

Chandlai Village Jaipur- A Study Of Sustainable Development & Research Approach Towards Smart Village

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ABSTRACT:

For sustainable development of India it is necessary to make smart & technology driven rural area. As we all know that “India lives in villages” said by Mahatma Gandhi.

The research was conducted in the village period of 2018-2019 & it covers the experiences and findings including economic needs, social structure, community relationships & cultural values of the village in term of the sociology & architecture.

This study explores the social, environmental & economic structure of the village through household survey with the help of statically analysis. It focuses on the self-sustainable & self-reliant (Aatm Nirbhar Bharat) rural India.

The government also implements so many schemes for upliftment and designing/developing smart villages, so that people from rural India can also benefitted by the smart standard of living. This research explores that majority of people in this village migrating to the urban area for the employment, education & other basic services. So, with the help of local governance & smart village concept we can reduce the out-migration rate of the village.

This research propose an approach towards smart village which will be the example for the other villages for sustainable development towards smart future including good governance, smart technology, natural resources, basic amenities, services, infrastructure & tourism.

Chandlai Lake is the key element of the village which can create eco-tourism & will generate the employment for the villagers in many ways. For the photographers and the wildlife lovers, Chandlai Lake is like heaven which provides beautiful surroundings, greenery, a huge water body natural habitat & its beauty.

Key Words: Sustainable Development, Social, Environmental, Economic, Structure, Smart, Village, Technology, Chandlai Lake etc.

INTRODUCTION:

Chandlai Village is located in Chaksu Tehsil, District Jaipur, and Rajasthan. The population of Chandlai village is approximately between 7000 - 8000 people, where the ratio of girl: boy is 75:100.



Google map - Show Chandlai Lake and Village Population density.

SOCIAL STRUCTURE:

- The average income of people residing in the village is below poverty line that is around Rs.10,000/- per year. Agriculture is the major occupation of people. Majority of population of the village are Hindus whereas in minority are Muslims.
- The Jains of the village majorly shifted to Jaipur for business as it was more profitable in the city compared to the village.
- The village consists of 40% joint family. The houses are built under the Indra Avas Yojna Scheme in 1985.
- Houses here are 5% Vernacular whereas 95% of the houses are built of concrete. Maximum no. of floors of houses is 1 or 2.

OTHER FACTS:

- Major landmarks of the village are Chandlai Lake, Ramsagar Dam and Chota Talab.
- Shailendra Singh Rajawat is the Sarpanch of the Village. (24/01/2015)
- Satya Narayan Sharma is the Motivator.
- Vegetables are imported in the village from Mohana Mandi.
- Handicrafts such as making of Lakh bangles was majorly done years before but as it was not profitable it is not done on a large scale now. Various shops are attached to the houses only.

SOCIAL INFRASTRUCTURE:

- There is a Public toilet but only for gents.
- An ATM is also available of Punjab National Bank.
- Water facility such as RO plant is also available in the village. Water supply for irrigation is done through dam.
- 3 Primary schools in different nearby settlement known as Dhani
- 5-6 private schools
- Growing Palace School (Play School)
- Hospital – PHC (Government Hospital)
- Ayurveda Hospital (Government Hospital)
- Veterinary Hospital
- For Emergency- Jaipur
- Medical Store- 2 (within 1km of Gram Panchayat Office)
- Schools- Senior secondary school
- Sanskrit Middle school (till 8th class)
- Major festivals celebrated in the village are Shitla Ashtmi and Gudri ka Mela second day of Shitla Ashtmi. Dussehra is also a prominent festival.

PHYSICAL INFRASTRUCTURE:

- A power house is situated in Shivdaspura but it is the land of Chandlai.
- Sewage and Rainwater is collected at pond near bus stand.

CONNECTIVITY TO THE CITY:

- Bus Stand – Shivdaspura (3 km away from Chandlai)
- Railway Station- Shivdaspura
- There is no public transport available in the village.
- Villagers travel by their own vehicles or by taking lift from others.

METHODOLOGY FOR STUDY:

The data collected for the study on the basis of demography, social structure of the village/Society, economic aspect, Infrastructure, Climatic & Natural Resources etc. Primary data directly collected from introduction with villagers during household surveys & secondary data collected from the Gram Panchyat Office, Sarpanch & Anganbadi office. The data analysis is done through statistical tools like Graphs, Charts and Percentages of the data. The data analysis on the basis of the caste, Sex-Ratio, occupation, literacy level, Infrastructure, road electricity etc. of the village.

AIM & OBJECTIVE OF THE PROJECT:

- The aim of the project is to have a sustainable development of Chandlai Village and research approach to make smart village.
- To provide the smart system of education, Basic infrastructure facilities, Urban mobility, Smart Technology, Health care facilities, Energy & Smart Agriculture system to enhance the Indian Economy & reduce the Urbanization.
- To provide training center for knowledge sharing programs on five basic pillars of Self Reliant India (Aatma Nirbhar Bharat):-
 - a. Economic
 - b. Infrastructure
 - c. Technology Driven System
 - d. Vibrant Demography
 - e. Demand & Supply chain
- To ensure that the village has all the smart sustainable development features like Sanitation, safe drinking water facilities, Proper internal roads along with tree plantation, water conservation, Economic independency & improve farm productivity of the village.
- To provide the Social, Environmental & Economic growth of the village to enhance the mutual participation of Governance, technology, resources, living condition & tourism with the implementation of the ITC (Information & Communications Technology) & GIS (Geographic Information System).
- To minimize the urban population growth and urban slums due to migration of people from rural to urban areas by creating employment opportunities in village.

SCOPE OF THE PROJECT: Chandlai Lake is the inland water body just 2 km before Chandlai toll plaza. It is 140 years old lake said by locals & it is one of hidden lake of the Jaipur city. The Chandlai Lake grows a special type of algae which serve as an amazing appetite to the birds. Chandlai Lake invites approximate 10,000 different species of migratory birds including Pied Avocet, Pallas’s Gul, Ruddy Shelduck and the White Wagtail etc. For the photographers and the wildlife people Chandlai Lake is like heaven which gives beautiful surroundings, greenery, huge water body & natural refreshing & soothing breeze. Best time to visit this place is chilly winters in December.



Chandlai Lake Views



Chandlai Lake Views

(Source: Jaipur stuff)



(Source: Jaipur stuff)

SOCIAL STRUCTURE OF VILLAGE:

Ward description of the village: Gram Panchayat of Chandlai consists of 13 Wards in the village; Following are the wards in Chandlai village as given below:

- Ward 1: Khatiyo ka mohalla
Jatt ka mohalla
Meena ka mohalla
- Ward 2: Raigro ka mohalla
- Ward 3: Raigro ka mohalla
Harijans ka mohalla
- Ward 4: Jogiyo ka mohalla
Jain ka mohalla
- Ward 5: Bohro ka mohalla
- Ward 6: Brahanaman ka mohalla
Bagra ka mohalla
- Ward 7: Khatique ka mohalla
Goro ka baas
- Ward 8: Pairo ka Dhani (Karra ki Dhani)
- Ward 9: Khadi gramudyog (Satyavihar Colony/ New Chandlai Nagar)
- Ward 10: Pairo ka Dhani
- Ward 11: Panchaliyo ka baas
Mehtao ka baag
- Ward 12: Muslim ka mohalla
Rajput ka mohalla (Bada Rawda)
- Ward 13: Maaliyo ka mohalla

DETAILED STUDY ABOUT THE WARDS: This study includes Social & Economic Status, types of Houses, Transport System, Religion, Source of Income, Education Qualification, Infrastructure, Demography and Basic Services- Sanitation & Water Supply of the Village with the help of statistical tools.

Ward 1:Khatiyo ka mohalla

Jatt ka mohalla

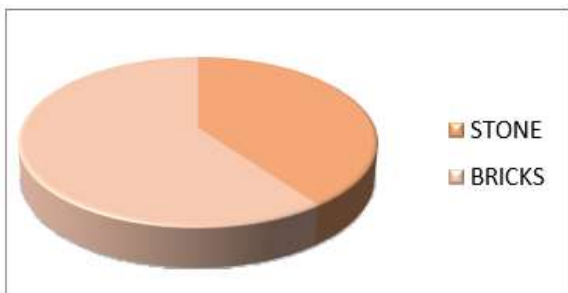
Meena ka mohalla

Ward 2:Raigro ka mohalla

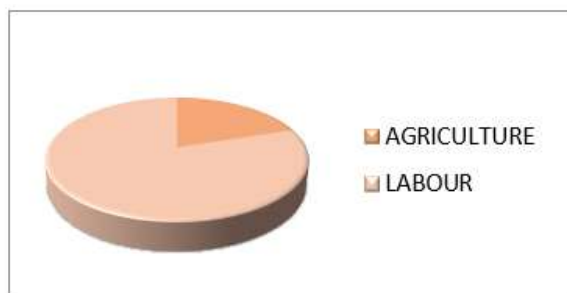
Details about Ward 1st & Ward 2nd: It is located near Jagdmba shairo wali Mandir, Chandlai, Jaipur. All people have their own house in that area. Their main source of living is majorly labor work and minor on agriculture.

Basic needs like: The quality of water supplied for drinking is unfit and not appropriate. Electricity cutoff of approx. of 5hrs in a day is there. Almost 95% people have toilets in their house. 50% people didn't have kitchen. They make food in open area like verandah. Language spoken by people of Chandlai is their Regional language and Hindi.

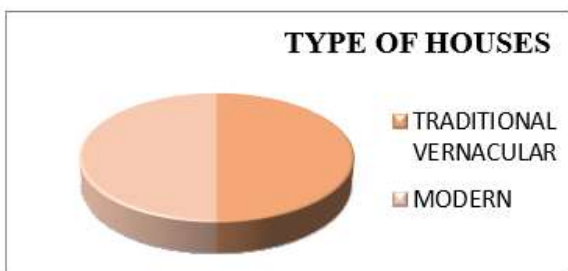
MATERIALS USED IN HOUSE



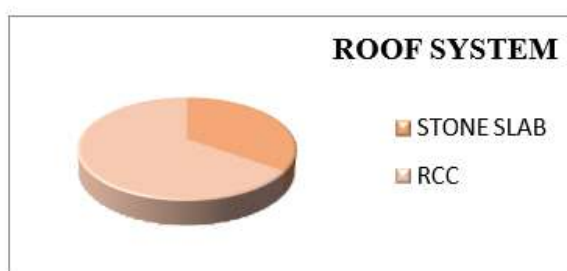
MAJOR SOURCE OF INCOME



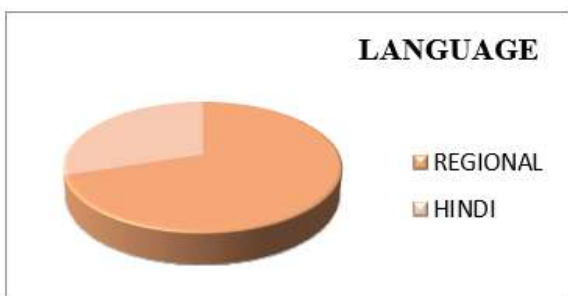
TYPE OF HOUSES



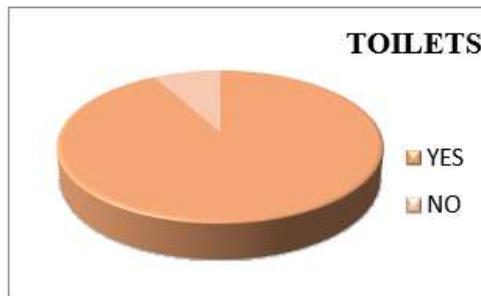
ROOF SYSTEM



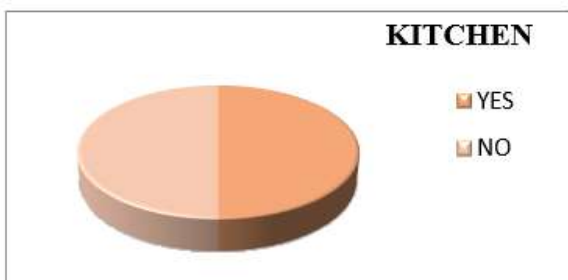
LANGUAGE



TOILETS



KITCHEN



Ward 3: Raigro ka mohalla

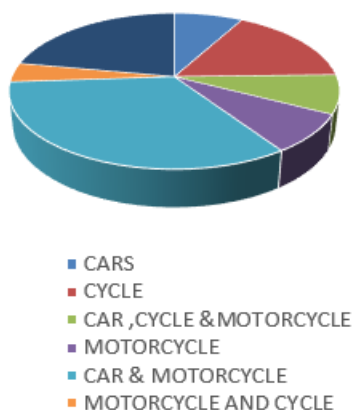
Harijans ka mohalla

Details about Ward 3rd:

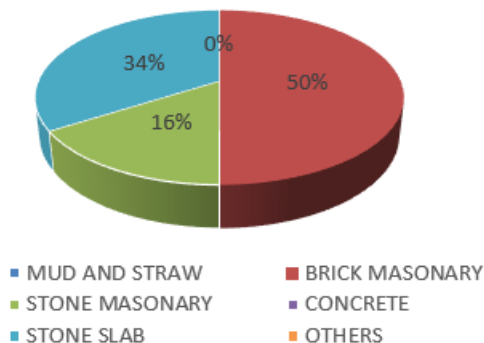
- The houses in this village consisted of people of all ages. In most households the age of people varied with 22% old people who are above the age of 45 years, 41% of adults ranging between the age of 21-45 and 37% of total were children.
- The people of the village used personal and private modes of transportation for commuting to nearby or far of places. The vehicles used were motor bikes and bicycles (4%), cars and motor cycle (33%), car cycle and motor cycle (8%) and others (22%).
- The people have been living in this village for 80 years. But the newly constructed houses are made up of brick, cement and concrete. A very few houses could be seen made up of stone. The village had a huge amount of people lying above poverty line having a percentage of 75 which includes a few people having annual income of 1 lakh and above, and only 25% lying below poverty line.

- The village population was broadly divided into Hindus and Muslims. But houses in this ward consisted of all Hindus only. The people were indulged in different activities for income which included agriculture (8%), government job (25%), private company (17%) and other activities (50%).

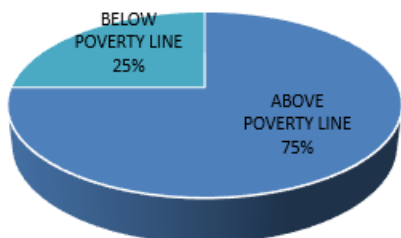
MODE OF TRANSPORT



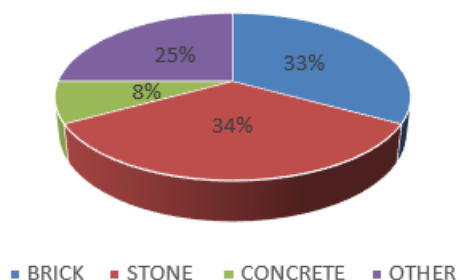
ROOF



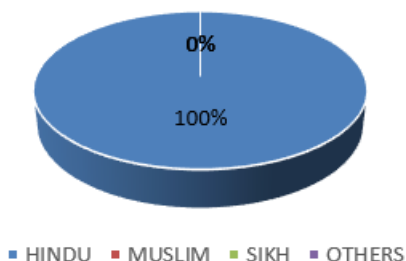
POVERTY LINE



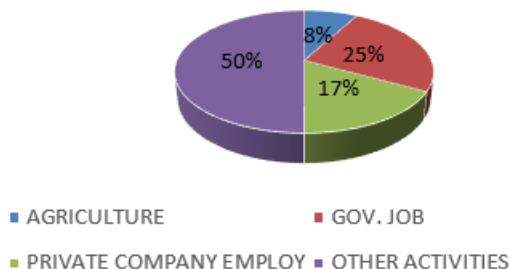
FLOORING



RELIGION



SOURCE OF INCOME



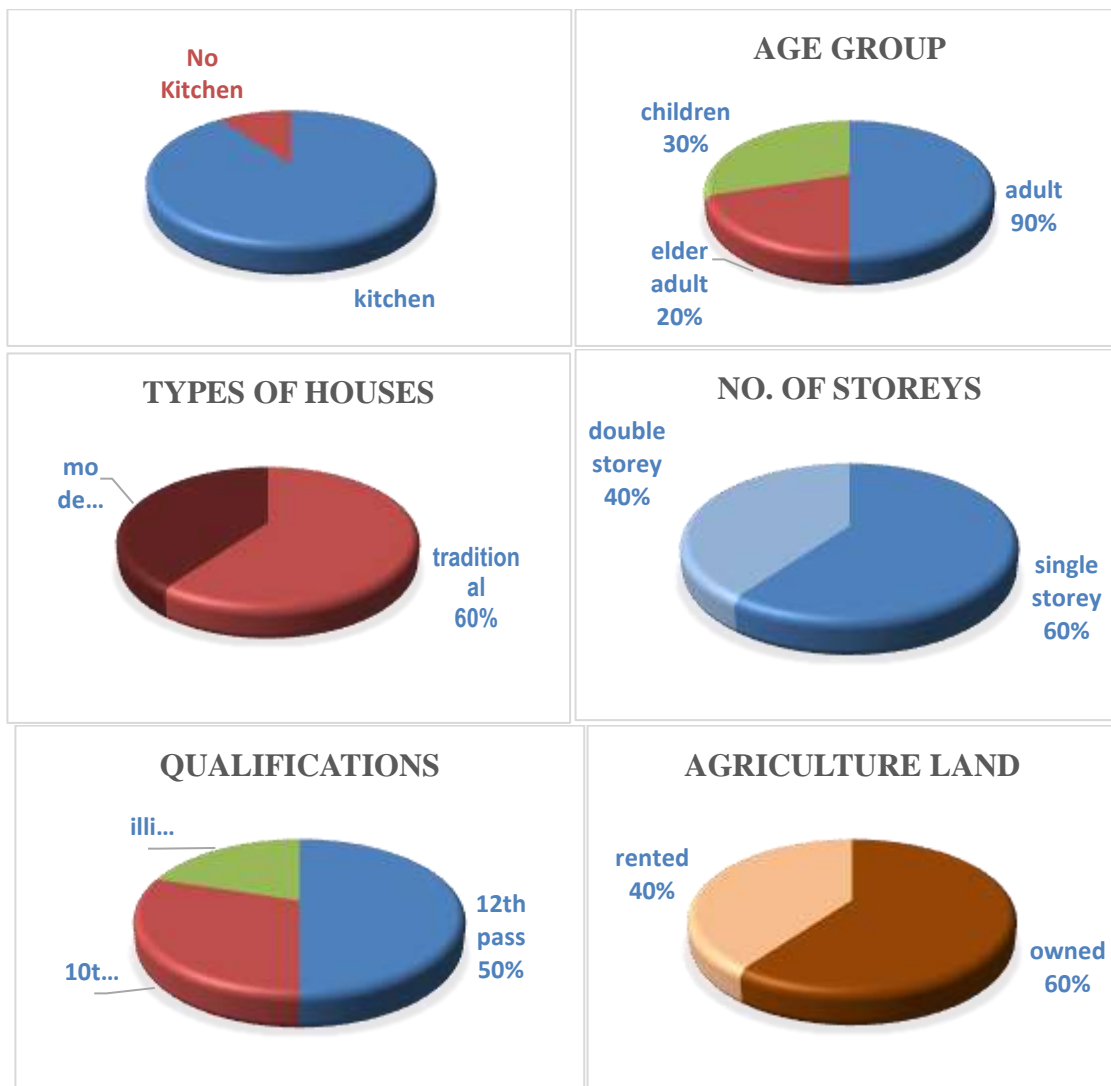
Ward 4: Jogiyo ka mohalla

Jain ka mohalla

Detail about Ward 4th:

Jogiyo ka Mohalla is located nearby shiv mandir Chandlai, Jaipur, Rajasthan. The street starts from at a distance of 500 m from their govt. school and hospital.

There are 13 houses in that street further leading to another street. Most of the houses there were modern and newly built with materials such as concrete, stone and brick masonry. Occupation of people their varied from owning a shop to being a private sector employee and thus their annual income was decent. Literacy factor was seen well among people as most of them were under graduate, and up to 10th pass if not. Almost 90% people had their own agriculture land and houses. There were no such major issues of electricity and water supply as it was provided well enough.



Ward 7:Khatique ka mohalla

Goro ka baas

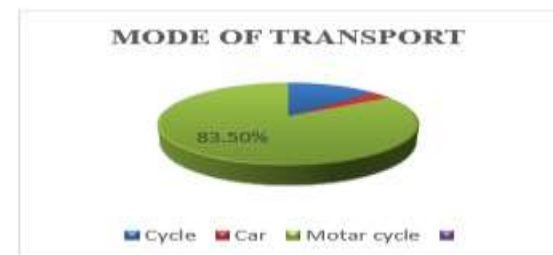
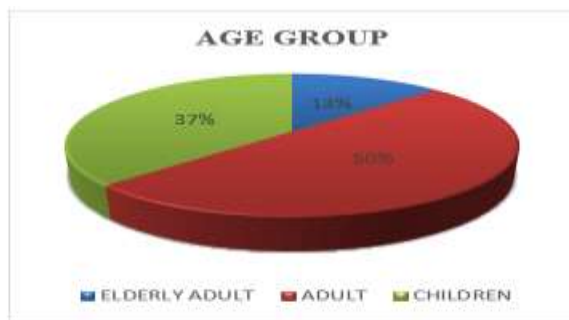
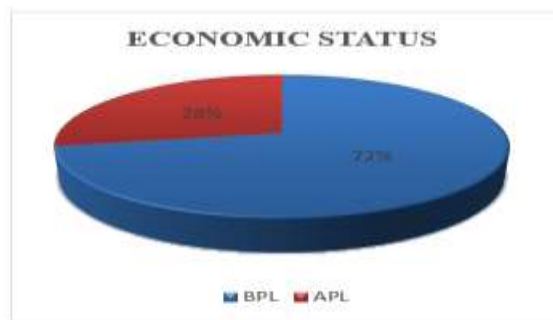
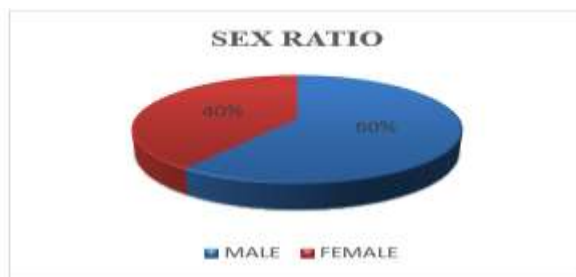
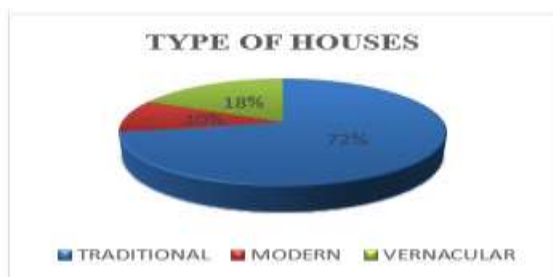
Detail about Ward 7th:

There were basically 3 types of houses traditional, modern and vernacular out of which traditional houses were majorly found. Whereas modern house were 10% and vernacular were 18%.

- **Traditional Houses:** Courtyard planning & Large open spaces. Washrooms were not connected to the inside spaces of the house. Houses were around 60-70 years old from construction. Standards are not followed according to modern times. White washed walls.
- **Vernacular Houses:** Concrete flooring Simple planning Maximum of two rooms No separate kitchen few house had washroom and few didn't .Single floor houses. Basically based on local needs availability of construction material.
- **Modern Houses:** House was planned proper .Proper flooring and plastered walls. Separate spaces for different functions. Tile floorings were there in most of the houses .Painted walls. Finished walls and floorings. Proper fixtures

Brief about 7th ward:

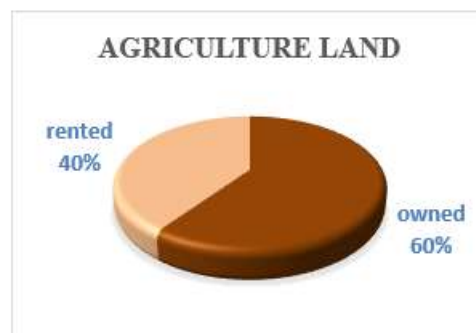
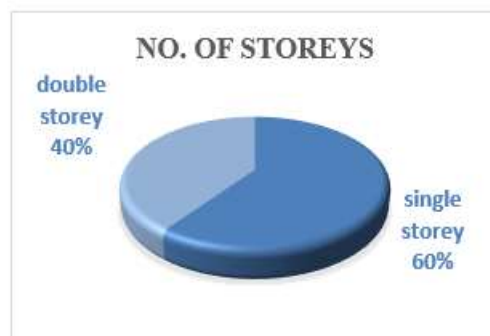
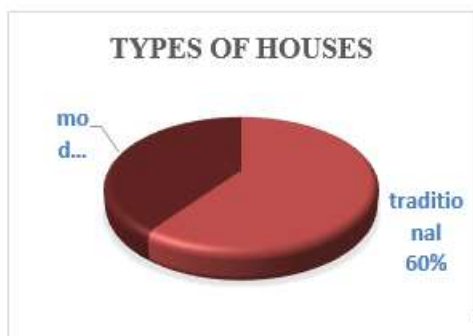
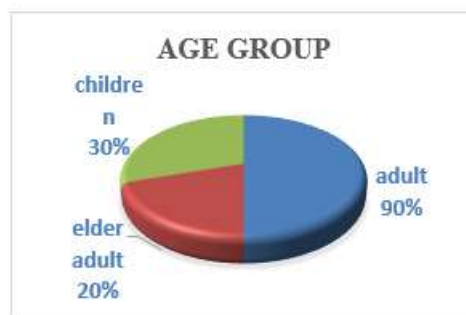
- Nearest School: 50 m
- Bus stop: 100 m
- No public transportation available in the village
- Railway station: shivdaspura 3 km away
- Total population: 275 people
- Sex ratio that is the male: female ratio of the ward was found out to be male 60% of the population whereas female 40% of the population
- Languages broadly divided into English, Hindi and Regional .The village had a huge Amount of people speaking regional language.
- The people of the village used personal and private modes of transportation for commuting to nearby or far places. The vehicles used were mortar bikes and bicycles and car as well.



Ward 11: Panchaliyo ka baas

Mehtao ka baag

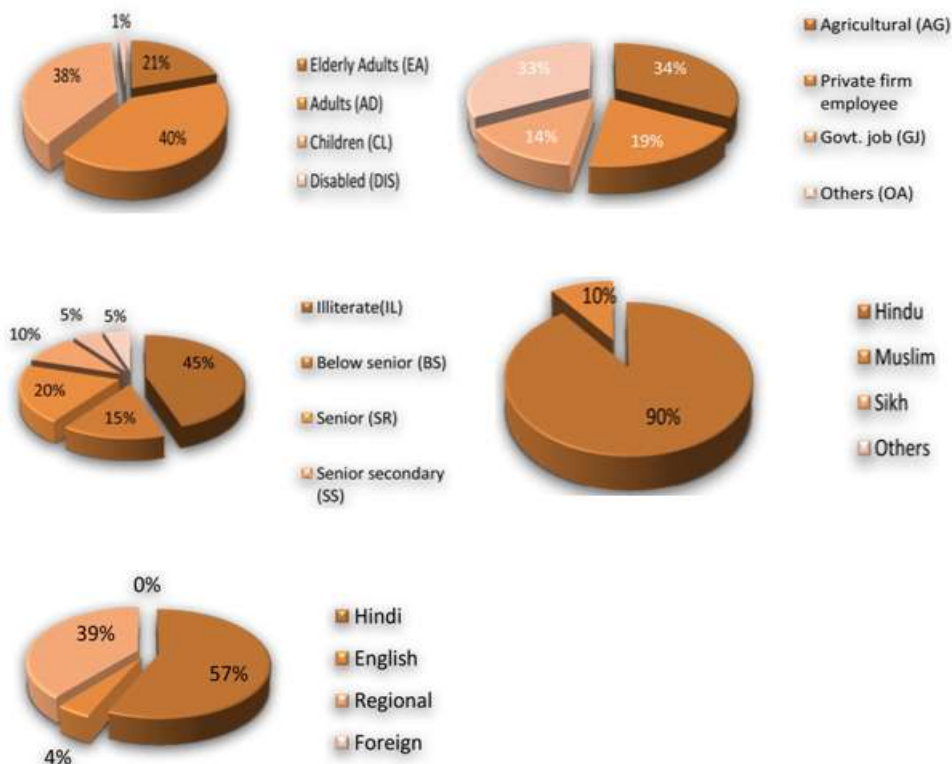
Brief About 11th ward: The Street was at a distance of 800 m from govt. school and hospital. There are 11 houses in that street. Most of the houses there were traditional and old and only few were modern. Materials used were cement flooring, concrete, stone slab roofing and brick masonry as well. Occupation of people there was agriculture and only few were in govt. /private sector as they were the only literate people there. People had their own houses and agriculture land. Water quality and electricity failure was a major issue people faced.



Ward 12: Muslim ka mohalla

Rajput ka mohalla (Bada Rawda)

Brief About 12th ward: All the families are above poverty line. Majority of the families settled at the village 60 years ago and the lands were passed down. Majority of the houses consist of just a ground floor level while a very few were able to afford a floor above. Almost 35% of them owned agricultural land as their main source of income is farming. Majority of the houses were traditional vernacular and the most widely used materials were stones, slabs and bricks. 30% of the residing families did not own proper sanitary toilets and bathrooms. 40% of the residing families did not have a proper kitchen thus resulting in cooking in an open fire place.



Ward 13: Maaliyo ka mohalla

Brief About 13th ward: All the houses were owned by the people. Averages of 5 rooms were there in houses & 70% houses had toilets. Bricks and concrete were the majorly used materials for houses. All the houses had flat roof. More than 60% were below poverty line. All the houses were 40 to 50 years old. Cemented flooring was there. Very few houses had kitchen. No availability of vehicles in case of emergency to reach Jaipur. Only 5% ladies are working in agricultural activity and 95% are housewife. Due to the quality of water being poor in the village, people had to buy fresh RO water.



INFERENCES/FINDINGS THROUGH SURVEY:

RESIDENTIAL LEVEL:

- Proper sanitary methods and spaces need to be adopted for the well-being of the villagers.
- Proper kitchens must be added to the existing residential structures, as it would be more convenient for any type of weather conditions.
- Pakka roof structures such as concrete roofs need to be installed, as the existing temporary roofs in some houses pose a threat as it's more likely to collapse.
- Fixed timing of water supply, sometimes failure of supply on timing.
- Water is contaminated with fluoride content.
- Bus stand is far away.
- Lack of public transport.
- Poor condition of roads, leakage of drainage pipes running across the road.
- Some houses have no proper steps on entry to the plinth level. We have to cross drainage to enter.
- Solid waste management is poor.
-

VILLAGE PLANNING LEVEL:

- Public gathering points should be constructed as a meeting for the villagers.
- Proper recreational spaces should be constructed for the villagers.
- Proper methods for cleaning and maintenance of the lake should be adopted.
- Roads should be widened and properly maintained to allow entry of larger vehicles inside the village.
- Widening the roads can also help in promoting tourism as the nearby lake can prove to be a good tourism attraction.

Photographs was taken During Survey of Chandlai Village



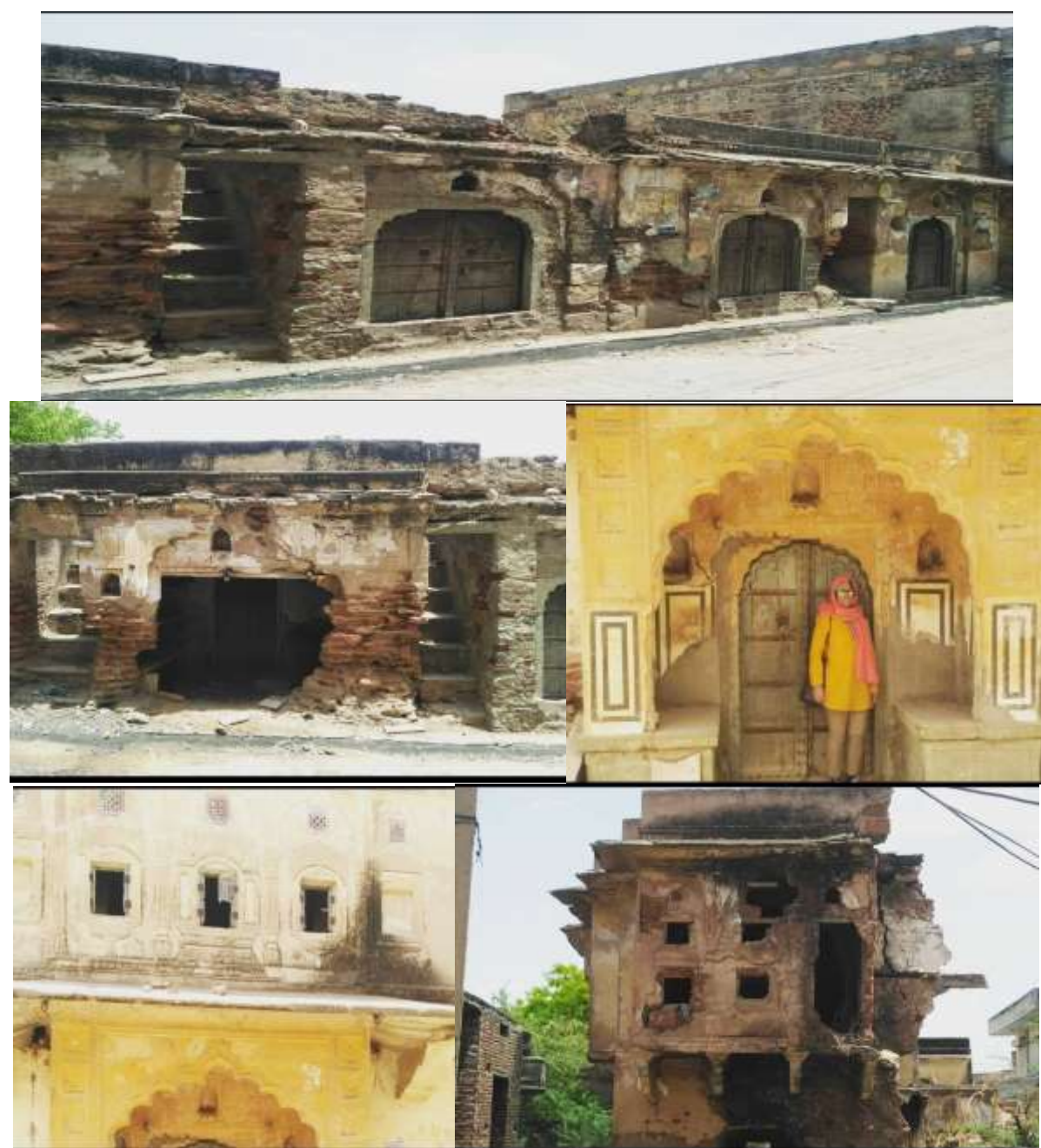
Door to Door people interactions during village survey, Chandlai



Door to Door people interactions during village survey, Chandlai



Some of Old Ruined Havelies Photographs was taken During Survey of Chandlai Village



Photographs taken During Survey of Chandlai Village



Primary Health Centre, Chandlai



Shiv Temple at Village Chowk, Chandlai



Adarsh Vidhya Mandir Sr. Secondary School, Chandlai



Government Ayurveda Health Centre, Chandlai



Panchyat Bhawan, Chandlai



Old Residences converting into Shops, Chandlai



Village Streets & Tea Stall, Chandlai



Cooperative Banking Facilities & Dairy, Chandlai

Some of the Lake Photographs was taken During Survey of Chandlai Village



Entry of the Village, Chandlai



Water Resource Department, Chandlai



Water Logged Area near Lake, Chandlai

CONCLUSION:

The study of Chandlai Village in Jaipur highlights the pressing need for sustainable development in rural India and underscores the government's initiatives for smart villages. The research, conducted between 2018 and 2019, aimed to comprehensively understand the economic needs, social structure, community relationships, and cultural values within

Chandlai Village. It also proposed a model for transforming the village into a self-sustaining and self-reliant smart village.

Key findings from the study include the migration of many villagers to urban areas in search of employment and education opportunities, as well as the untapped potential of Chandlai Lake for eco-tourism and employment generation.

The study's objectives encompassed a wide range of areas, including education, infrastructure, urban mobility, technology, healthcare, energy, and agriculture, all with the aim of boosting the local economy and reducing urbanization. It proposed the establishment of training centers for knowledge sharing on the five pillars of self-reliant India.

At the heart of the project is the aspiration to improve the village's quality of life, which includes enhancing sanitation, water supply, road infrastructure, and economic independence. The project also seeks to foster social, environmental, and economic growth through the strategic use of information and communication technology (ICT) and geographic information systems (GIS). One critical goal is to curb urban population growth and migration by creating employment opportunities within the village.

The scope of the project extends to the potential of Chandlai Lake, seen as a valuable natural asset that could drive eco-tourism and provide employment opportunities for villagers. The village's social structure, divided into 13 wards, has been comprehensively studied, revealing unique characteristics and demographics in each.

Throughout the study, numerous issues were identified, ranging from residential concerns such as sanitation and housing quality to village-level challenges including transportation, waste management, and infrastructure.

In summary, the study of Chandlai Village serves as a comprehensive exploration of the village's current state, challenges, and potential for transformation into a sustainable and smart community. The research provides valuable insights and recommendations for addressing critical issues and fostering holistic development in rural India.

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