Pakistan Rural Development With Special Emphasis on Housing



University of Management & Technology Housing Research Centre UMT





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FOREWORD

For the last several decades, efforts have been made to provide quality housing to poor households in Pakistan, in accordance with current situation the team at HRC, UMT committed to turn it around. In this journey, given its multi-pronged strategy for the need of quality housing and livelihood for the underprivileged Rural areas (based on the study conduced at 4 villages near Lahore), the current compendium of recommended type designs and technologies have been identified for an initial rural development in Punjab Pakistan. Assigned by Mr. Zaigham Mehmood Rizvi -Chairman Prime Minister Housing Task Force, HRC at UMT proposed Rural Hosuing Development Program which is a milestone in this journey, construction technologies that have been identified in this specific study include locally available materials and prevailing rural construction skills sets.

ACKNOWLEDGEMT

We are thankful to respectable President of UMT, Mr. Ibrahim Hassan Murad for his encouragement, logistics support and unconditional backing towards this project.

Special thanks to the Mr. Zaigham Mehmood Rizvi who provide platform to Housing Research Centre, UMT to innovate planning related ideas and enabled to record community views and work at national level. Thanks to other professionals who has great contribution in this whole project, as without their help and appreciation it was impossible for us to complete this project.

Thanks to People of villages who helped us to get aware from the exiting scenario of the area. The way they treated us was so kind, regarding focus group and interviews, people of the village were very honest as they told truth about their self and fully cooperate with us by giving answers on asking of every question. We thank each and every person of the village to help us complete the survey.

REPORT CONTRIBUTORS

The project plans and other materials are prepared and proposed by the determination of following:

Advisor

Dr. Fariha Tariq

Director: Housing Research Centre

Chairperson: Department of City and Regional Planning

University of Management and Technology, Lahore

Faculty of Department of City & Regional Planning-UMT

Ms. Minahil Nawaz

Lecturer -UMT

Ms. Areesha Gul

Lecturer -UMT

Ms. Nida Batool

Lecturer -UMT

Mr. Ahmad-Al- Rashid

Lecturer -UMT

Mr. Hamid Arshad

Lecturer -UMT

Research Officers HRC-UMT

Plnr. Tuba Suhail

Research officer -UMT

Plnr. Ayesha Ghias

Research officer -UMT

Plnr. Muhammad Haroon Shoaib

Research officer -UMT

Ar. Muhammad Salman

Internee-UMT

Students of Department of City & Regional Planning-UMT

Students of Batch 01; Session 2014-2018

Students of batch 02; Session 2015-2019

1 Introduction

1.1 Introduction of Rural Areas

Rural areas plays a key role in the economic development of any country. Mostly rural population are get engaged in the prime industry to produce things in contact with the nature but in case of developing country the rural life is completely neglected.

1.2 Pakistan's Economy

Agriculture is the largest sector in the economy contributing 25 % of the GDP and providing 70% of the total value of exports. The sector at present employs 17 million workers, representing 44% of the country's labor force. In the scenario of Pakistan 32% population are urbanized where as 67.5% population resides in rural areas (http://www.pbs.gov.pk). The major sources of their earnings are agriculture and other small-scale rural enterprises, which directly or indirectly depend on agriculture.

1.3 Rural Areas in Context of Pakistan

1.3.1 Background

Many of the rural poor live in areas where arable land is scarce, agriculture potential is low; drought and environmental degradation are common features. Moreover access to basic human needs i.e. basic human rights such as potable water and sanitation, education and healthcare are far less available in rural areas. The problems of malnutrition, low life expectancy and high infant mortality are more prevalent in rural areas. However Government of Pakistan took some initiative but they remain unsuccessful to achieve entire objective although some of their successful efforts reflects in projects in many rural areas.

1.3.2 Concept & Issues of Rural Development Plans In Context of Pakistan

The concept of rural development has changed significantly during the last three decades. Until the 1970s, rural development was synonymous with agricultural development and, hence, focused on increasing agricultural production. Today's concept of rural development concerns not only with improvements in growth, income, and output but it also includes an assessment of changes in the quality of life, such as improvement in health and nutrition, education, environmentally safe living conditions, and reduction in gender and income inequalities.

According to the 2017 census about 64% of Pakistanis live in rural areas. Most rural areas in Pakistan tend to be near cities, and are peri-urban areas, this is due to the definition of a rural area in Pakistan being an area that does not come within an urban boundary. The remote rural villagers of Pakistan commonly live in houses made of bricks, clay or mud. Socioeconomic status among rural Pakistani

villagers is often based upon the ownership of agricultural land, which also may provide social prestige in village cultures. The majority of rural Pakistani inhabitant's livelihoods is based upon the rearing of livestock, which also comprises a significant part of Pakistan's gross domestic product. Some livestock raised by rural Pakistanis include cattle and goats. However rural areas in Pakistan that are near cities are considered suburban areas or suburbs.

Several rural development plans have been formulated by the government of Pakistan for economic uplift or urban poor and to enhance their quality of life. Few of them have been enlisted below:

- Village AID Program
- Basic Democracy System (BDS)
- Rural Works/People Works Program
- Integrated Rural Development Program
- Rural Development through Local Councils
- People's Programme (1989-90, 1994-96)
- Tameer-e-Watan Program (1991-93, 1997-99)
- Social Action Program (SAP) (1992/93-1995/96 and 1998/99-200/04)
- Khushal Pakistan Program (KPP) Since 2000

1.3.3 Overall Rural Scenario Can Generally Be Characterized As Follows:

- Rural development policy always had a heavy bias towards large farmers, whereas small landholders making more than 90 percent of total farms were ignored along with landless labor community.
- Rigid cropping pattern prevailing in the country results in lack of intensification and diversification of agriculture sector, thereby increasing unemployment in rural areas.
- Natural resource base is deteriorating overtime. Due to inappropriate agricultural practices and climate change, land degradation is more and land productivity is declining. Almost 40 percent of land in Sindh alone has turned saline. The rangelands on which 70 percent of local livestock thrives have been degraded and no rehabilitation plans are in place (Baig and Khan, 2006).
- Literacy rate is very low in these areas and illiterate farmers cannot realize the benefits of modern, scientific and technical know-how in farming business. Moreover, rural areas are deprived of schools. In case, if schooling facilities are available, then qualified staff is not available. Basic health care is the prime need of every individual. Unfortunately, this component is totally ignored by the Govt. Most villages in Pakistan still are lacking in hospitals, dispensaries and other health

- centers. According to an estimate 70-80 million people do not have requisite access to education and health services (Pirzada, 1999).
- Poor health, malnutrition and high population growth rates are widespread in rural areas, badly affecting productivity. According to an estimate, 30-50 million people are malnourished (Pirzada, 1999).
- Water supply and sanitation condition is not satisfactory in rural areas. Population having access to safe water is 87 percent and 35 percent of total population has access to sanitation (ADB, 2005).
- Appropriate facilities for healthy activities are not available in rural areas. So, the frustrated young people indulge in obnoxious activities such as drug addiction, rape, robbery, murder, etc.

1.3.4 Result of Rural Development Programs in Pakistan

Pakistan had a very long history of Government intervention in the rural sector, with a view to improve the socio-economic condition of rural people, especially the poor. However, there is no comprehensive integrated national policy for agricultural and rural development yet declared and adopted by the Government. What is, therefore, needed is a long-term comprehensive integrated national policy, which clearly charts the future course of agricultural and rural development in the country in the twenty-first century. This is all the more necessary in the wake of new economic policy characterized by liberalization, privatization and globalization of Pakistan's economy.

1.4 Role of Rural Development

It is a process to improve the quality of life and economic well-being of people living in such areas, relatively isolated and sparsely populated. Rural areas contribute a large chunk of GDP by way of agriculture, self-employment, services, etc. the majority of rural Pakistani inhabitant's livelihoods is based upon the rearing of livestock. However, rural areas of Pakistan that are near cities are considered suburban areas or suburbs.

The report derives the existing scenario of Pakistan's rural areas. To acknowledge the RDP, Nabi Bakhsh, Kamhan, Jindri and Muridke. To fulfil the objectives of this project that is to alleviate poverty and unemployment through creation of basic social and economic infrastructure, provision of training to rural unemployed youth and providing employment to marginal farmers/laborers to discourage seasonal and permanent migration to urban areas.

The aim is to improve rural people's livelihoods in an equitable and sustainable manner, both socially and environmentally, through better access to assets (natural, physical, human, technological and social capital), and services, and control over productive capital in its financial or economic and political forms that enable them to improve their livelihoods on a sustainable and equitable basis. To practice our objectives, some of the villages were selected which has potential for agriculture and to provide others natural resources.

Need and Importance of rural development is a national necessity and has considerable importance because of the following reasons.

- To develop rural area as whole in terms of culture, society, economy, technology and health.
- To develop living slandered of rural mass.
- To develop rural youths, children and women.
- To develop and empower human resource of rural area in terms of their psychology, skill, knowledge, attitude and other abilities.
- To develop infrastructure facility of rural area.
- To provide minimum facility to rural mass in terms of drinking water, education, transport, electricity and communication.
- To develop rural institutions like panchayat, cooperatives, post, banking and credit.
- To provide financial assist to develop the artisans in the rural areas, farmers and agrarian unskilled labor, small and big rural entrepreneurs to improve their economy.

1.5 Intent of the Project

The complete intent of this whole activity was to analyze the socio economic conditions, civic sense, the economic measures, and quality of education in undeveloped backward areas of Punjab. The questionnaires and interviews were carefully prepared to successfully capture the holistic picture of analyzing the government / authority's role, and citizens' knowledge and attitude towards very important issues like lack of educational institutions, and lack of proper sewage and drainage system etc. in the area

2 Problem Identification

The main purpose of whole fruitful exercise was to prepare a comprehensive report on the socioeconomic conditions of this areas, to highlight the reviews and opinions of the residents, and to analyze the overall civic sense of the area based on our experience and knowledge TO identified the reviews of residents. This detailed report will go long way in actually planning and implementation of the future projects not only in specified villages but also in any other village of Punjab that has dynamics similar to the selected village.



Poor Infrastructure



Open Sewerage or Drainage



Improper House Facades



Improper Internal Layouts



Garbage on Roads



Open Kitchens

Figure 1 Problems identification in rural areas

2.1 Project Area

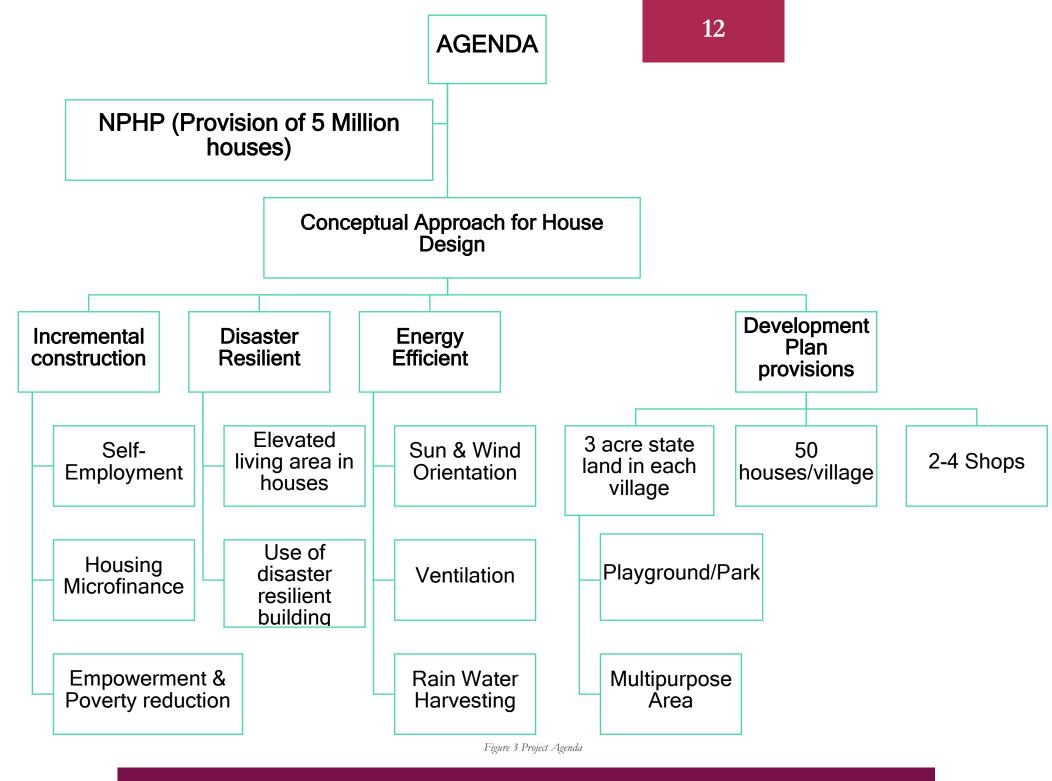


Figure 2 Project Areas

The above picture depict the project areas from where the data is collected and generate proposal against issues identified.

In order to understand the dynamics of undeveloped areas of Punjab, we needed to get to select a suitable area. The Nabi Bakhsh, Kamhan, Muridke and Jindri Village were selected after long thoughtful considerations. The main reasons of selection these Villages were the overall dynamics of the village. The village is not only situated close to Lahore, as it was needed to select area closer to Lahore so that it can be visited on more than one occasion

- NABI BAKSH VILLAGE
- JINDRI VILLAGE
- KAMHAN VILLAGE
- MURIDKE VILLAGE



3 Case Study India

3.1 Successful Projects on Rural Housing

3.1.1 Case Study 1 India -Affordable Rural Housing Projects

The aim of this programme is to build 30 million houses in India for which 5 million houses must be built in each year. Components of the project reflects the wider range of choices in terms of housing design, construction material and technologies. Main material that has been used in the project was bamboo, mud and timber with integration of drinking water, sanitation and domestic energy requirements into the housing typologies. In this case, more than 100 housing designs have been proposed and approved by the state governments and vetted by a central agency. Project has been funded and financially assisted by UND

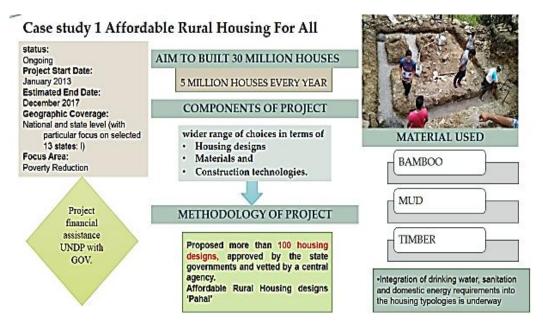


Figure 4 case study Affordable rural housing for all

3.1.2 Case study **2**

The Mahila Housing Sewa Trust works to improve the housing and infrastructure conditions of poor women working in the informal sector. The project is to be completed in 4 different stages which are explained in the figure below:

The project is manages and implemented by the representatives of the poor self-employed SEWA members due to which by 2010 the programme managed to complete construction of 10,000 houses and financed through housing and infrastructure loans.

In India, ten houses constructed, seven are constructed by the people themselves, two by the government and one by the private sector. The majority of urban poor prefer to build their homes incrementally with the help of local masons/contractors. MHT supports self- constructed, incremental housing by providing financial and technical support to ensure that the houses are structurally safe with efficient layouts and access to adequate light, ventilation and basic infrastructure.

Of ten houses constructed in India, seven are constructed by the people themselves, two by the government and one by the private sector DAMAGE ASSESSMENT The majority of urban poor prefer to build their homes incrementally with the help of local masons/contractors. MHT supports self-STAGES Methodology constructed, incremental housing by providing financial and technical support to ensure that TRAINING the houses are structurally safe with efficient layouts and access to adequate light, The Mahila Housing ventilation and basic infrastructure. works to improve the housing and infrastructure conditions of poor women working in the informal sector. DESIGN FINALIZATION Managed by the ·Financed representatives of through housing and infrastructure By 2004, this the poor selfemployed SEWA programmed had completed the construction members loans of 10,000 CONSTRUCTION houses

Case Study 2: THE NAYA GHAR PROJECT OF THE MAHILA HOUSING SEWA TRUST

Figure 5 Case study 2 Naya Ghar Project of the Mahila Housing

3.1.3 *Case study 3*

Efforts were made in this project by providing training, technical guidance, masons and support for bulk purchase of building materials. Social housing involves people at each level and they spend a considerable amount of time collecting materials and contributing labor towards construction of the house. Of the total estimated cost of Rs. 46,500 per house the loan amount comes to approximately Rs. 31,500. The rest of the cost is met with by the beneficiaries themselves in the form of labor and

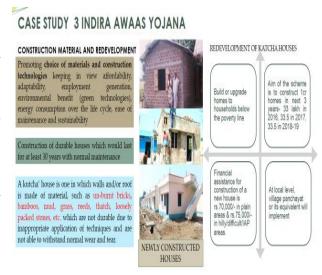


Figure 6 Case study 3 Indira awaas yojana

locally available materials. The amount spent on labor and locally available material is considered as being the initial contribution amount. Construction methodology that has been adopted to implement the project is shown in the figure below

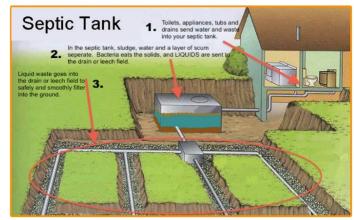
3.2 Case Study China-Waste Water Collection Techniques

Rural sewerage was built from concrete open channels and pipes. Currently, they are gradually being replaced by UPVC material due to light weight, no corrosion and low cost over the long-term view, lower friction factor, potentially long service life and easy replacement. He (2007), Li (2010) and Fang (2012).

They suggested 200 mm diameter pipe could be used for most sub-main and main pipes within villages, and 300 mm diameters for outside of villages. Blockage was the most carrion complaint and inspection chambers are recommended at pipe junction points currently, there are various wastewater treatment processes in rural China

Septic tanks were most widely used. 97% of areas used them due to the inexpensive and their simple operation.





3.2.1 Case Study Europe Countries

Domestic households in Europe produce an average of 150 l of wastewater per person every day. In rural areas traditionally wastewater has been led via two-stage septic tanks to stone drainage or to land treatment sites (conventional leach field). This latter method is still usable, if the toilet waste and washing waters are treated separately .For example if there is a composting closet in use or the toilet waters are led to a cess pool and only the washing waters are being treated by this method. Especially in summer cottages it is very common to use composting toilets.

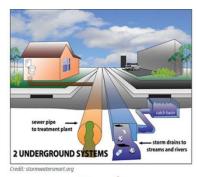




Figure 7 Waste water Treatment in Rural Areas

4 Working Methodology

This above pictures shows the working methodology that has been adopted to conduct the detailed studies of project.

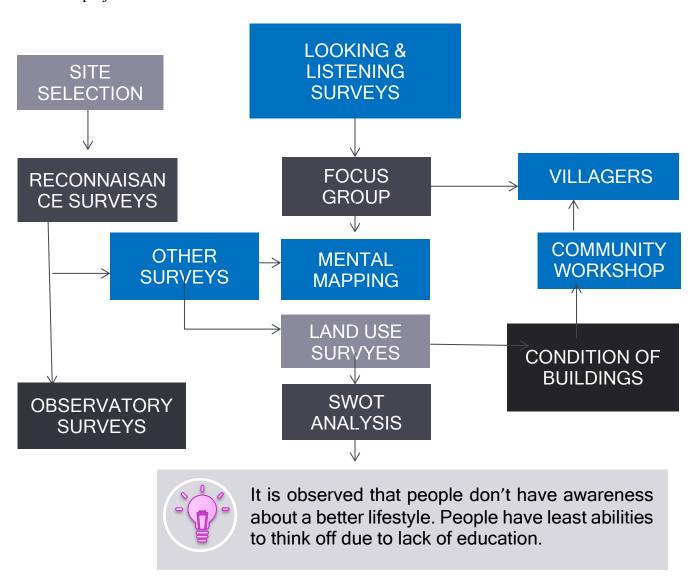


Figure 8 Methodology adopted to collect data

4.1 Tools & Technique Used In This Project

4.1.1 Survey Technique: Site Survey – Looking and Listing Survey

For such purpose the data has been collected from various technique, firstly the land use survey has been conducted directly in the field to measure the available land or site and services providing in particular areas to get aware from the existing ground realities

4.1.2 Mental Map

Whereas mental mapping depict the picture of what people desired as **mental map** is a person's point-of-view perception of their area of interaction

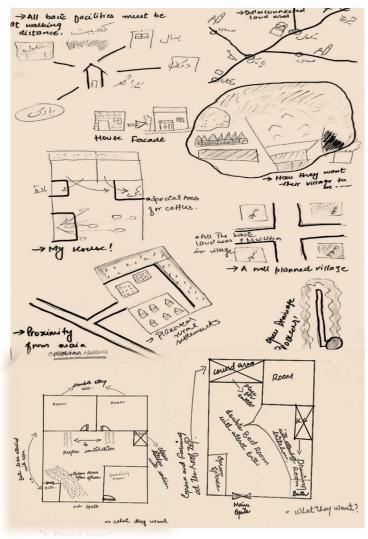


Figure 9 Mental map

4.1.3 Looking and Listening Surveys

Looking and listening survey strategy was design to assess user reactions. It is one of the difficult method to take reviews of respondents in whole research. It is not just the instrument (the questionnaire or checklist) for Gathering information, but also serves as a comprehensive system for collecting information to describe, compare or explain knowledge, attitudes and behavior.

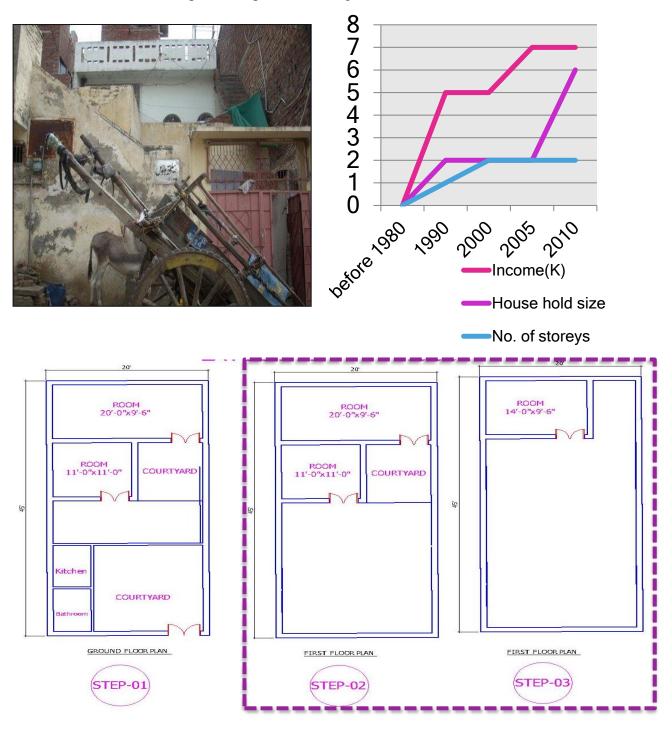


Figure 10 Mental map depiction 1

4.1.4 Focus Group



Figure 11 Focus Group

Focus group a form of qualitative research consisting of interviews in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a development, service, concept, and idea with a particular emphasis and application in the developmental program. The scope of applying this technique on females of the Nabi Bakhsh village is to identify the societal equilibrium within the village and to value the extent of social parity in village premises. Several questions has been asked from the females of the village in order to know about their:

- Lifestyle
- Economic contribution
- Welfare
- Issues
- Employment opportunities
- Their role in household
- Suggestions

While living in the village, what type of problems they usually face and what type of facilities they are lack in, to cater their need in social & rural planning. Initially, females were asked, if there are any economic or social opportunities available for them in the village, for what they replied that there are no training institutes based on social skills for their teaching purpose within the village

4.2 Analysis and Results

In this the level of education describes that the education level in villages are quite depressive as the number and quality of education are less in these areas due to which the numerous people are illiterate and unable to give education to their children's.

The pie chart of household income shows that mostly household income are in-between of 10,000 to 15,000 this figure shows that there were lack of employment in such areas and mostly people face challenge of poverty which is an alarming situation for our nation.

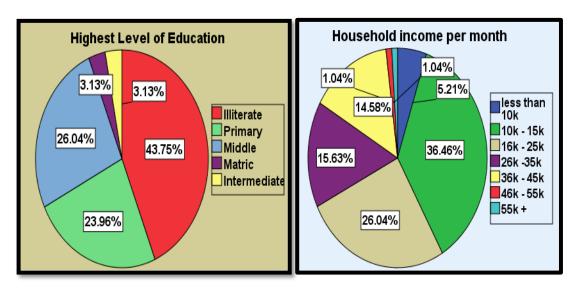
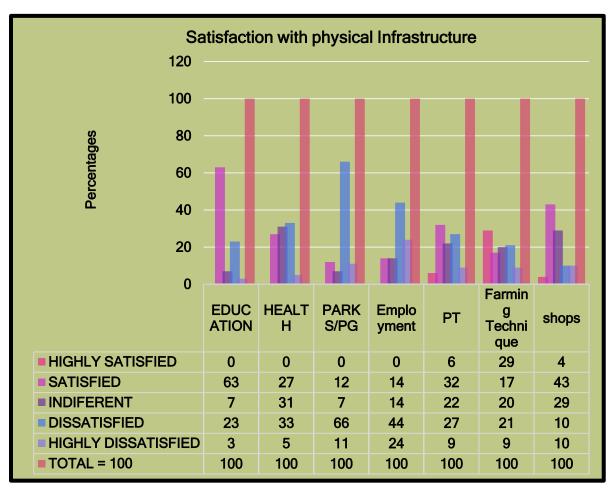


Figure 12 Descriptive Statistics

The graphical representation of some basic parameters clearly define the issued prevailing I rural areas. In the other graph of Social and physical infrastructure mostly people are dissatisfied with services like health, education etc. because there were no any health units provide in such areas which allow people to travel long towards city center to get better treatment and health measures.

Beside this the solid waste management and sewage system are also making an abrupt situation for residents, as the garbage thrown in agricultural land which create land pollution as well.

After highlighting such issues through this interpretation an appropriate approaches have been design to get the solution of above problems that help to provide a livelihood and economic boost.



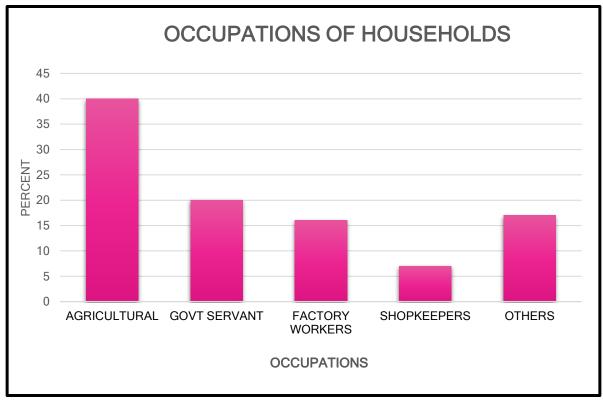


Figure 13 Data Analysis

5 Design Proposals

The proposal is design as conferring to the current rural areas situation which is highly depresses due to scarce availability of resources to the villagers which insist them to migrate towards economic city centers.

The proposal have been cover social and physical infrastructure to uplift the environmental and economic activities of village areas it includes

Infrastructure development, Housing design and Martials and innovative concepts for water supply and waste water treatments

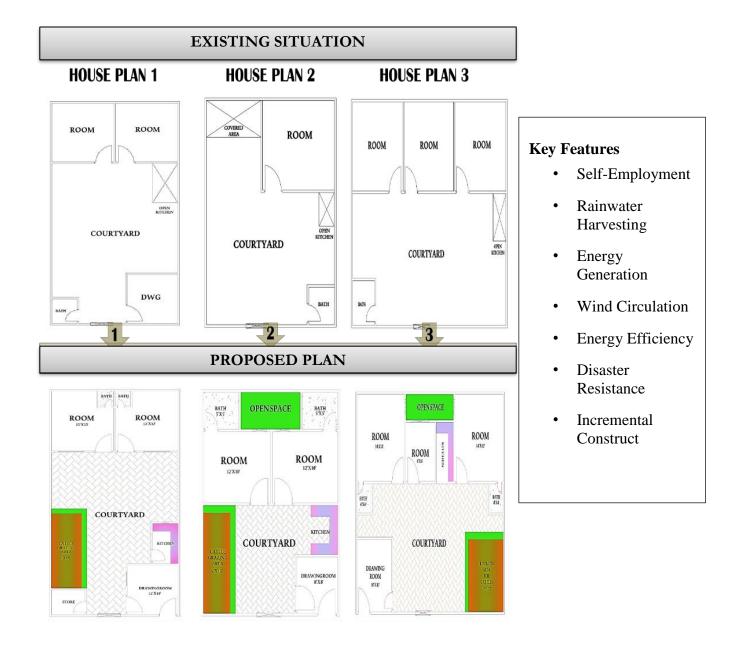


Figure 14 Measures to upgrade physical infrastructure

5.1 Proposed Designs for House Layout

This figure shows the house plan that have be proposed with help of mental maps and through people opinion

It also shows the existing picture of rural house plans as it is revealed that layout of rural house is inappropriate due to which people have to face many problems like unhygienic conditions etc. moreover there were no any specific place for their cattle's ,in this plan all issues are fully incorporated,



5.1.1 Design Alternative



Figure 15 Alternative Design

5.2 Incremental Construction Process

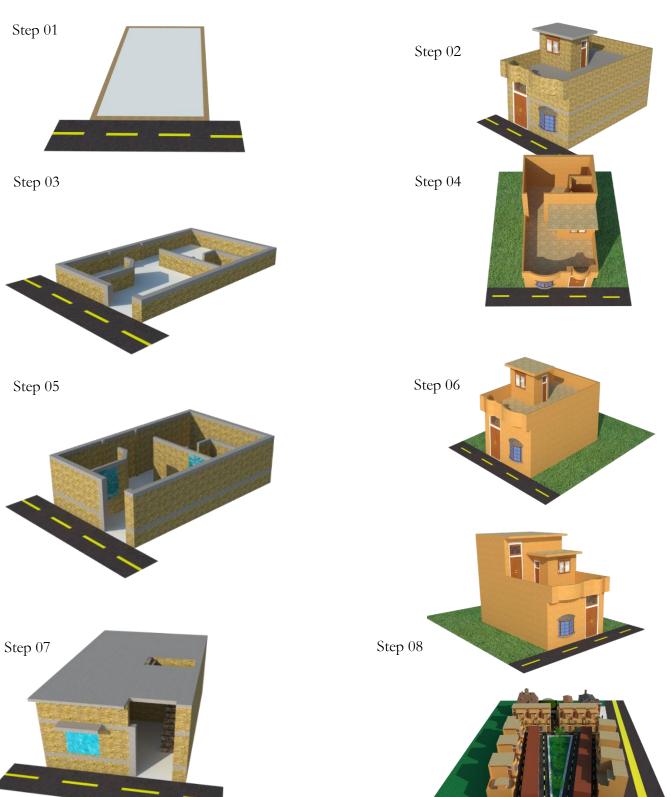


Figure 16 Incremental construction Phases

5.2.1 Framework for Incremental Housing Construction

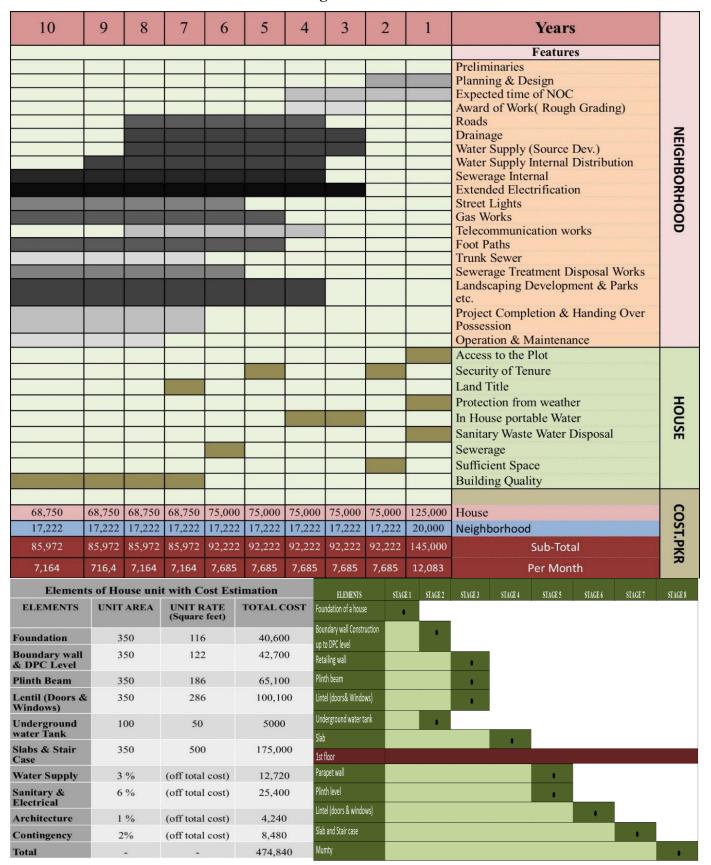
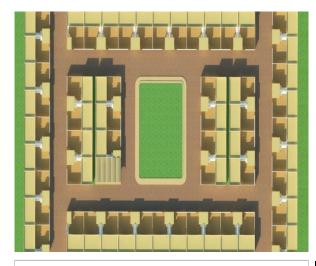
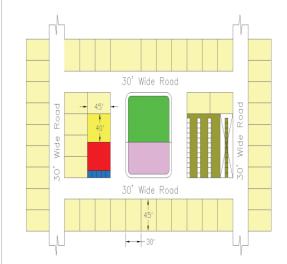


Figure 17 Construction Framework

5.3 Model Housing Scheme Design







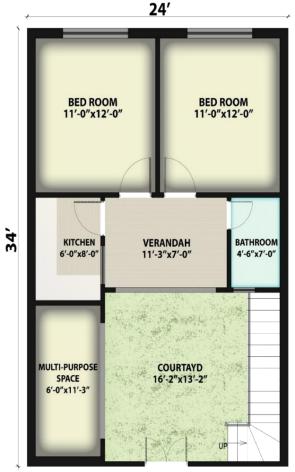
LAND USES		TOTAL #	DIMENSIONS	AREA IN KANAL	AREA IN SQFT
Houses		45-50	30' x 45'	11.15	60750
Commercial Shops		5	10' x 10'	0.09	500
Park		1	60 x 80'	0.88	4800
Community Center		1	40' x 70'	0.57	3150
Masjid		1	45' x 40'	0.33	1800
School		1	45' x 40'	0.33	1800
Animal's Compound		1	90' x 90'	1.48	8100





Figure 18 Layout plan of 50 Houses Design

5.3.1 Plan For Rural House Design



PROPOSED LAYOUT OF 3-MARLA HOUSING UNIT

Figure 19 Proposed House layout for Modal villages

Area with Cost 3 MARLA HOUSE

588 sq. ft. Covered Area 588 sq. ft. x Rs.1225= 997,350 Rupees Total Cost= 1,116,350 Rupees

ARCHITECTURAL FEATURES

- 2 Bedrooms
- Covered Kitchen
- Verandah
- Multi-Purpose Area
- Workshop / Shop
- Grain Storage Animal Bara Open Courtyard

Table 1 Construction Cost Estimation

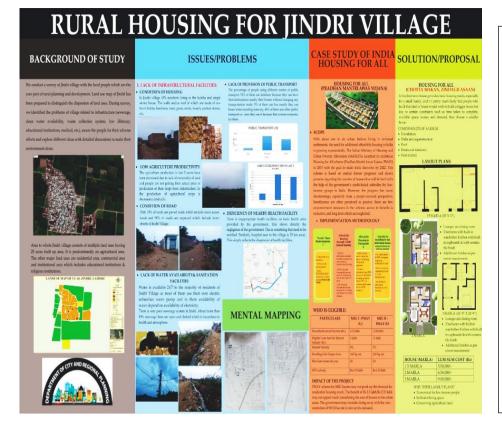
PHASE	Covered Area in SFT	Provision	Cost in Lakh With	Cost in Lakhs With
Initial	415	Core Unit	Concrete 4.5	Pre-cast
1st Increment	585	2 nd room added	1.8	1.5
2 nd Increment	695	Shop area included	1	0.75
			7.3	6.25





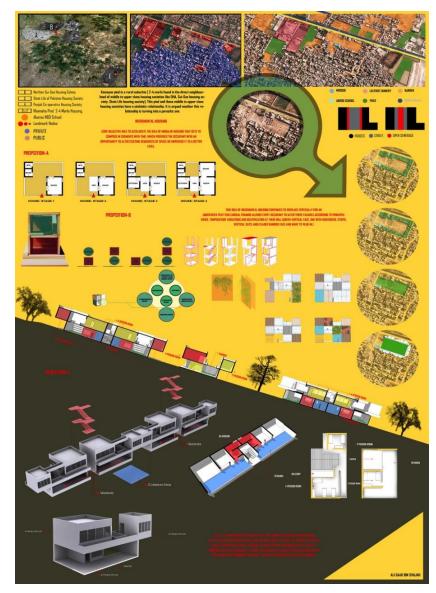
This poster shows the rural planning development of Village Nabi Baksh Content of posters are as following:

- Introduction to village
- Methodology
- SWOT
- Data Analysis
- Rural Development
 Plans



This poster shows the rural planning development of Village Jindri Content of posters are as following:

- Introduction to village
- Case studies
- Problems
- Methodology
- Proposals



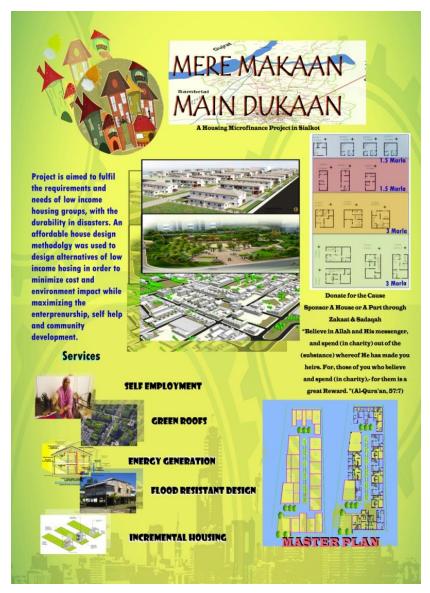


Figure 20 Poster Design for selected Rural Areas



Figure 21 Proposal to design container housing

6.1 Material Used To Build Rural Houses

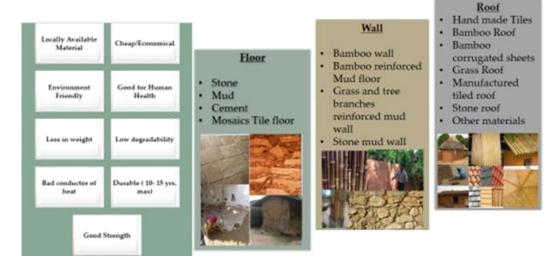


Figure 22 Material used to build rural houses in rural Areas

7 Conclusion

Rural planning is as significant as urban planning. Throughout this detailed study, we accomplish that there is constantly a gap between rural & urban areas in terms of their policies & strategies for future development. Due to lack of coordination between the concerning departments and, negligence in developing rural areas, they are not very much technologically advanced due to which they are more vulnerable and couldn't get as much consideration as urban areas in development. Moreover rural areas are not attaining their equal rights as compared to urban areas due to political & other interventions. It has to be changed by the time in order to stop increasing urbanization and because maximum agricultural production is concerned with our villages, so there is need to have strong development emphasis on our rural areas for healthy growth and prosperity for the community as a whole.

To achieve the overall objective of this project there is need to have cross sectorial approach and integrate the development in all sector including education, health, physical infrastructure, social infrastructure and economic sectors. The results will be indeed better-quality life of the people of villages.

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Annexure A Survey Questionnaire