. Spatial conception and composition: Spatial planning exercise is left up to the Gram Panchayat, which may or may not be prepared in due course of time.

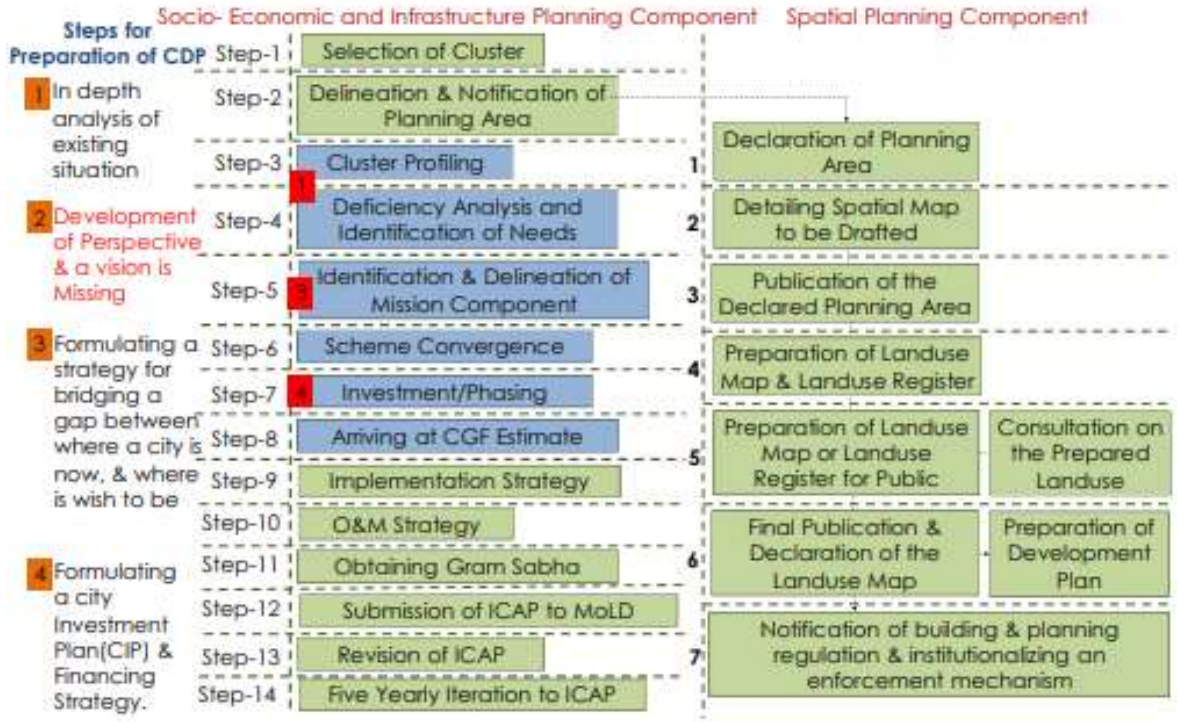
3.2.2 Comparison of ICAP Methodology with Village Development Plan Methodology



Following steps are missing in ICAP Methodology when compared with Village Development Plan Process:

1. **Visioning:** In Village Development 5-year vision is prepared and is planned in accordance to the set vision.
2. **Problem and situation analysis:** Problem- Cause matrix is prepared which deals with the problems in accordance with their causes.

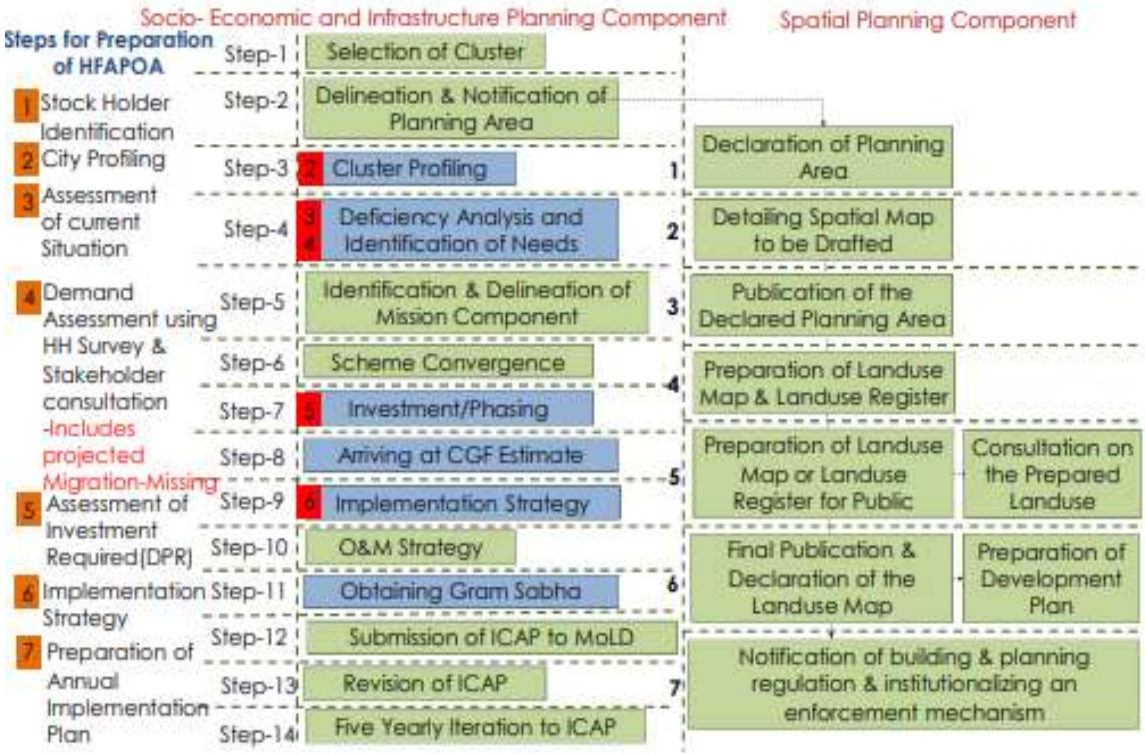
3.2.3 Comparison of ICAP Methodology with City Development Plan Methodology



Visioning exercise is mandatory in CDP making process which is absent in ICAP process. Following steps are missing in ICAP Methodology when compared with Gram Panchayat Development Plan Process:

1. Categorisation of Cluster
2. Identification of Priority area for Rural Development based on study of existing situation and categorisation of villages
3. Preparation of spatial plan of the village/ Cluster according to the priority areas.
4. Consolidation of plan with block and district development plan

3.2.4 Comparison of ICAP Methodology with Housing for all Plan of Action Methodology



Projection for future growth in terms of natural growth as well as migrated population is missing when it is compared with HFAPoA.

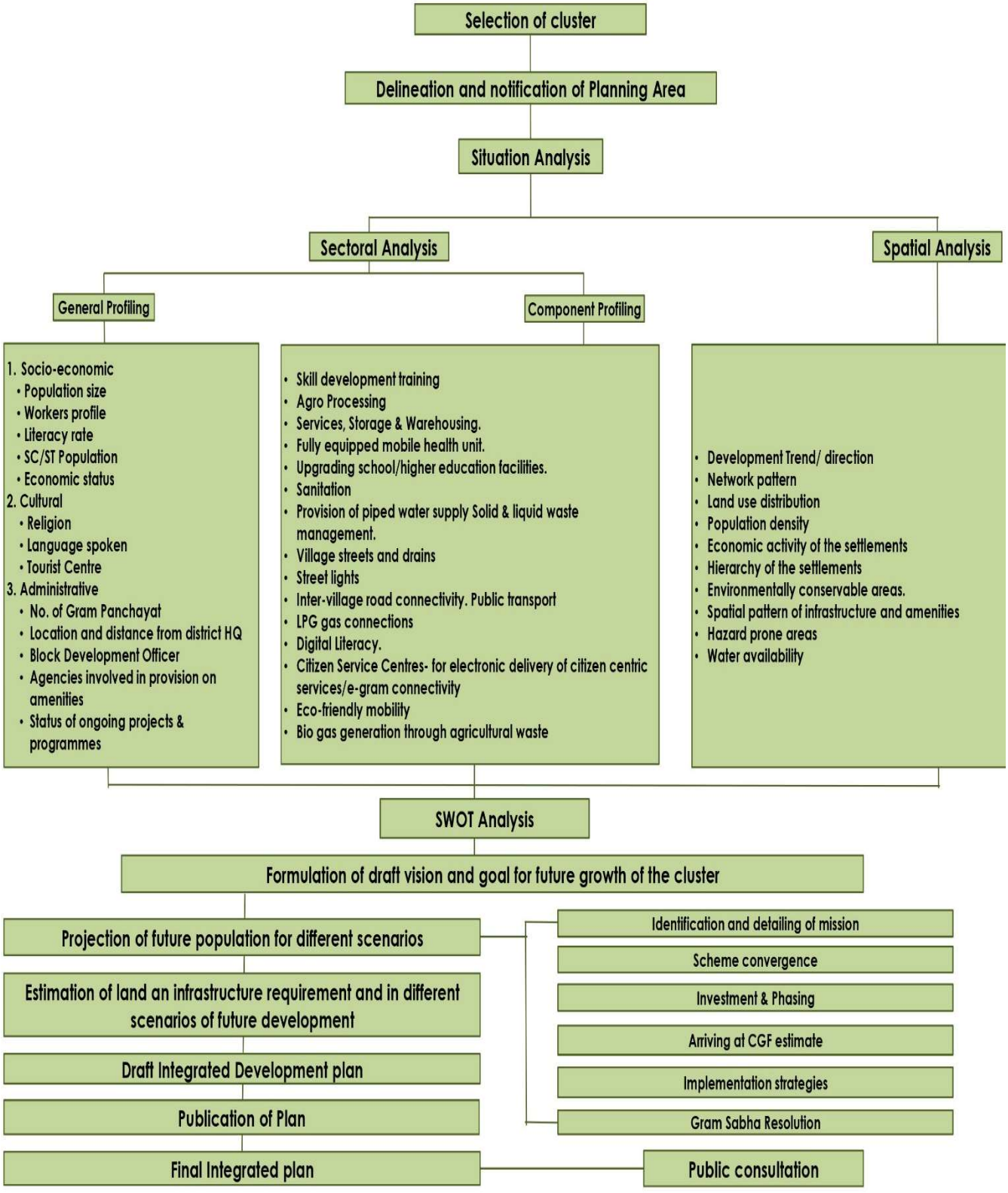
When compared with all the above mentioned Plan making processes following strengths and weakness of ICAP module came out:

Table 16 Strengths and Weakness of ICAP module

Strengths	Weakness
• Existing situation analysis • Investment Planning • Implementation strategy • Consensus Building and Decision making	• Development of Perspective and a vision is Missing • Projections and considering future urban expansion is Missing • Spatial conception & Composition is left to be done in due course of time

3.3 New Methodology for ICAP module

Based on the strengths and weakness of existing methodology, new methodology has been developed to make it an integrated methodology.



Along with existing sectoral analysis, spatial analysis also needs to be done. Spatial analysis starts as soon as the data compilation and map preparation at the local level is completed. The following aspects are analysed.

- Network pattern
- Land use distribution
- Development Trend/ direction
- Population density
- Economic activity of the settlements
- Hierarchy of the settlements
- Environmentally conservable areas.
- Spatial pattern of infrastructure and amenities
- Hazard prone areas
- Water availability

After spatial and sectoral analysis, SWOT analysis is to be done in order to identify development issues, both quantitatively and spatially. Sector wise and settlement wise issues will be identified. The blend of these issues based on potentials and problems will provide the direction about the critical development issues in the cluster.

Following this, vision for the cluster will be formed, such goals will be framed with the aim of solving these critical development issues in particular and the remaining development issues is general.

Next step would to project the population which the plan needs to cater to. Population would be projected under three scenarios i.e. status quo scenario, moderate growth scenario and desperate growth scenario. Following projections, infrastructure and land requirements would be estimated under different scenarios'. Spatial development plan would thus be prepared considering the above-mentioned requirements.

Next step would include incorporating public inputs through public consultations.

3.4 Inferences

ICAP methodology was reviewed and its critique was done, along with identification of gaps in the existing plan making process. Gaps were identified by comparing the methodology proposed under the mission by other plan making process such as CDP, Gram Panchayat Development Plan etc. Steps such as existing situation analysis, Investment Planning, Consensus Building and Decision making and Implementation strategy are the strengths of the existing methodology. After comparing with other successful processes, following are the gaps identified: Development of Perspective and a vision, Projections and considering future urban expansion, spatial conception & Composition is left to be done in due course of time. These are included in the methodology and new integrated Plan making process is proposed.

CHAPTER:4 STUDY AREA PROFILE

Juggaur or **Jugor** is a village in Chinhat block, Lucknow district, Uttar Pradesh, India. As of the 2011 Census of India, the population of the village is 9,478, in 1,590 households. The village code is 0297. It is part of Lucknow tehsil. It is the seat of a gram panchayat.

Figure 15 Map show the Location of Juggaur Village

Table 17 Detail of Juggauar Village

Development Scheme	Shyama Prasad Mukherji Rurban Mission
Population	9,478 Nos
Total household	1,590 Nos
Total Area	882 Ha

4.1 History

Local tradition holds that Juggaur is a very old town, founded by one Jogi Jagdeo. It served as a Bhar stronghold at the time of the Muslim conquest, and there are three tombs in Juggaur that are said to belong to three Muslim men who died in battle against the Bhars. The main landowning family in Juggaur historically was the Qidwai Sheikhs, who claim descent from one Qazi Qidwat-ud-Din, supposedly a brother of the Sultan of Rum who came to Hindustan in 1184 and was then made governor of Awadh.

At the turn of the 20th century, Juggaur was described as a large, mostly agricultural village in the eastern part of the pargana of Lucknow. It was extensively cultivated and very well irrigated by wells and tanks. Just to the north was the train station, which was on the Oudh

and Rohilkhand Railway. The population in 1901 was 2,741, of whom 809 were Muslims and most of the rest were Hindus of the Ahir and Lodh communities.

4.2 Regional Connectivity

Table 18 Regional Connectivity

Name	Distance
Chadhary Charan Singh Airport	32.5 KM
Charbagh Railway Station	27.2 KM
Juggaur Village Railway Station	Within site
Alambagh Bus Stand	30.1 KM
Awadh bus stand	11.4 KM
Juggaur Village Bus Stop	Within site

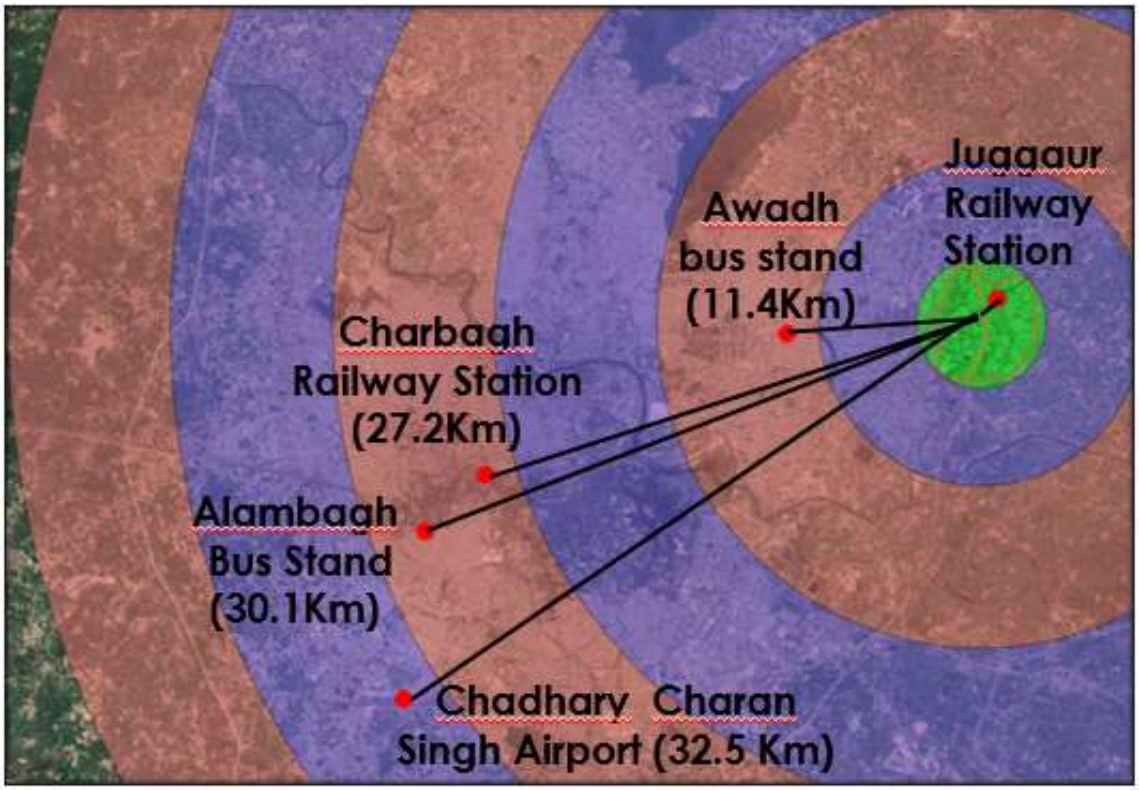


Figure 16 Proximity radius map (SOURCE- Google earth & author)

4.2.1 Landmarks

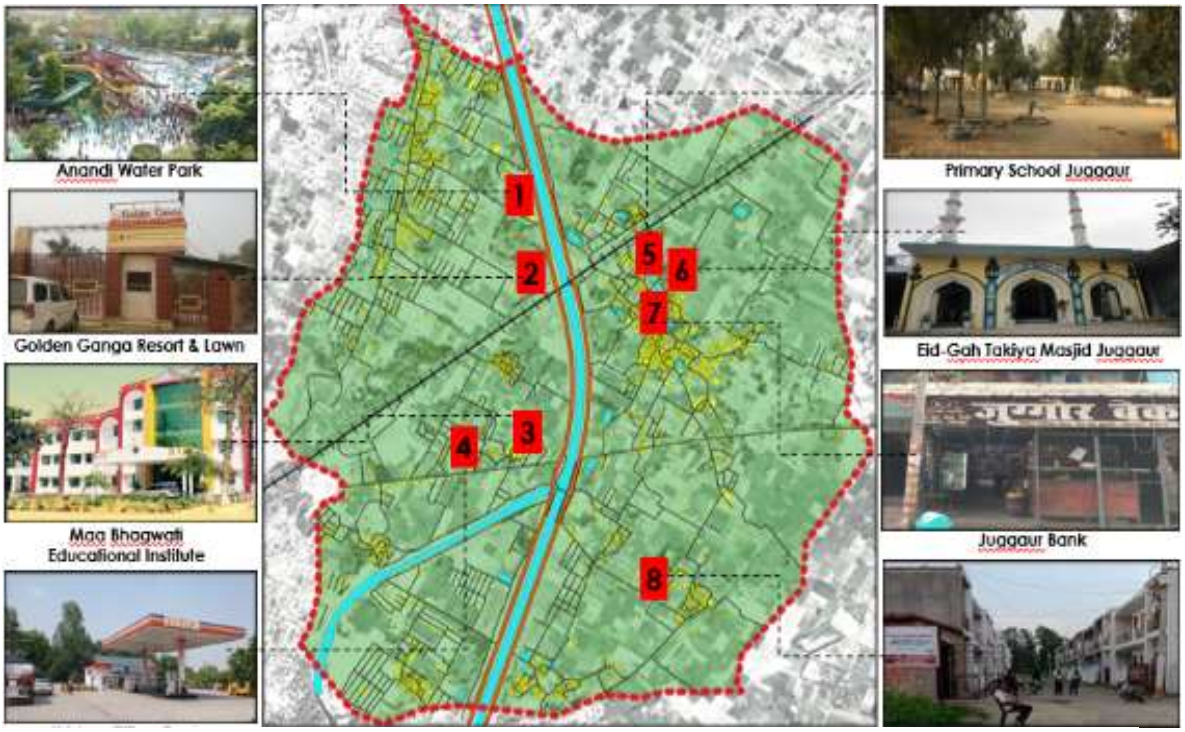


Figure 17 Juggaur Village Boundary Map Showing the location of Landmarks

4.3 Demographic Profile

Table 19 Demographic Profile of Juggaur Village

Year	Village population	No. of Household	Area (ha)	Increase in area (ha)	Density (PPH)	Growth Rate (%)
1981	5067	978	917.05	-	6	20.48
1991	6237	1132	872	-45.05	8	23.68
2001	8802	1419	884	12	10	41.13
2011	9478	1560	882	-2	11	7.68
2021	10958	1754	882	-	13	15.62
2031 (Projected)	12438	1948	882	-	14	15.62
2041 (Projected)	13918	2142	882	-	16	15.62

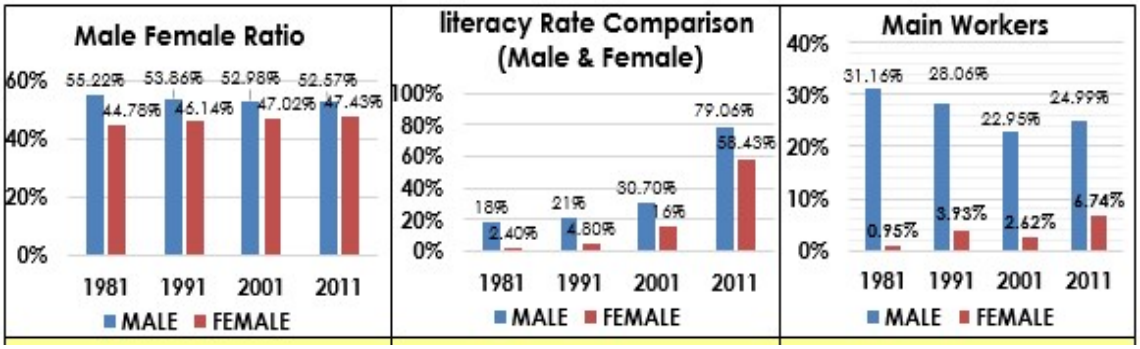


Figure 18 Male female Ratio, Literacy Rate & Main Workers

- The percentage of female/male has been increased from 44.78% in 1981 to 47.43% in 2011.
- The male literacy rate has been increased from 18% to 79.06% & for female 2.40% to 58.43% in 1981 to 2011.
- The female main workers has been increased from 0.95%in 1981 to 6.74% in 2011.

4.3.1 Density

The density of Juggaur village has been increased by 553 P/Sq Km to 7132 P/Sq Km from 1881 to 2021 respectively.

Table 20 Year wise Density

Year	Area Sqkm	Density (per./sqkm)
1981	9.17	553
1991	8.72	716
2001	8.84	996
2011	8.82	1075
2021	8.82	7132

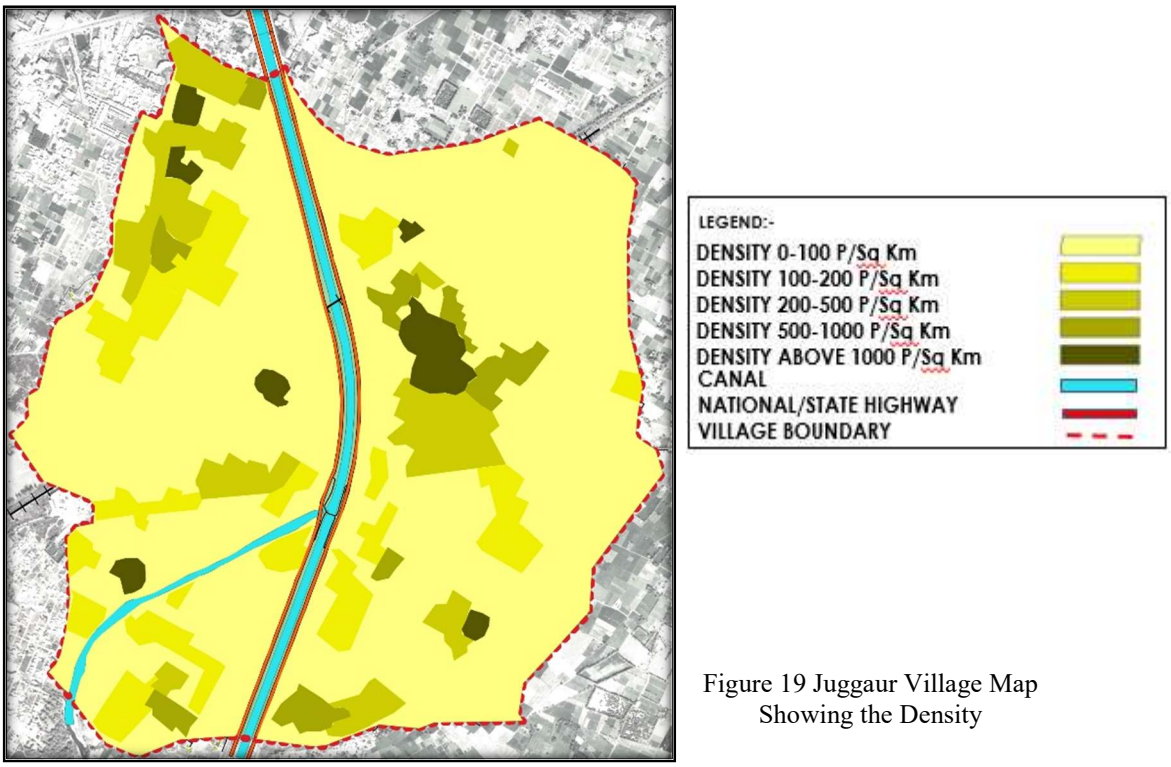


Figure 19 Juggaur Village Map Showing the Density

4.4 Landuse

Table 21 Landuse Area in Sq. Km

Zone	**AREA (Sq.Km)**
Residential	1.7234 Sq.Km
Commercial	0.03981 Sq.Km
Public/ Semi-public	0.2133 Sq.Km
Green & open	1.9783 Sq.Km
Water Body	0.2679 Sq.Km
Circulation	0.5242 Sq.Km
Agriculture	1.7234 Sq.Km
Total	**8.82 Sq.Km**

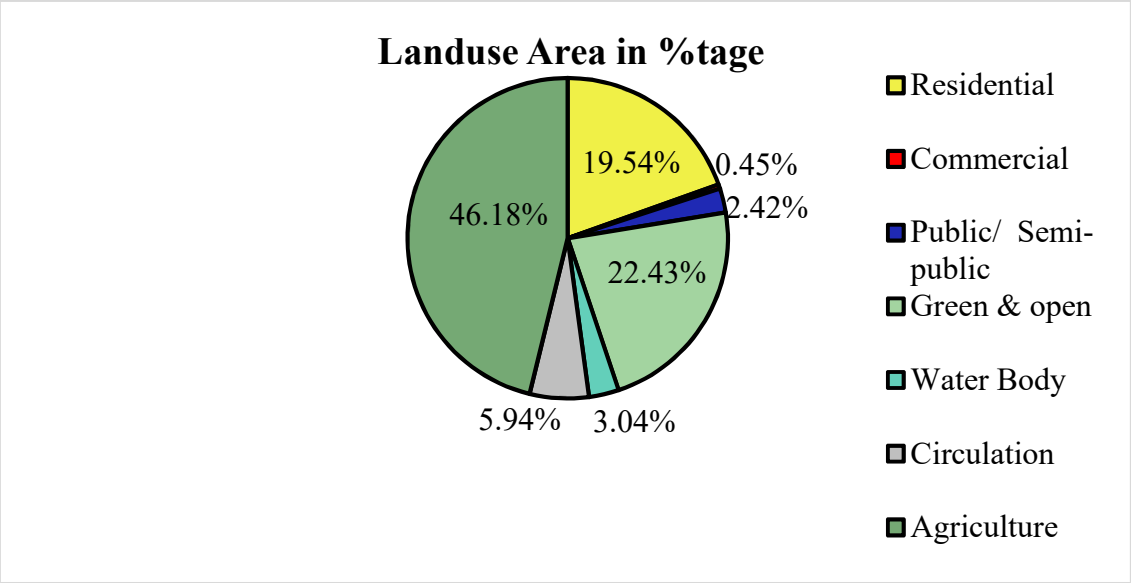


Figure 20 Landuse in %tage

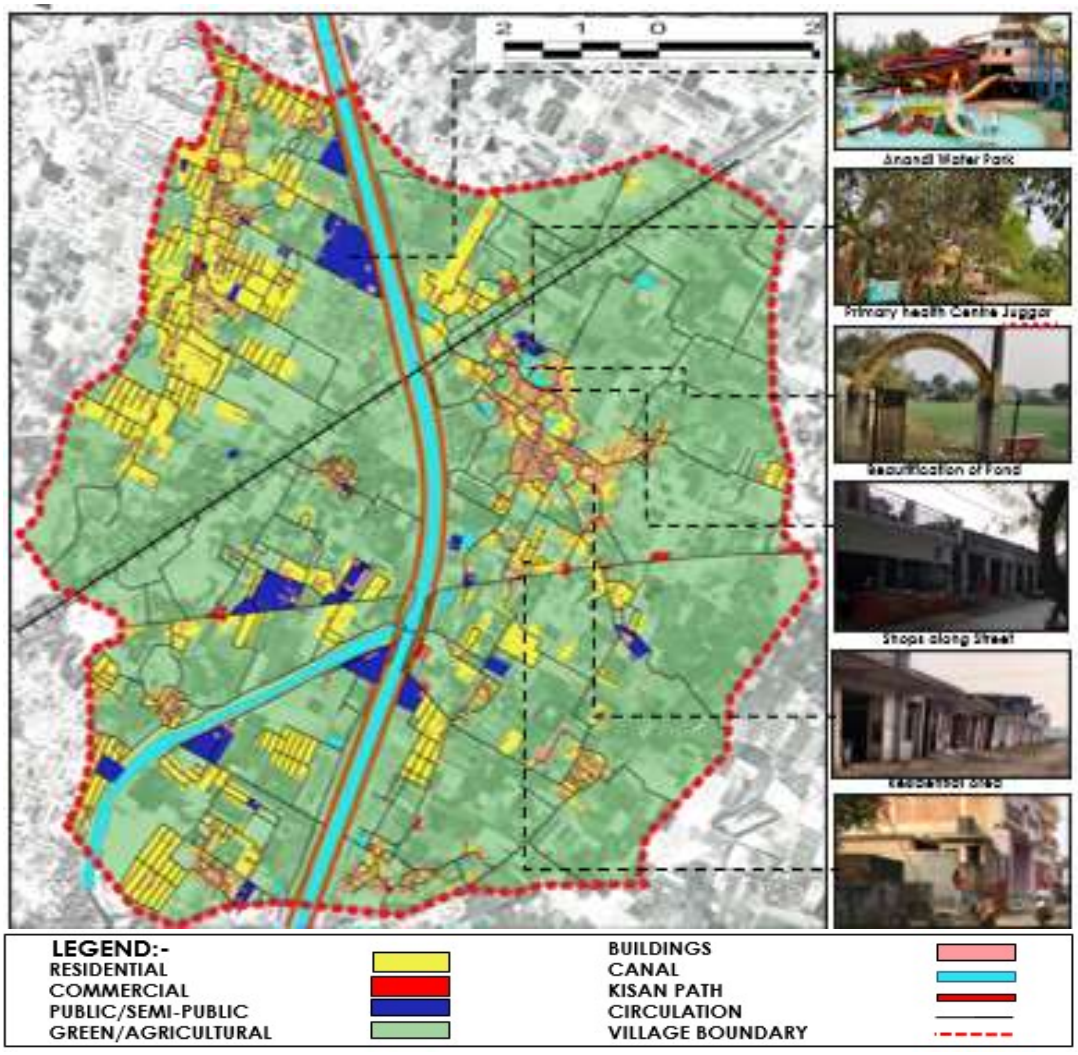


Figure 21 Juggaur Village Landuse Map Showing Existing Landuse (Source- GIS Generated Map by author)

4.5 Water Supply

Table 22 Water consumption per day per person in Juggaur Village

Year	Population	Water Demand		Total Water Demand(LPD)	
		Standard (LPCD)	Actual (LPCD)	Standard (LPD)	Actual (LPD)
1991	6237	55	90	343035	561330
2001	8802	55	90	484110	792180
2011	9478	55	90	521290	853020
2021	10958	55	90	602690	986220
2031 (Projected)	12438	55	90	684090	1119420
2041 (Projected)	13918	55	90	765490	1252620

4.5.1 Water Supply Sources in Juggaur Village

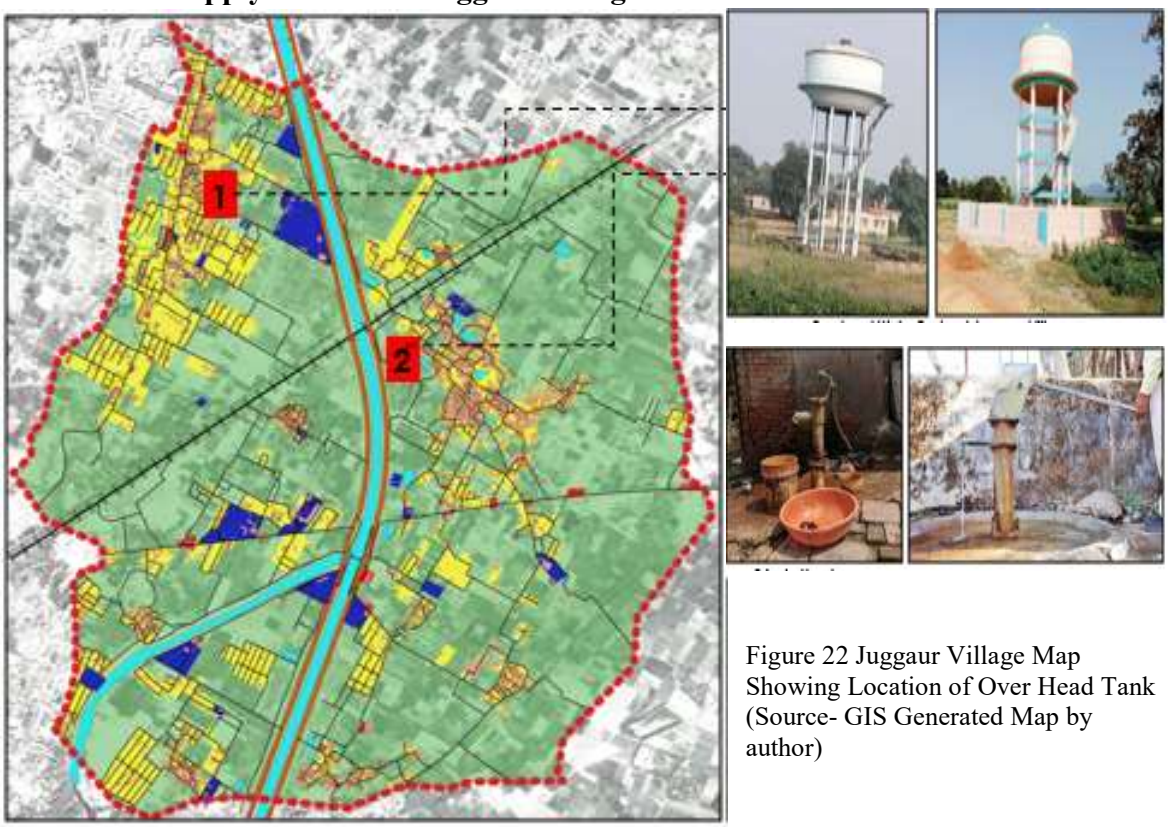


Figure 22 Juggaur Village Map Showing Location of Over Head Tank (Source- GIS Generated Map by author)

- There are 2 existing OHT (20 KL Each), 4 OHT (50 KL Each) are already proposed.
- As per the requirement there is a need of 5 OHT of 300 KL Capacity till 2041.
- **Water Supply Timing:** 6 A.M. to 8 A.M. & 6A.M. to 8 P.M .
- They used their own borewell & govt handpump for daily water usage.
- 50% of residential areas are using their own individual underground boring system.
- Sharada Canal used for Agricultural purpose.

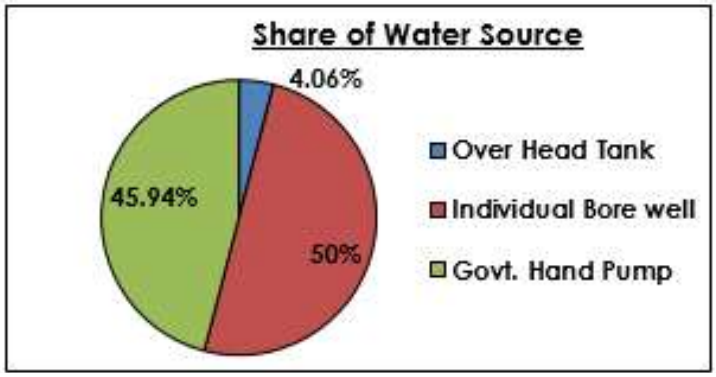


Figure 23 Share of Water source

- The users having their own boring are not dependent on time for water supply.
- As there are so many borings, they are exploiting the ground water on earth.

4.6 Drainage

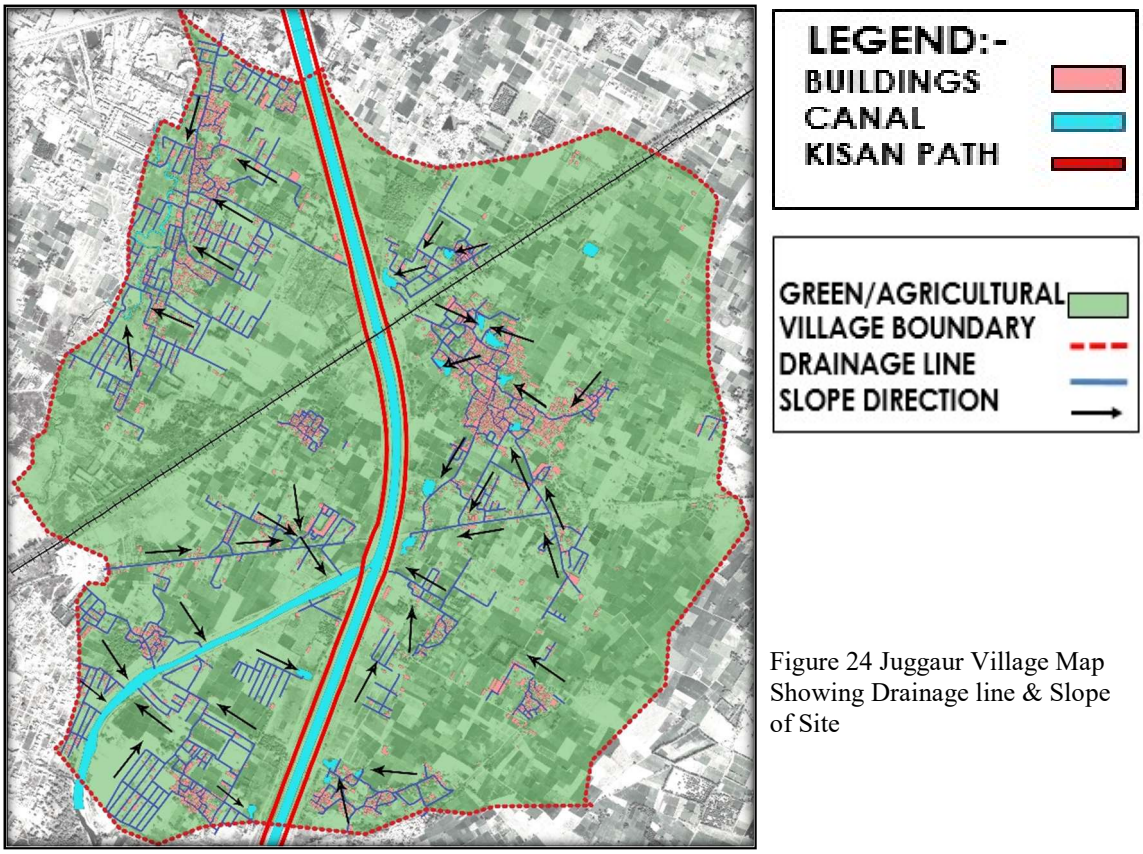


Figure 24 Juggaur Village Map Showing Drainage line & Slope of Site

- There are no proper drainage system and no sewer line system.
- Such as open drain lines are opens in the pond of the village.
- In rainy season there are overflow of water due to improper drainage system.
- Main internal living part have drainage sufficient along the houses but no drainage lines available along the whole village.


Open Pacca Drainage Line


Open Pacca Drainage Line


Open Kaccha Drainage Line

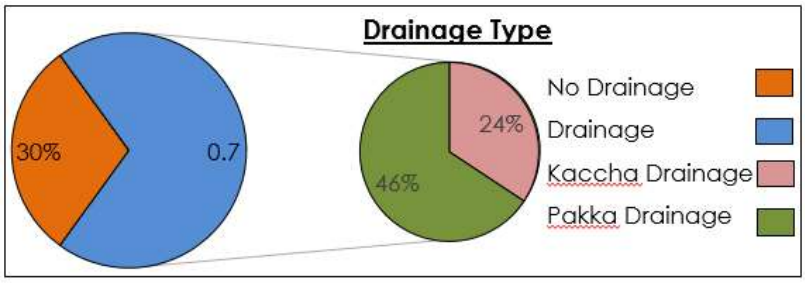


Figure 25 Drainage Type

- Drainage line not covered.
- The drainages are either logged or leaking, thus causing health hazards.
- Poor drainage system.

4.7 Sanitation & Solid Waste Management

- There are 1 govt. toilet all over the village and some people have their personal toilet.
- 65% people use their individual toilets.
- Every building which has individual toilet uses personal septic tank.
- Some people uses agriculture land for daily toilet usage.
- 1 govt. common toilet exist and 2 are proposed.
- Door to door solid waste collection facilities not available in the village.


Figure 26 Agriculture field & Road side dumping of solid waste

- Garbage dumping area and sewer line is missing in this village
- The village is facing bad condition of Garbage dumping.
- Drainage not clean time to time by any govt. body.

4.8 Electricity

Table 23 Electricity consumption per day per person in Juggaur Village

Year	Population	Electricity Demand Standard (kWh) as per URDPFI Guidelines	Total Electricity Demand (kWh/Units)
1991	6237	2.74 Kwh	17151.75 Kwh
2001	8802	2.74 Kwh	24205.5 Kwh
2011	9478	2.74 Kwh	26064.5 Kwh
2021	10958	2.74 Kwh	30134.5 Kwh
2031 (Projected)	12438	2.74 Kwh	34204.5 Kwh
2041 (Projected)	13918	2.74 Kwh	38274.5 Kwh

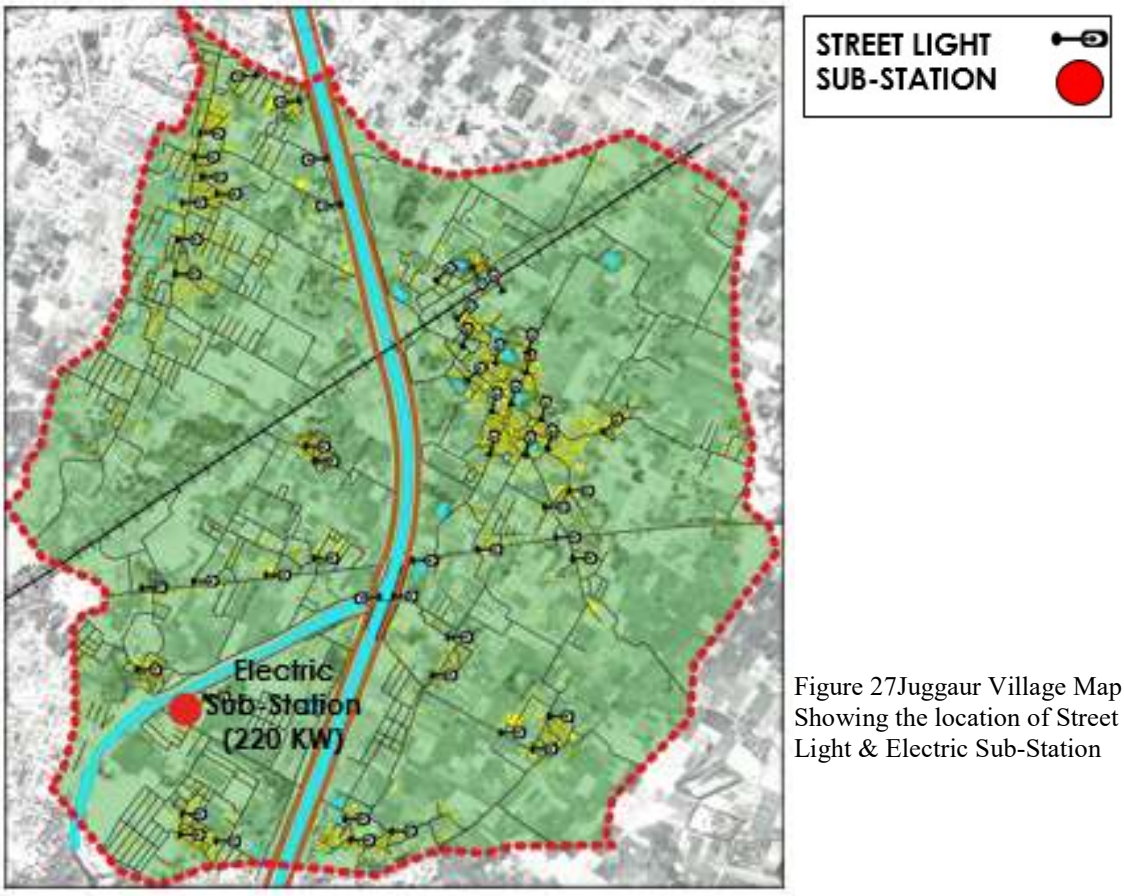


Figure 27Juggaur Village Map Showing the location of Street Light & Electric Sub-Station

Figure 28 Electrical Poles in Juggaur Village

- There are availability of 18 hours of electricity with overhead wire, Condition of electricity are good over there.
- Only one Electrical Sub- Station (220 KW) in all over the village.
- There are Electrical poles at alternate required distance.
- 45% Street Light used Solar Panel as a electric Source.
- Electrical wires are in nude condition not properly covered.
- Electrical voltage fluctuate due to insufficient voltage because of transformer capacity is not enough.

4.8.1 Solar Energy Source Supply

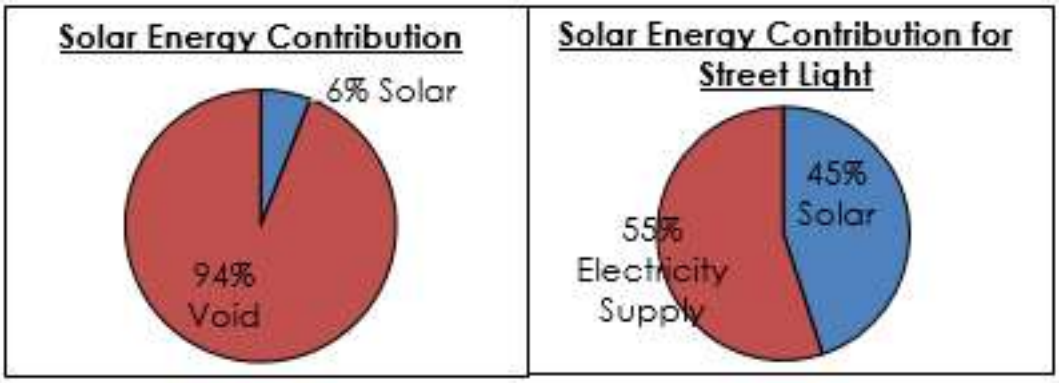


Figure 29 Solar Energy Contribution

4.9 Transportation

4.9.1 Road Hierarchy

Figure 30Juggaur Village Map Showing the Road Hierarchy (Source- GIS Generated Map by author)

- Cluster Lies on Kisan Path that provides good connectivity to nearby city.
- Railway line passes through the cluster having a railway station name Juggaur.
- Poor connectivity through public transport in interior of village.
- Lack of tarmac road/ Kharanja within village.
- Juggaur Rurban Cluster has 40 % kaccha roads and 60 % pakka roads.
- There is not even a single Bus stop for our Cluster site so it is the major requirement for their livelihood.

4.9.2 Road Type

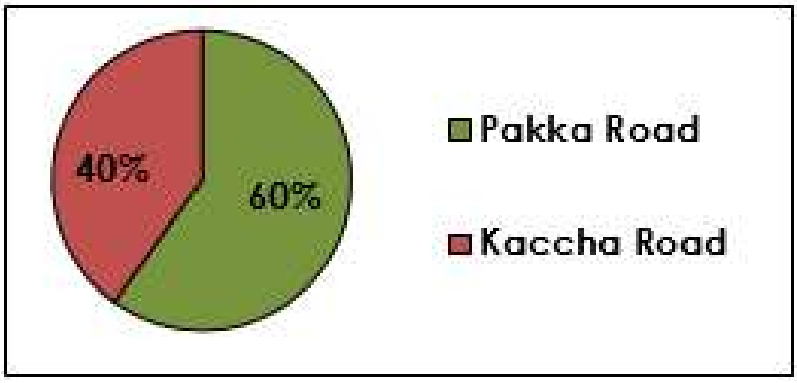


Figure 31 Type of Road

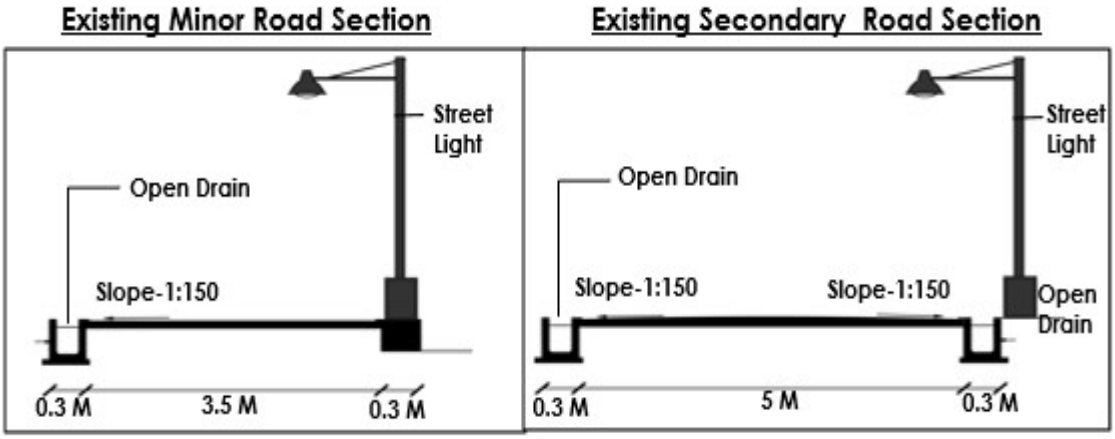


Figure 32 Existing Road Section

- Juggaur Rurban Cluster has 40 % kaccha roads and 60 % pakka roads.
- Juggaur Rurban Cluster has minor road 3.5 m, Secondary road 5 m and Primary road 7 m wide.

4.9.3 PCU Calculation

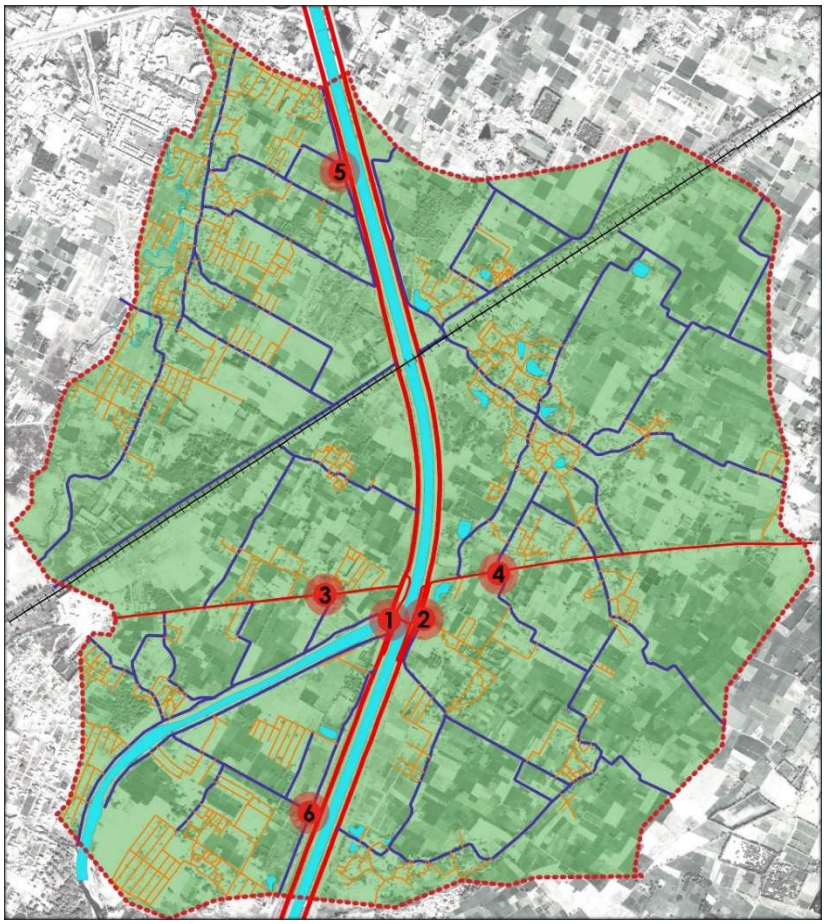


Figure 33 Juggaur Village Map Showing the Congestion point (Source- GIS Generated Map by author)

Table 24 PCU Calculation/ Hrs.

PCU Calculation/Hrs.						
Type of Vehicle	**Location -1**	**Location -2**	**Location -3**	**Location -4**	**Location -5**	**Location -6**
Cycle	12	8	8	8	12	10
Motor Cycle/ Scooter	18	22	34	36	24	26
Car	6	8	11	12	4	5
Auto	1	1	3	3	1	2
Tractor	3	4	7	8	5	6
Bus	1	1	0	0	0	0
Total Vehicles	41	44	63	67	46	49
PCU/Hrs.	**28**	**31**	**42**	**45**	**82**	**31**

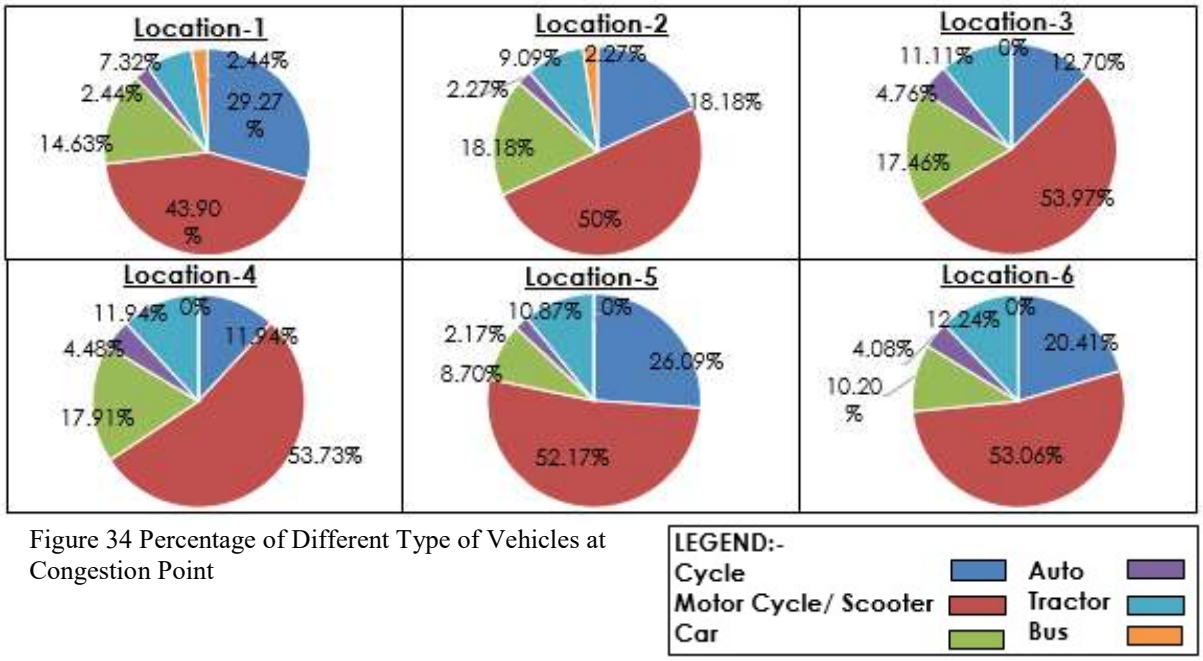


Figure 34 Percentage of Different Type of Vehicles at Congestion Point

- Low traffic on main primary road and no traffic inside the village.
- No traffic light used in entire our study area.
- Pathway not provided on any street.
- Some street sign board are available but due to some obstruction and bad condition of sign board its hard to understand.
- Street lights are available in some streets but irregular distance and not in standard distance.
- Some trees are planted nut not in regular or uniform distance.
- Due to less and irregular planting shadow could not cover the whole street.

4.10 Educational

Table 25 Gap in Educational Facilities

Category	Student Strength	Pop. Served / unit	Area Requ.	Existing			Demand		Gap
				No.	Govt	Private	2011	2041	
Primary School		2500	0.08Ha	8	7	1	4	6	2 Surplus
Middle School	500	1390	0.40Ha	5	3	2	7	10	5

Secondary School	1000	7500	1.8Ha	1	0	1	1	2	1
Sr. Secondary School	1000	7500	1.8Ha	1	0	1	1	2	1
Technical Education Centre		10 lakh	4.00 Ha	1	0	1	-	-	-

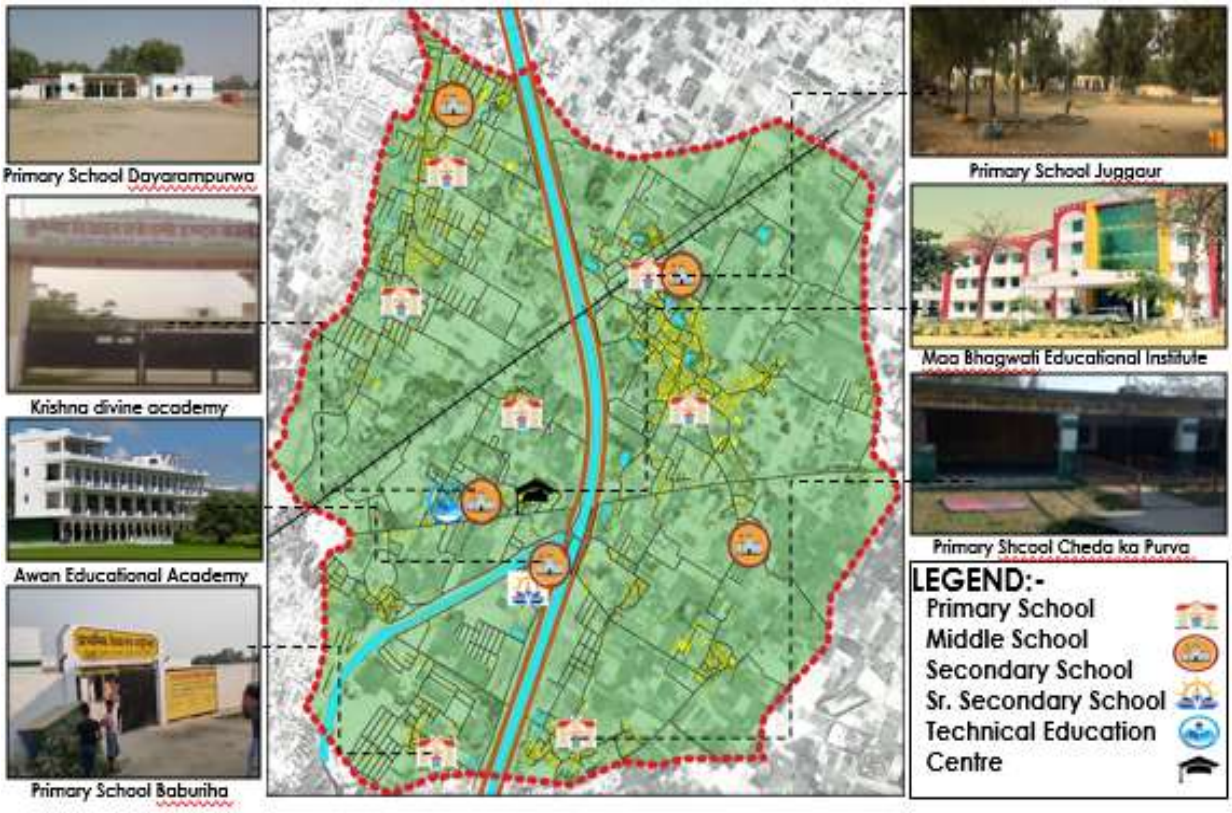


Figure 35 Juggaur Village Boundary Map Showing the location of Educational Buildings
(Source- GIS Generated Map by author)

4.11 Health Care Facilities

Table 26 Gap in Health Care Facilities

Category	Population Served/unit	Existing	No. of Doctors	Demand		Gap
				2011	2041	
Dispensary	2500	1	3	4	6	5
Primary Health Centre	5000	1	3	2	3	2
Primary Health Sub Centre	5000	1	1	2	3	2
Veterinary Hospital	5000	1	1	2	3	2
Homeopathic hospital	1 lakh	1	3	-	-	-
Non-Government Medical Facilities	500	9		19	27	18

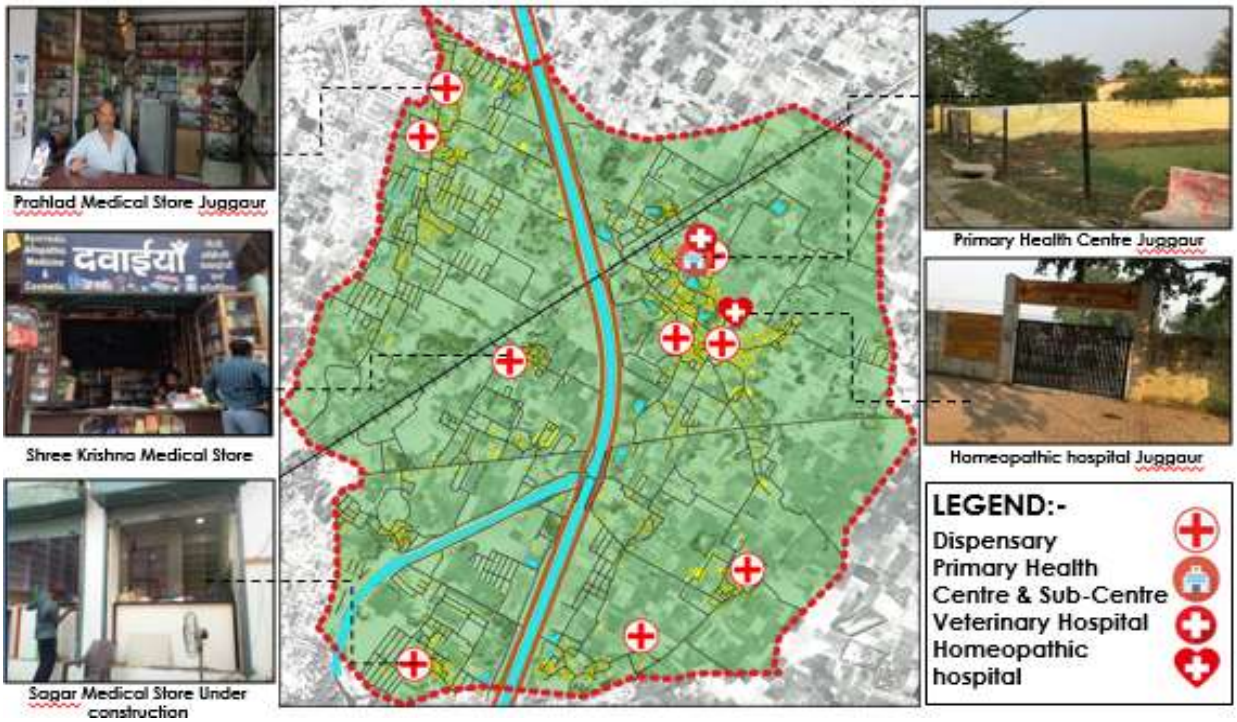


Figure 36 Juggaur Village Boundary Map Showing the location of Educational Buildings

4.12 Other Community Facilities

Table 27 Community Facilities

Social Infrastructure	Pop./Unit	Existing
Village Post Office	2500	1
Gathering/Fair ground	5000	1
Petrol Pump	-	1. Bharat Petroleum Petrol Pump 2. Krishna Filing Center Petrol Pump
Bank	-	2 Banks (Allahabad Bank & Indian Bank)
ATMs		3 ATMs (Allahabad Bank, ICICI Bank ATM, Axis Bank ATM)
Religious Unit	5000	8 Temple (Mahakaal Mandir, Panch devi devta Mandir, Devta sthan, Shiv Mandir, Hanuman Mandir, Maa Durga Mandir, Bangla Devi Mata Mandir, Bhulenath Mandir) 2 Masjid (Choti Masjid, EID-GAH, Takiya Masjid)
Recreational facilities	5000	5

4.13 SWOT Analysis

Strengths:

- Cluster Lies on State Highway, and Railway line passes through the area – Provides Good connectivity to nearby towns.

Weakness:

- Condition of Physical infrastructure is poor.
- Spatial disparity among villages in term of social infrastructure.
- Completely lacks SWM facilities.

- Lack of awareness among farmers about new farming approaches.
- Lack of training centers in the cluster.
- Unemployed Youth in the cluster.

Opportunity:

Agro-Processing units can be established to increase employment opportunities for landless

CHAPTER: 5 PROPOSAL

Table 28 Existing Problems and Proposal

Aspect	Existing	Problem	Proposal
Landuse	Mostly are mixed-use and agricultural.		
Accessibility	• Kisan Path is crossing via village. • Well connecting to the Lucknow City. • Railway line passes through the cluster having a railway station name Juggaur.	• Poor connectivity through public transport in interior of village. • Lack of tarmac road/ Kharanja within village. • There is not even a single Bus stop at over Cluster site.	• Construction of intra-village approach roads. • A bus stop for our cluster is the essential requirement for the livelihood.
Physical Infrastructure			
Water Supply	• There are 2 existing OHT (20 KL Each), 4 OHT (50 KL Each) are already proposed. • Only 4.06% area have water supply from overhead tank.	• They used their own bore well & govt hand pump for daily water usage. • 50% of residential areas are using their own individual underground boring system. • Drinking water facility at cremation place, sub centre and Anganwadi centre is poor due to lack of hand pump/bore well and Lack of fund mobilization by Panchayat. • Drinking water facility abrupt in 2-3	• As per the requirement there is a need of 5 OHT of 300 KL Capacity till 2041. • Repairing of hand pump and installation of new hand pumps. • Training to local SHG members to repair hand pumps.

		hamlets due to defunct hand pumps.	
Drainage	• Main internal living part have drainage sufficient along the houses but no drainage lines available along the whole village.	• There are no proper drainage system and no sewer line system. • Such as open drain lines are opens in the pond of the village. • In rainy season there are overflow of water due to improper drainage system.	• Drain must be run from all the street, with proper width and depth.
Sanitation	• There are 1 govt. toilet all over the village and some people have their personal toilet. 65% people use their individual toilets. • Every building which has individual toilet uses personal septic tank.	• Poor sanitation in individual housing and nearby area due to open excretion • Lack of awareness about better hygiene practices	• Construction of improved individual toilets. • Training to individual towards upkeep of toilets.
Solid Waste Management	• Door to door solid waste collection facilities not available in the village.	• Dump on corner of the road. • Don't have any monitoring system.	• Start door to door collection or establish a monitoring community.
Electricity	• There are availability of 18 hours of electricity with overhead wire. • 45% Street Light used Solar Panel as a electric Source.	• Electrical wires are in nude condition not properly covered. • Inconsistent supply of electricity in some hamlets. • Long Power cut due to poor electricity generation by Electricity Board.	• Ensuring regular electricity supply. • Improve the services and maintenance.
Agriculture			

Irrigation facility	• Limited irrigation facility. • Ground Water Level Depleting.	• Low ground water level • Limited water supply from Canal. • Ground Water Level Depleting due to over exploitation of ground water.	• Awareness on water conservation and participatory water management. • Ground water recharge measures. • Awareness program on rain water harvesting. • Afforestation to increase green cover.
Crop productivity	• Low crop productivity	• Lack of awareness about high breed varieties. • Low nutrient input in farms. • Modern agriculture technologies not used. • Bad crop protection measures.	• Awareness on enhanced agricultural practices. • Introduction of high breed varieties • Agri-farms like Krishi Vigyan Kendra. • Monthly contact with agriculture department officials.
Livelihood			
Employment	• Unemployment among rural youth (men and women)	• Lack of adequate livelihood resources. • Lack of vocational input among unexperienced youth. • Lack of awareness about employment opportunity schemes and outside employment opportunities and market Potential.	• Vocational training programs.

5.1 Location for Proposed Bus Stop

Cluster Lies on Kisan Path & Railway line passes through the cluster-provides good connectivity to nearby city.

Proposal-1

There is not even a single Bus stop at over Cluster site so I have proposed a bus stop for our cluster which I think is the essential requirement for the livelihood.

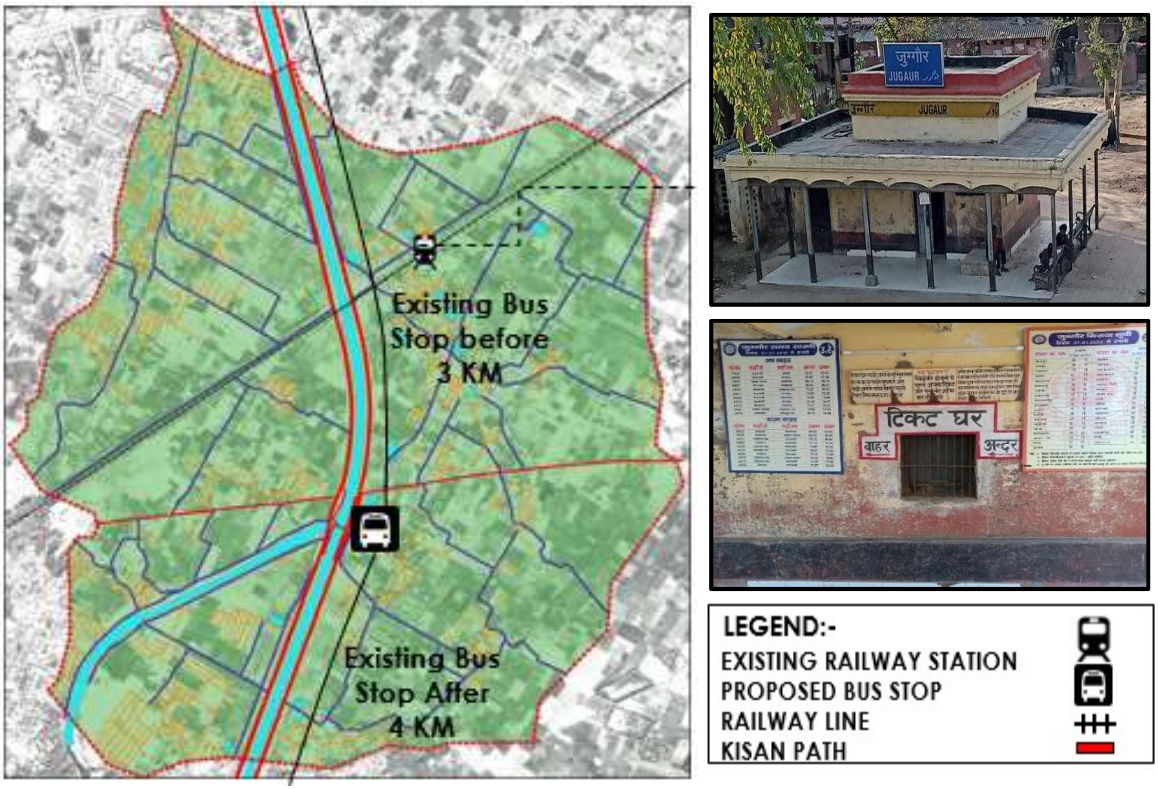


Figure 37Juggaur Village Boundary Map Showing the location of Proposed Bus Stop (Source- GIS Generated Map by author)

5.2 Location for Proposed Over Head Tank

- There are 2 existing OHT (20 KL Each), 4 OHT (50 KL Each) are already proposed.
- They used their own bore well & govt. hand pump for daily water usage.
- 50% of residential areas are using their own individual underground boring system.

Proposal-2

As per the requirement there is a need of 5 OHT of 300 KL Capacity till 2041.

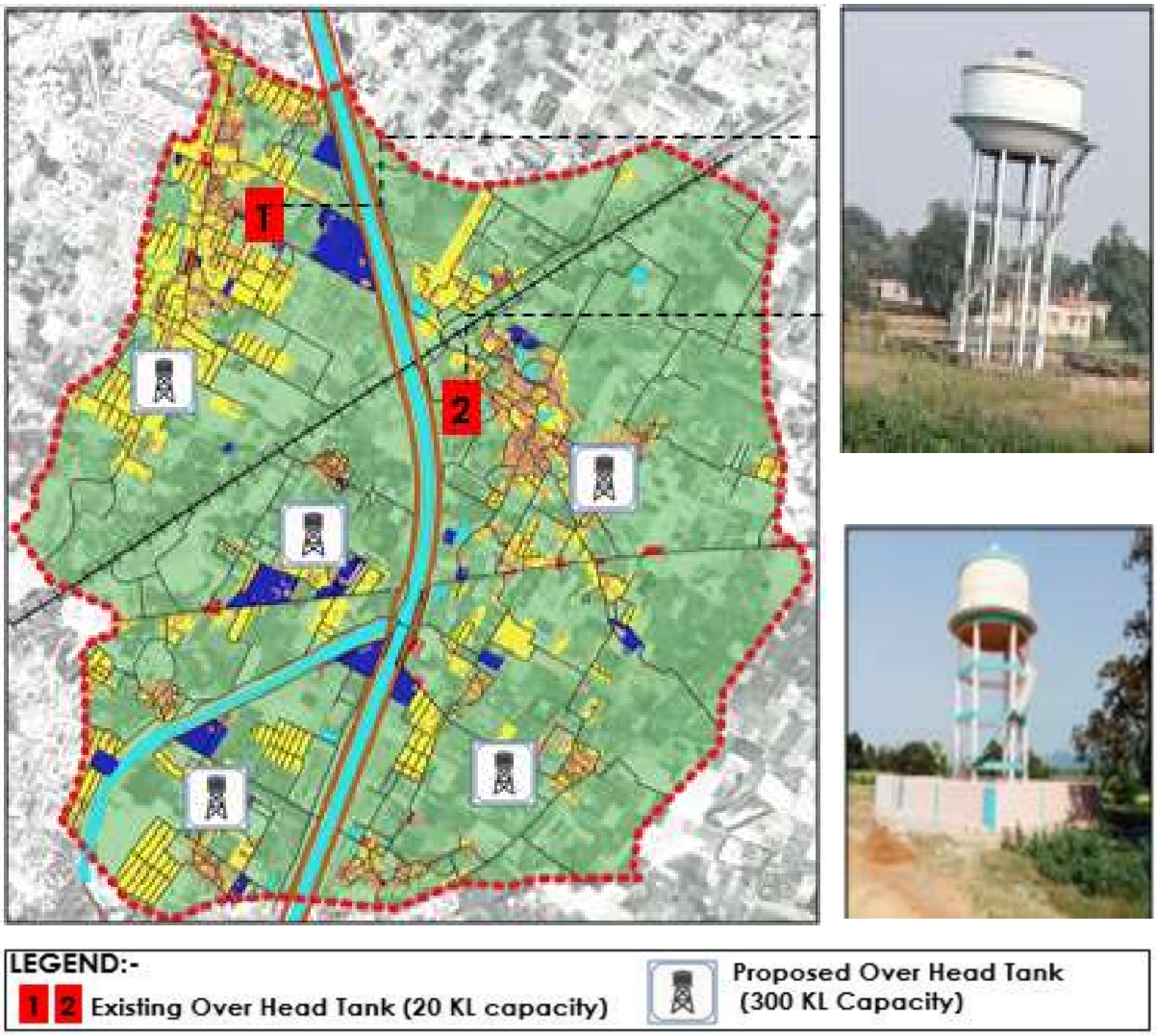


Figure 38 Juggaur Village Boundary Map Showing the location of Proposed Over Head Water Tank (Source- GIS Generated Map by author)

5.3 Location for Proposed Educational Facilities

Table 29 Gap in Educational Facilities

Educational Facility	Gap(2041)
Primary School	+2
Middle School	5
Secondary School	1
Sr. Secondary School	1

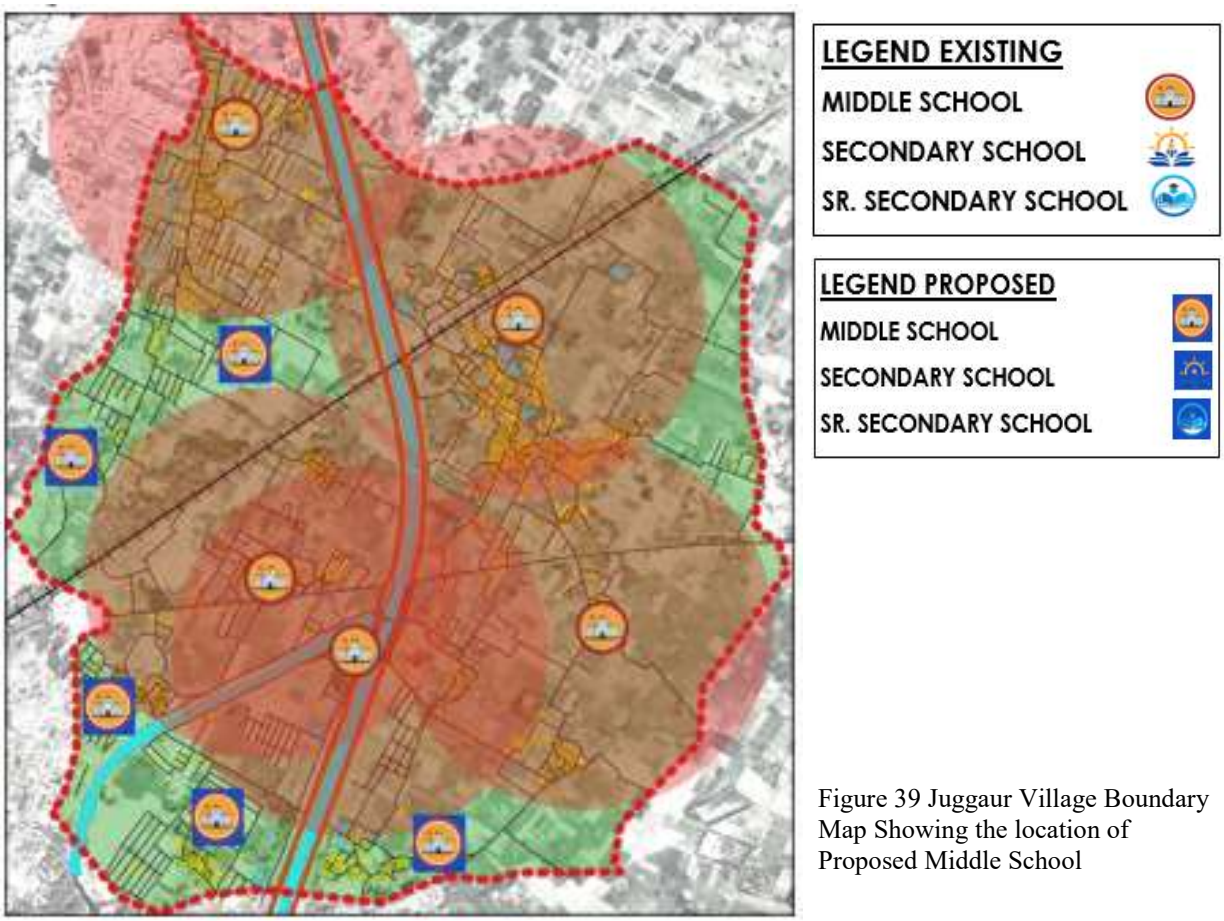


Figure 39 Juggaur Village Boundary Map Showing the location of Proposed Middle School

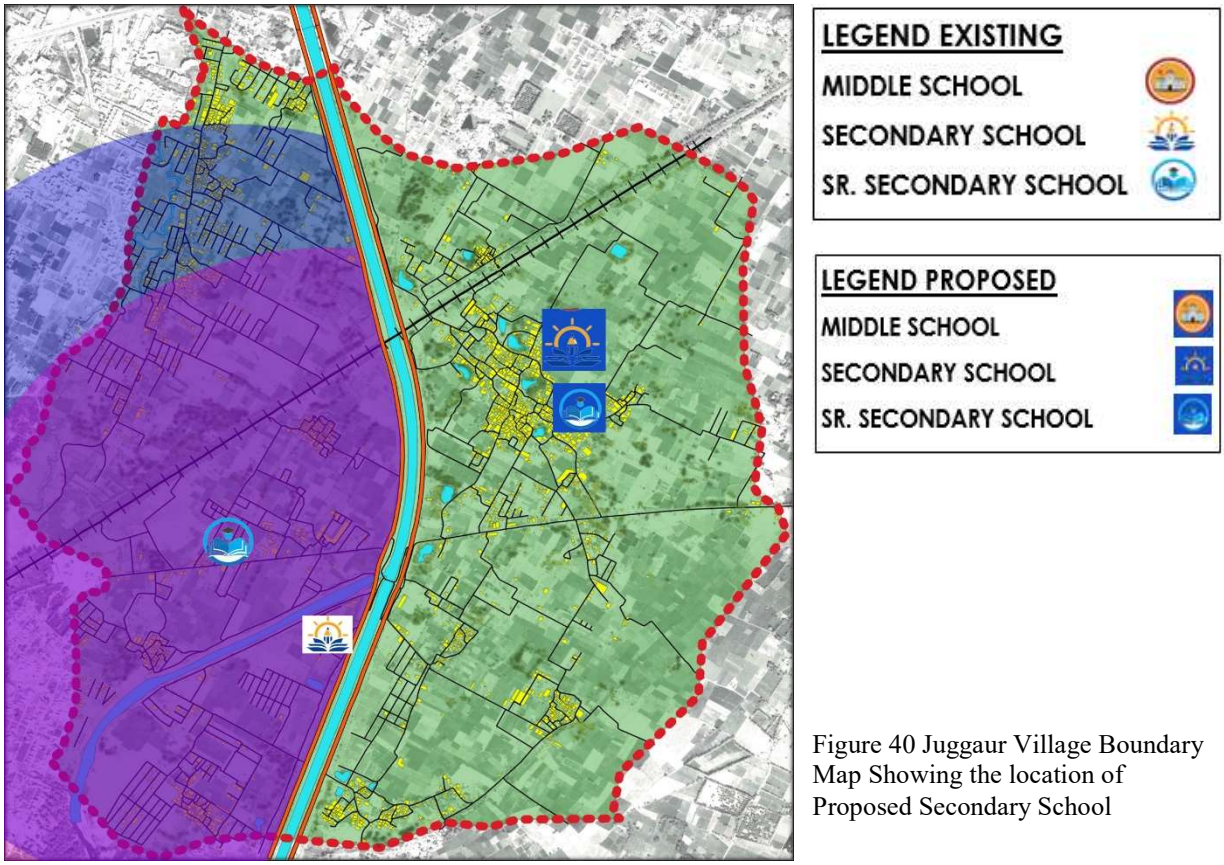


Figure 40 Juggaur Village Boundary Map Showing the location of Proposed Secondary School

5.4 Location for Proposal Health Care Facility

Table 30 Gap in Health Care Facilities

Category of Health Care Facility	Gap Till 2041
Dispensary	5
Primary Health Centre	2
Primary Health Sub Centre	2
Veterinary Hospital	2
Homeopathic hospital	-
Non-Government Medical Facilities	18

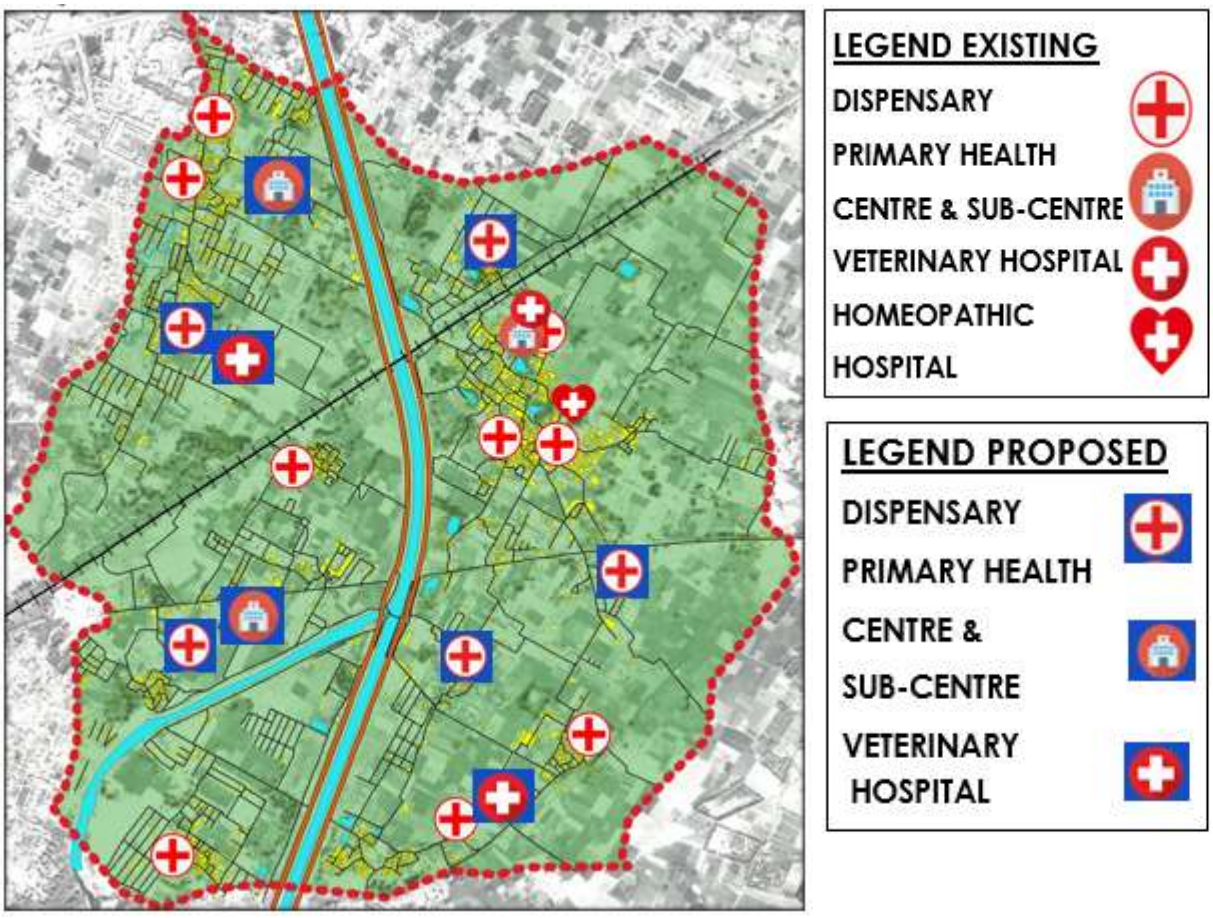


Figure 41 Juggaur Village Boundary Map Showing the location of Proposed Health Care Facility (Source- GIS Generated Map by author)

CHAPTER: 6 CONCLUSION

The urbanisation process has huge impact on most important dimensions of economic, social and physical change in developing countries such as India. In the process of urbanisation, a new king of settlement emerged other than the two conventional types i.e. urban and Rural. Such settlements which are in transition between urban and rural are popularly known as 'Rurban' settlements. These settlements can be defined as "Settlements which contains urban characteristics but are mostly governed by Rural Local Bodies (Gram Panchayat). Such settlements have locations beyond the limit of the legal city, in agricultural hinterlands exhibiting characteristic of mixed land use. Such areas have potential for population and density escalation. Such areas are prone to unplanned sprawled development. During the existing situation analysis, it was observed that low dense, sprawled development was prominent towards the census town. Ribbon development was prominent along the state highway and other inter village roads. Thus these areas have potential for development and requirement of planned interventions. Hence taking the cognizance of this, the government of India has proposed the Shyama Prasad Mukherjee Rurban Mission, which aimed at developing such clusters. The mission provides with the required planning process for such clusters. This methodology is thus strengthened and is used to plan for a selected cluster in an integrated manner.

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