DETAIL PROJECT REPORT

VISHWAKARMA YOJNA: VIII
AN APPROACH TOWARDS RURBANISATION

ILAV Village
BHARUCH District

PREPARED BY

STUDENT NAME	BRANCH NAME	ENROLLMENT NO
SARAIYA ZEEL RAJENDRA	CIVIL	180063106101
TAILOR ASHISH SHAILESHBHI	CIVIL	180063106118

COLLEGE NAME : BHAGWAN MAHAVIR COLLGE OF ENGINERRING & TECHNOLOGY

Asst. Prof. DIXIT CHAUHAN
Assistant Professor Civil Engineering Department BMCET,
Bharthana, Surat

YEAR:2020-21

GUJARAT TECHNOLOGICAL UNIVERSITY
Chandkheda,Ahmedabad– 382424 Gujarat

DETAIL PROJECT REPORT

ON

Vishwakarma Yojana: Phase VIII

AN APPROACH TOWARDS RURBANISATION

ILAV Village
BHARUCH District

Prepared By

STUDENT NAME	BRANCH NAME	ENROLLMENT NO
SARAIYA ZEEL RAJENDRA	CIVIL	180063106101
TAILOR ASHISH SHAILESHBHAI	CIVIL	180063106118

COLLEGE NAME : BHAGWAN MAHAVIR COLLGE OF ENGINERRING & TECHNOLOGY

Asst Prof. DIXIT CHAUHAN
Assistant Professor Civil Engineering Department BMCET,
Bharthana, Surat

Year: 2020-21

Gujarat Technological University,
Chandkheda, Ahmedabad– 382424 Gujarat

CERTIFICATE

This is to certify that the following students of Degree/ Diploma Engineering successfully submitted

Detail Project Report for

VILLAGE: - ILAV

DISTRICT:-BHARUCH

Under

Vishwakarma Yojana: Phase-VIII

in partial fulfillment of the project offered by

GUJARAT TECHNOLOGICAL UNIVERSITY, CHANDKHEDA

during the academic year 2020-21

This project work has been carried out by them under our supervision and guidance.

NAME	BRANCH NAME	ENROLLMENT NO
Saraiya Zeel R.	Civil	180063106101
Tailor Ashish S.	Civil	180063106118

Date of Report Submission:	
Principal Name and Signature:	**Dr. Vineet Goel**
VY-Nodal Officer Name and Signature:	**Asst Prof. Dixit Chauhan**
Internal(Evaluator) Guide Name and Signature:	**Asst Prof. Dixit Chauhan**
College name:	**BHAGHWAN MAHAVIR COLLEGE OF ENGINEERING & TECHNOLOGY**
College Stamp:	

ABSTRACT

In India a Home for 133 corer People is among the fastest growing economies of the world, with more than 68.84% of the total population living in the core of 7 lake village.

These village have a very beautiful and attractive lifestyle, free from the hustle and bustle of a city life, providing peaceful, clam, and quite and a green environment. Today the world is growing rapidly and living standard of society are improving due to development in each every filed due to evolution of new affordable technologies world has become smaller and faster.

Due to lack of amenities peoples are moving from rural to urban area. The government of Gujarat lunched Vishwakarma Yojana which work for help and provide better solution for development of village. Under this scheme villages are surveyed, from survey identifying the problems of villagers and give solution of problems. By providing RURBANISATION is done. Village are developing as urban areas.

Our project is about development of appropriate facility and suggestion for up gradation of Ilav Village.

Ilav Village is located in Bharuch district, so it is essential to develop the village under the district for the growth of stat and also for the country. Population of village is 3201 and the area of village is 1420 hector. Despite availability of many infrastructural facilities, the growth in population has outpaced all efforts of development so far. Slow pace development in village and pursuit of better life style has led to huge migration from village to cities.

On the basis of collected data from techno-economic survey & smart village survey, we found GAP between existing facilities and required as per norms. For sustainable development we proposed some design in village which is not existing in the village.

Key Words: - Vishwakarma Yojana, Urbanization, Rurbanisation, Village Development, Infrastructures, Rural Development, Sustainable development

ACKNOWLEDGEMENT

We are highly indented to **Gujarat Technological University**, Ahmedabad for providing us such opportunity to work under Vishwakarma Yojana to get real work experience and applying our technical knowledge in the development of Villages.

We wish to express our deep sense of gratitude to **Prof.(Dr.)Navin Sheth**, **Hon'ble Vice Chancellor, Gujarat Technological University-Ahmedabad**, for his encouragement and giving us the wonderful project.

We also express our gratitude to **Dr. K.N.Kher**, **Registrar, Gujarat Technological University-Ahmedabad** for giving us complete support.

We express our sincere thanks to **Commissioner ate of Technical Education, Gujarat State** for appreciating and acknowledging our work.

We express our sincere thanks to **DDO, TDO, Sarpanch, Talatiand staff members of Ahmadabad** District for providing us with requisite data whenever we approached them. Especially our thanks are to all villagers and stake holders for their support during Survey.

We are also thankful to our **Prof**.(**Dr.)Vineet Goel Principal**, faculties of our colleges for their encouragement and support to complete this project work.

An act of gratitude is expressed to our internal guide / Evaluator / Nodal Officer, **Asst, Prof, Dixit Chauhan, from college Asst Prof. Dixit Chauhan** for their invaluable guidance, constant inspiration and active involvement in our project work.

We are also thankful to all the experts who provided us their valuable guidance during the work. We express our sincere thanks to, **Dr. Jayesh Deshkar, Hon'ble Director of Vishwakarma Yojana project and Principal, V.V.P Engineering College and Core Committee member of Vishwakarma Yojana project Prof(Dr.) Jigar Sevalia** ,Professor, SCET, Surat, **Prof. K.L.Timani,** Associate Professor, VGEC, **Prof.Rena Shukla**, Associate Professor, LD Engineering College, **Prof. Y.B.Bhavsar,** Associate Professor,VGEC, **Prof.Jagruti Shah**, Assistant Professor, BVM Engineering College for providing us technical knowledge of this project work.

We are also thankful to **Ms. Darshana Chauhan, Vishwakarmrma Yojana**, for all support during our work. We therefore, take this opportunity for this Project work expressing our deep gratitude and sincere thanks for her cooperation to produce this project work in the present form.

Above all we would like to thank our Parents, family members and Friends for their encouragement and support rendered in completion of the present this work.

CONTENT

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

Short Name	Full Name
GIS	Geographic information system
PMGSY	Pradhanmantri gram sadak Yojna
VY	Vishwakarma Yojna
KM	Kilometer
SAGY	Sansad Adarsh Gram Yojna
DDO	District Development Officer
TDO	Taluka Development Officer

Chapter 1: Ideal village visit from District of Gujarat State (Civil & Electrical Concept)

1.1 Background & Study Area Location

Baben village which is located about 34 km from Surat city, typifies development. Here villagers enjoy all the facilities that one living in the city enjoys. The 2-km road from Bardoli to Baben gives a commuter the feeling of passing through a highway this is because the village road is S12 meter wide and is well lit with street lights. This road has not been constructed with government money but the fund for it was raised through various Ingenious schemes by the villagers. "We take contributions from real estate developers who come to develop land and houses in the village and use that money to develop basic amenities for the residents of the village," said Baben gram panchayat Sarpanch Falguniben B. Patel. The village Panchayat collected Rs 3 crore in the past five years from the real estate developers and used that money on roads, street lights, a lake, public toilets, drainage and water system for the 15,000 people of Baben village. The village also has a degree and diploma engineering college, a school and number of restaurants.

A developer is charged Rs 2,000 per plot. The buyer of the plot too is charged the same amount by the Panchayat. Baben village got the best gram panchayat of the year award in 2011 from the state government. Baben village is a Bench mark for the development of other villages in India. These Baben village had received swarnim gram award in the year 2012 and a cash prize of Rs 45000000/-. It had also received many such awards from the year 2007-2016.The number of occupied people of Baben town is 6628 yet 8982 are non-working. And out of 6628 occupied individual 131 individuals are fully dependent on agriculture.

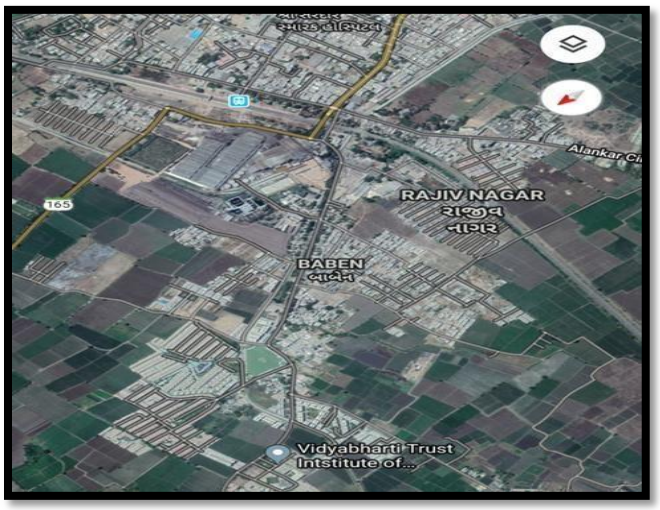


Fig.1 Map of Baben

Baben is a village panchayat located in the Surat district of Gujarat state, India. The latitude 21.1378786 and longitude 73.0966019 are the geo coordinate of the Baben. Gandhi nagar is the state capital for Baben village. It is located around 245.2 kilometer away from Baben.

Baben village, which is located some 35 km from Surat city, typifies development. Here villagers enjoy all the facilities that one living in the city does. The 2-km road from Bardoli to Baben gives a commuter the feeling of passing through a highway. This is because the village road is 12-meter-wide and is well lit with street lights.

1.2 CONCEPT OF IDEALVILLAGE

1.2.1 Objectives of Ideal Village

The Ideal Village Concept is a community village with a self – sustaining income producing projects, independent electrification system generated from non-fuel based device, clean water facility for drinking including water for irrigation, quality but affordable housings, school, medical facilities for human beings and animals, proper sanitation system, information center, bank, police station, retail outlet for household and agriculture needs, phone facility, connecting roads to nearby villages and towns, legal councilor.

Provide drinking water security through an integrated combination of pipe, local traditional water sources and multiple sources for alternative use. Conserve water through water resource management that includes rainwater harvesting and artificial recharge, conservation and renovation of traditional water sources Build effective community institutions at the local level by supporting capacity building and empowerment. Ensure that all community groups, including women, are able to participate in the decision-making processes and benefit from program improvements and Improve household and community environments with sanitation improvement and increased hygiene awareness in communities.

1.2.2 CASE STUDY OF IDEAL VILLAGE OFINDIA/GUJARAT

Urban or municipal infrastructure refers to hard infrastructure systems generally owned and operated by municipalities, such as streets, water distribution, and sewers. It may also include some of the facilities associated with soft infrastructure, such as parks, public pools and libraries.

Green infrastructure is a concept that highlights the importance of the natural environment in decisions about land use planning. In particular there is an emphasis on the "life support" functions provided by a network of natural ecosystems, with an emphasis on interconnectivity to support long-term sustainability. Examples include clean water and healthy soils, as well as the more anthropocentric functions such as recreation and providing shade and shelter in and around towns and cities. The concept can be extended to apply to the management of storm water runoff at the local level through the use of natural systems, or engineered systems that mimic natural systems, to treat polluted runoff.

1.2.3 THE IDEA OF AMODEL

1. Exposure visits are a very important training methodology as it enables the participants from a different setting to interact with and learn from each other, allowing them to view practical/real life situations of successful integration of sustainable practices in the said filed.
2. During this meeting broader information exchanges took place between the two groups, beyond the core topic. It was observed that all the participants were enthusiastic for learning and implementing their learning’s in their own village.
3. This visit was a step forward in the project as it was a real time experience for the participants on the struggle and hard work that goes into building a remarkable ideal village.

1.2.4 Ancient History Civil / Electrical concept about Indian Village /Foreign Countries Perspective and its Development

➢ **PUNSARI VILLAGE**

Punsari village is situated in sabarkantha Gujarat, Punsari is India's smartest village. The village is located 18km away from the Gandhinagar Punsari village has followed Panchyati raj system. The villagers used new and advanced technology in education. The panchayat provided Wi-Fi system for all people of the village. Punsari panchayat provided the facilities of local mineral water supply, sewer and drainage project, Health care center, Banking facilities, toll free complaint reception service

The village received award being the best gram panchayat of Gujarat. The village model has been appreciated by delegates from Nairobi and they are coming to replicate in the village of Kenya.

1.3 DETAIL STUDY

Socio economic

The Baben panchayat collect around 1.5 crore rupees as various tax funds from privet as well as government sectors the economic status of Baben gram panchayat is much better than others villages or rural areas. The various source of income is housing tax water tax, cleaning charge, Electricity bills, Taxes from Bardoli factory of sugar etc.

Various Taxes collected by the gram panchayat of Baben.

Table no. 1 Various taxes collected by Baben village

Sr no	Particular	Amount (Rs.)
1	Housing tax	30,65,820
2	Jilla panchayat tax	3,06,582
3	Electricity tax	82,700
4	Water tax	2,30,440
5	Cleaning tax	3,06,570
6	Income tax EC	36,64,630
7	Income tax RC	85,400
8	Sales tax	4,54,660

- **Physical, Demographic and infrastructures detail of ideal village**

fig. 2 village road of Baben

Baben is a village facilitated with bituminous and R.C.C. roads for main village roads as well as society streets. The roads are facilitated with sign boards, markings and signals for proper functioning of the vehicular traffic as well as pedestrian's traffic. The village is facilitated with 32 CCTV cameras for proper monitoring and protection from thefts, damages etc. to the village. The roads are also facilitated with proper street lights for 33night travel.

Pure Drinking Water for morning and evening peak hours is also provided door to door with the help of 6 over head water tanks which range from 15000L to 25000L which are cleaned at regular intervals to maintain hygienic conditions.

Along with the facility of pure drinking water the facility for the removal of waste water is also provided. Drainage network for the whole town is constructed from door to door and is connected to the main sewage line at Bardoli Taluka. Along with sewage disposal solid waste management is also given a wide importance and is collected from door to door with the help of 3 collecting vans and is given to the Bardoli Nagarpalika for disposal and treatment. 5publictoilets are also constructed with the help of government grant and by the fund collected from the local residents which had led the people to leave a better life than before. 24hrs electricity supply is also provide to the residents from GEB.

Fig.3 Water Tank of Baben

Fig. 4 Community Hall of Baben

Fig. 5 Public toilet of Baben

Fig.6 Entrance Gate of baben

Similarly, as social infrastructure Socio-Cultural Infrastructure Facilities are also essential for any village to compete with the urban area and any village must have all the above-mentioned facilities so that the residents of village may not get forced to migrate to the urban areas. If the village or panchayat is facilitated with all the above facilities people can leave in rural area with more comfort and ease.

The village Baben has all the socio-cultural facilities such as playground, library, garden, recreation facilities, community hall etc. A project named **AVADH LAKE CITY** has led the development of the village to a greater extent which is located in the central part of the village and works as a recreational hub for the residents as well as outsiders.

Fig. 7 Lake of Baben

Fig. 8 Aanganwadi of Baben

Fig. 9 Public Health Centre of Baben

Other than the above facilities 1 CNG Pump, 1 Petrol Pump, 12 Temples and 2 Masjids are also located in the premises of Baben. Which leads to the growth of town to a greater extent.

Fig. 10 CNG Pump of Baben

Fig. 11 Playgroups of Baben

Education: - They have hierarchy of educational facilities from pm-primary school to college. There are 7 pre-primary schools (Anganwadi), 1- primary school, 3- Schools and private college. Also, it is noted that there is 100% enrolment and 0% dropout ratio in schools. They have banned the tobacco, cigarette and other product in the 100-meter radius of school for better health of the student.

Facilities in government school:

- No. of students –961
- Teachers –25
- Play ground
- Filtered drinking water
- Computer lab

Demographical Detail: -

Table no. 2 :- Population Detail

Year	Population
1991	4900
2001	8377
2011	15610
2021	20965
2031	26320

1.4 SWOT ANALYSIS OF IDEALVILLAGE

SWOT Analysis is a useful technique for understanding your Strengths and Weaknesses, and for identifying both the Opportunities open to you and the Threats you face.

➢ Strengths

- Ponds and sidewalks
- Lake site
- Local businesses
- Schools and colleges
- Religious places (temples/masjid)
- Excellent water quality
- Easy access to highway
- Parking facilities
- Police /fire

➢ Weaknesses

- No facility of clubs for adults and seniors
- Need to upgrade village parks and playgrounds

➢ Opportunities

- Opportunity for more events in parks, ponds and open space
- Construction of public library
- Construction of movie theatre
- Opportunities for local business
- Redevelopment of vacant land
- Entertainment parks

➢ Threats

- Algae in ponds
- Accidents due to rough driving by college students
- High commercial rents

1.5 FUTURE PROSPECTS OF THE IDEALVILLAGE:

Baben village can be developed as an educational and recreational hub due to development of Avadh lake city and other upcoming infrastructure projects near the village and due to Vidyabharti college campus in the premises of Baben village. Local business and employment opportunities can also be improved with regards to increase in the physical and social development of the village.

Fig. 12 Collage Facilities: Vidhhyabharti Trust College

1.6 BENEFITS OF THE VISITS

Purpose:-

Fig. 13 Traffic Camera monitoring system

To study about the development as well as the infrastructure facilities of the villages which is an ideal village and can be considered as Benchmark for the development and growth of other villages which are developing or which needs development.

By visiting such villages, we students of civil engineering can understand about the actual development that a rural area needs to satisfy its basic infrastructure facilities and to compete with urban area and can implement these techniques and facilities for the development of other villages which actually needs development and can implement the same for the development of the villages which are allotted to us in Vishwakarma Yojana Phase-VIII as our final year project. After visiting the village, we came to know about the various facilities that can be provided in a village for Reurbanization of village and to reduce the migration of people from villages to city areas.

Fig. 14 Baroda Gujarat Garmin Bank

The sarpanch of Baben gram panchayat gave us a brief idea about the methods, techniques, strategies that muse be used for the development of any village and what plays an important role for the development of any village. As Baben has developed a lot during the year 2007 to 2016 we got a good knowledge related to rural development and general infrastructure facilities to be provided in a village. Baben can also be considered as bench mark for the development of other villages.

1.7 CIVIL CONCEPT / METHOD / USAGES IN THE IDEALVILLAGE:

Civil engineering projects are increasingly complex and are associated with situations where robust decisions are required to be taken. These decisions are made in different stages of civil engineering projects. For example, decision making takes place during feasibility study stage prior to design, procurement, and construction stages in order to determine the viability of project undertaken by an investor.

With the help of an interdisciplinary approach to problem-solving, however, many innovations are being made in an effort to bring practical, repeatable implementation to construction. Although the learning curve may be steep, the potential benefits are considerable. All the work of the village development are carried by the gram panchyat are in their presence and efforts to make their village world class and people will visit their village for their well known facilities which are provided by gram panchayat.

Chapter 2: Literature Review

2.1 Introduction: Urban and Rural

The "Rural Area" means any place as per the "latest census" which meets the following criteria,

- Area with population less than 5,000.
- Density of population less than 400 perkm².
- More than "25 % of the male working population" is engaged in agricultural works.

Fig. 15 Image of Rural area

The definition of urban area is as follows;

1. All places with a municipality, corporation or notified town area committee, etc.
2. All other places which satisfied the following criteria:
   - Area with minimum population of 5000.
   - At least 75% of the male working population is engaged in non-agricultural activities; and
   - A density of population of at least 400 persons perkm².

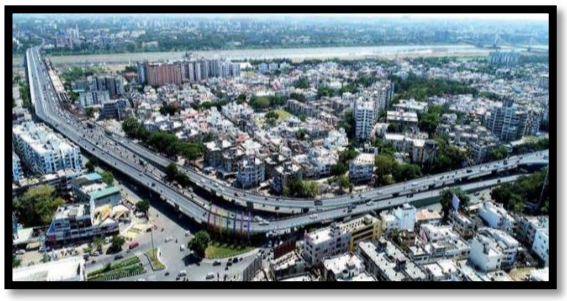


Fig. 16 Image of Urban area

2.2 Different definition of Rural area/village

As urban markets saturate and companies spread their wings in search of new markets, everybody has the same question on their lips: what constitutes a 'rural' market? The quest to discover the real rural India still continues in great earnest. Almost every economic agency today has a definition of rural India. Here are a few definitions.

According to the Planning Commission, a town with a maximum population of 15,000 is considered rural in nature.

The National Sample Survey Organization (NSSO) defines 'Rural' as follows:

- An area with a population density of up to 400 per square kilometer,
- Villages with clear surveyed boundaries but no municipal board,
- A minimum of 75% of male working population involved in agriculture and allied activities.

RBI defines rural areas as those areas which has a population of less than 49,000.
The Census of India 2001 defines Urban as:

- All statutory places with municipality, corporation, cantonment board or notified town area committee
- A place which satisfies following three Criteria's:
- Minimum population of5,00
- Density of population of at least 400 per sq.km.

- At least 75% of male working population engaged in non-agricultural activities.

2.3 Scenario: Rural / Urban India and Gujarat as per Census 2011 (Population Growth)

DATA HIGHLIGHTS – CENSUS 2011

Table no. 3 Population (in Crore)

	2001	2011	Difference
Population in India	102.9	121.0	18.1
Rural	74.3	83.3	9.0
Urban	28.6	37.7	9.1

For the first time since Independence, the increase in population is more in urban areas than that in rural areas

• Rural – Urban distribution: 68.84% and 31.16%
• Level of urbanization increased from 27.81% in 2001 Census to 31.16% in 2011Census
• The proportion of rural population declined from 72.19% to68.84%

DATA HIGHLIGHTS – CENSUS 2011

Table no. 4 Growth rate of population (in crore)

	1991-2001	2001-2011	Difference
Population in India	21.5	17.6	-3.9
Rural	18.1	12.2	-5.9
Urban	31.5	31.8	+0.3

The slowing down of the overall growth rate of population is due to the sharp decline in the growth rate in rural areas, while the growth rate in urban areas remains almost the same.

2.4 Rural issues and Concerns.

The major three issues are Agriculture, Rural areas and farmers.

- **Issue of Agriculture**

In general, the issue is how to increase agriculture in China. It includes:

1. Increasing the mercerization level of agricultural production and operation and stabilizing the prices of agricultural products.
2. Changing the situation of smallholder economic agriculture, achieving economies of scale of agricultural production and operation
3. Guaranteeing the food security in China

- **Issue of Rural Areas**

This is particularly reflected in the disparity of economic and cultural development between urban and rural areas. It is mainly caused by the dual segmentation based on the household registration system.

- **Issue of Farmers**

It includes improving the income level of farmers, alleviating burdens of farmers, increasing the cultural qualities of farmers, and safeguarding the rig

2.5 Various Measures for Rural development:

For development of rural area different measures need to be taken to fulfill following objectives:

- To promote the rural economy by improving production and the employment situation and incomes of the rural population through:
- The development of new non-agricultural rural activities, such as agro industries, support services, etc., which because of their scale may best be assisted through associative structures which will make higher levels of productivity and competitiveness possible;
- The improvement of working, training and income conditions of rural workers; and
- The rational occupation of new land on the agricultural frontier, taking into account the nature of the ecological systems, the possibility of economic returns, and physical and economic integration with the national market.
- To promote the generation of savings and facilitate a higher level of investment in the rural area.
- To strengthen the effectiveness of national and local institutions responsible for the formulation and implementation of rural development policies and projects, and to support effective participation of the population in the planning and implementation of local activities.

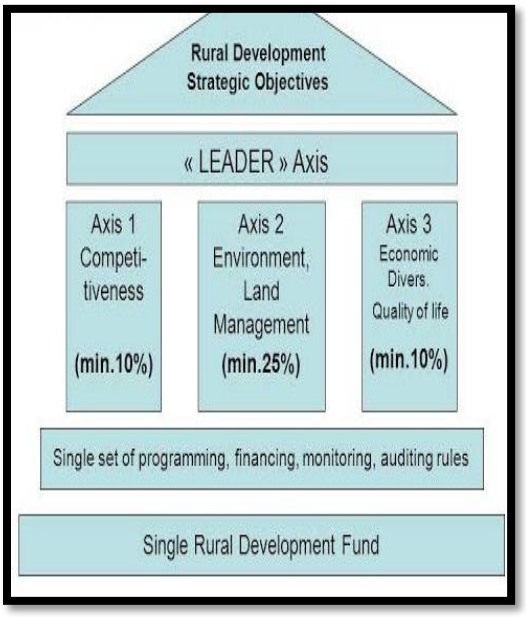


Fig.17 Measures for rural

- To help expand the access of the rural population to basic services, including, education, health care, etc.
- To strengthen rural development planning as well as the adoption of measures for promoting better and more equitable integration of the rural sectors with the rest of the national economy.

2.6 Various infrastructure & guidelines/Norms for Villages for the provisions of different infrastructure facilities

Water supply:-Delivery of safe drinking water is vital for protecting public health and of promoting more secure livelihoods. The traditional approach to water quality and safetymanagementhasreliedonthetestingofdrinkingwater,asitleavesthetreatmentworks or at selected points, either within the distribution system or at consumer taps.

Various methods for water supply

- Gravity-fed water supply systems in hilly areas
- Dug well-based rural water supply systems
- Bore well-based rural water supply systems (hand pump operated)
- Pond-based rural water supply systems with appropriate treatment and rainwater harvesting systems through surface storage
- Groundwater recharging systems
- Rooftop rainwater harvesting system

- **Sanitation Facilities:** - Demand and supply of sanitation facilities and services should be addressed concurrently to ensure toilet adoption and sustained use and enable scale Adoption and sustained use of sanitation facilities requires construction of safe toilets and their sustained use. Access to a toilet does not mean it is used or used consistently by everyone at all times. Poorly constructed and managed facilities may lead to households reverting to open defecation.
- **Hospital: -** National Rural Health Mission (NHM) was launched in the year 2005 to strengthen the Rural Public Health System and has since met many hopes and expectations. The Indian Public Health Standards (IPHS) for Sub-centers, Primary Health Centers (PHCs), Community Health Centre's (CHCs), Sub-District and District Hospitals were published in January/ February, 2007 and have been used as the reference point for public health care infrastructure planning and up-gradation in the States and UTs. These IPHS guidelines will act as the main driver for continuous improvement in quality and serve as the bench mark for assessing the functional status of health facilities. States and UTs should adopt these IPHS guidelines for strengthening the Public Health Care Institutions and put in their best efforts to achieve high quality of health care across the country.
- **Roads:** - The Union ministry of rural development has recently issued fresh guidelines under the 'Pradhan Mantri Gram Sadak Yojana' (pmgsy) to prevent construction of poor-quality roads and streamline the bidding process throughout India. pmgsy is the largest rural road connectivity program in the world. The new rules stipulate a standard procedure for road construction. They envisage a three-tier quality control system, with executive engineers at the lowest rung and national quality monitors at the top level. The contractor has to give a five-year guarantee for the work done. The state governments, too, have been made responsible for the maintenance of roads in rural areas for a period of five years
- **Schools:** - Many small towns lack basic educational infrastructure. Most schools don't have proper toilets, electricity, and proper buildings with roofs. There is also lack of drinking water. The condition of government schools is also not satisfactory, according to many reports. There have been several cases of poisoning due to poor quality mid-day meals in government schools. Therefore, provide among the all facilities in rural schools like proper toilets, electricity and proper building and also provide good furniture which required in schools.

TABLE NO. 5: VARIOUS GUIDELINES / NORMS FOR VILLAGES FOR THE PROVISIONS OF DIFFERENT INFRASTRUCTURE FACILITIES :

Facilities	Planning Commission/UDPFI Norms	Required as per Norms
Education		
Aganwadi	Each Village	1
Primary School	Each Village	1

Secondary School	Per 7,500 Population	2
Higher Secondary School	Per 15,000 Population	0
College	Per 125,000 Population	0
Tech. Training Institute	Per 100,000 Population	0
Agriculture Research Centre	Per 100,000 Population	0
Medical Facility		
Gov./Panchayat Dispensary or Sub PHC or Health Centre	Each Village	1
PHC & CHC	Per 20,000 Population	0
Child Welfare and Maternity Home	Per 10,000 Population	1
Hospital	Per 100,000 Population	0
Transportation		
Pucca Village Approach Road	Each Village	
Bus/Auto Stand Provision	All Villages connected by PT (ST Bus or Auto)	1
Drinking Water		
Water Facilities		
Over Head Tank	1/3 of Total Demand	1.6 lac cap
U/G Sump	2/3 of Total Demand	3.2 lac cap
Public Latrines	Each Village	60
Cremation Ground	Per 20,000 Population	1
Post Office	Per 10,000 Population	1

2.7 Importance in rural context

The rural society is considered as the backbone of Indian society. Rural society is the fundamental basis of human civilization and culture. People who are living in urban areas they are mainly the migrants from the rural areas. So rural area or village is the well-spring of our culture

and civilization. Thus, to know about the life of urban community it is essential to know their original place of living, that is rural community. 60% population of India still lives in rural area.

2.8 Sustainable Village Development concept

The concept of the village development is to provide better life Quality, in which all the necessary conditions to live in community respecting the environment, transition, education, Respecting the people and its value where every person really involved in the local improvement of social aspect

In developed village the people share their ideas and solve the basic problems in community basis, because all the people are focused in doing their base to the sustainability and of their community and village.

Concept of sustainable village development is simply defined as to enabling the provision of good education, health care, clean water access, sanitation, and nutrition, the growth of incomes, and enhanced gender quality and democratic engagement.

2.9 Other Projects /Schemes

➢ Projects / Schemes by Government sector:

- ✓ IRDP(Integrated Rural Development Program)
- ✓ SGSY(Swaran jayanti Gram Swarozgar Yojana)
- ✓ NRUM(National Rurban Mission)
- ✓ Pradhan Mantri Gram Sadak Yojana
- ✓ Indira Aawas Yojana
- ✓ Mahatma Gandhi National Rural Employment Guarantee Act-2005 DRDA(District Rural Development Agency)
- ✓ PURA(Provision of Urban Amenities in Rural Areas)
- ✓ PMGSY(Pradhan Mantri Gram Sadak Yojana)
- ✓ NRDWP(National Rural Drinking Water Programme)
- ✓ JNNURM(Jawaharlal Nehru National Urban Renewal Mission)
- ✓ IWDP (Integrated Wasteland Development Programme

➢ Projects / Schemes by Private sectors:

- ✓ Intensive Agricultural Area Programme
- ✓ Intensive Agricultural District Programme
- ✓ High Yielding Varieties Programme
- ✓ Rural Industries Project

Chapter 3: Smart (Cities / Village) Concept as per your Idea and its Visit (Civil & Electrical Concept)

3.1 Introduction

3.1.1 Concept

The concept of Smart City embraces several definitions depending on the meanings of the word "smart": intelligent city, knowledge city, ubiquitous city, sustainable city, digital city, etc. Many definitions of Smart City exist, but no one has been universally acknowledged yet. From literature analysis it emerges that Smart City and Digital City are the most used terminologies in literature to indicate the smartness of acuity.

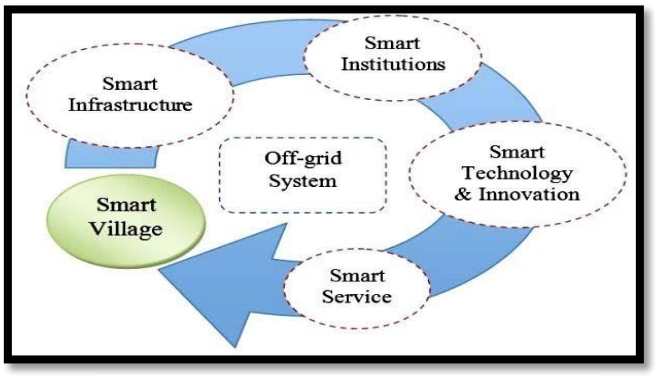


Fig.18 Concept of smart village

3.1.2 Definition and Practices

A city well performing in a forward-looking way in economy, people, governance, mobility, environment, and living, built on the smart combination of endowments and activities of self-decisive, independent and aware citizens.

A city "connecting the physical infrastructure, the IT infrastructure, the social infrastructure, and the business infrastructure to leverage the collective intelligence of the city"

A city that monitors and integrates conditions of all of its critical infrastructures, including roads, bridges, tunnels ,rails, subways, airports, seaports, communications, water, power, even major buildings, can better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens. "The use of Smart Computing technologies to make the critical infrastructure components and services of a city—which include city administration, education, healthcare, public safety, real estate, transportation, and utilities—more intelligent, interconnected, and efficient"

3.2 Bench Marks-Vision-Goals, Standards and performance Measurement Indicators

The vision of smart cities is that the smart cities are the center of the future, secure environmentally green, made safe, efficient because of all structure- whether for water, power, Transportation. Are designed, constructed making use of integrated materials, sensors, and network which are interfaced computerized system of database, decision making algorithms.

Calculation of the 79 different Livability indicators prescribed in the 'Livability Standards in Cities' requires data on a large number of aspects of urban infrastructure, governance, municipal finances, social infrastructure, economic aspects etc. Wherever such data is regularly compiled by the ULBs or other service providers such as DISCOMS, Water and Sewerage Utilities etc. it should be sourced from the records of such providers.

In some cases, the data may require on field through physical surveys. For certain indicators such as pollution, modal split of urban transport, water quality etc. data will have to be obtained from physical surveys as per standards and prescribed survey and sampling techniques.

Some indicators such as per capita availability of open spaces will require map-based analysis, and necessary maps may need to be prepared for cities where such information or maps are not available.

3.3 Technological Options for Smart Cities:

Cities and communities across the Nation are today facing complex and persistent challenges stemming from changing populations and infrastructure. In particular, demands on city infrastructure, systems, and services are growing and changing, prompting important new needs, such as more effective use of limited space, greater walk ability, and ways to support residents across all socioeconomic statuses. The need for improved resilience in the face of natural and man-made disasters adds to the challenges that cities and communities are facing. These challenges directly manifest for city residents as well. Being able to address these challenges is in and of itself difficult.

Ongoing city operations are often dependent upon the very infrastructure, services, and systems that could benefit from innovation and finding the time, energy, and resources to improve city capabilities without adversely affecting these ongoing operations is not trivial. Consider, for example, routine roadway construction projects; cities and communities must often conduct these projects during limited nighttime and weekend hours, so as to minimize disruptions for residents who rely upon the roadways to commute to and from work.

At the same time, advances in networking and information technology over the last several decades have transformed individuals' lives, rapidly altering how we live, work, and communicate. Integrating these digital technologies with physical infrastructure at the city level similarly enables innovative opportunities and solutions to the challenge's cities are facing. By working closely with cities to support this integration in ways described in this strategic plan, Federal agencies can help facilitate solutions to city challenges and catalyze the smart of the future.

3.4 Road Map and Safe Guards

The purpose of building smart cities is to make the lives of the people safer and easier. Technology can be used as an instrument to protect lives and improve services and, furthermore, it can be used to protect Personally Identifiable Information and cities critical infrastructures, such as water treatment systems, transportation, hospitals, and power plants. Technology can be used to reduce crimes by geographically spotting areas with high crime rates, identifying specific crime patterns, and reporting it to law enforcement instantly, many of these services are achieved.

Sensors are small measurement devices that can be integrated with electronics to detect certain smells, sound, or levels of variations. Sensors can be passive or active. Passive sensors do not necessarily take action; they simply collect data, and they are used mainly to measure weather conditions, such as Ozone levels, wind speed, or the sun's ultraviolet levels. Active sensor devices, on the other hand, use electronics to process data and take action.

3.5 Issues & Challenges

1. Retrofitting existing legacy city: infrastructure to make it smart, there are a number of issues to consider when reviewing a smart city concept. The most important is to determine the existing cities weak areas that need utmost consideration, e.g. 100-per-cent distribution of water supply and sanitation. The integration of formerly isolated legacy systems to achieve citywide

efficiencies can be a significant challenge.

2. Financings of smart cities: The High-Power Expert Committee on Investment Estimates in Urban Infrastructure has assessed a per-capita investment cost of Rs 43,386 for a 20year period. Using an average figure of 1 million people in each of the 100 smart cities, the total estimate of investment requirements for the smart city comes to Rs 7 lakh crore over 20 years. This translates into an annual requirement of Rs 35,000 crore. One needs to see how these projects will be financed as the majority of project need would move through complete private investment or through PPPs (public-private partnership).

3. Availability of city development plan: Most of our cities don't have a city development plan, which is the key to smart city planning and encapsulates, and encapsulates all a city needs to improve and provide better opportunities to its citizens. Unfortunately, 70-80 % of Indian cities don't have.

4. Financial sustainability of ULBS: Most ULBS are not financially self-sustainable and tariff levels fixed by the ULBS for providing services often do not mirror the cost of supplying the same. Even if additional investments are recovered in a phased manner, inadequate cost recovery will lead to continued financial losses.

5. Technical constraints of ULBS: Most ULBS have limited technical capacity to ensure timely and cost-effective implementation and subsequent operations and maintenance owing to limited recruitment over a number of years along with inability of the ULBS to attract best of talent at market competitive compensation rates.

6. Three-tier governance: Successful implementation of smart city solutions needs effective horizontal and vertical coordination between various institutions providing various municipal amenities as well as effective coordination between local government, state government, central government, agencies on various issues related to financing and sharing of best practices and service delivery processes.

7. Providing clearances in a timely manner: For timely completion of the project, all clearances should use online processes and be cleared in a time-bound manner. A regulatory body should be set up for all utility services so that a level playing field is made available to the private sector and tariffs are set in a manner that balances financial sustainability with quality.

8. Dealing with a multivendor environment: Another major challenge in the smart city space is that software infrastructure in cities contains components supplied by different vendors. Hence, the ability to handle complex combinations of smart city solutions developed by multiple technology vendors becomes very significant.

9. Capacity building program: Building capacity for 100 smart cities is not an easy task and most ambitious projects are delayed owing to lack of quality machinery and manpower, both at the center and state levels. In terms of funds, only around 5 per cent of the central allocation may be allocated for capacity building programs that focus on training, contextual research, knowledge exchange and arichdatabase. Investments in capacity building program shave a multiplier effect as they help in time-bound completion of projects and in designing programs, developing faculty, building databases as well as designing tool kits and decision support systems. As all these have a lag time, capacity building needs to be strengthened right at the starting.

10. Reliability of utility services: For any smart city in the world, the focus is on reliability of utility services, whether it is water, telephone, electricity, broadband services. Smart cities should have to provide electricity 24Hours.

3.6 Smart Infrastructure

Smart Information and Communications Technology has the potential to transform the way we plan and manage infrastructure. New developments in computer hardware, new applications and software are changing the face of the infrastructure sector, and society more generally; driving greater efficiency, increasing productivity, and greatly simplifying construction processes and life-of-asset maintenance.

Australia has generally been proactive in adopting these new technologies for the planning, design and ongoing maintenance of infrastructure, the fast pace of new developments means that there is much more that needs to be done.

3.7 Cyber Security

Fig.19 C.C.T.V. monitoring room of Baben

Cyber security is the body of technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorized access. In a computing context, security includes both cyber security and physical security.

Ensuring cyber security requires coordinated efforts throughout an information system. Elements of cyber security include:

- Application security
- Network security
- Operational security
- Information security
- End-user education

3.8 District Cooling and Heating / Green building

District cooling systems produce chilled water, steam or hot water at a central plant and then pipe that energy out (either underground or over rooftops) to buildings for air conditioning, space heating and water heating. As a result, these buildings don't require their own chillers, air conditioners, boilers or furnaces.

District cooling systems are a highly efficient way for many owners and manufacturers to effectively address each of these challenges while meeting their comfort and process cooling and heating needs.

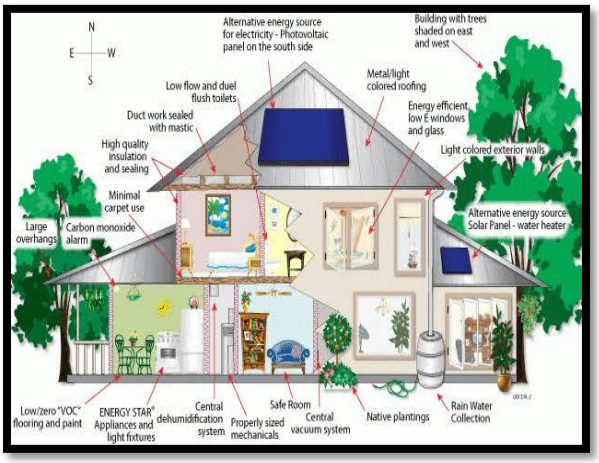


Fig.20 Concept of green building

Heat sources in use for various district heating systems include, power plants designed for combined heat and power including both combustion and nuclear power plants; and simple combustion of a fossil fuel or biomass; geothermal heat; solar heat; industrial heat pumps which extract heat from, river or lake water, seawater, sewage, and waste heat from industrial processes.

3.9 Strategic Option for Fast Development

Smart Infrastructure involves applying this to economic infrastructure for the benefit of all stakeholders. It will allow owners and operators to get more out of what they already have, increasing capacity, efficiency and resilience and improving services.

It brings better performance at lower cost. Gaining more from existing assets is the key to enhancing service provision despite constrained finance and growing resource scarcity. It will often be more cost-effective to add to the overall value of mature infrastructure via digital enhancements than by physical enhancements – physical enhancements add `more of the same', whereas digital enhancements can transform the existing as well.

Smart Infrastructure will shape a better future. Greater understanding of the performance of our infrastructure will allow new infrastructure to be designed and delivered more efficiently and to provide better whole life value.

3.10 Indian's Urban Water and Sanitation Challenges and Role of Indigenous Technologies

More than 90% of the urban population has access to drinking water, and more than 60% of the population has access to basic sanitation. However, access to reliable, sustainable, and affordable water supply and sanitation (WSS) service is lagging behind. Are the Services Reliable? No Indian city receives piped water 24 hours a day, 7 days a week. Piped water is never distributed for more than a few hours per day, regardless of the quantity available. Raw sewage often overflows into open drains. Are the Services Technically and Financially Sustainable? Less than 50% urban population has access to piped water. The Non-Revenue Water (NRW: due to leakages, unauthorized connections, billing and collection inefficiencies, etc.) is huge, estimated between 40-70% of the water distributed.

Operations and maintenance cost recovery through user charges is hardly 30-40%. Most urban operations survive on large operating subsidies and capital grants.

3.11 Initiatives in village development by local self-Government

➢ **Rural Local Governments (or Panchayat Raj Institutions**)

- Zilla Panchayat
- Mandal or Taluka Panchayat
- Gram Panchayat

➢ **Initiation by Local People:-**

- Organizing programme for increase literacy for peoples of village.
- Providing enough information regarding to using of various facilities.
- Peoples have to learn various things regarding how to keep facilities in good condition.

3.12 Smart Initiatives by district Municipal corporation

- Solid waste management.
- Selvedge water disposal.
- Effective road transportation.
- Maintained street light facilities.

- Agriculture awakening centre.

3.13 Any projects contributed working by government

- The panchayat raj system is a three-tier system with elected bodies at the village, Taluka and district levels.
- The modern system is based in part on traditional panchayat governance, in part on the vision of Mahatma Gandhi and in part by the work of various committees to harmonize the highly centralized Indian governmental administration with a degree of local autonomy.
- The result was intended to create greater participation in local government by people and more effective implementation of rural development programs.
- Although, as of 2015, implementation in all of India is not complete the intention is for there to be a gram panchayat for each village or group of villages, a tehsil level council, and a zilla panchayat at the district level.

3.14 How to implement other countries smart villages project in Indian Village context

Each village should have following 5 basic amenities in 5 year:

1. Roads
2. Electricity
3. Water
4. Hospitals
5. Schools

➢ basic amenities of for smart village from other countries are:

1.Schooling: smart class rooms can improve the quality of education by providing access to a large amount of educational resources.
2.Health Care: improving information available on the availability, location and cost of various types of healthcare.
3.Agriculture: provide information to farmers on the types of crop that can fetch them returns, by ensuring that there is no guilt of one product and shortage of another.

Chapter 4: Introduction of Ilav Village

4.1 Introduction

4.1.1 Introduction About Ilav Village details

The urbanization area selected for the study, planning, and designing is Ilav village. Ilav is a Village in Hansot Taluka in Bharuch District of Gujarat State, India. It is located 40 KM towards South from District head quarters Bharuch. 7 KM from Hansot.

Ilav is a Village in Hansot Taluka of Bharuch district in Gujarat State. Ilav village Pin code is 394810. Ilav Village Total population is 3201 and number of houses are 718. Female Population is 1545 and male population is 1656. Village literacy rate is 75.2 % and 34.3% of female population are literate here.

4.1.2 Justification/ need of the study

The Goal of research proposal is to present and justify the need to study a research problem and to present the practical ways in which this research should be conducted.

There are number of schemes of the Government which are being operated and run for rural development in the rural areas of the country. Evolution taken up so far for these schemes has been more or less in a piecemeal form, i.e. generally for each scheme separately. It has become difficult to get an overall picture of the development in totality in the rural areas and is difficult to assess the impact of any one particular scheme, since most of the schemes are complementary and supplementary and most of the time, they all are contributing to the impact. Hence a view has been formed to take up studies on trial basis to assess the impact of the important schemes as a whole in rural development in selected village.

4.1.3 Study Area

Ilav is a Village in Hansot Taluka in Bharuch District of Gujarat State, India. It is located 40 KM towards South from District head quarters Bharuch. 7 KM from Hansot.232 KM from State capital Gandhinagar.

Ilav Village has population about 3201, and no. of house is 718 female population is48.3 % and male population is 51.7% and village has literacy rate is 75.2 %.

The total area of the village is 1420 hector.

4.1.4 Objectives of the study

The main objective of the study undertaken is to utilize the results to provide true feedback of the present state of implementation of all development schemes in the rural areas. The observation made during the study are to inputs to help in bringing about changes in the formulation or reformulation.

- To assess problems, constrains in the effective implementation.
- To know the basic requirement of village.
- To provide the basic facilities in rural areas like Education, Health, irrigation, electric power etc.
- To suggest strategies and policies that would enable Government of India to increase the
- pace of rural development.

- To assess the adequacy of these schemes in solving and providing solution to problems of rural development.
- To provide the impact of these various Programme.
- To gauge the general opinion of the people towards these schemes and programs of the government

4.1.5 Scope of the Study

The aim of project is to develop the village with job opportunity for villagers. A team of project is finding the problem or need of a village in terms of socio – cultural or physical or social infrastructure and to design that facility with efficient engineering solution which include the design proposal and estimate cost to facilitate the require facility for the future growth of village with urban facilities.

The study will focus the development trend, intensity of growth of the village, and find out the problems related to the socio-cultural or physical development of the area, social infrastructure services, and the administrative systems of the village. The study of village gives the reason where there is need of sustainable facilities like infrastructure facilities, community hall, primary health center, post office, general market, pure drinking water, road network, schools, electricity, sanitation, library, Aaganwadi, overhead tank, police station, fire station, etc. are available or not.

Rural settlement engulfed in urban limits during the process of development, and also those located in the fringe areas of large cities, can be termed as urban villages.

4.1.6 Methodology framework for development of your village

To achieve the aim by passing through the objectives, the study will be done in the following Methodology, described as follows:

A) Literature study:

The various theories and case studies to be referred to the understanding of various issues related to the urban, to define the “Fringe villages”, to study the various issues of “Fringe villages”

B) Field Visit:

The field visit will be starts from collection of revenue maps and ‘gametal’ maps if possible, along with the map and other basic information of the study areas.

C) Primary Survey and Interview:

The primary surveys such as household surveys, questionnaire survey, to know the real status of the infrastructure services and quality of life they are living in the particular area and the major problems and issues they are facing, questionnaire survey of the real estate developers to know the scope and trend and scope of the development and status of the market and demand of that place.

D) Data Analysis:

An analysis form is used for finding a requirement of village as per government norms. A data collected during village survey is also used for an analysis government data on paper data.

E) Issues findings, development of Strategy:

From the above study in the detail of the literature review, situation analysis, study of the existing institutional framework, primary and secondary data analysis and mapping the best appropriate strategy to be formulated with possible recommendation, implementation strategy and allocating the roles and responsibilities of the different local bodies which give a scope for villagers to show their ability and chances of job opportunity.

F) Final Proposal:

Strategic theme-based proposal for Fringe villages from analysis in the form of R-Urban Town.

4.1.7 List of objects available related to civil methodology

- Aaganwadi
- Panchayat office
- Overhead water tank
- Primary school
- Drainage system
- General store

4.2 STUDY AREAPROFILE

4.2.1 Study Area Location with brief History land use details

Name of village:- Ilav
Name of Taluka:- Hansot
Name of District:- Bharuch

The location code or village code of Ilav village is 522427. It is located 40 KM towards South from District head quarters Bharuch. 7 KM from Hansot.

The village has no certain history, Ilav Village is the Village of Hansot taluka of Bharuch District The recent sarpanch of the Ilav village is Jaysangbhai D. Patel. Village Had constructed panchayat office in 2017-2018 which is enograted by the Rajiv Gandhi Trust.

The Total area of Ilav village is 1420 Hectors, in which the total residential Area is 115 Hectors, total agricultural area is 1209 Hectors, total forest area is 96 hectors and other area is 16 Hectors.

- **Primary topographical and geographical details are described below.**

Table No. 6 Study area Location

1	Nearest town and its distance	Ankleshwar - 44 km
2	Temperature	29 C
3	Annual rainfall	828 mm

4.2.2 Base Location Map, Land Map, Gram Tal Map

Base Location Map:-

Ilav is a Village in Hansot Taluka in Bharuch District of Gujarat State, India. It is located 40 KM towards South from District head quarters Bharuch. 7 KM from Hansot.232 KM from State capital Gandhinagar. Ilav Village has population about 3201, and no. of house is 718 female population is 48.3% and male population is 51.7% and village has literacy rate is 75.2 %. The total area of the village is 1420 hector.

Fig. 21 Base Location Map of Ilav

4.2.3 Physical& Demographical Growth

The facilities are essential for economic as well as social growth of any area. These facilities include proper road network, water supply, drainage, electricity etc. Any village which needs to be economically developed must contain the above-mentioned facilities.

- **Demographical growth**

Table No 7 Demographical growth

Sr.No.	Population	Male	Female	Total house hold
1	3201	1656	1545	718

4.2.4 Economic Profile /Bank

The economic status of Ilav gram panchayat is not well as compared the ideal village like Baben. Ilav panchayat collects around 5 to 7 Lakh as various taxes and funds from the various sources of income are housing tax, income tax, water tax, electricity bills, cleaning charges, taxes from the House hold. And the other development work is done in village by the Grant Which is given by the Stat government or Central Government.

There is two Banks in Ilav Village.
-Bank of Baroda.
-District Bank.

Fig. 22 Bank of Ilav

4.2.5 Actual Problem faced by Villagers and smart solution

Rural area have major issue like:

- Poverty
- Unemployment
- Inequality among people i.e. The upper caste people holds large lands and lower caste people have small lands or they work as labour.
- Lower caste people holds kutchha houses and facilities they received are less than the received by upper caste people
- Lake of facilities like drinking water, Sewage disposal, Solid waste management etc.
- Unavaibility of public transport
- Lake of awareness in people regarding government scheme
- Lake of education

4.2.6 Social scenario -Preservation of traditions, Festivals, Cuisine

Stringent rules must be passed to ensure that corrupt practices do not hamper and harass the bank loan seekers, old age and handicapped pensioners, and other recipients of bank assistance for small enterprises or other beneficiaries for other interventions.

Festivals: The Village folk Culture is dance including garba, dandiya, raas, etc.
Traditional wear: they wear traditional cloths like chaniya choli, kediyo, dhoti, kachhado, gujrati sadi etc.
Cuisine: The regular food is Gujrati thali, Indian food, the villagers prefers the vegetables to eat which is they grow in their farm.

4.2.7. To Know the reason of migration / Trends of migration / Problems and potentials of migrations

In Ilav Village people are migrate because of better opportunity for jobs, Business, High living standard. People are migrate to Surat/Bharuch because Surat/Bharuch is the biggest economic hub of Gujrat. People earn more in the city rather than village that's why people migrate from village to city.

4.3 Data Collection

4.3.1 Methods for Data collection

- By filling of survey forms
- By interaction with the villagers
- By interaction with the sarpanch / panchayat members
- By observing the current condition of the village
- Visiting different locations of the village

4.3.2 Primary Survey Details

Primary survey details are collected by interacting with the village dwellers and questioning them about the facilities available and require. They were asked to give suggestions about the works required to be carried out for the development of the village and to promote Urbanization.

4.3.3 Average size of the House - Geo-Tagging of House

The village has no specified size of house, but the Financially Capable villagers have good constructed House and poor villagers have small size or medium size house.

There is no Geo- Tagging of house is carried out because we go for home interview survey.

4.3.4 No. of Human being in one house

As per population and house hold number the average Human being in the one House is 4.Each House has maximum 4 to 5 persons in the house.

4.3.5 Material available locally in the village and Material Out Sourced by the villagers

The village has no specific material. All the martial which is required which has been Transported to village from the nearest town like Surat/Baruch.

The Out sourced materials are sand Aggregates, Cement, Blocks, Steels and bitumen which is used for the construction of road and building.

4.3.6 Geographical Details

Table no. 8 Geographical Detail

Sr. no.	Description	Information details
1)	Area of Village	1420 Hectors
2)	Agricultural area	1209 Hectors
3)	Forest area	96 Hectors
4)	Residential area	115 Hectors
5)	Other area	16 Hectors
6)	Distance from Nearest railway station	16 KM Kim
7)	Nearest town with distance	44 Km Ankleshwar

4.3.7 Demographical Details

Table No 9 Demographical Detail

Sr.no.	Population	Male	Female	Total house hold
1	3201	1656	1545	718

4.3.8 Occupational Detail - Occupation wise Details / Majority business

Table No. 10 Occupational Detail

Sr. No.	Occupation
1.	Farming
2.	Shopkeepers
3.	Employees

Table No. 11 Occupational Detail Wise / Majority Business

Percentage of worker	Occupation

70 %	Farming
20 %	Shops
10 %	Jobs

4.3.9 Agricultural details / Organic farming /Fishery

Table No. 12 Agricultural Detail

Major crops grown in the village	Crops name
1.	Sugar
2.	Cotton
3.	Lady finger

4.3.10 Physical Infrastructure Facilities - Manufacturing HUB / Ware Houses

There is no physical infrastructure facilities.

No Manufacturing Hub.

4.3.11 Tourism development available in the village for attracting the tourist

No tourism Site of village.

4.4 Infrastructures Details

4.4.1. Drinking water / Water management facilities

The Ilav village has no R.O. Plant. The village have Two Overhead water tanks by the village has provided the water for drinking.

They required R.O. water plant for the purpose of water has been treated and safe to use from Bactria.

It is stored in water tank and distribute in village from the R.O. water treatment plant.

Because of that villagers are improve the health and reduce daises cause from water.

Fig.23 Overhead water Tank of Ilav

4.4.2 Drainage network / Sanitation Facilities:

Ilav village Has Under Ground drainage system And all the house hold has provided Drainage system. Village has One public Toilet.

Current condition of public toilet is very poor and villagers are required to redesign and reconstruct the public toilet.

Due to development of public toilet people use the toilet and reduce dirtiness in village, also reduce diesis.

Fig.24 Public toilet of Ilav

4.4.3 Transportation and road network:

Usually the Villager use their own vehicle and Gujarat Government provide G.S.R.T.C. Bus service for transportation. The Village has no Bus stand Facilities. The village has R.C.C. road, network.

Fig.25 R.C.C. Road of Ilav

4.4.4 Housing condition:

Village house hold has average condition, almost villagers has kutccha Makan(House)

Fig. 26 Kuccha / pucca House of Ilav

4.4.5 Social Infrastructure facilities Health, Education, Community Hall, Library:

Ilav village Has Health care centers and no community hall and no library.

Health Facilities: - Ilav village has one health center.

Fig.27 Health centre of Ilav

Education Facilities: - Ilav village has 2Anganvadi and 2 Primary school and the villagers are requested to redesign and reconstruct the girl's primary school.

Fig.28 Primary School and Aanganvadi of Ilav

4.4.6 Existing condition of public Building & Maintenance of existing public infrastructure

Some of public buildings are in good condition like panchayat office and anganwadi. Public toilets, school and post office require maintenance of redesign

Fig.29 Girls Primary school of Ilav

Fig.30 Post Office of Ilav

4.4.7 Technology/ Mobile/ Wi-Fi / internet uses detail in percentage

Table No. 13 Technology/ Mobile/ Wi-Fi / internet uses detail in percentage

Technology	Percentage of uses
Mobile	90 %
Wi-Fi	0 %
Internet	60 %

4.4.8 Sport Activities as gram panchayat

There are no sports activity conducted in village**.**

4.4.9 Socio cultural facilities/ Public Garden /Parks / Playground / Ponds / other recreation facilities

In Ilav village has no public garden no parks and no playground. Village has undeveloped pond.
By developing village pond increase in aesthetic beauty of village

Fig.31 Pond of Ilav

4.4.10 other facilities

No Other Facilities.

4.4.11 Any other details

4.6 Existing Institution like - Village Administration – Detail Profile

Village has one-gram panchayat office which is use as Administration office.

Fig. 32 Gram Panchayat Office of Ilav

4.6.1 Bachat Mandali

No Bachat mandali.

4.6.2 Dudh Mandali

No Dudh Mandali.

4.6.3 Mahila Forum

Ilav village have one Mahila Forum.

4.6.4 Plantation for air pollution

For reducing pollution panchayat has stated planting trees over the areas on which plantation is possible.

4.6.5 Rain water Harvesting

No use of rain water Harvesting methods in village.

4.6.6 Agriculture Development

Ilav Villagers use advanced technology for irrigation and plantation of crop and advanced machinery for framers.

4.6.7 Any Other

The public information board provides information about funds and grants provides from goverment and cooperative sectors

Fig. 33 Public Information board of Ilav

Chapter 5 : Sustainable Technical Options with Case Studies of the Existing Village

5.1 Concept(Civil)

5.1.1 Advance construction techniques

The construction industry is repeatedly criticized for being inefficient and slow to innovate. The basic method of construction, techniques and technologies have changed little since roman times.

Fig.34 Advance construction techniques

Every construction project is different, every site is a singular prototype, construction works are located in different places, and involve the constant movement of personnel and machinery. The term 'advanced construction technology' covers a wide range of modern techniques and practices that encompass the latest development in materials technology, design procedures, quantity surveying, facilities management, services, structural analysis and design, and management studies.

Incorporating advanced construction technology into practice can increase level of quality, efficiency, safety, sustainability and value for money. However, there is often a conflict between traditional industry methods and innovative new practices, and this is often blamed for the relatively slow rate of technology transfer within industry.

The adoption of advanced construction technology requires an appropriate design, commitment from the whole project team, suitable procurement strategies, good quality control, appropriate training and careful commissioning.

- Advanced construction technologies are commonly described as including (amongst many others) advanced forms of:
  - 3D printing.
  - Materials.
  - Building information modeling (BIM).
  - Cladding systems.
  - Computer aided design and computer aided manufacturing (CAD/CAM).
  - Computer numerical control.
  - Construction Innovation Hub.
  - Construction plant.
  - Modern methods of construction.
  - Modular construction.
  - Offsite manufacturing
  - Research and development.

5.1.2 Soil Liquefaction

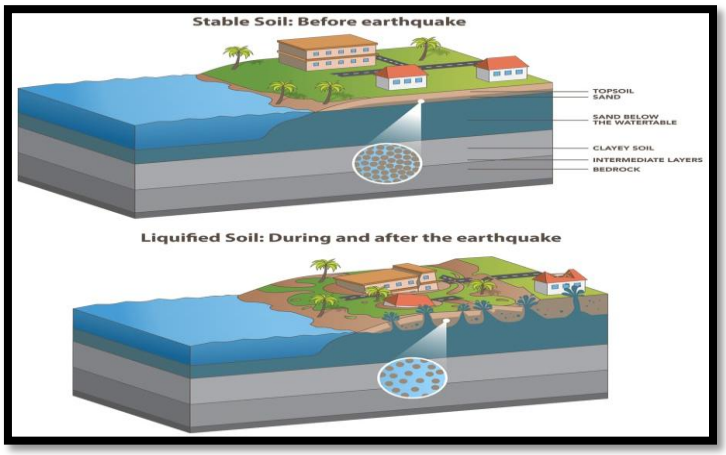


Fig.35 Soil liquefaction

Soil liquefaction occurs when a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress such as shaking during an earthquake or other sudden change in stress condition, in which material that is ordinarily a solid behaves like a liquid. In soil mechanics, the term "liquefied" was first used by Allen Hazen in reference to the 1918 failure of the Calaveras Dam in California. He described the mechanism of flow liquefaction of the embankment dam as: If the pressure of the water in the pores is great enough to carry all the load, it will have the effect of holding the particles apart and of producing a condition that is practically equivalent to that of quicksand… the initial movement of some part of the material might result in accumulating pressure, first on one point, and then on another, successively, as the early points of concentration were liquefied. Type of soil causes liquefaction: Poorly drained fine-grained soils such as sandy, silty, and gravelly soils are the most susceptible to liquefaction.

5.1.3 Sustainable sanitation

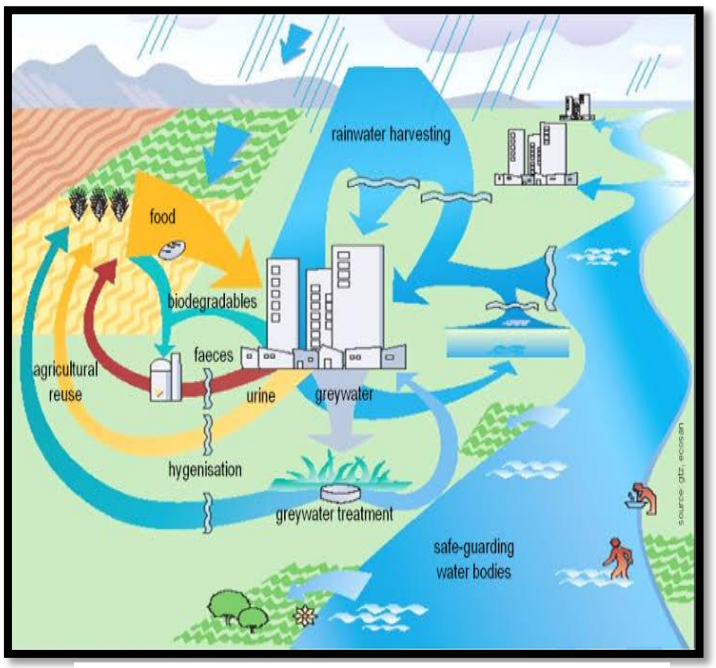


Fig.36 Sustainable sanitation

Sustainable sanitation is a sanitation system designed to meet certain criteria and to work well over the long-term. Sustainable sanitation systems consider the entire "sanitation value chain", from the experience of the user, excreta and wastewater collection methods, transportation or conveyance of waste, treatment, and reuse or disposal.

The Sustainable Sanitation Alliance (SuSanA) includes five features (or criteria) in its definition of "sustainable sanitation": Systems need to be economically and socially acceptable, technically and institutionally appropriate and protect the environment and natural resources.

The purpose of sustainable sanitation is the same as sanitation in general: to protect human health. However, "sustainable sanitation" attends to all processes of the system: This includes methods of collecting, transporting, treating and the disposal (or reuse) of waste.

The main objective of a sanitation system is to protect and promote human health by

providing a clean environment and breaking the cycle of disease. In order to be sustainable a sanitation system has to be not only economically viable, socially acceptable, and technically and institutionally appropriate, but it should also protect the environment and the natural resources. According to the Sustainable Sanitation Alliance, when improving an existing and/or designing a new sanitation system, sustainability criteria related to the following aspects should be considered.

5.1.4 Transportation infrastructure/system

Transport infrastructure is composed of the fixed installations of canals, waterways, airways, railways, roads, and terminals, as well as pipelines such as seaports, refueling depots, trucking terminals, warehouses, bus stations, railway station, and airports.

A mode of transport is a solution that makes use of a particular type of vehicle, infrastructure, and operation. The transport of a person or of cargo may involve one mode or several of the modes, with the latter case being called inter-modal or multi-modal transport. Each mode has its own advantages and disadvantages, and will be chosen on the basis of cost, capability, and route.

5.1.5 Vertical farming

Vertical farming is the practice of growing crops in vertically stacked layers. It often incorporates controlled-environment agriculture, which aims to optimize plant growth, and soilless farming techniques such as hydroponics, aquaponics, and aeroponics. Some common choices of structures to house vertical farming systems include buildings, shipping containers, tunnels, and abandoned mine shafts. As of 2020, there is the equivalent of about 30 ha (74 acres) of operational vertical farmland in the world. The modern concept of vertical farming was proposed in 1999 by Dickson Despommier, professor of Public and Environmental Health at Columbia University. Despommier and his students came up with a design of a skyscraper farm that could feed 50,000 people.[4] Although the design has not yet been built, it successfully popularized the idea of vertical farming. Current applications of vertical framings coupled with other state-of-the-art technologies, such as specialized LED lights, have resulted in over 10 times the crop yield than would receive through traditional farming methods.

Fig.37 Concept of Vertical farming

The main advantage of utilizing vertical farming technologies is the increased crop yield that comes with a smaller unit area of land requirement. The increased ability to cultivate a larger variety of crops at once because crops do not share the same plots of land while growing is another sought-after advantage. Additionally, crops are resistant to weather disruptions because of their placement indoors, meaning less crops lost to extreme or unexpected weather occurrences. Because of its limited land usage, vertical farming is less disruptive to the native

plants and animals, leading to further conservation of the local flora and fauna.

Vertical farming technologies face economic challenges with large start-up costs compared to traditional farms. In Victoria, Australia, a "hypothetical 10 level vertical farm" would cost over 850 times more per square meter of arable land than a traditional farm in rural Victoria. Vertical farms also face large energy demands due to the use of supplementary light like LEDs. Moreover, if non-renewable energy is used to meet these energy demands, vertical farms could produce more pollution than traditional farms or greenhouses.

5.1.6 Corrosion Mechanism, Prevention & Repair Measures of RCC Structure

Corrosion Mechanism, Prevention & Repair Measures of RCC Structure Though concrete is quite strong mechanically, it is highly susceptible to chemical attack and thus structure gets damaged and even fail unless some preventive measures are adopted to counteract this and thereby increasing the durability of structure. In the case of Reinforced concrete structure, the ingress of moisture or air may lead to corrosion of steel, cracking and spelling of concrete cover thereby reducing durability of concrete structure. Repair has been suggested as the protective solution for damaged structure due to corrosion.

Overall, there is very little published empirical evidence that provides insight into the durability of silane treatments and their long-term residual protection (i.e. following at least 10 years of service). Such a gap in knowledge is undesirable given the scale of infrastructure treated with hydrophobic treatments such as silanes.

- **Causes Prevention and Repair of Cracks in Building / rectification of building tilt / rehabilitation technique**

- **Causes of cracks: -**
  - Versatile deformation
  - Warm movement
  - Substance Reaction
  - Shrinkage
  - Establishment Movement and Settlement of soil
  - Earthquake
  - Vegetation
  - Poor construction homes

- **Preventive Measures:**
  - Create slip joints under the support of concrete slab on walls. Provide horizontal movement joints between the top of brick panel and reinforced cement concrete beam/slab.
  - Joints should be constructed like construction joints, expansion joints, control joints and slip joints.
  - The design of foundation should be based on sound engineering principles and good practice.
  - Construct the foundation of buildings on firm ground while doing construction. Tie up the building with connecting beams at foundation level, door level and roof level.

- **Rehabilitation techniques:**

- **Epoxy injection**

  Epoxy injection is an economical method of repairing non-moving cracks in concrete walls, slabs, columns and piers as it is capable of restoring the concrete to its pre-cracked strength. The technique generally consists of establishing entry and venting ports at close intervals along the cracks, sealing the crack on exposed surfaces, and injecting the epoxy under pressure.

- **Routing and sealing**

  In this method, the crack is made wider at the surface with a saw or grinder, and then the groove is filled with a flexible sealant. This is a common technique for crack treatment and it is relatively simple in comparison to the procedures and the training required for epoxy injection. It can be done on vertical surfaces and curved surface.

- **Stitching**

  This method is done to provide a permanent structural repairs solution for masonry repairs and cracked wall reinforcement. It is done by drilling holes on both sides of the crack, cleaning the holes and anchoring the legs of the staples in the holes with a non-shrink grout.

5.1.7 Sewage treatment plant

Sewage treatment is the process of removing contaminants from municipal wastewater, containing mainly household sewage plus some industrial wastewater. Physical, chemical, and biological processes are used to remove contaminants and produce treated wastewater (or treated effluent) that is safe enough for release into the environment. A by-product of sewage treatment is a semi-solid waste or slurry, called sewage sludge. The sludge has to undergo further treatment before being suitable for disposal or application to land. Sewage treatment may also be referred to as wastewater treatment.

➢ **Components of Sewage Treatment Plant:**

- Pumping of Sewage
- Primary Treatment
- Secondary treatment
- Tertiary Treatment

➢ **Pollutants in sewage:**

- BOD(Bio Chemical Oxygen demand)
- COD(Chemical Oxygen demand)
- TSS(Total Suspended Solids)
- PH

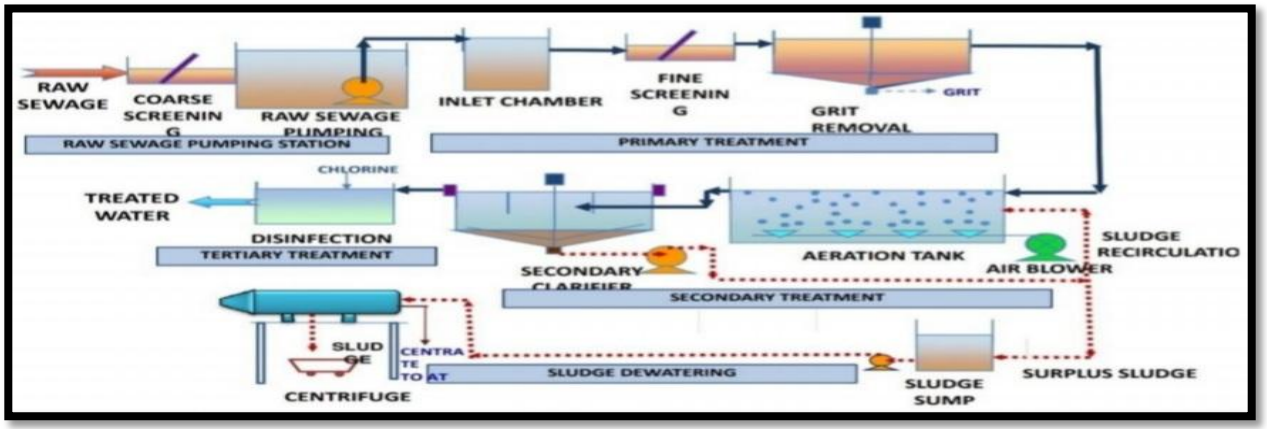


Fig.38 Typical flow diagram of sewage treatment plant

➢ **Primary Treatment:**

- Fine Screening
- Grit Removal
- Primary Clarification

➢ **Screening:**

- **Objective**: Removal of coarse solids
- **Types of screens**: Fine / medium / coarse
- **Cleaning of screens** : Manual / mechanical
- **Benefits** : Protection of pumps
- **Coarse Screening**: 20mm clear spacing in bars
- **Fine screening** : 6mm clear spacing in bars

Fig.39 Screening

➢ **Grit Removal:**

- **Objective**: Removal of inorganic solids e.g. pebbles/ sand/ Silt to protect moving Mechanical equipment
- **Principle**: Gravity separation (a) effective size 0.15mm (b) specific gravity – 2.65
- **Types**: Manual grit removal - Rectangular channel Mechanical grit removal - Circular tank
- **Grit removal**
- **Mechanism** : Screw classifier / reciprocating classifier

Fig.40 Grit removal

Method of Treatment - Aerobic, Anaerobic

- Aerobic-Sewage treatment in the presence of Oxygen-MBBR, SBR-where aerators/blowers aerators/ blowers are installed-generally no smell during treatment.
- Anaerobic-Sewage treatment in the absence of Oxygen – UASB-No aerators/blowers are required-foul melt during treatment.

➢ **Various Sewage Treatment Technologies:**

- Activated Sludge Process (ASP)
- Up flow Anaerobic Sludge Blanket Reactor (UASB)
- Moving Bed Biofilm Reactor (MBBR)
- Sequential Batch Reactor (SBR)

- **Activated Sludge Process - ASP**

- Raw Effluent In
- Aeration
- Sedimentation
- Treated water out
- Sludge Recirculation
- Sludge withdrawal

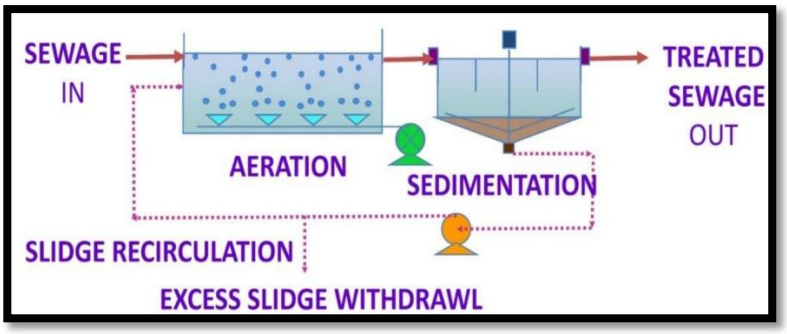


Fig.41 Activated Sludge Process- ASP

- **Activated Sludge Process (ASP) Technology:**

An activated sludge plant essentially consists of the following:

1) Aeration tank containing micro-organisms in suspension in which reaction takes place.
2) Activated sludge recirculation system.
3) Excess sludge wasting and disposal facilities.
4) Aeration systems to transfer oxygen
5) Secondary sedimentation tank to separate and thicken activated sludge.

- **Advantages:**
  - Can sustain seasonal variation.
  - Less land requirement than UASB.

- **Disadvantages:**
  - High energy consumption.
  - Foaming, particularly in winter season, may adversely affect the oxygen transfer, and hence performance.
  - Requires elaborate sludge digestion /drying/disposal arrangement.
  - More land requirement than SBR & MBBR.
  - Nitrogen and Phosphorous removal requires additional anoxic tank and > 3 times internal recirculation.

- **Sewage treatment plant (STP): A case study of Delwas, Jaipur**

India treats only 20% of its sewage and rest fall directly into rivers causing severe problems. The Problem faced by government and scientists in India is the mentality of people about the sewage treated water. This paper focuses on the mentality of people and coup it with the present situation and effectively reduces the overall demand in scientific healthy manner. The main aim of paper is to use the treated water in a way; which does not harm human and environment along with consideration of mentality of society. The work area is STP Delawas, PratapNagar, Jaipur, which is setup in 2006, and operation &management is under the charge of M/S Vatech Wabag Ltd. The survey for knowing people's concern conducted in Sitapura area is the source of knowledge about people's views. The STP collects water from 25Km surrounding with gravity flow & no pumping is use for sewage up lifting for sending it to plant, which is a great achievement for its engineers. The STP covers the area from Vidhyadhar nagar to Pratap Nagar, Sanganer. However, in study the authors also notice some illegal and careless practice of the plant and advise

them to solve as soon as possible.

- **Methods to treat the waste water:**

1. Collection of sewage:

The STP of Delawas consist inlet section, which is common for both phase of STP. The raw sewage first collects here.

2. Screening:

After commencement of water in inlet section it is screened through automated screens. Screens are inclined at an angle of 45 degree.

3. Grit separator:

After removing the solid waste from water, it transfers to grit chamber for removing the grit; the grit obtained from this chamber is highly nutritious for crops. The chamber is in shape for easy collection of grit. The whole process is fully automatic.

4. Primary Clarifier:

In primary clarifier, the sludge removes through gravity separation method. Then it transfers to secondary clarifier passing via aeration tank for activated sludge process.

5. Aeration Tank:

In aeration tank, oxygen is providing with the help of blower for survival of bacteria. A small quantity of sludge returned from secondary clarifier to aeration tank for activated sludge process. Air blowers are being operated with variable frequency drive (VFD). Man Machine Interface (MMI) is provided through programmable logic control system (PLC) for handling anaerobic sludge digester.

6. Sludge digester:

The sludge collected at different steps of process sent to the sump and then to the digester dome. The sludge is dewatered by using centrifugal pumps and the thickened sludge is sent to dome for anaerobic digestion. This process gives biogas and digested sludge, which use as manure by local farmers. The gas produce is using for revenue collection. The gas sent to CNG bottling plant, which gives them cost price of 6.50 RSPNm3.

- **Objective of the study:**

The chief objective of this case study is to check sustainable development with using treated water without any harmful cause to environment with the satisfaction of common residents of the area. By a keen study on STP Delawas, we try to understand its waste to energy generation, waste reduction & treated water consumption in an economical way.

Study Area:

The study area is confined to STP Delawas, Pratap Nagar ,sector 28, Jaipur and nearby area for mass survey through Google form. The data collected from STP office is useful to analyses rather the treated water fit for any other use or not and relate this result to the result obtained from the online survey through Google form in the area to solve out the problem without harming environment and even not breaking sentiments of locals.

Chapter 6: Swachh Bharat Abhiyan (Clean India)

Swachh Bharat Mission is a massive mass movement that seeks to create a Clean India by 2019. The father of our nation Mr. Mahatma Gandhi always puts the emphasis on swachhta as swachhta leads to healthy and prosperous life. Keeping this in mind, the Indian government has decided to launch the swachh bharat mission on October 2, 2014.The mission will cover all rural and urban areas. The urban component of the mission will be implemented by the Ministry of Urban Development, and the rural component by the Ministry of Drinking Water and Sanitation.

6.1 Which type of swachhta needed in your village explaining Existing Situation with photograph

The Nirmal Bharat Abhiyan has been restructured into the Swachh Bharat Mission (Garmin). The mission aims to make India an open defecation free country in Five Years. It seeks to improve the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities and making Gram Panchayats Open Defecation Free (ODF), clean and sanitized.

Village requires solid waste disposal, sanitation, liquid waste management etc.

6.2 Guidelines for the process of the implementation in your village with photograph

- To facilitate participation of local communities in improving water and sanitation management.
- By ensuring safe sanitation in all households, public, offices, institutions and places
- By educating communities about safe usage of water, prevent of contamination and about hygienic habits.
- Identification of Household without toilets corrective action.
- To promotes modern agriculture and water use technologies to conserve water.
- By proper plan and implementation of water supply schemes
- To establish local environmental safeguard measures.

6.3 Actual Activity Done by Students for making your village Clean with Photograph

Activities done by students are as follows:

- Student have to aware the villagers about waste and waste segregation
- Students can help to clean their school's colleges and aware the people to don't throw the garbage on the road
- They can give the information to people about dry and wet garbage and dispose them to separate
- Student can aware the people and make campaigning about swachh bhart Abhiyan.

Chapter 7:Village condition due to Covid-19

India has overtaken Brazil and become the second-worst affected country in the world by the corona virus pandemic, with more than 4 million cases. COVID-19 had mostly remained in India's cities, but the disease is now spreading to rural India – an area with over 850 million people and far worse healthcare.

7.1 Taken steps in allocated village related to existing situation:

In Ilav village, due to covid-19 total corona patients are 29 . Villagers were follow the covid-19 rules and regulation with good manners.

Table No.14 Covid-19 case detail

Village name	District name	Total covid case
Ilav	Bharuch	29

7.2 Activities Done by Students for allocated village:

Due to restriction of people gathering we were not done any activity with villagers to fight against covid-19.

Chapter 8: Sustainable Design Planning Proposal (prototype Design) – Part -1

8.1 Design Proposals

Table no. 15 Design proposals

Sr. no	Description	Design
1	Civil	Design of Anganwadi
2	Civil	Design of girl's primary School
3	Civil	Design of Agro storage unit
4	Civil	Design of Milk collection and distribution unit
5	Civil	Design of animal shelter
6	Civil	Design of public toilet

8.2 Recommendations of the Design

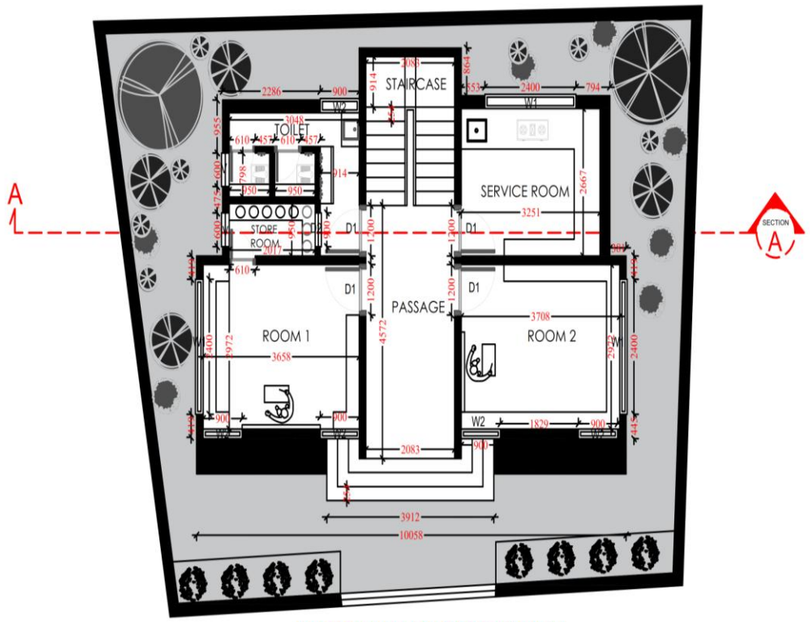
- Anganwadi
- Agro storage unit
- Milk storage and distribution unit
- Lake development
- Bus stops

8.3 Suggestions / Benefit of the villagers

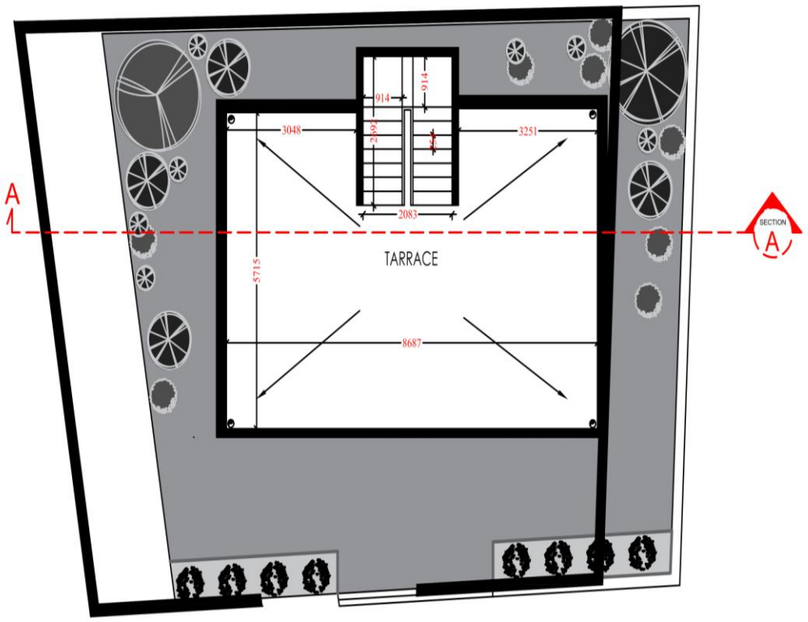
Villagers gives us suggestions that they require bus stop, public garden, lake development, Animal shelter, community hall, well-constructed road etc. which is helpful for villager.

❖ Design of Anganwadi

Ilav village have 2 Anganwadi but the student of Village is more so the village required two more anganwadi. We talk to the villagers and sarpanch they give us the feedback that one more anganwadi is required. And, the one of the anganwadi's Condition is so weak and construction is old so the all the above basis we decide to give the plan of anganwadi.

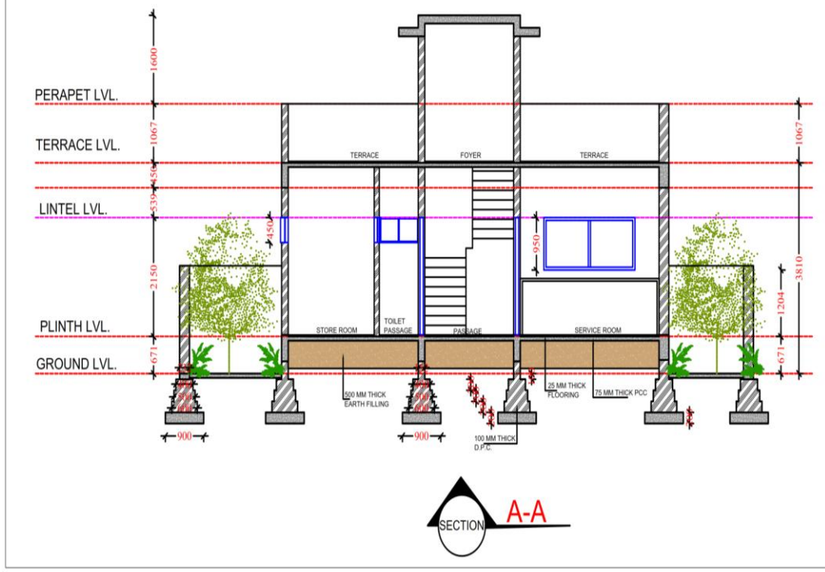


GROUND FLOOR PLAN



TERRACE FLOOR PLAN

DOOR WINDOW OPENING SCHEDULE				
SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D1	1200	2100	SINGLE SHUTTER DOOR
2	D2	900	2100	SINGLE SHUTTER DOOR
3	W1	2400	1500	FIXED ALUMINUM WINDOW
4	W2	900	1500	FIXED ALUMINUM WINDOW
5	V	600	600	FIXED ALUMINUM VENTILATION



SECTION A-A

1 ELEVATION 1
1:75

NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	ANGANWADI	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 01
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:16 Estimation of the Anganwadi**

BUILDING ESTIMATE OF ANGANWADI

QUANTITY SHEET

SR. NO.	DESCRIPTION	NO.	LENGTH	WIDTH	HEIGHT	QUINTITY	
1	**EXCAVATION WORK**						
	LONG WALL						
	LW1	2	3.95	0.9	1.2	8.532	
	LW2	2	3.45	0.9	1.2	7.452	
	LW3	2	8.02	0.9	1.2	17.3232	
	LW4	3	1.65	0.9	1.2	5.346	
	SHORT WALL					0	
	SW1	4	2.91	0.9	1.2	12.5712	
	SW2	2	2.45	0.9	1.2	5.292	
	SW3	1	1.48	0.9	1.2	1.5984	
	SW4	2	1.32	0.9	1.2	2.8512	
					TOTAL	**60.966**	**CU.MT.**
2	**P.C.C. WORK AT FOOTING (1:4:8)**						
	LONG WALL						
	LW1	2	3.95	0.9	0.3	2.133	
	LW2	2	3.45	0.9	0.3	1.863	
	LW3	2	8.02	0.9	0.3	4.3308	
	LW4	3	1.65	0.9	0.3	1.3365	
	SHORT WALL					0	
	SW1	4	2.91	0.9	0.3	3.1428	

	SW2	2	2.45	0.9	0.3	1.323	
	SW3	1	1.48	0.9	0.3	0.3996	
	SW4	2	1.32	0.9	0.3	0.7128	
	STEPS						
	BASE STEP P.C.C.	1	4.05	1.22	0.1	0.4941	
					TOTAL	**15.7356**	**CU.MT.**
3	**BRICK WORK UPTO PLINTH LEVEL**						
	1ST STEP BRICK WORK						
	LONG WALL						
	LW1	2	3.65	0.6	0.3	1.314	
	LW2	2	3.15	0.6	0.3	1.134	
	LW3	2	7.72	0.6	0.3	2.7792	
	LW4	3	1.35	0.6	0.3	0.729	
	SHORT WALL					0	
	SW1	4	3.21	0.6	0.3	2.3112	
	SW2	2	2.75	0.6	0.3	0.99	
	SW3	1	1.78	0.6	0.3	0.3204	
	SW4	2	1.62	0.6	0.3	0.5832	
	2ND STEP BRICK WORK					0	
	LONG WALL					0	
	LW1	2	3.55	0.5	0.3	1.065	
	LW2	2	3.05	0.5	0.3	0.915	
	LW3	2	7.62	0.5	0.3	2.286	
	LW4	3	1.25	0.5	0.3	0.5625	
	SHORT WALL					0	
	SW1	4	3.31	0.5	0.3	1.986	
	SW2	2	2.85	0.5	0.3	0.855	
	SW3	1	1.88	0.5	0.3	0.282	
	SW4	2	1.72	0.4	0.3	0.4128	

	3RD STEP BRICK WORK					0	
	LONG WALL					0	
	LW1	2	3.45	0.4	0.3	0.828	
	LW2	2	2.95	0.4	0.3	0.708	
	LW3	2	7.55	0.4	0.3	1.812	
	LW4	3	1.15	0.4	0.3	0.414	
	SHORT WALL					0	
	SW1	4	3.41	0.4	0.3	1.6368	
	SW2	2	2.95	0.4	0.3	0.708	
	SW3	1	1.98	0.4	0.3	0.2376	
	SW4	2	1.82	0.4	0.3	0.4368	
	STAIR					0	
	1ST STEP	1	2.9	0.6	0.15	0.261	
	2ND STEP	1	3.4	0.85	0.15	0.4335	
	3RD STEP	1	3.95	1.05	0.15	0.622125	
					TOTAL	**26.62313**	**CU.MT.**
4	**BRICK MASONARY ABOVE PLINTH LEVEL**						
	LONG WALL						
	LW1	2	3.05	0.3	3	5.49	
	LW2	2	2.52	0.3	3	4.536	
	LW3	2	7.12	0.3	3	12.816	
	LW4	3	0.75	0.3	3	2.025	
	SHORT WALL					0	
	SW1	4	3.81	0.3	3	13.716	
	SW2	2	3.35	0.3	3	6.03	
	SW3	1	2.38	0.3	3	2.142	
	SW4	2	2.22	0.3	3	3.996	
	DEDUCTION				**TOTAL**	**50.751**	**CU.MT.**
	DOOR D1	4	1.2	0.3	2.1	3.024	

	D2	3	0.9	0.3	2.1	1.701	
	WINDOW W1	3	2.4	0.3	1.5	3.24	
	W2	5	0.9	0.3	1.5	2.025	
	VENTILATION V	3	0.6	0.3	0.6	0.324	
					TOTAL (-)	**10.314**	**CU.MT.**
					TOTAL	**42.057**	**CU.MT.**
5	**PLASTER WORK (INTERNAL WALL)**						
	PASSAGE	2	2.083		3	12.498	
		2	4.572		3	27.432	
	ROOM 1	2	3.658		3	21.948	
		2	2.972		3	17.832	
	ROOM 2	2	3.708		3	22.248	
		2	2.972		3	17.832	
	STORE ROOM	2	2.017		3	12.102	
		2	0.95		3	5.7	
	TOILET	2	3.038		3	18.228	
		2	1.524		3	9.144	
	SERVICE ROOM	2	3.251		3	19.506	
		2	2.466		3	14.796	
	STAIRCASE AREA	2	2.692		3	16.152	
		1	2.083		3	6.249	
	PASSAGE	1	2.83	4.57		12.9331	
	ROOM 1	1	3.658	2.97		10.86426	
	ROOM 2	1	3.708	2.972		11.02018	
	STORE ROOM	1	2.017	0.95		1.91615	
	TOILET	1	3.038	1.524		4.629912	
	SERVICE ROOM	1	3.251	2.466		8.016966	
	STAIRCASE AREA	1	2.083	2.692		5.607436	
					TOTAL	**276.655**	**SQ.M**

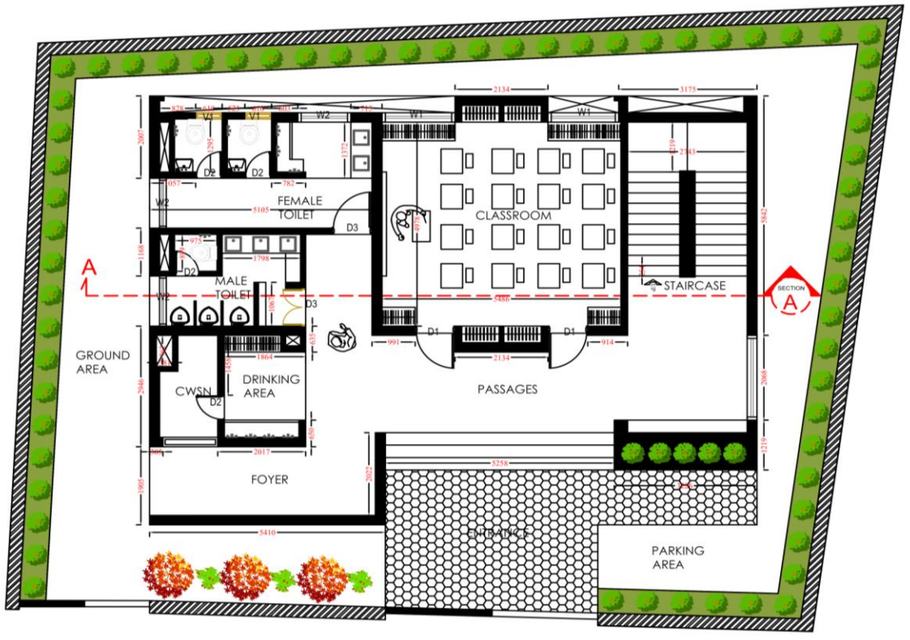
							T.
	DEDUCTION						
	DOOR D1	4	1.2		2.1	10.08	
	D2	3	0.9		2.1	5.67	
	WINDOW W1	3	2.4		1.5	10.8	
	W2	1	0.9		1.5	1.35	
	VENTILATION V	3	0.6		0.6	1.08	
					TOTAL (-)	**28.98**	**SQ.MT.**
					TOTAL	**247.674**	**SQ.MT.**
6	**PLASTER WORK (EXTERNAL WALL)**						
		2	10.06	7.41	3.2	477.0854	
	DEDUCTION						
	ENTERANCE	1	2.4		3	7.2	
	WINDOW W1	3	2.4		1.5	10.8	
	WINDOW W2	5	0.9		1.5	6.75	
	VENTILATION V	2	0.6		0.6	0.72	
					TOTAL (-)	**25.47**	**SQ.MT.**
					TOTAL	**451.6154**	**SQ.MT.**
7	**PARAPET WALL BRICK WORK**						
	LONG WALL	2	5.79	0.3	1.5	5.211	
	SHORT WALL	2	8.85	0.3	1.5	7.965	
	STAIR WALL	2	1.67	0.3	2.1	2.1042	
		1	2.235	0.3	0.6	0.4023	
					TOTAL	**15.6825**	**CU.MT.**
8	**R.C.C. WORK FOR SLAB**						
		1	9.15	6.1	0.2	11.163	
					TOTAL	**11.163**	**CU.MT.**

❖ **Table No:17 Abstract Sheet of Anganwadi**

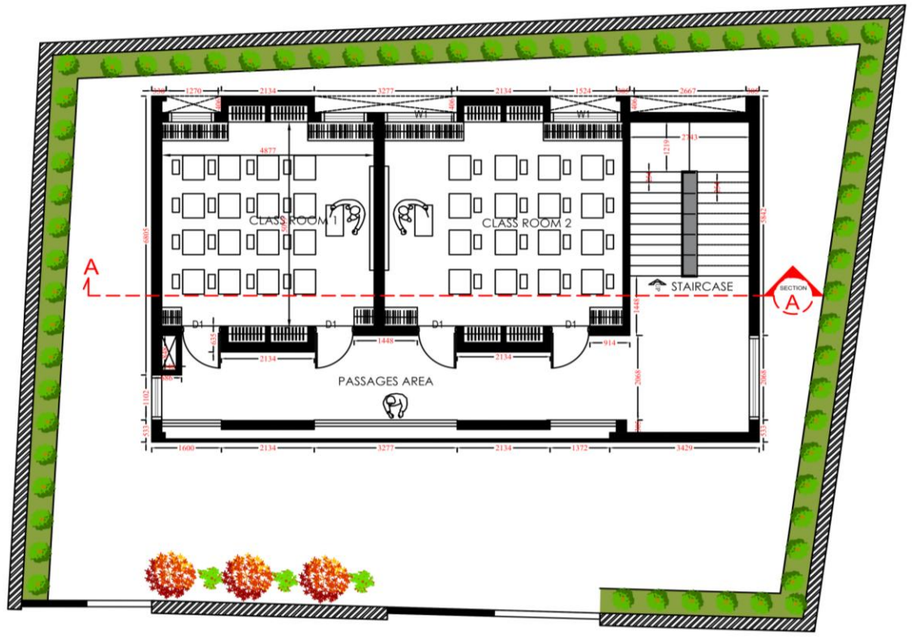
Abstract Sheet of Anganwadi					
Sr. no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	60.96	90	CUM	5486.4
2	Earth filling in plinth	18.376	2700	CUM	49615.2
3	Brick masonry up to plinth in CM	26.623	3500	CUM	93180.5
	(1:60				
4	smooth plaster inside rooms & ceiling	247.674	150	SQ.M	37151.1
5	smooth plaster on outer wall	451.6154	150	SQ.M	67742.31
6	paint work (white wash)	247.674	5	SQ.M	1238.37
7	paint work on outer wall	451.6154	5	SQ.M	2258.077
8	Brick work for parapet wall	15.6825	3500	CUM	54888.75
			Total Rs.		311560.707
		Add 1.5% Water Charge			4673
		Add 10% con.Charge			3115.60707
		Total Estimate Cost in Rs.			319350

❑ Design of girl's primary School

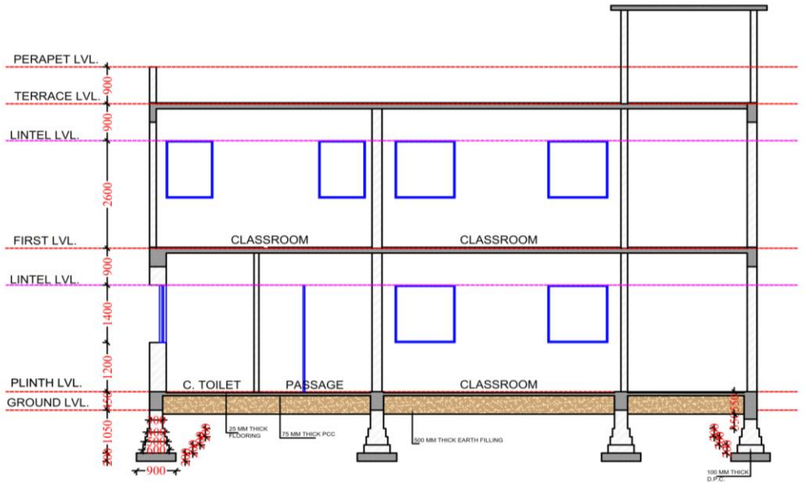
Ilav Village have one primary school but the plan and construction of village is old and there are many structural problem in the primary school Building and sarpanch and villager also give us feed back that a new plan of primary is required and as population is also growing so number of student is also increasing so as per requirement we give the plan of the primaryschool.



GROUND FLOOR LEVEL



FIRST FLOOR LEVEL



1 ELEVATION 1
1:75

DOOR WINDOW OPENING SCHEDULE				
SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D1	1000	2100	SINGLE SHUTTER DOOR
2	D2	700	2100	SINGLE SHUTTER DOOR
3	D3	800	2100	SINGLE SHUTTER DOOR
4	W1	1600	1400	FIXED ALUMINUM WINDOW
5	W2	1200	1400	FIXED ALUMINUM WINDOW
6	V1	600	600	FIXED ALUMINUM VENTILATION

NOTES:
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	GIRL'S PRIMARY SCHOOL	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 02
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:18 Estimation of girl's Primary school**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Widht/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CUM)**
1	**Earthwork in Excavation in Foundation:**					
	L=15.8 m	3	15.8	1	1.5	71.10
	L=6.1m	4	6.1	1	1.5	36.60
	L=5.2m	1	5.2	1	1.5	7.80
	S1=11.4	2	11.4	1	1.5	34.20
	S2=9.17	2	9.17	1	1.5	27.51
		TOTAL QTY.				149.70
2	**P.C.C in Excavation in Foundation:**					
	L=15.8 m	3	0.9	1.3	0.3	1.05
	L=6.1m	4	0.9	1.3	0.3	1.40
	L=5.2m	1	0.9	1.3	0.3	0.35
	S1=11.4	2	0.9	1.3	0.3	0.70
	S2=9.17	2	0.9	1.3	0.3	0.70
				TOTAL QTY.		3.51
3	**Brick Masonary up to**					
	plinth					
Step 1	L1=15.4 m	3	15.4	0.5	0.3	6.93
Step 2	L1=15.3m	3	15.3	0.4	0.3	5.51
Step 3	L1=5.2m	3	15.2	0.3	0.3	4.10
Step 1	L2=5.7m	4	5.7	0.5	0.3	3.42

Step 2	L2=5.6m	4	5.6	0.4	0.3	2.69
Step 3	L2=5.3m	4	5.3	0.3	0.3	1.91
Step 1	L3=4.8m	4	4.8	0.5	0.3	2.88
Step 2	L3=4.7m	4	4.7	0.4	0.3	2.26
Step 3	L3=4.6m	4	4.6	0.3	0.3	1.66
Step 1	S1=11.8m	2	11.8	0.5	0.3	3.54
Step 2	S1=11.9m	2	11.9	0.4	0.3	2.86
Step 3	S1=5.2m	2	15.2	0.3	0.3	2.74
Step 1	S2=9.57	2	9.57	0.5	0.3	2.87
Step 2	S2=9.67	2	9.67	0.4	0.3	2.32
Step 3	S2=9.77	2	9.77	0.4	0.3	2.34
				TOTAL QTY.		48.02
4	Brick Masonary above plinth					
	up to slab in c.m (1:6)					
	LONG WALL					
	L1=5.1m	2	11.8	0.2	3.2	15.10
	L2=5.2m	2	11.9	0.2	3.2	15.23
	L3=4.5m	2	15.2	0.2	3.2	19.46
	S1=5.3m	2	9.57	0.2	3.2	12.25
	S2=9.87	2	9.67	0.2	3.2	12.38
				TOTAL QTY.		74.42
5.	Deduction for Door Window					
	D1	7	1	0.2	2.1	2.94
	D2	3	0.7	0.2	2.1	0.88
	D3	1	0.8	0.2	2.1	0.34
	W1	6	1.6	0.2	1.4	2.69
	W2	4	0.7	0.2	1.4	0.78
	W3	4	1.2	0.2	1.4	1.34

	V1	2	0.6	0.2	0.6	0.14
					TOTAL QTY.	5.30
6.	Deduction for Lintel Window and Doors					
	D1	7	1.3	0.2	3.2	5.82
	D2	3	1	0.2	3.2	1.92
	D3	1	1.1	0.2	3.2	0.70
	W1	6	1.9	0.2	0.15	0.34
	W2	4	1	0.2	0.15	0.12
	W3	4	1.5	0.2	0.15	0.18
	V1	2	0.9	0.2	0.15	0.05
					TOTAL QTY.(M2)	9.14
					NET QTY(M2)	60.48
7.	1:3 Plaster for wall					
	CWSN	2	1.3	3		7.80
		2	2.4	3		14.40
	Drinking Area	2	1.3	3		7.80
		2	2	3		12
	TOILET	2	1.4	3		8.40
		2	1.7	3		10.20
	TOILET 1	2	4.7	3		28.20
		2	1.7	3		10.20
	CLASSROOMS	2	5.4	3		32.40
		2	4.9	3		29.40
	Celling plaster					
	CWSN	1	1.3	2.4		3.12
	DRINKING AREA	1	1.3	2		2.60
	TOILET	1	1.4	1.7		2.38
	TOILET 1	1	4.7	1.7		7.99
	CLASSROOM	1	5.4	4.9		26.46
					TOTAL QTY(m2)	203.35

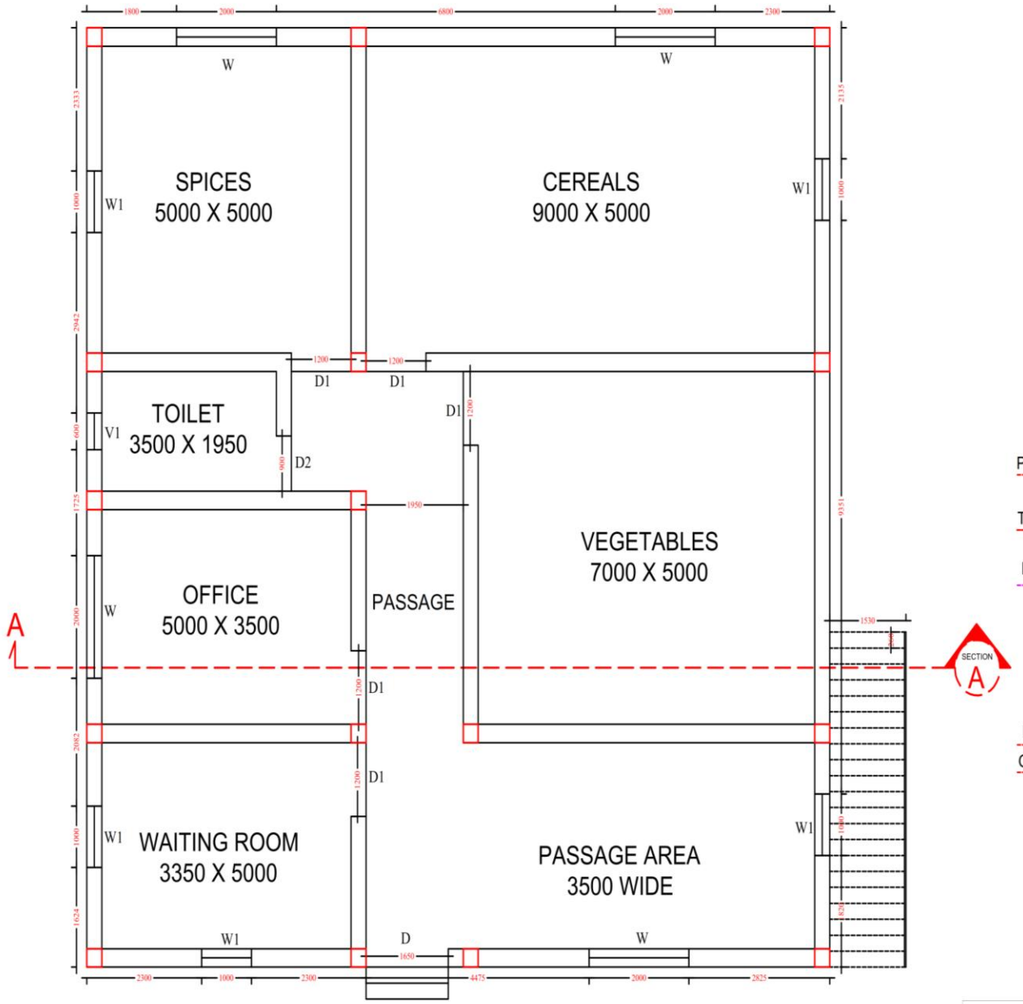
8.	Deduction for Door Window					
	D1	2.5	1		2.1	5.25
	D2	2	0.7		2.1	2.94
	D3	1	0.8		2.1	1.68
	W1	2	1.6		1.4	4.48
	W2	1	0.7		1.4	0.98
	W3	1	1.2		1.4	1.68
	V1	1	0.6		0.6	0.36
9.	1:3 Plaster for wall First Floor					
	CLASSROOM 1	2	4.8	3		28.80
		2	5	3		30.00
	CLASSROOM 2	2	4.8	3		28.80
		2	5	3		30.00
	PASSANGE	2	1	3		6.00
		2	3	3		18.00
	Celling plaster					
	CLASSROOM 1	1	4.8	5		24.00
	CLASSROOM 2	1	4.8	5		24.00
	PASSANGE	1	1	3		3.00
				TOTAL QTY.(m2)		192.60
				NET QTY.(m2)		60.48
10.	Brick Masonary Parapet wall					
		2	13	10	1.5	390.00
				TOTAL QTY.		390.00
11.	1:3 Plaster for wall outer face	2	13		4.5	117.00
		2	10		4.5	90.00
				TOTAL QTY.		207.00
				NET QTY.(m2)		197.86

❖**Table No:19 Abstract sheet of girl's Primary school**

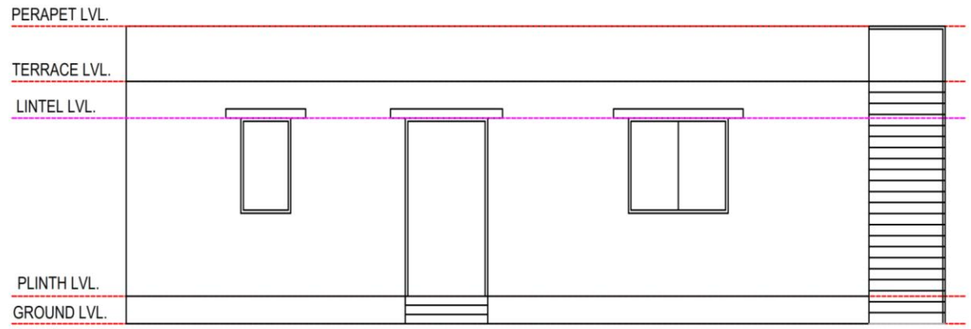
Abstract Sheet of Primary School Building					
Sr. no	ltem Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	149 CUM	90	CUM	13410
2	Earth filling in plinth	130 CUM	2700	CUM	129600
3	Brick masonry up to plinth in CM (1:60	48 CUM	3500	CUM	689500
4	smooth plaster inside rooms & ceiling	204 SQ.M	150	SQ.M	29700
5	smooth plaster on outer wall	197 SQ.M	150	SQ.M	29550
6	paint work (white wash)	204 SQ.M	5	SQ.M	990
7	paint work on outer wall	198 SQ.M	5	SQ.M	990
8	Brick work for parapet wall	390CUM	3500	CUM	1365000
			Total Rs.		2258740
		Add 1.5% Water Charge			33881
		Add 10% con. Charge			22587.4
		Total Estimate Cost in Rs.			2315209

Design of Agro storage unit

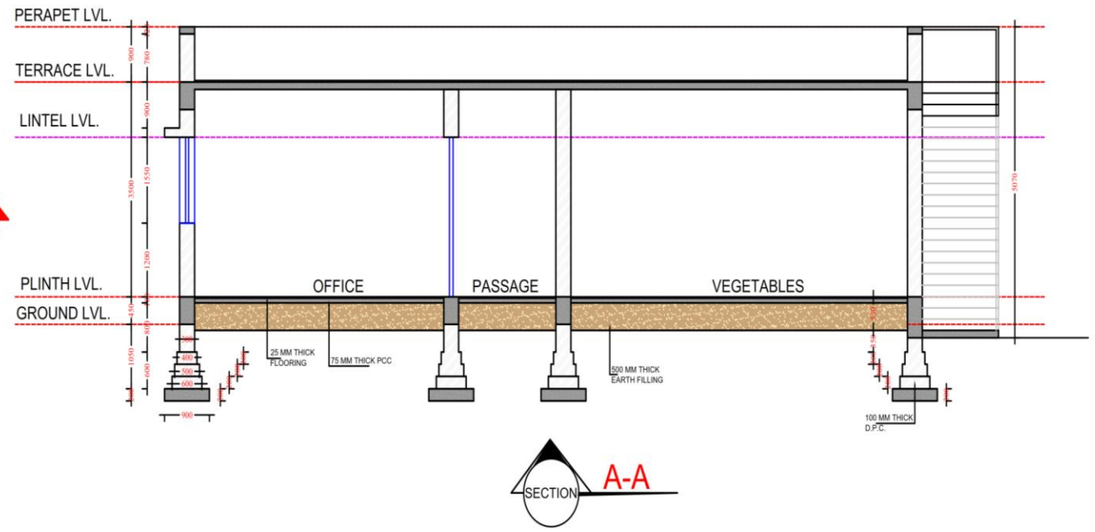
The 70% population of the Ilav village is doing farming and other 20 % people are doing Labour work in farm so, Agro product is produce in big amount, But the village does not have the storage building for agro product therefore the villagers need a storage house for their agro products other can store their agro product safely.



GROUND FLOOR PLAN



ELEVATION



NOTES:
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DOOR WINDOW OPENING SCHEDULE

SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D	1650	2100	SINGLE SHUTTER DOOR
2	D1	1200	2100	SINGLE SHUTTER DOOR
3	D2	900	2100	SINGLE SHUTTER DOOR
4	W	2000	1200	FIXED ALUMINUM WINDOW
5	W1	1000	1200	FIXED ALUMINUM WINDOW
6	V1	600	1200	FIXED ALUMINUM VENTILATION

DESIGN OF:	AGRO UNIT	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 03
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:20 Estimation of Agro storage unit**

BUILDING ESTIMATE							
QUANTITY SHEET							
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Widht/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**	
1	**Earthwork in Excavation in Foundation:**						
	Excavation for For foundation	16	4	4	1.5	384.00	
	Excavation for For step	1	2.4	0.7	0.2	0.34	
				TOTAL QTY.		384.34	
2	**P.C.C in Excavation in Foundation:**						
	P.C.C. for foundation	16	4	4	0.1	25.60	
	P.C.C. for steps	1	2	0.7	0.1	0.14	
				TOTAL QTY.		25.74	
3	**R.C.C. for foundation**						
	Volume	16	0.19			3.04	
				TOTAL QTY.		3.04	
	R.C.C for beam						
	steps 1	16	5.23	0.23	0.3	5.77	
	steps 2	4	4	0.23	0.3	1.10	

	steps 3	4	2.23	0.23	0.3	0.62
				TOTAL QTY.		7.49
4	**Brick Masonary in super structure**					
	Long wall 1 L=12m	3	12	0.23	3.5	28.98
	Long wall 2 L= 5m	1	5	0.23	3.5	4.03
	Short wall 1 S=14m	4	14	0.23	3.5	45.08
	Short wall 1 S=5m	1	5	0.23	3.5	4.03
	Brick masonry steps					
	step 1	1	2	0.7	0.3	0.42
	step2	1	2	0.35	0.3	0.21
		-	-	TOTAL QTY.		82.74
	Deduction for Door					
	& window					
	D	1	1.85	0.23	2.1	0.89
	D1	4	1.2	0.23	2.1	2.32
	D2	1	0.9	0.23	2.1	0.43
	W	6	2	0.23	1.2	3.31
	W1	3	1	0.23	1.2	0.83
	V1	1	0.6	0.23	1.2	0.17
				TOTAL QTY.(m3)		7.95

5	**Flooring**					
	Kota stone					
	Room 1	1	5	5		25.00
	Room 2	1	9	5		45.00
	Room 3	1	7	5		35.00
				TOTAL QTY.(m2)		105.00
	Marbel					
	Office	1	5	3		15.00
	Verandah	1	2.4	3		7.20
	open area 1	1	2	5		10.00
	open area 2	1	5	1.5		7.50
				TOTAL QTY.(m2)		39.70
6	**R.C.C. for slab**					
	(1:1.5:3)	1	13	15	0.5	97.50
				TOTAL QTY.(m3)		97.50
7	**out side plaster**					
	L2(13+15)	1	56	3.5		196.00
				TOTAL QTY.(m2)		196.00
	Deduction					
	D	1	1.85		2.1	3.89
	W	6	2		1.2	14.40
	W1	3	1		1.2	3.60
				TOTAL QTY.(m2)		21.89

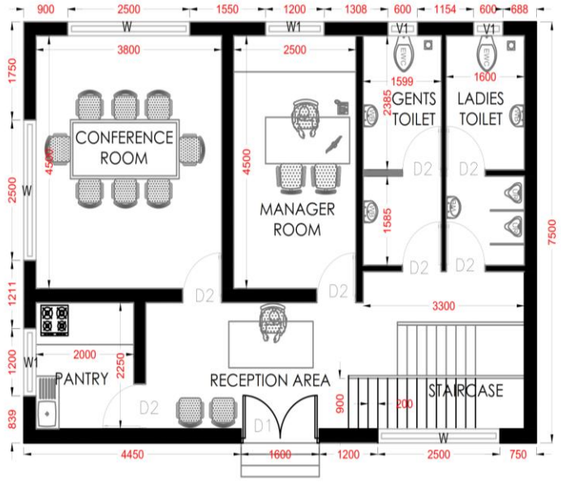
8	**Inside plaster (1:4)**					
	Long wall 1	4	12		3.5	168.00
	Long wall 2	1	5		3.5	17.50
	short wall 1	6	14		3.5	294.00
	short wall 2	1	5		3.5	17.50
				TOTAL QTY.(m2)		497.00
	Deduction					
	D	1	1.85		2.1	3.89
	D1	10	1.2		2.1	25.20
	D2	2	0.9		2.1	3.78
	W	5	2		1.2	12.00
	W1	3	1		1.2	3.60
				TOTAL QTY.(m2)		48.47
9	**colour outside**					
	L=2(13+15)	1	56		3.5	196.00
				TOTAL QTY.(m2)		196.00
	Deduction					
	D	1	1.85		2.1	3.89
	W	6	2		1.2	14.40
	W1	3	1		1.2	3.60
				TOTAL QTY.(m2)		21.89
10	**Colour inside**					
	long wall 1	4	12		3.5	168.00
	long wall 2	1	5		3.5	17.50
	Short wall 1	6	14		3.5	294.00
	Short wall 2	1	5		3.5	17.50
				TOTAL QTY.(m2)		497.00

	Deduction					
	D	1	1.85		2.1	3.89
	D1	10	1.2		2.1	25.20
	D2	2	0.9		2.1	3.78
	W	5	2		1.2	12.00
	W1	3	1		1.2	3.60
				TOTAL QTY.		48.47
11	**Wood work**					
	Door (400 thick) & Window					
	D	1	1.85		2.1	3.89
	D1	5	1.2		2.1	12.60
	D2	1	0.9		2.1	1.89
	W	6	2		1.2	14.40
	W1	3	1		1.2	3.60
				TOTAL QTY.		36.38
12	**R.C.C. Chajja**					
	W	5	2.4	0.65	0.1	0.78
	W1	3	1.6	0.65	0.1	0.31
	W3	1	5	0.65	0.1	0.33
				TOTAL QTY.(m3)		1.42
13	**R.C.C. Column**	16	0.23	0.23	5	4.23
				TOTAL QTY.(m3)		4.23

❖ **Table No:21 Abstract Sheet of Agro Storage unit**

Abstract Sheet of Agro Storage Unit					
Sr .no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	384.34	90	CU M	34590.6
2	P.C.C. for Foundation	25.74	3150	CU M	81081
3	R.C.C. for Foundation And Beam	24	9218	CU M	221232
4	Brick masonary in super Structure	74.25	3321	SQ. M	246584.2
5	Flooring	60.5	742	SQ M	44891
6	R.C.C. for Slab	29.25	4937	SQ. M	144407.2
7	Outside Plaster (1:4)	174.12	132	SQ. M	22983.84
8	Inside Plaster (1:4)	448.54	100	SQ.M	44854
9	Colour outside	174.12	130	SQ.M	22635.6
10	Colour inside	448.54	90	SQ.M	40368.6
11	Wood work for Door and Windows	33.56	245	SQ.M	8222.2
12	R.C.C. for Chajja	1.41	4235	CU.M	5971.35
13	R.C.C. for Column	4.23	4792	CU.M	20270.16
			Total Rs.		938091.85
		Add 1.5% Water Charge			14071
		Add 10% co. Charge			9380.918
		Total Estimate Cost in Rs.			961544

FRSIT FLOOR PLAN

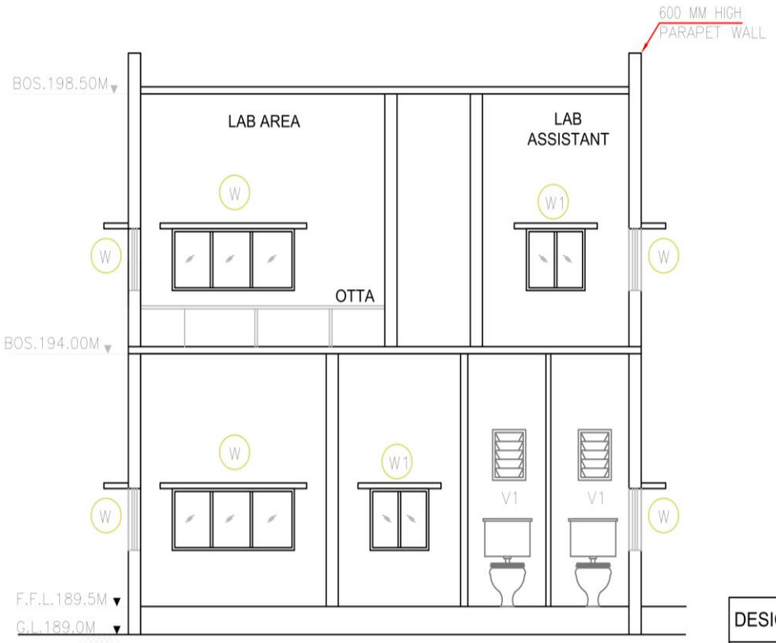


GROUND FLOOR PLAN

DOOR WINDOW OPENING SCHEDULE

SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D	1200	2100	SINGLE SHUTTER DOOR
2	D1	1600	2100	SINGLE SHUTTER DOOR
3	D2	800	2100	SINGLE SHUTTER DOOR
4	W	2500	1200	FIXED ALUMINUM WINDOW
5	W1	1200	1200	FIXED ALUMINUM WINDOW
6	V1	600	1200	FIXED ALUMINUM VENTILATION

1 ELEVATION 1
1:75



SECTION A–A

NOTES:
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	MILK COLLECTION AND DISTRIBUTION UNIT	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 04
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

- **Design of Milk collection and distribution unit:-**

❖ **Table No:22 Estimation of Milk collection and distribution unit:-**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Widht/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**
1	**Earthwork in Excavation in Foundation:**					
	L1 =11.1	3	11.1	1	1	33.30
	L2 =3.9	1	3.9	1	1	3.90
	S1 =8.1	3	8.1	1	1	24.30
	S2 =5.9	2	5.9	1	1	11.80
	S3 =3.5	1	3.5	1	1	3.50
				TOTAL QTY.		73.30
2	**pad footing up to plinth Foundation:**					
	L1 =10.6	3	10.6	1	0.3	9.54
	L1 =10.3	3	10.3	1	0.3	9.27
	L2 =3.4	1	3.4	1	0.3	1.02
	L2 =3.1	1	3.1	1	0.3	0.93
	S1 =7.6	3	7.6	1	0.3	6.84
	S1 =7.3	3	7.3	1	0.3	6.57
	S2 =5.4	2	5.4	1	0.3	3.24
	S2 =5.1	2	5.1	1	0.3	3.06
	S3 =3.0	1	3	1	1.5	4.50
	S3 =2.7	1	2.7	1	1.5	4.05
				TOTAL QTY.		49.02
3	**P.C.C Foundation:**					
	L1 =11.1	3	11.1	1	1.5	49.95

	L2 =3.9	1	3.9	1	1.5	5.85
	S1 =8.1	3	8.1	1	1.5	36.45
	S2 =5.9	2	5.9	1	1.5	17.70
	S3 =3.5	1	3.5	1	1.5	5.25
				TOTAL QTY.		109.95
4	**B.B.C.C Foundation:**					
	L1 =11.1	3	11.1	1	0.2	6.66
	L2 =3.9	1	3.9	1	0.2	0.78
	S1 =8.1	3	8.1	1	0.2	4.86
	S2 =5.9	2	5.9	1	0.2	2.36
	S3 =3.5	1	3.5	1	0.2	0.70
				TOTAL QTY.		14.66
5	**B.B.C.C Foundation:**					
	L1 =11.1	3	11.1	0.2	3.5	23.31
	L2 =3.9	1	3.9	0.2	3.5	2.73
	S1 =8.1	3	8.1	0.2	3.5	17.01
	S2 =5.9	2	5.9	0.2	3.5	8.26
	S3 =3.5	1	3.5	0.2	3.5	2.45
				TOTAL QTY.		51.31
6	Deduction for Door					
	Window					
	D1	1	1.5	0.2	3.2	0.96
	D2	7	1.2	0.2	3.2	5.38
	W1	2	1.2	0.2	1.4	0.67
	W2	2	0.9	0.2	1.4	0.50
	V1	2	0.6	0.2	0.6	0.14
				TOTAL QTY.		7.65
7	Dedication for lintel window & door					
				NET QTY.(m2)		82.88

8	1:3 Plaster for wall					
	PANTRY	2	2	3.5		14.00
		2	2.25	3.5		15.75
	CO ROOM	2	3.5	3.5		24.50
		2	4.5	3.5		31.50
	MANAGER ROOM	2	2.5	3.5		17.50
		2	4.5	3.5		31.50
	GENTS TOILET	2	1.5	3.5		10.50
		2	4	3.5		28.00
	LADIESTOILET	2	1.6	3.5		11.20
		2	4	3.5		28.00
				NET QTY.(m2)		212.45
9	Celling plaster					
	PANTRY	1	2	2.25		4.50
	CO ROOM	1	3.5	4.5		15.75
	MANAGER ROOM	1	2.5	4.5		11.25
	GENTS TOILET	1	1.5	4		6.00
	LADIESTOILET	1	1.6	4		6.40
				TOTAL QTY.		43.90

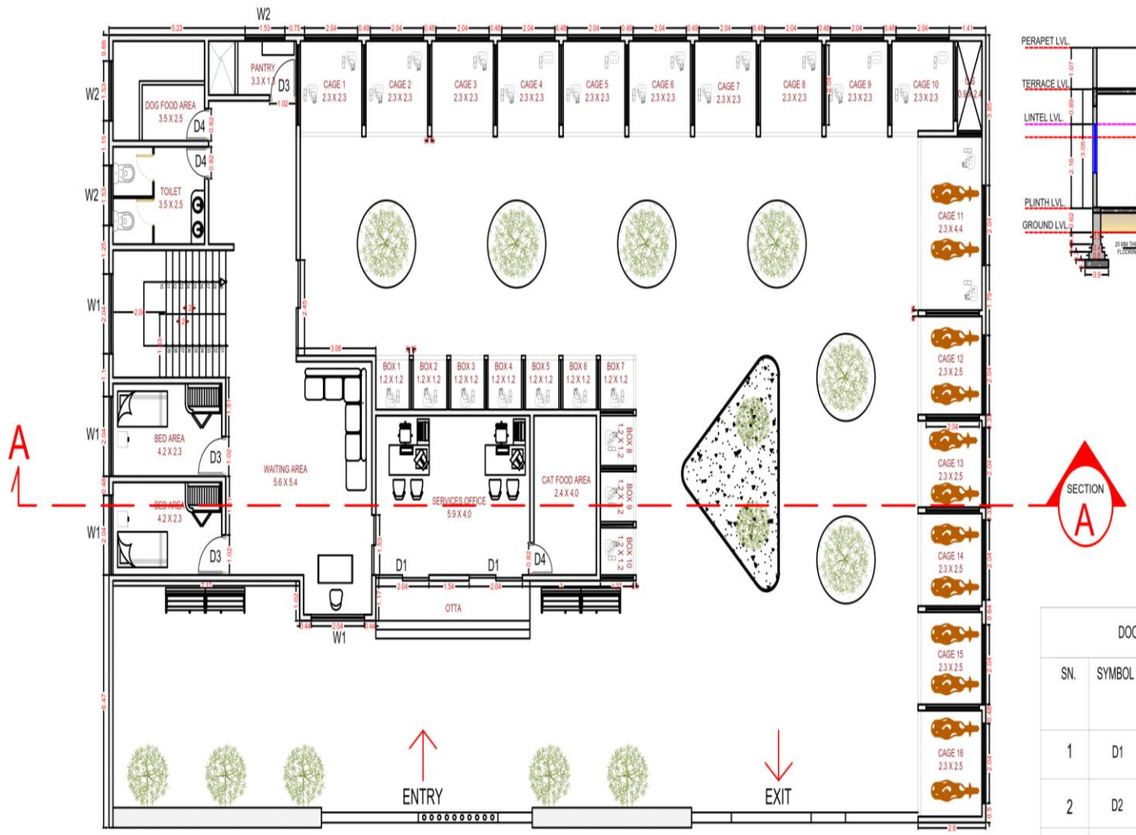
				TOTAL QTY.		0.21
				NET QTY.(m2)		168.34
10	Outer side plaster					
		2	10.5	3.5		73.50
		2	7.5	3.5		52.50
				TOTAL QTY.		126.00
				NET QTY.(m2)		43.12
11	Brick work for					

	parapet wall					
		2	10.5	0.2	1.5	6.30
		2	7.5	0.2	1.5	4.50
				TOTAL QTY.		10.80

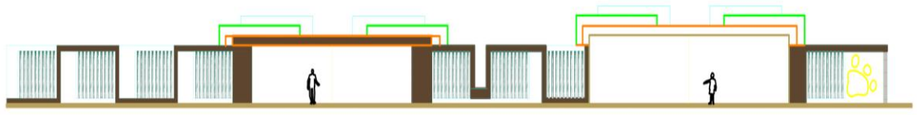
❖ **Table No:23 Abstract Sheet of Milk collection and distribution unit**

Abstract Sheet of Milk dairy unit					
Sr. no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	73.6 CUM	90	CUM	6624
2	Earth filling in plinth	50.0 CUM	2700	CUM	135000
3	Brick masonry up to plinth in CM (1:60	49.1 CUM	3500	CUM	171850
4	smooth plaster inside rooms & ceiling	212.5 SQ.M	150	SQ.M	31875
5	smooth plaster on outer wall	126.0 SQ.M	150	SQ.M	18900
6	paint work (white wash)	150.0 SQ.M	5	SQ.M	750
7	paint work on outer wall	43.0 SQ.M	5	SQ.M	215
8	Brick work for parapet wall	10.8 CUM	3500	CUM	37800
			Total Rs.		403014
		Add 1.5% Water Charge			6045
		Add 10% con. Charge			4030.14
		Total Estimate Cost in Rs.			413089

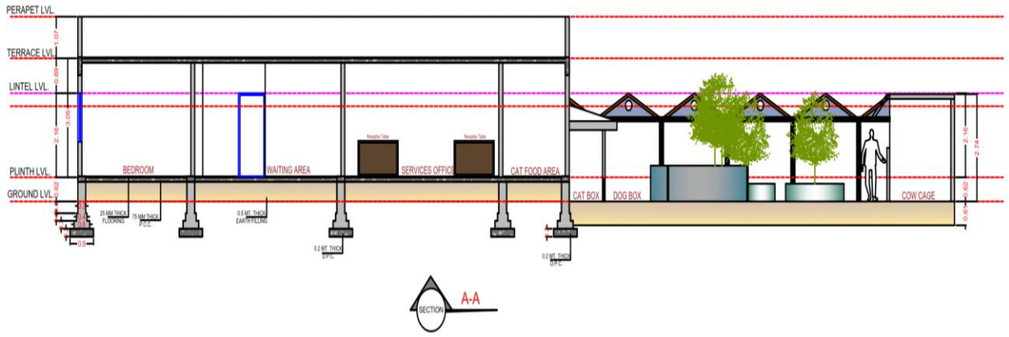
- **Design of Animal Shelter**



GROUND FLOOR PLAN



ELEVATION



DOOR WINDOW OPENING SCHEDULE				
SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D1	2000	1600	SINGLE SHUTTER DOOR
2	D2	1500	1600	SINGLE SHUTTER DOOR
3	D3	1000	1600	SINGLE SHUTTER DOOR
4	D4	800	1600	SINGLE SHUTTER DOOR
5	W1	2000	1600	FIXED ALUMINUM WINDOW
6	W2	1500	1600	FIXED ALUMINUM WINDOW

NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	ANIMAL SHELTER	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 05
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:24 Estimation of Animal Shelter**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Width/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**
1	**Earthwork in Excavation in Foundation:**					
	L1 =34.53	5	34.53	1	1.5	258.98
	L2 =21.14	4	21.14	1	1.5	126.84
	S1 =3.3	1	3.3	1	1.5	4.95
	S2 =12.82	1	12.82	1	1.5	19.23
	S3 =8.87	1	8.87	1	1.5	13.31
		TOTAL QTY.				423.30
2	**P.C.C Foundation:**					
	L1 =34.53	5	34.53	1	0.3	51.80
	L2 =21.14	4	21.14	1	0.3	25.37
	S1 =3.3	1	3.3	1	0.3	0.99
	S2 =12.82	1	12.82	1	0.3	3.85
	S3 =8.87	1	8.87	1	0.3	2.66
		TOTAL QTY.				84.66
3	**Pad footing in Foundation**					
STEP1	L1 =34.23	5	34.23	0.7	0.3	35.94
STEP2	L1 =34.08	5	34.08	0.15	1.6	40.90
STEP1	L2 =20.84	4	20.84	0.7	0.3	17.51
STEP2	L2 =20.69	4	20.69	0.15	1.6	19.86
STEP1	S1 =3.6	1	3.6	0.7	0.3	0.76
STEP2	S1 =3.7	1	3.7	0.15	1.6	0.89
STEP1	S2 =13.12	1	13.12	0.7	0.3	2.76
STEP2	S2 =13.27	1	13.27	0.15	1.6	3.18
STEP1	S3 =9.17	1	9.17	0.7	0.3	1.93
STEP2	S3 =9.32	1	9.32	0.15	1.6	2.24
		TOTAL QTY.				125.95

4	**Brickwork in S.S**					
	L1 =34.53	5	34.53	0.15	3.2	82.87
	L2 =21.14	4	21.14	0.15	3.2	40.59
	S1 =3.3	1	3.3	0.15	3.2	1.58
	S2 =12.82	1	12.82	0.15	3.2	6.15
	S3 =8.87	1	8.87	0.15	3.2	4.26
		TOTAL QTY.				135.46
5	**Deducation for D & W**					
	W1	4	2	0.2	1.6	2.56
	W2	44	1.5	0.2	1.6	21.12
	V1	1	0.5	0.2	1.6	0.16
	D1	1	2	0.2	1.6	0.64
	D2	1	1.5	0.2	1.6	0.48
	D3	4	1	0.2	1.6	1.28
	D4	2	0.8	0.2	1.6	0.51
	D5	2	0.7	0.2	1.6	0.45
		TOTAL QTY.				27.20
	Deduction for linters above D&W					
	W1	4	2.3	0.2	0.12	0.22
	W2	44	1.8	0.2	0.12	1.90
	V1	1	0.8	0.2	0.12	0.02
	D1	1	2.3	0.2	0.12	0.06
	D2	1	1.8	0.2	0.12	0.04
	D3	4	1.3	0.2	0.12	0.12
	D4	2	1.1	0.2	0.12	0.05
	D5	2	1	0.2	0.12	0.05
		TOTAL QTY.				2.46
		NET QTY.				105.80
6	**RCC WORK IN SLAB**					
	AREA 160 SQ.M	1	160		0.12	19.20

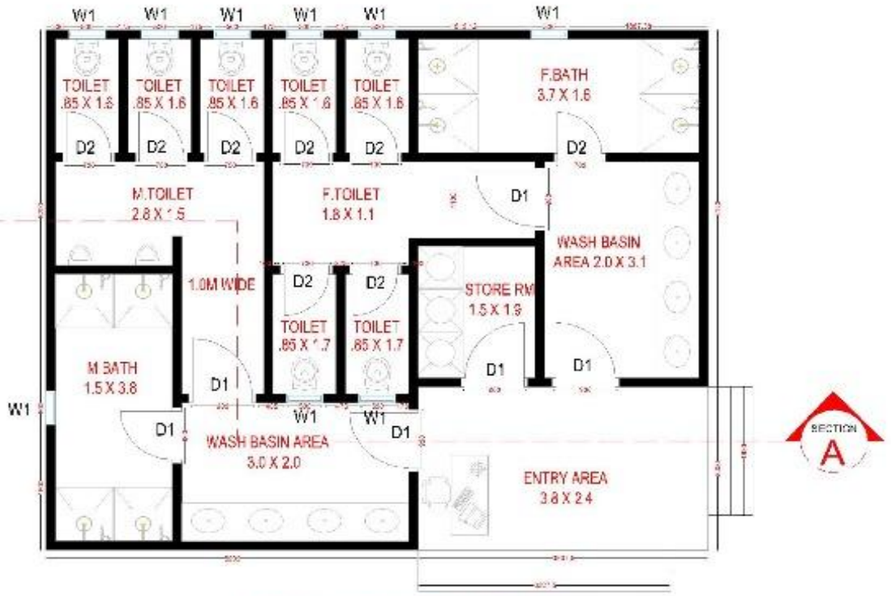
7	**Plaster inside**					
	BED AREA	4	4.2		3.2	53.76
		4	2.3		3.2	29.44
	SITTING AREA	2	5.6		3.2	35.84
		2	5.4		3.2	34.56
	SERIVCE OFFICE	2	5.9		3.2	37.76
		2	4		3.2	25.60
	CAT FOOD AREA	2	2.4		3.2	15.36
		2	4		3.2	25.60
	TOILET	2	3.5		3.2	22.40
		2	2.5		3.2	16.00
	DOG FOOD AREA	2	3.5		3.2	22.40
		2	2.5		3.2	16.00
	PANTRY	2	3.3		3.2	21.12
		2	1.3		3.2	8.32
		TOTAL QTY.				364.16
	Celling Plaster					
	BED AREA	2	4.2	2.3		19.32
	SITTING AREA	1	5.6	5.4		30.24
	SERVICE OFFICE	1	5.9	4		23.60
	CAT FOOD AREA	1	2.4	4		9.60
	TOILET	1	3.5	2.5		8.75
	DOG FOOD AREA	1	3.5	2.5		8.75
	PANTERY	1	3.3	1.3		4.29
		TOTAL QTY.				104.5
	Deduction D & F					
	W1	1	2		1.6	3.20
	W2	0.5	1.5		1.6	1.20
	V1	1.2	0.5		1.6	0.96
	D1	0.4	2		1.6	1.28
	D2	2	1.5		1.6	4.80
	D3	0.9	1		1.6	1.44
	D5	2	0.7		1.6	2.24
		TOTAL QTY.				15.38
		NET QTY.				225.74
	Deduction D& F					
	W1	4	2	0.6	0.2	1.60

	W2	1	1.5	0.6	0.2	0.30
	V1	2	0.5	0.6	0.2	0.20
		TOTAL QTY.				2.10

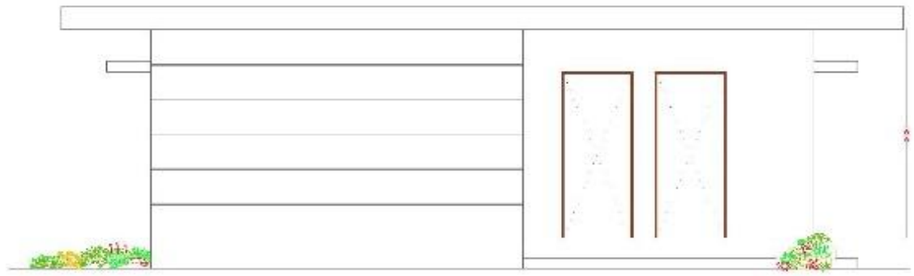
❖ **Table No:25 Abstract Sheet of Animal Shelter**

Abstract Sheet					
Sr. no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	423.5 CUM	90	CUM	38115
2	P.C.C foundation	84.7 CUM	2700	CUM	228582
3	Pad Footing Up to Plinth	126.0 CUM	3500	CUM	440825
4	Brick work for S.S	135.1 SQ.M	150	SQ.M	20268
5	R.C.C Slab & Chajja	22.2 CUM	150	SQ.M	3334.5
6	smooth plaster on inter wall	225.7 SQ.M	5	SQ.M	1128.7
7	Brick work for parapet wall	10.0 CUM	5	CUM	50
			Total Rs.		732303.2
		Add 1.5% Water Charge			10985
		Add 10% con. Charge			7323.032
		Total Estimate Cost in Rs.			750611

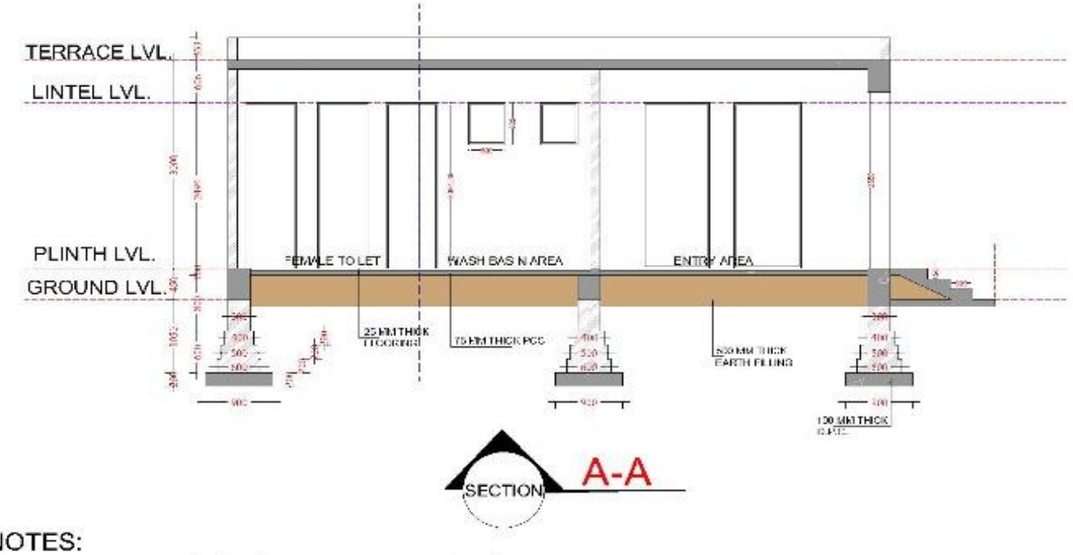
- **Design of Public toilet**



GROUND FLOOR PLAN



ELEVATION



DOOR WINDOW OPENING SCHEDULE				
SN.	SYMBOL	OPENING		REMARK
		LENGTH	HEIGHT	
1	D1	900	2600	SINGLE SHUTTER DOOR
2	D2	700	2600	SINGLE SHUTTER DOOR
3	W1	500	1800	FIXED ALUMINUM WINDOW

NOTES:
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	PUBLIC TOILET	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 06
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:26 Estimation of Public toilet**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Width/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**
1	**Earthwork in Excavation in Foundation:**					
	L1 =9.70	4	9.7	1	1.5	58.20
	L2 =8.30	4	8.3	1	1.5	49.80
	S1 =0.7	1	0.7	1	1.5	1.05
	S2 =4.20	1	4.2	1	1.5	6.30
	S3 =5.50	1	5.5	1	1.5	8.25
		TOTAL QTY.				123.60
2	**P.C.C Foundation:**					
	L1 =9.70	4	9.7	1	0.3	11.64
	L2 =8.30	4	8.3	1	0.3	9.96
	S1 =0.7	1	0.7	1	0.3	0.21
	S2 =4.20	1	4.2	1	0.3	1.26
	S3 =5.50	1	5.5	1	0.3	1.65
		TOTAL QTY.				24.72
3	**Pad footing in Foundation**					
STEP1	L1 =9.40	4	9.4	0.7	0.3	7.90
STEP2	L1 =9.25	4	9.25	0.15	1.6	8.88
STEP1	L2 =8.00	1	8	0.7	0.3	1.68
STEP2	L2 =7.85	1	7.85	0.15	1.6	1.88
STEP1	S1 =1.0	1	1	0.7	0.3	0.21
STEP2	S1 =1.2	1	1.15	0.15	1.6	0.28
STEP1	S2 =4.50	1	4.5	0.7	0.3	0.95
STEP2	S2 =4.65	1	4.65	0.15	1.6	1.12

STEP 1	S3 =5.80	1	5.8	0.7	0.3	1.22
STEP 2	S3 =5.95	1	5.95	0.15	1.6	1.43
					TOTAL QTY.	25.53
4	**Brickwork in S.S**					
	L1 =9.70	4	9.7	0.12	3.2	14.90
	L2 =8.30	4	8.3	0.12	3.2	12.75
	S1 =0.7	1	0.7	0.12	3.2	0.27
	S2 =4.20	1	4.2	0.12	3.2	1.61
	S3 =5.50	1	5.5	0.12	3.2	2.11
					TOTAL QTY.	31.64
5	**Staircase Qty**					
	L1 =3.39	1	3.39	0.6	0.15	0.31
	L1 =3.39	1	3.39	0.3	0.15	0.15
	STAGE STAIRCASE					
	L1 =1.85	1	1.85	0.6	0.15	0.17
	L1 =1.85	1	1.85	0.3	0.15	0.08
					TOTAL QTY.	0.71
6	**Deduction for D & W**					
	V1	9	0.5	0.12	0.8	0.43
					TOTAL QTY.	0.43
	Deduction for linters above D&W					
	V1	9	0.8	0.12	0.15	0.13
				TOTAL QTY.		0.13
				NET QTY.		31.08
7	**RCC WORK IN SLAB/CHJJA**					
	L=8.8M	1	8.8	7.5	0.15	9.90
	B=7.5M					

	V1	9	0.8	0.6	0.12	0.52
		TOTAL QTY.				10.42
8	**Plaster inside**					
	ENTRY AREA	2	3.8		3.2	24.32
		2	2.4		3.2	15.36
	WASH BASIN AREA	2	3		3.2	19.20
		2	2		3.2	12.80
	1.0 WIDE	2	1		3.2	6.40
		2	2.2		3.2	14.08
	F.BATH	2	1.5		3.2	9.60
		2	3.8		3.2	24.32
	F.TOILET	2	2.8		3.2	17.92
		2	1.5		3.2	9.60
	TOILET	8	0.85		3.2	21.76
		8	1.6		3.2	40.96
	M.TOILET	2	1.8		3.2	11.52
		2	1.1		3.2	7.04
	TOILET_1	4	0.85		3.2	10.88
		4	1.7		3.2	21.76
	STORE ROOM	2	1.5		3.2	9.60
		2	1.9		3.2	12.16
	F.BATH	2	3.7		3.2	23.68
		2	1.6		3.2	10.24
	WASH BASIN	2	2		3.2	12.80
		2	3.1		3.2	19.84
		TOTAL QTY.				355.84

	Celling Plaster					
	ENTRY AREA	1	3.8	2.4		9.12
	WASH BASIN AREA	1	3	2		6.00
	1.0 WIDE	1	1	2.2		2.20
	F.BATH	1	1.5	3.8		5.70
	F.TOILET	1	2.8	1.5		4.20
	TOILET	1	0.85	1.7		1.45
	M.TOILET	2	1.8	1.1		3.96
	TOILET_1	5	0.85	1.7		7.23
	Ceiling Plaster					
	STORE ROOM	1				2.85
	F.BATH	1				5.92
	WASH BASIN	1				6.20
		TOTAL QTY.				54.82
	DEDUCTION D& F					
	V1	2	0.8	0.6	0.12	0.12
		TOTAL QTY.				0.12
		NET QTY.				410.55
	Store	2	2.3		3.5	16.10
		2	1.8		3.5	12.60
	Toilet M & F	4	2.1		3.5	29.40
		4	1.5		3.5	21.00
	Lobby	2	2.3		3.5	16.10
		2	1.8		3.5	12.60
	Store	2	2.3		3.5	16.10
		2	1.8		3.5	12.60
	S.O	2	3.3		3.5	23.10
		2	4.8		3.5	33.60
	Toilet	2	1.2		3.5	8.40
		2	1.2		3.5	8.40
		NET QTY.(m2)				1199.70
	Ceiling Plaster					
	Entry	1	8.7	2.1		18.27
	Mech & Ele.	1	4.8	3.9		18.72

	Toilet M & F	1	2.4	1.2		2.88
	Urinary	1	2.4	2.2		5.28
	Toilet_1	1	4.3	1.5		6.45
	C.D.O	1	4.2	4.8		20.16
	G.R.R	1	4.8	3.9		18.72
	Toilet M & F	1	2.4	1.2		2.88
	Marketing Office &	1	3.7	4.2		15.54
	Accounting Office	1	3.7	4.2		15.54
	Cleck	1	3.1	3.4		10.54
	Toilet_2	1	1.8	3.2		5.76
	F.M.O	1	4.8	4.8		23.04
	Reception	1	4.8	3.1		14.88
	Setting Area	1	9.8	4.9		48.02
	Kitchen	1	3	4.8		14.40
	Store	1	2.3	1.8		4.14
	Toilet M & F	1	2.1	1.5		3.15
	Lobby	1	2.3	1.8		4.14
	Store	1	2.3	1.8		4.14
	S.O	1	3.3	4.8		15.84
	Toilet	1	1.2	1.2		1.44
		TOTAL QTY.				1473.63
9	**Deduction for Door Window**					
	D1	2.5	1.8		2.6	11.70
	D2	2	2.7		2.6	14.04
	D3	1	0.9		2.6	2.34
	D4	2	0.75		2.6	3.90
	D5	2	1.5		2.6	7.80
	W1	2	0.6		2.6	3.12
	W2	2.5	1.5		1.8	6.75
	W3	2	0.9		1.8	3.24
		NET QTY.(m2)				1199.70
10	**Parapet brick wall**					
		1	259.36	0.3	1.5	116.71
		TOTAL QTY				116.71

❖ **Table No:27 Abstract Sheet of Public toilet**

Abstract Sheet					
Sr. no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	123.3 CUM	90	CUM	11097
2	P.C.C foundation	24.7 CUM	2700	CUM	66744
3	Pad Footing Up to Plinth	25.5 CUM	3500	CUM	89355
4	Brick work for S.S	31.6 SQ.M	150	SQ. M	4746
5	R.C.C Slab & Chajja	10.4 CUM	150	SQ. M	1563
6	smooth plaster on inter wall	410.6 SQ.M	5	SQ. M	2052.75
7	Brick work for parapet wall	12.0 CUM	5	CUM	60
			Total Rs.		175617.75
		Add 1.5% Water Charge			2634
		Add 10% con. Charge			1756.1775
		Total Estimate Cost in Rs.			180008

Chapter 9: - Future Development of the Village (for the PART-II Design)

After completion of visit & data collection the project carried out in the current semester by the group members which includes the design of a sustainable facilities.

Future scope would be study over other different urban amenities that would be sustainable in rural areas.

Table no.28 Part II Design

Sr.No.	Design
1.	Design of public garden
2.	Design of Community hall
3.	Design of Public library
4.	Design of Post office
5.	Design of Aro-water plant
6.	Design of Mahila Mandal

Chapter 10: - Conclusion

For India's economy to be strong, the rural economy needs to grow. Rural areas are still plagued by problems of malnourishment, illiteracy, unemployment and lack of basic infrastructure like schools, hospitals, sanitation, etc. Our villages need to grow in tandem with cities and standard of life has to improve there for inclusive growth to happen. If rural India is poor, India is poor.

While we have latest services and products available in our cities now, villagers are still coping with age old products.

1. While we have international fully air conditioned schools in our cities, the schools in villages still don't have benches and chairs, leave alone computers. We have a huge shortage of teachers in rural areas, and the school dropout rate is huge.

2. In cities, we have wide roads, flyovers and underpasses while many villages still don't have proper roads. Urban-rural road links can play a vital role in rural growth.

3. Employment opportunities are hardly there in villages which forces youth to move to cities creating imbalance in the ecosystem and leaving the villages deprived.

4. While we may have numerous hospitals, nursing homes and medical facilities in cities, villages neither have health awareness nor health facilities. See the condition of major hospitals like AIIMS to know how many villagers have to flock to cities for even basic treatments.

Vishwakarma Yojana aims to procure development in villages without losing essence. After all the way to uplift our country is through developing the villages. The scheme would reinforce- wellbeing of people and further quality of living standard.

Chapter 11: - Reference

1) B.N. DATTA (2017) Stimtion publisher "Estimation and costing book"
2) G.B. Deshpandey, J.P. Nayak (2014) Nirali prakasan "Quantity surveying book"
3) National Building Code of india(2016)
4) S.S. Bhavikatt, M.V. Chltawadagi (2014) I.K. International Pvt. Ltd. "Building planning and drawing"
5) The Hindu news (15 October 2013) "The 15 must have basic amenities in Villages."

- Web sites:-

- www.Sciencedirect.com
- www.smartvillage.gujrat.gov.in
- https://www.census2011.co.in/
- Gujrat Village Directory @ VList.in-India
- Swachhbharat.mygov.in
- https://bis.gov.in
- developments-every-small-town-needs/story/239305.html
- rehabilitation/maintenance/
- www.onefivenine.com/india/villages/Ilav

Chapter 12: - Annexure

12.1 Scanned copy (for Part-I), Original (for–Part-II) Ideal Village Survey Form

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

Techno Economic Survey

For

Vishwakarma Yojana: Phase VIII

IDEAL VILLAGE SURVEY

An approach towards Rurbanisation for Village Development

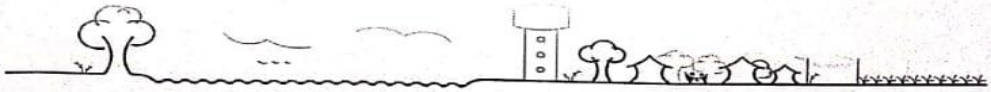
Name of Village:	Baben
Name of Taluka:	Bardoli
Name of District:	Surat.
Name of Institute:	Bhagwan Mahavir college of engineering & Technology
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	fulguniben b. Patel. સરપંચ ગ્રામ પંચાયત બાબેન તા. બારડોલી, જી. સુરત.
Date of Survey:	16 - 10 - 2020

1. **Demographical Detail:**

Sr. No.	Census	Population	Male	Female	Total House Holds
i)	2001	8377	4576	3801	1599
ii)	2011	15,610	8642	6968	5278

2. **Geographical Detail:**

Sr. No.	Description	Information/Detail
i)	Area of Village (Approx.) (In Hector) Coordinates for Location:	1634 hector
	Forest Area (In hect.)	–
	Agricultural Land Area (In hect.)	400 hector
	Residential Area (In hect.)	200 hector
	Other Area (In hect.)	5 hector (re-creational)
	Water bodies	
	Nearest Town with Distance:	Bardoli, 1 km.



Gujarat Technological University, Ahmedabad, Gujarat

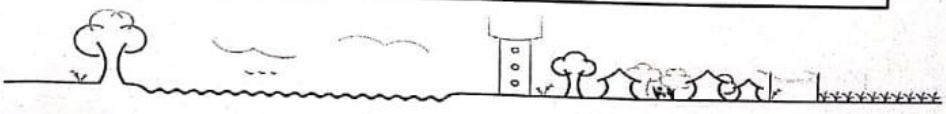
Vishwakarma Yojana: Phase VIII
Techno Economic Survey

3. **Occupational Details:**

Name of Three Major Occupation groups in Village	1. Farmer
	2. Business
	3. Job

4. **Physical Infrastructure Facilities:**

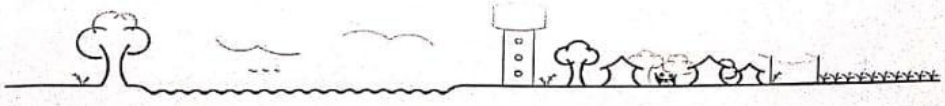
Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
	• Tap Water (Treated/ Untreated)	yes			1
	• RO Water				
	• Well (Covered/ Uncovered)				
	• Hand pumps	yes			5
	• Tube well/ Borehole	yes			3
	• River/ Canal/ Spring/ Lake/ Pond				
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:			
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**Drainage Facility**				
	Available (Yes/ No)	yes	yes		
Suggestions if any:					
D.	**Type of Drainage**				
	Closed/ Open	yes			both
	If Open than Pucca / Kutchcha	yes			Pucca - 3 kutchchu - 4
	Whether drain water is discharged directly in to Water bodies/ Sewer plants	water bodies			
Suggestions if any:					



Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

E.	Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM				
	Village approach road	All weather			All weather
	Main road	yes			All weather
	Internal streets	yes			All weather
	Nearest NH/SH/MDR/ODR Dist. in kms.	yes			NH-53 5 kms.
Suggestions if any:					
F.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	yes			1 km Bardoli
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	yes			Baben
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	yes			
Suggestions if any:					
G.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	yes			24 hours.
	Power supply for Domestic Use	yes			24 hours.
	Power supply for Agricultural Use	yes			Fixed hours.
	Power supply for Commercial Use	yes			24 hours.
	Road/ Street Lights	yes.			



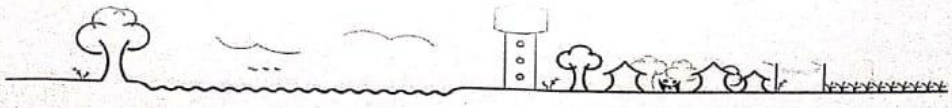
Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Electrification in Government Buildings/ Schools/ Hospitals	yes			
	Renewable Energy Source Facilities (Y/ N)	yes			solar street light
	LED Facilities	yes			
Suggestions if any:					
H.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	yes			2 nos.
	Location Condition	Good			
	Community Toilet (With bath/ without bath facilities)	yes			with bath
	Solid & liquid waste Disposal system available	no			
	Any facility for Waste collection from road	yes.			
Suggestions if any:					
I.	**Irrigation Facility:**				
	Main Source of Irrigation (Stream/River/ Canal/ Well/ Tube well/ Other)	yes			
Suggestions if any:					
J.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)	Pucca.			minor house has kutchha.

5. **Social Infrastructural Facilities:**

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks



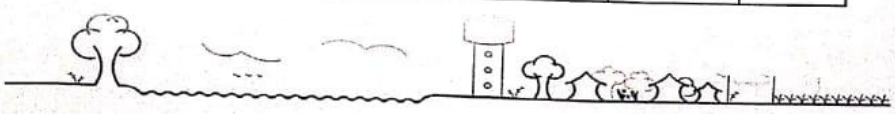
Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

K.	Health Facilities:				
	Sub center/ PHC/ CHC /Government Hospital/ Child welfare & Maternity Homes (If Yes than specify No. of Beds) Condition:	yes			sub center.
	Private Clinic/Private Hospital/ Nursing Home	yes			Private clinic/Hospital.
	If any of the above Facility is not available in village than approx. distance from village: .....kms.				
Suggestions if any:					

L.	Education Facilities:				
	Aaganwadi/ Play group				
	Primary School	yes	yes		1
	Secondary school	no			
	Higher sec. School	no			
	ITI college/ vocational Training Center	no			
	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities				
	If any of the above Facility is not available in village than approx. distance from village: .....kms.				
Suggestions if any:					

M.	Socio- Culture Facilities				
	Community Hall (With or without TV) Location:	no			4 km bardoli



Gujarat Technological University, Ahmedabad, Gujarat

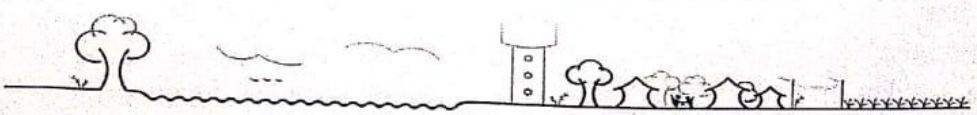
Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Condition:				
	Public Library (With daily newspaper supply: Y/N) Location: Condition:	no			
	Public Garden Location: Condition:	yes			
	Village Pond Location: Condition:	yes.			
	Recreation Center Location: Condition:	no			
	Cinema/ Video Hall Location: Condition:	no			
	Assembly Polling Station Location: Condition:	yes			Panchayat office.
	Birth & Death Registration Office Location: Condition:	yes.			Panchayat office.

If any of the above Facility is not available in village than approx. distance from village: .....kms.

Suggestions if any:

N.	Other Facilities				
	Post-office	no			Bardoli
	Telecommunication Network/ STD booth	no			



Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

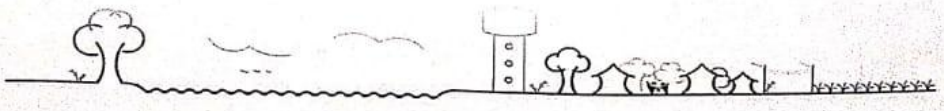
	General Market	yes.			
	Shops (Public Distribution System)	yes.			
	Panchayat Building	yes			
	Pharmacy/Medical Shop	yes.			
	Bank & ATM Facility	yes			
	Agriculture Co-operative Society	yes			APMC
	Milk Co-operative Soc.	no			
	Small Scale Industries	no			
	Internet Cafes/ Common Service Center/Wi Fi	yes.			Private wi-fi
	Other Facility				
Suggestions if any:					

6. **Sustainable /Green Infrastructure Facilities:**

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
O.	Adoption of Non-Conventional Energy Sources/ Renewable Energy Sources				
P.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System	yes			solar street light.
Q.	Any Other				

7. **Data Collection From Village**

Village Base Map Available: Hard Copy/Soft Copy	yes (soft copy).



Recent Projects going on for Development of Village	
Any NGO working for village development	yes (2)

8. Additional Information/ Requirement:

Sr. No.	Descriptions	Information/ Detail	Remarks
1.	Repair & Maintenance of Existing Public Infrastructure facilities(School Building, Health Center, Panchayat Building, Public Toilets & any other)		
2.	Additional Information/ Requirement	All facilities available.	

9. Smart Village Proposal Design

Sr. No.	Descriptions	Information/ Detail	Remarks
1.			

Note: Photographs/ Video/ Drawings of all existing Infrastructure facilities & conditions should be taken by students of respective villages for their record and information.

For Any Administration queries/ Difficulties:
GTU VY Section:
Contact No – 079-23267588
Email ID: rurban@gtu.edu.in

12.2 Scanned copy (for Part-I), Original (for–Part-II) Smart Village (Gujarati)Survey details

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

Techno Economic Survey

Vishwakarma Yojana: Phase VIII

SMART VILLAGE SURVEY

An approach towards **"Rurbanisation for Village Development"**

Name of District:	ENA
Name of Taluka:	Palsana
Name of Village:	Surat
Name of Institute:	Bhagwan mahavir college of engineering & Technology
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	Naynaben P. Ahir સરપંચ એબા-ગોડીયા ગૃપ ગ્રામ પંચાયત તા. પલસાણા, જિ. સુરત N.P. Ahir
Date of Survey:	02/11/2020

I. DEMOGRAPHICAL DETAIL:

Sr. No.	Census	Population	Male	Female	Total Number of House Holds
1.	2001				
2.	2011	3771	1895	1882	888

II. GEOGRAPHICAL DETAIL:

Sr. No.	Description	Information/Detail
1.	Area of Village (Approx.) (In Hector)Coordinates for Location:	621.93 hector
2.	Forest Area (In hect.)	
3.	Agricultural Land Area (In hect.)	
4.	Residential Area (In hect.)	
5.	Other Area (In hect.)	
6.	Distance to the nearest railway station (in kilometers):	

7.	Name of Nearest Town with Distance:	Bardoli
8.	Distance to the nearest bus station (in kilometers):	Yes
9.	Whether village is connected to all road for the any facility or town or City?	Yes

III. OCCUPATIONAL DETAILS:

Name of Three Major Occupation groups in Village	1. Farmer 2. Jobs 3. Business
Major crops grown in the village:	1. Vegetable 2. Banan 3. Sugar

IV. PHYSICAL INFRASTRUCTURE FACILITIES:

Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
1.	**PIPED WATER** Piped Into Dwelling Piped To Yard/Plot Public Tap/Standpipe Tube Well Or Bore Well	Yes			Tap water
2.	**DUG WELL** Protected Well Un Protected Well				
3.	**WATER FROM SPRING** Protected Spring Unprotected Spring Rainwater Tanker Truck Cart With Small Tank				
4.	**SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/** Irrigation Channel Bottled Water Hand Pump Other(Specify)**Lake/ Pond**	Yes			Canal

Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:			
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**The Type of Drainage Facility**				
	A. UNDERGROUND DRAINAGE 1 2 B. OPEN WITH OUTLET C. OPEN WITHOUT OUTLET	Yes			Underground drainage
Suggestions if any:					
D.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road	All Weather			
	Main road	All Weather			
	Internal streets	All Weather			
	Nearest NH/SH/MDR/ODR Dist. in kms.	Yes			SH-53
Suggestions if any:					
E.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	No			8km gangadhara
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	Yes			
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	Yes			All
Suggestions if any:					
F.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	Yes			DGVCL 24hours

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Power supply for Domestic Use	Yes			24hours
	Power supply for Agricultural Use	Yes			12hours
	Power supply for Commercial Use	Yes			24hours
	Road/ Street Lights	Yes			
	Electrification in Government Buildings/ Schools/ Hospitals	Yes			
	Renewable Energy Source Facilities (Y/ N)	Yes			Solar street lights
	LED Facilities	Yes			
Suggestions if any:					
G.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	Yes			2Nos.
	Location Condition	good			
	Community Toilet (With bath/ without bath facilities)	Yes			without bath
	Solid & liquid waste Disposal system available	No			
	Any facility for Waste collection from road	Yes			Door to Door
Suggestions if any:					
H.	**Main Source of Irrigation Facility:**				
	TANK/POND STREAM/RIVER CANAL WELL TUBE WELL OTHER (SPECIFY)	Yes			Canal & Borehole
Suggestions if any:					
I.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)	Pucca			Major house are pucca

V. SOCIAL INFRASTRUCTURAL FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
J.	**Health Facilities:**				
	ICDS (Anganwadi) Sub-Centre PHC BLOCK PHC CHC/RH District/ Govt. Hospital Govt. Dispensary Private Clinic Private Hospital/ Nursing Home AYUSH Health Facility sonography /ultrasound facility	Yes			-sub centre -Private clinic
	If any of the above Facility is not available in village than approx. distance from village: .....kms.				
Suggestions if any:					
K.	**Education Facilities:**				
	Aaganwadi/ Play group	Yes			
	Primary School	Yes			
	Secondary school	Yes			
	Higher sec. School	Yes			
	ITI college/ vocational Training Center	No			
	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities	No			
	If any of the above Facility is not available in village than approx. distance from village: ..9.....kms. (Bardoli)				

Suggestions if any:

L.	Socio- Culture Facilities	Condition	Location	Available (YES)	Available (NO)
	Community Hall (With or without TV)			Yes	
	Public Library (With daily newspaper supply: Y/N)			Yes	
	Public Garden			Yes	
	Village Pond			Yes	
	Recreation Center				NO
	Cinema/ Video Hall				NO
	Assembly Polling Station			Yes (school)	
	Birth & Death Registration			Yes	

If any of the above Facility is not available in village than approx. distance from village: .....kms.

Suggestions if any:

M.	Other Facilities	Condition	Location	Available (YES)	Available (NO)
	Post-office			✓	
	Telecommunication Network/ STD booth				✓
	General Market			✓	
	Shops (Public Distribution System)			✓	
	Panchayat Building			✓	
	Pharmacy/Medical Shop				✓
	Bank & ATM Facility			✓	
	Agriculture Co-operative Society			✓	
	Milk Co-operative Soc.			✓	
	Small Scale Industries			✓	
	Internet Cafes/ Common Service Center/Wi Fi				✓
	Youth Club			✓	
	Mahila Mandal			✓	

	Credit Cooperative Society Agricultural Cooperative Society Milk Cooperative Society Fishermen's Cooperative Society Computer Kiosk/ e-chaupal / Mills / Small Scale Industries				
	Other Facility				

Suggestions if any:

N.	Other Facilities	Condition		Available (YES)	Available (NO)
	1. Have these programme implemented the village?				
	2. Are there any beneficiaries in the village from the following programme?				
	3. Janani Suraksha Yojana				
	4. Kishori Shakti Yojana				
	5. Balika Samriddhi Yojana				
	6. Mid-day Meal Programme			✓	
	7. Intergrated Child Development Scheme (ICDS)			✓	
	8. Mahila Mandal Protsahan Yojana (MMPY)				
	9. National Food for work Programme (NFFWP)				
	10. National Social Assistance Programme				
	11. Sanitation Programme (SP)				
	12. Rajiv Gandhi National Drinking Water Mission				
	13. Swarnjayanti Gram Swarozgar Yojana				
	14. Minimum Needs Programme (MNP)				
	15. National Rural Employment Programme				
	16. Employee Guarantee Scheme (EGS)			✓	
	17. Prime Minister Rojgar Yojana (PMRY)				
	18. Jawahar Rozgar Yojana (JRY)				
	19. Indira Awas Yaojna (IAY)				
	20. Samagra Awas Yojana (SAY)				
	21. Sanjay Gandhi Niradhar Yojana (SGNY)				
	22. Jawahar Gram Samridhi Yojana (JGSY)				
	23. Other (SPECIFY)			✓	

VI. SUSTAINABLE /GREEN INFRASTRUCTURE FACILITIES:

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
1.	Adoption of Non-Conventional Energy Sources/ Renewable Energy Sources				
2.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System	Yes			Solar street light.
3.	Any Other				

VII. DATA COLLECTION FROM VILLAGE

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
1.	Village Base Map Available: Hard Copy/Soft Copy				
2.	Recent Projects going on for Development of Village	Yes			Patidar samaj Trust hall
3.	Any NGO working for village development	Yes			
4.	Any natural calamity in the village during the last one year: EARTHQUAKES FLOODS CYCLONE DROUGHT LANDSLIDES AVALANCHE OTHER (SPECIFY)	No			

VIII. ADDITIONAL INFORMATION/ REQUIREMENT:

Sr. No.	Descriptions	Information/ Detail	Remarks

1.	Repair & Maintenance of Existing Public Infrastructure facilities, School Building Health Center Panchayat Building Public Toilets & any other		
2.	Additional Information/ Requirement		
3.	During the last six months how many times CLEANING ..... FOGGING..... Drive was undertaken in the village?		

IX. Smart Village / Heritage Details

Sr. No.	Descriptions	Information/ Detail	Remarks
1.	IS THEIR ANY THING FOR THE VILLAGE ENHANCEMENT POSSIBLE ?		

Note: Photographs/ Video/ Drawings of all existing Infrastructure facilities & conditions should be taken by students of respective villages for their record and information.

For Any Administration queries/ Difficulties:
GTU VY Section
Contact No – 079-23267588
Email ID: rurban@gtu.edu.in

12.3 Scanned copy (for Part-I), Original (for–Part-II) Techno-Economic Survey Form.

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

Techno Economic Survey

Vishwakarma Yojana: Phase VIII

ALLOCATED VILLAGE SURVEY

An approach towards **"Rurbanisation for Village Development"**

Name of District:	Bharuch
Name of Taluka:	Hansot
Name of Village:	ILAV
Name of Institute:	Bhagwan Mahavir College of Engineering & Technology
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	Jesangbhai C. Parmar, Jayeshbhai D. Patel સરપંચ ગ્રામ પંચાયત ઈલાવ
Date of Survey:	11/11/20 તાલુકો: હાંસોટ, જીલ્લો: ભરૂચ.

I. DEMOGRAPHICAL DETAIL:

Sr. No.	Census	Population	Male	Female	Total Number of House Holds
1.	2001				
2.	2011	3201	1656	1545	738

II. GEOGRAPHICAL DETAIL:

Sr. No.	Description	Information/Detail
1.	Area of Village (Approx.) (In Hector)Coordinates for Location:	1420 Hector Approx.
2.	Forest Area (In hect.)	96 Hector
3.	Agricultural Land Area (In hect.)	1209 Hector
4.	Residential Area (In hect.)	115 Hector
5.	Other Area (In hect.)	16 Hector
6.	Distance to the nearest railway station (in kilometers):	8km 16km

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

7.	Name of Nearest Town with Distance:	Ankleshwar 44km
8.	Distance to the nearest bus station (in kilometers):	Hansot 15km
9.	Whether village is connected to all road for the any facility or town or City?	Yes

III. OCCUPATIONAL DETAILS:

Name of Three Major Occupation groups in Village	1. Agrecture 2. Shopkeeper 3. Employees

Major crops grown in the village:	1. Suger 2. Cotton 3. Lady finger

IV. PHYSICAL INFRASTRUCTURE FACILITIES:

Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
1.	**PIPED WATER** Piped Into Dwelling Piped To Yard/Plot Public Tap/Standpipe Tube Well Or Bore Well	yes			Borewell
2.	**DUG WELL** Protected Well Un Protected Well				
3.	**WATER FROM SPRING** Protected Spring Unprotected Spring	yes			Protected spring
	Rainwater Tanker Truck Cart With Small Tank				
4.	**SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/** Irrigation Channel Bottled Water Hand Pump				

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Other(Specify)Lake/ Pond	yes			Lake
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity: 1,20,000 / 50,000			02 Nos.
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**The Type of Drainage Facility**				
	A. UNDERGROUND DRAINAGE 1	yes			Underground
Suggestions if any:					
D.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road				
	Main road				
	Internal streets				
	Nearest NH/SH/MDR/ODR Dist. in kms.	yes			SH 64
Suggestions if any:					
E.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	yes			Kim 18km
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	yes			Hansot 18km
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	yes			
Suggestions if any:					
F.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	yes			DGVCL

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Power supply for Domestic Use	Yes			24 hours.
	Power supply for Agricultural Use	Yes			8hours
	Power supply for Commercial Use	Yes			24 hours
	Road/ Street Lights	Yes			
	Electrification in Government Buildings/ Schools/ Hospitals	Yes			
	Renewable Energy Source Facilities (Y/ N)	No			
	LED Facilities	Yes			
Suggestions if any:					
G.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	Yes			
	Location Condition				
	Community Toilet (With bath/ without bath facilities)	Yes			
	Solid & liquid waste Disposal system available	No			
	Any facility for Waste collection from road	Yes			
Suggestions if any:					
H.	**Main Source of Irrigation Facility:**				
	TANK/POND STREAM/RIVER CANAL WELL TUBE WELL OTHER (SPECIFY)	Yes			Canal, Bore well
Suggestions if any:					
I.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)	kutchha			Majorr house are kutchha

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

V. SOCIAL INFRASTRUCTURAL FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
J.	**Health Facilities:**				
	ICDS (Anganwadi)				
	Sub-Centre	yes			1
	PHC	yes			1
	BLOCK PHC				
	CHC/RH				
	District/ Govt. Hospital				
	Govt. Dispensary				
	Private Clinic	yes			3
	Private Hospital/				
	Nursing Home				
	AYUSH Health Facility				
	sonography /ultrasound facility				
	If any of the above Facility is not available in village than approx. distance from village: 18 kms. Kim (Sadhna Kutir Hospital)				
	Suggestions if any:				
K.	**Education Facilities:**				
	Aaganwadi/ Play group	Yes			2
	Primary School	Yes			2
	Secondary school	Yes			1
	Higher sec. School	Yes			1
	ITI college/ vocational Training Center	No			
	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities	No			

5

	If any of the above Facility is not available in village than approx. distance from village: ..19....kms. Olpad
Suggestions if any:	

L.	Socio- Culture Facilities	Condition	Location	Available (YES)	Available (NO)
	Community Hall (With or without TV)			✓	
	Public Library (With daily newspaper supply: Y/N)				✓
	Public Garden				✓
	Village Pond			✓	
	Recreation Center				✓
	Cinema/ Video Hall				✓
	Assembly Polling Station			✓	
	Birth & Death Registration Office			✓	

If any of the above Facility is not available in village than approx. distance from village: .....kms.	
Suggestions if any:	

M.	Other Facilities	Condition	Location	Available (YES)	Available (NO)
	Post-office			✓	
	Telecommunication Network/ STD booth				✓
	General Market				✓
	Shops (Public Distribution System)			✓	
	Panchayat Building			✓	
	Pharmacy/Medical Shop			✓	
	Bank & ATM Facility			✓	
	Agriculture Co-operative Society			✓	
	Milk Co-operative Soc.			✓	
	Small Scale Industries				✓
	Internet Cafes/ Common Service Center/Wi Fi				✓
	Youth Club				✓
	Mahila Mandal			✓	

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Credit Cooperative Society Agricultural Cooperative Society Milk Cooperative Society Fishermen's Cooperative Society Computer Kiosk/ e-chaupal / Mills / Small Scale Industries				
	Other Facility				

Suggestions if any:

N.	Other Facilities	Condition		Available (YES)	Available (NO)
	1. Have these programme implemented the village?				
	2. Are there any beneficiaries in the village from the following programme?				
	3. Janani Suraksha Yojana			✓	
	4. Kishori Shakti Yojana				
	5. Balika Samriddhi Yojana				
	6. Mid-day Meal Programme			✓	
	7. Intergrated Child Development Scheme (ICDS)			✓	
	8. Mahila Mandal Protsahan. Yojana (MMPY)			✓	
	9. National Food for work Programme (NFFWP)				
	10. National Social Assistance Programme				
	11. Sanitation Programme (SP)				
	12. Rajiv Gandhi National Drinking Water Mission				
	13. Swarnjayanti Gram Swarozgar Yojana				
	14. Minimum Needs Programme (MNP)				
	15. National Rural Employment Programme				
	16. Employee Guarantee Scheme (EGS)				
	17. Prime Minister Rojgar Yojana (PMRY)			✓	
	18. Jawahar Rozgar Yojana (JRY)				
	19. Indira Awas Yaojna (IAY)				
	20. Samagra Awas Yojana (SAY)				
	21. Sanjay Gandhi Niradhar Yojana (SGNY)				
	22. Jawahar Gram Samridhi Yojana (JGSY)				
	23. Other (SPECIFY)				

7

VI. SUSTAINABLE /GREEN INFRASTRUCTURE FACILITIES:

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
1.	Adoption of Non-Conventional Energy Sources/ Renewable Energy Sources	No			
2.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System	No.			
3.	Any Other				

VII. DATA COLLECTION FROM VILLAGE

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
1.	Village Base Map Available: Hard Copy/Soft Copy				
2.	Recent Projects going on for Development of Village	Yes			Overhead Waterstank Inprogress.
3.	Any NGO working for village development	No.			
4.	Any natural calamity in the village during the last one year: EARTHQUAKES FLOODS CYCLONE DROUGHT LANDSLIDES AVALANCHE OTHER (SPECIFY)	No			

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

VIII. ADDITIONAL INFORMATION/ REQUIREMENT:

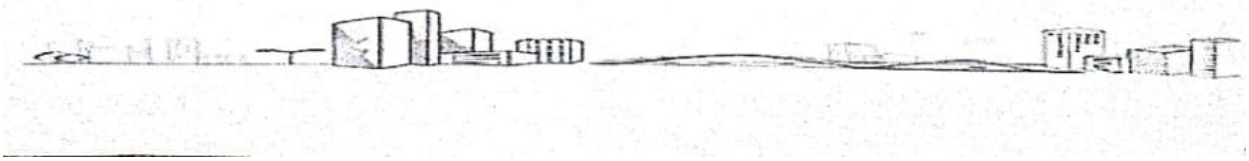
Sr. No.	Descriptions	Information/ Detail	Remarks
1.	Repair & Maintenance of Existing Public Infrastructure facilities, School Building Health Center Panchayat Building Public Toilets & any other	Yes	School building, Public Toilet, Animal health centre
2.	Additional Information/ Requirement		
3.	During the last six months how many times CLEANING ..... FOGGING..... Drive was undertaken in the village?	Yes	weekly

IX. Smart Village / Heritage Details

Sr. No.	Descriptions	Information/ Detail	Remarks
1.	IS THEIR ANY THING FOR THE VILLAGE ENHANCEMENT POSSIBLE ?		

Note: Photographs/ Video/ Drawings of all existing Infrastructure facilities & conditions should be taken by students of respective villages for their record and information.

For Any Administration queries/ Difficulties:
GTU VY Section
Contact No – 079-23267588
Email ID: rurban@gtu.edu.in



12.4 Gap Analysis

VILLAGE GAP Analysis

Village Facilities	Planning Commission/UDPFI Norms	Village Name: ILAV Population: Cus per 2011			3201
		Existing	Required as per Norms	Smart Vilage / Cities / Heritage Future Projection Design	Gap
Social Infrastructure Facilities					
Education			4		
Anganwadi	Each or Per 2500 population	2	4		2
Primary School	Each Per 2500 population	2	2 4		
Secondary School	Per 7,500 population	1	2		
Higher Secondary School	Per 15,000 Population	1	1		
College	Per 125,000 Population				
Tech. Training Institute	Per 100000 Population				
Agriculture Research Centre	Per 100000 Population				
Skill Development Center	Per 100000 Population				
Health Facility					
Govt/Panchyat Dispensary or Sub PHC or Health Centre	Each Village	1	1		
Primary Health & Child Health Center	Per 20,000 population				
Child Welfare and Maternity Home	Per 10,000 population				
Multispeciality Hospital	Per 100000 Population				
Public Latrines	1 for 50 families (if toilet is not there in home, specially for slum pockets & kutcha house)	1	1	(Re-design).	
Physical Infrastructure Facilities					
Transportation		Adequate / Inadequate	Adequate.		
Pucca Village Approach Road	Each village	Adequate.			
Bus/Auto Stand provision	All Villages connected by PT (ST Bus or Auto)	Adequate.			
Drinking Water (Minimum 70 lpcd)		Adequate / Inadequate			
Over Head Tank	1/3 of Total Demand	Adequate.			
U/G Sump	2/3 of Total Demand	Inadequate.			
Drainage Network - Open	1 cover.	Adequate / Inadequate			
Drainage Network - Cover		Adequate.			
Waste Management System		Adequate / Inadequate			
Socio- Cultural Infrastructure Facilities					
Community Hall	Per 10000 Population	0	1		1
community hall and Public Library	Per 15000 Population	–	1		1
Cremation Ground	Per 20,000 population				
Post Office	Per 10,000 population	1	1	(Re-design).	
Gram Panchayat Building	Each individual/group panchayat		1		
APMC	Per 100000 Population				
Fire Station	Per 100000 Population				
Public Garden	Per village	–	1		1
Police post	Per 40,000Population		1		
Shopping Mall					
Electrical Design					
Electricity Network		Adequate / Inadequate			
Any Smart Village Facility					
Technology					
		ESR cap	0		
		Sump cap	0		
		Lat	0		

12.5 Summary of All Villages Designs as Part-II

Sr No.	Village	Description	Part 1	Part 2
1	Kharach	Civil	Milk Collecting and Distributing Unit	Post office
			design of library	Primary school
			Design of Clinic	Video Hall
			Design of over head water tank	Medical Store
			Design of Road	Youth Club
			Design of MahilaMandal	Public garden
2	Ilav	Civil	Design of anganwadi	Design of public garden
			Design of girl's primary school	Community hall
			Design of agro storage unit	Public library
			Design if milk collection and distribution unit	Post office
			Design of animal shelter	Drinking water facilities
			Design of public toilet	Mahilamandal
3	Vav	Civil	Police station	Bio gas plant
			Public garden	Maintenance of PHC
			Water harvesting system	Sewage treatment plant
			Community hall	Library
			Skill development center	Road (internal road)
			-	-
4	Palod	Civil	Bio gas plant	Post office
			Rain water harvesting	Public garden
			Library	over head water tank
			Community hall	Low cost house
			Skill development center	Primary health center
			Village gate	chabutara
5	Ten	Civil	Bio gas plant	Internal street road
			Primary health center	Primary school
			Post office	Public toilet

			Public library	Community hall
			Agriculture research center	Maintenance of overhead water tank
			Village gate	Maintenance of village pond
6	Madhi	Civil	Library	Maintenanve of police station
			Hospital	Public garden
			Riverfront	Waste water treatment
			Fire station	Solid waste treatment
			Village gate	Medical shop
			Community hall	Pucca vegetable market
7	Naninaroli	Civil	Biogas plant	Tank design for water harvesting
			High school	Road section
			Public toilet	Child welfare and maternity home
			Community hall	Public garden
			Bank	Common service centre
			Village gate	chabutaro
8	Vankaner	Civil	library	Lake garden
			Skill development center	Science department
			Community hall	Cyber cafe
			Aanganwadi	Child-welfare & maternity home
			Public toilet	Overhead tank
			Village gate	Super market

12.6 Drawing of A3 (if A4 design is not visible then only)

12.7 Summary of Good Photographs in Table format (Village visit, ideal, Smart Village or any)

Map of Baben

Sugar Facotry of baben

Solid waste disposal of Baben Village

Primary School & Anganwadi of Baben

Overhead water tank of Baben

Map of Ilav Village

Over Head water tank of Ilav

RCC Road of Ilav

Bank of Ilav

Grampanchayat office of Ilav

Health centre of Ilav

Meeting with Sarpanch of Baben Village

Meeting with Sarpanch of Ena Village

Meeting with Sarpanch of Ilav Village

12.8 Village Interaction Report with the photograph as a reportformat

Village Interaction Report :

VILLAGE INTERACTION REPORT

11 nov. 2020: We have first visited at Ilav village and first interacted with the Sarpanch (Jesangbhai) and up-Sarpanch Jayeshbhai d. patel. They have discussed with us the requirements in the village like, Aanganwadi, girl's primary school, Mahila Mandal, milk collecting and distributing unit, library, and so on.

Villager's want to re design public toilet, post office and also need of animal shelter, etc.

Then we have seen the agricultural roads and street which are not even constructed properly. Transportation facility is very poor; villagers need to rush to nearby village to get transport facility.

The villagers shared the problem of not having a public garden and undeveloped lake. The villagers were in serious need of some development.

We have discussed and give all this design

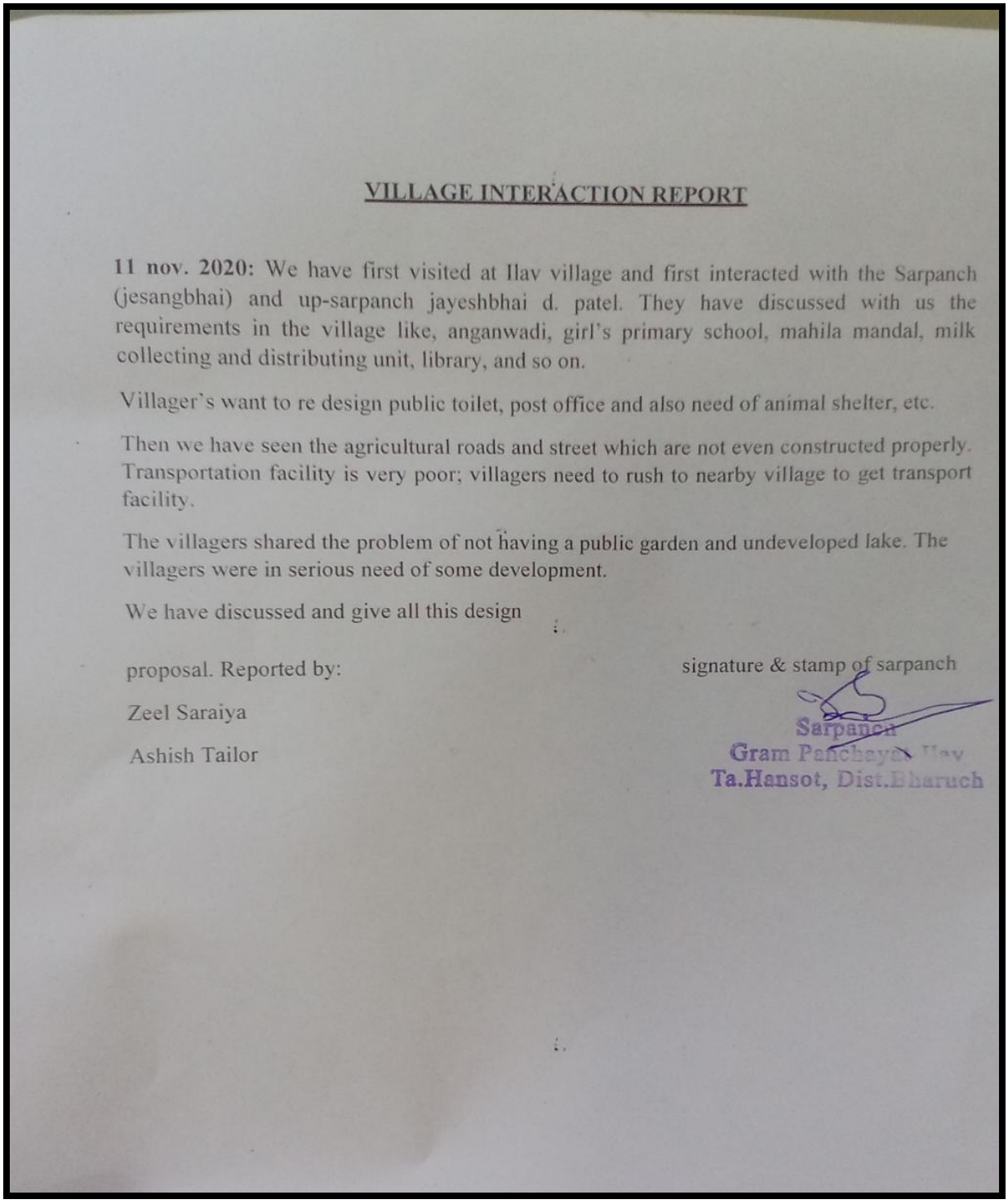
proposal. Reported by:

Zeel Saraiya

Ashish Tailor

Fig.42 Interaction with Sarpanch and Upsarpanch of Ilav village

12.9 Sarpanch Letter (Village design proposals shown to the Sarpanch interaction report) :



VILLAGE INTERACTION REPORT

11 nov. 2020: We have first visited at Ilav village and first interacted with the Sarpanch (jesangbhai) and up-sarpanch jayeshbhai d. patel. They have discussed with us the requirements in the village like, anganwadi, girl's primary school, mahila mandal, milk collecting and distributing unit, library, and so on.

Villager's want to re design public toilet, post office and also need of animal shelter, etc.

Then we have seen the agricultural roads and street which are not even constructed properly. Transportation facility is very poor; villagers need to rush to nearby village to get transport facility.

The villagers shared the problem of not having a public garden and undeveloped lake. The villagers were in serious need of some development.

We have discussed and give all this design

proposal. Reported by:

Zeel Saraiya

Ashish Tailor

signature & stamp of sarpanch

Sarpanch
Gram Panchayat Ilav
Ta.Hansot, Dist.Bharuch

Chapter 13: From the Chapter- 9 future designs of theaspects (Feasibility, Construction, Operation and maintenance of various design options in Rural Areas along with cost with AutoCAD designs / Planning withany software)

13.1 Design Proposals

- In the Vishwakarma Yojana Phase- VIII Part-II we have given total six design according to the village need and useful for the villagers.
- The design proposal is:
  - Public garden
  - Public library
  - Mahilamandal
  - Community hall
  - Drinking water facility unit
  - Post office

13.2 Reasons for Students Recommending this Design

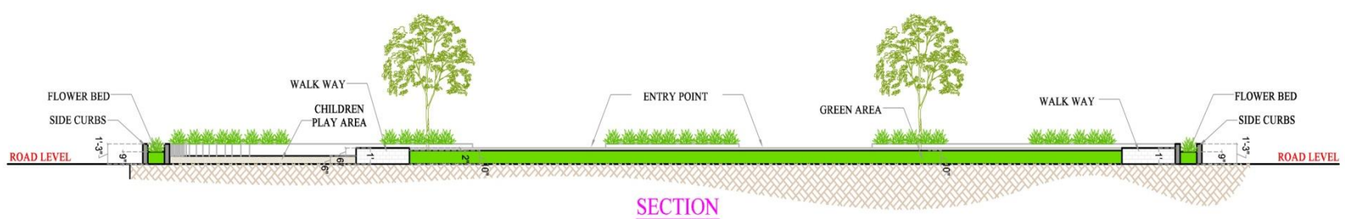
- As by gap analysis done by as we found the requirement of proposed designs.
- Post Office is to Provide risk free transaction and saving a money of village people.
- Providing public library for the purpose of Increase education facilities.
- Providing drinking water facilities unit for purpose of good quality of drinking water.

13.3 About designs Suggestions/ Benefit of the villagers

- Public Garden for children to play in Garden. And for provide refreshment to the villagepeoples.
- Drinking facilities for the villagers to provide the pure water for drinking.
- public library for the purpose of Increase education facilities and new technologies.

13.1.1 Public Garden:

PLAN



SECTION

NOTES:

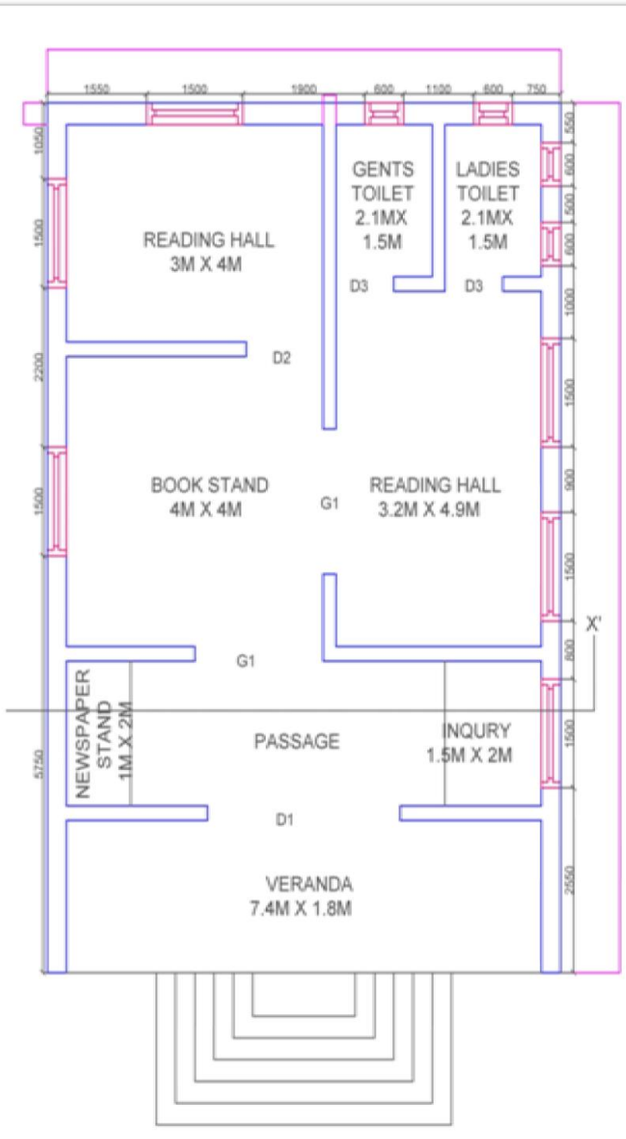
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	PUBLIC GARDEN	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 7
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

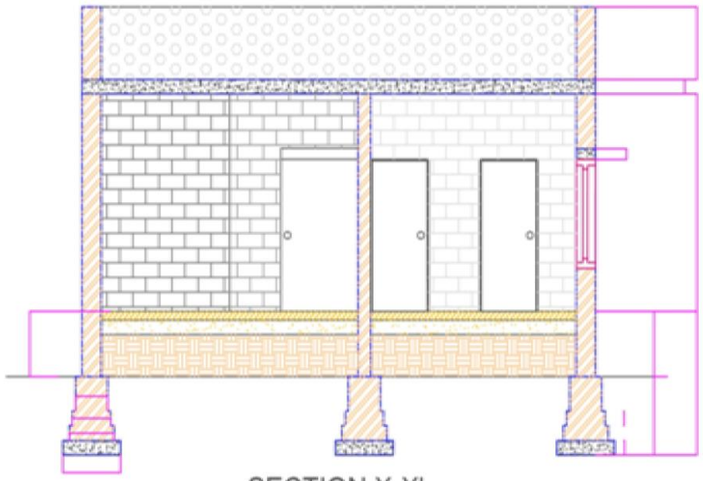
❖ **Table:29 Abstract Sheet Of Public Garden:**

SR. NO	ITEM DESCRIPTION	QUANTITY	RATE	PER	AMOUNT (RS.)
1	Excavation for Foundation	188	100	M^3	18800
2	Concreting in foundations	16	3000	M^3	48000
3	Masonry in foundation	90	1200	M^3	108000
4	Earth Filling	82	40	M^3	3280
5	Super structure masonry work	78	1500	M^3	117000
6	Plaster work	400	120	M^2	48000
7	Colouring	320	20	M^2	6400
8	Pavement block	80	570	M2	45600
9	Fountain	1	10000	NOS.	10000
10	Tree plantation	55	50	NOS.	2750
11	Light pole with light	25	5000	NOS.	125000
12	Slides & Swings	4	7000	NOS.	28000
13	Benches	10	4500	NOS.	45000
		Total Amount			467590
		Add 3% contingencies Rs			14028
		Add 2% charged establishment Rs.			9352
		Grand total			490970

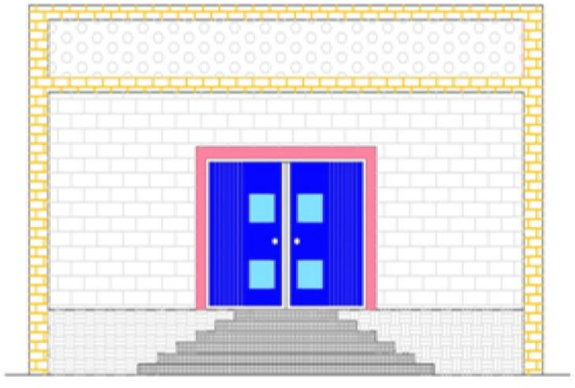
13.1.2 Public Library:



PLAN



SECTION X-X'



ELEVATION

SCHEDULE			
DOOR	1	D1	3M X 2.1M
DOOR	1	D2	1.2M X 2.1M
DOOR	2	D3	0.9M X 2.1M
GAP	2	G	2M X 2.1M
WINDOW	6	W	1.5M X 1.5M
VENTILATION	4	V	0.6M X 0.6M

NOTES:
1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	LIBRARY	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 8
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:30 Measurement Sheet of Public Library:**

SR. NO	ITEM DESCRIPTION	NO.	LENGTH	BREADTH	HEIGHT	QUANTITY
	L= 5(0.15+7.4+0.15) +3(0.15+4.0+0.2+4.0+0.2+2.0+0.2+1.5) =75.25Mt					
	Number of Junction	13				
1	Earthwork In excavation for foundation					
	L=75.25+(2*0.9/2)-13=63.15	8	63.15	0.9	1.8	818.424 M^3
				Total Quantity=		818.424 M^3
2	PCC In Foundation					
	L=75.25+(2*0.9/2)-13=63.15	8	63.15	0.9	0.3	136.404 M^3
				Total Quantity=		136.404 M^3
3	Brick Masonry in Foundation Up to Plinth level					
	Step 1					
	L=75.25+(2*0.7/2)-13=62.95	8	62.95	0.7	0.2	70.504 M^3
	Step 2					
	L=75.25+(2*0.6/2)-13=62.85	8	63.85	0.6	0.2	60.336 M^3
	Step 3					
	L=75.25+(2*0.5/2)-13=62.75	8	62.75	0.5	0.2	50.2 M^3
	Step 4					
	L=75.25+(2*0.3/2)-13=62.55	8	62.55	0.3	0.9	135.324 M^3
				Total Quantity=		316.364 M^3
4	Brick Masonry in Superstructure					
	H=3.0m					
	wall					

	L=75.25+(2*0.3/2) =75.55	8	75.55	0.3	3	543.96 M^3
	Parapet Wall					
	Wall	2	12	0.3	1	7.2 M^3
	Wall	2	8	0.3	1	4.8 M^3
				Total Quantity=		555.96 M^3
	Deduction for Door & Window					
	Door					
	D1	1	3	0.2	2.1	1.26 M^3
	D2	1	1.2	0.2	2.1	0.504 M^3
	D3	2	0.9	0.2	2.1	0.756 M^3
	Window					
	W1	6	1.5	0.3	1.5	4.05 M^3
	Ventilation					
	V	4	0.6	0.3	0.6	0.432 M^3
	Gap					
	G	2	2	0.2	2.1	1.68 M^3
				Total Deduction=		8.682 M^3
	Deduction for Lintel					
	Bearing=0.15M					
	Door					
	D1	1	3.2	0.2	2.1	1.344 M^3
	D2	1	1.4	0.2	2.1	0.588 M^3
	D3	2	1.1	0.2	2.1	0.924 M^3
	Window					
	W1	6	1.8	0.3	1.5	4.86 M^3
	Gap					
	G	2	2.2	0.2	2.1	1.848 M^3
				Total Deduction=		9.564 M^3
				Total Quantity=		537.714 M^3
5	Inside Plaster (1:6)					
	Reading hall					
	Wall	2	3	-	3	18 M^2
	Wall	2	4	-	3	24 M^2
	Celling	1	3	4	-	12 M^2
	Book stand					
	Wall	2	4	-	3	24 M^2
	Wall	2	4	-	3	24 M^2
	Celling	1	4	4	-	16 M^2
	Reading hall					
	Wall	2	3.2	-	3	19.2 M^2
	Wall	2	4.9	-	3	29.4 M^2
	Celling	1	3.2	4.9	-	15.68 M^2
	Passage					

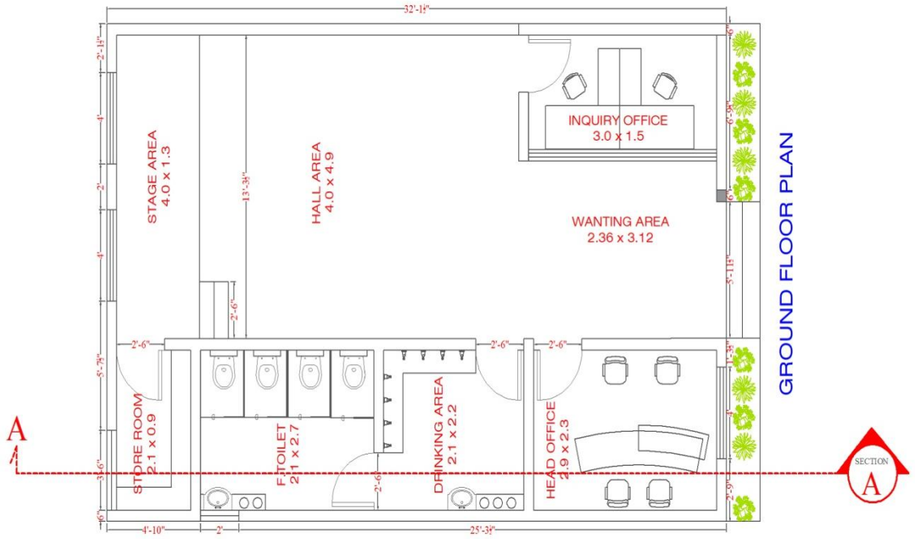
	Wall	2	7.4	-	3	44.4 M^2
	Wall	2	2	-	3	12 M^2
	Celling	1	7.4	2	-	14.8 M^2
	Veranda					
	Wall	1	7.4	-	3	22.2 M^2
	Wall	2	1.8	-	3	10.8 M^2
	Celling	1	7.4	2	-	13.32 M^2
	Gents Toilet					
	Wall	2	2.1	-	3	12.6 M^2
	Wall	2	1.5	-	3	9 M^2
	Celling	1	2.1	1.5	-	3.15 M^2
	Ladies Toilet					
	Wall	2	2.1	-	3	12.6 M^2
	Wall	2	1.5	-	3	9 M^2
	Celling	1	2.1	1.5	-	3.15 M^2
				Total Quantity=		349.3 M^2
	Deduction for Door & Window					
	Door					
	D1	1	1.5	-	3	4.5 M^3
	D2	1	1	-	3	3 M^3
	D3	4	0.9	-	3	10.8 M^3
	Window					
	W1	6	1.5	-	1.5	13.5 M^3
	Ventilation					
	V	4	0.6	-	0.6	1.44 M^3
	Gap					
	G	4	2	-	2.1	16.8 M^3
				Total Deduction=		50.04 M^3
				Total Plaster=		299.26 M^3
6	R.C.C Slab(1:2:4)					
	L=8.0M	1	8	12	0.12	11.52 M^3
	B=11.0M					
	H=0.12M					
				Total Quantity=		11.52 M^3
7	Flooring					
	Reading hall	1	3	4	-	12 M^2
	Bookstand	1	4	4	-	16 M^2
	Reading hall	1	3.2	4.9	-	15.68 M^2
	Passage	1	7.4	2	-	14.8 M^2
	Veranda	1	7.4	1.8	-	13.32 M^2
	Toilet	2	2.1	1.5	-	6.3 M^2
				Total Flooring=		78.1 M^2
8	Earth Filling in					

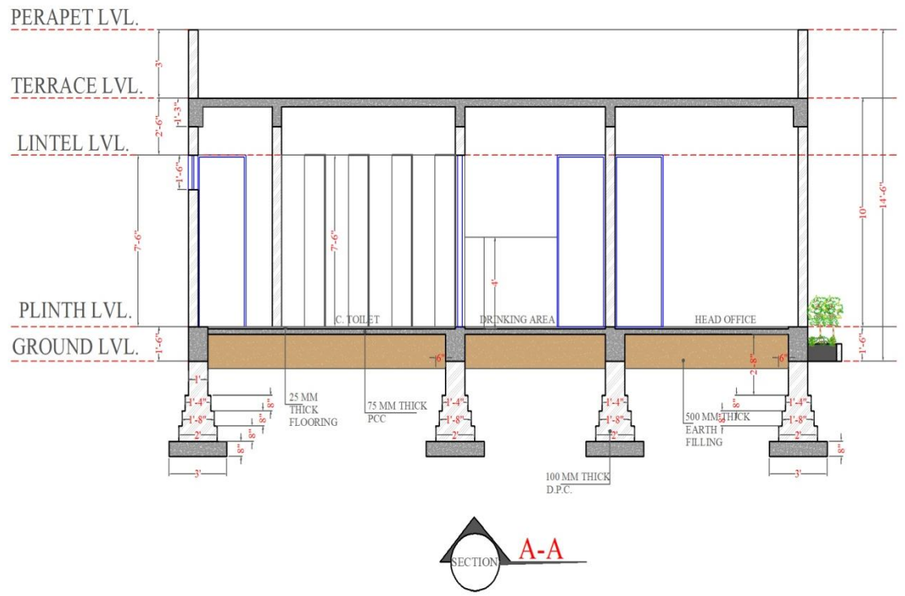
	Foundation					
	Total Earth Filling =Excavation - P.C.C.- Masonry in foundation					
	Total (818.424 - 136.404	**-**	**-**	**-**	**-**	**365.656 M^3**
	- 316.364) = 365.656					
	Earth filling on plinth	**1**	**8**	**12**	**0.88**	**84.48 M^3**
	H=0.9-0.02=0.58					
				Total Filling=		**450.136 M^3**

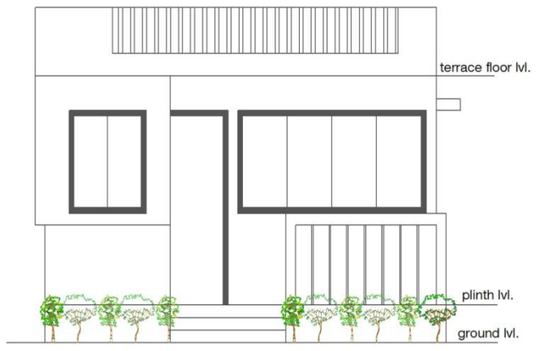
❖ **Table No:31 Abstract Sheet Of Public Library:**

Sr.No.	Description of Items	Quantity	Rate	Per	Amount
1	Excavation in foundation	818.424	95	M^3	77,750.28
2	P.C.C in foundation	136.404	3000	M^3	4,09,212.00
3	Brick Masonry in foundation	316.364	3200	M^3	10,12,364.80
4	Brick Masonry in Superstructure in cement mortar (1:4)	537.714	3500	M^3	18,81,999.00
5	Plaster (1:6)	299.26	440	M^2	1,31,674.40
6	R.C.C Slab (1:2:4)	11.52	8800	M^3	1,01,376.00
7	Flooring	78.1	500	M^2	39,050.00
8	Earth Filling in Foundation	450.136	50	M^3	22,506.80
9	Earth Filling in plinth	84.48	950	M^3	80,256.00
		Total Rs.			37,56,189.28
		Add 3% contingencies Rs.			1,12,685.68
		Add 2% charged establishment Rs.			75,123.79
		Grand total			39,43,998.74
		For 1 Sq. Mt			39,439.99

13.1.3 Mahila Mandal:







ELEVATION

NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	MAHILA MANDAL	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 9
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:32 Quantity sheet for Mahila Mandal:**

Item Description	No.	Length (m)	Width/ Breadth (m)	Height/ Depth (m)	Quantity (CU M)
Earthwork in Excavation in Foundation :					
L1 =10.60	3	10.6	1	1.5	47.70
S1 =5.4	3	5.4	1	1.5	24.30
S2 =1.20	1	1.2	1	1.5	1.80
S3 =2.10	1	2.1	1	1.5	3.15
			TOTAL QTY.		76.95
P.C.C Foundation:					
L1 =10.60	3	10.6	1	0.3	9.54
S1 =5.4	3	5.4	1	0.3	4.86
S2 =1.20	1	1.2	1	0.3	0.36
S3 =2.10	1	2.1	1	0.3	0.63
			TOTAL QTY.		15.39
Pad footing in Foundation					
L1 =10.20	3	10.2	0.7	0.3	6.43
L1 =9.95	3	9.95	0.15	1.6	7.16
S1 =5.00	3	5	0.7	0.3	3.15
S1 =4.35	3	4.35	0.15	1.6	3.13
S2 =0.80	1	0.8	0.7	0.3	0.17
S2 =0.55	1	0.55	0.15	1.6	0.13
S3 =1.70	1	1.7	0.7	0.3	0.36
S3 =1.45	1	1.45	0.15	1.6	0.35
			TOTAL QTY.		20.88
Brickwork in S.S					
L1 =10.60	3	10.6	0.15	3.2	15.26
S1 =5.4	3	5.4	0.15	3.2	7.78
S2 =1.20	1	1.2	0.15	3.2	0.58
S3 =2.10	1	2.1	0.15	3.2	1.01
			TOTAL QTY.		24.62
Staircase Quantity					
L1 =1.80	1	1.8	0.6	0.15	0.16
L1 =14.50	1	14.5	0.3	0.15	0.65
STAGE STAIRCASE					
L1 =0.76	1	0.76	0.6	0.15	0.07

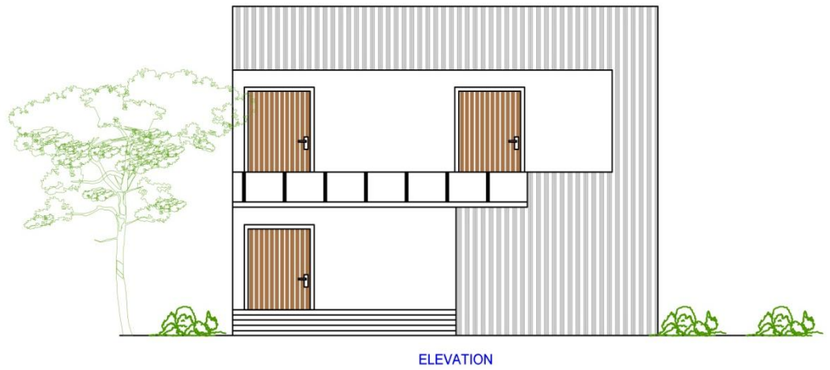
L1 =0.76	1	0.76	0.3	0.15	0.03
			TOTAL QTY.		0.92
Deduction for D & W					
W1	1	2.9	0.15	1.2	0.52
W2	3	1.2	0.15	1.2	0.65
V1	1	0.6	0.15	0.15	0.01
V2	1	1	0.15	0.15	0.02
			TOTAL QTY.		1.21
Deduction for D & W					
W1	1	3.2	0.15	0.12	0.06
W2	3	1.5	0.15	0.12	0.08
V1	1	0.9	0.15	0.12	0.02
V2	1	1.3	0.15	0.12	0.02
			TOTAL QTY.		0.18
			NET QTY.		23.23
R.C.C Slab &Chhajja					
L=6.40	1	6.4	9.6	0.12	7.37
B=9.60					
R.C.C Chhajja					
W1	1	3.2	0.6	0.1	0.19
W2	3	1.5	0.6	0.1	0.27
V1	1	0.9	0.6	0.1	0.05
V2	1	1.3	0.6	0.1	0.08
			Total qty.		0.59
Plaster inside					
Waiting area	2	1.2		3.5	8.40
	2	4.3		3.5	30.10
Inquiry office	2	3		3.5	21.00
	2	1.5		3.5	10.50
Head office	2	2.9		3.5	20.30
	2	2.3		3.5	16.10
Hall area	2	6.5		3.5	45.50
	2	4		3.5	28.00
Drinking area	2	2.1		3.5	14.70
	2	2.2		3.5	15.40
F. toilet	2	2.1		3.5	14.70
	2	2.7		3.5	18.90

Store room	2	2.1		3.5	14.70
	2	0.9		3.5	6.30
			Total qty.		264.60
Ceiling Plaster					
Waiting area	2	1.2		4.3	10.32
Inquiry office	2	3		1.5	9.00
Head office	2	2.9		2.3	13.34
Hall area	2	6.5		4	52.00
Drinking area	2	2.1		2.2	9.24
F. toilet	2	2.1		2.7	11.34
Store room	2	2.1		0.9	3.78
			Total qty.		109.02

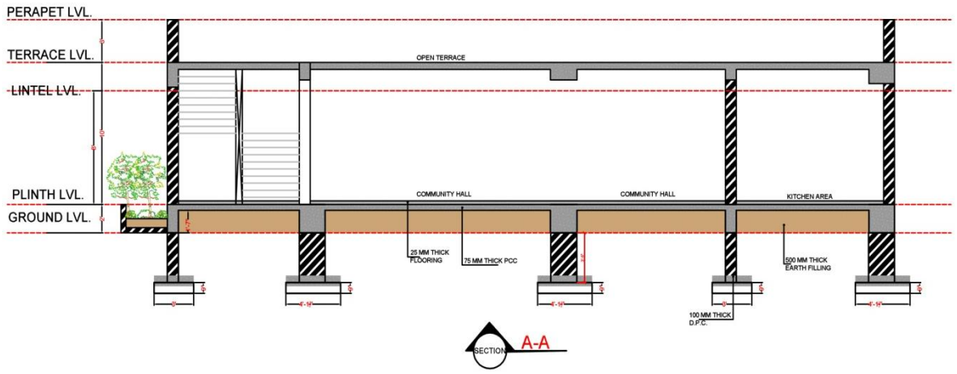
❖ **Table No:33 Abstract sheet for Mahila Mandal:**

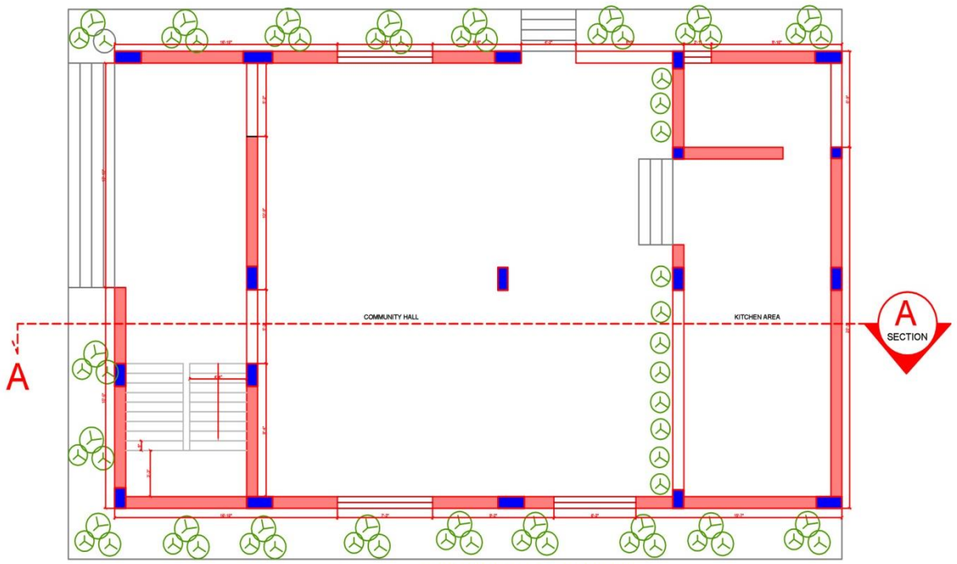
Sr. no	Item Description	Quantity	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	77.0 CUM	100	CUM	7700
2	P.C.C foundation	15.4 CUM	2800	CUM	43120
3	Pad Footing Up to Plinth	20.9 CUM	3400	CUM	71060
4	Brick work for S.S	24.4 SQ.M	180	SQ.M	4392
5	R.C.C Slab &Chhajja	0.6 CUM	200	SQ.M	120
6	Staircase Qty	0.9 CUM	10	SQ.M	9
7	smooth plaster on inter wall	370.6 SQ.M	10	SQ.M	3706
8	Brick work for parapet wall	10.0 CUM	8	CUM	80
			Total Rs.		130187
			Add 1.5% water charge		1953
			Add 10% con. Charge		13018
			Total Estimate Cost in Rs.		145158

13.1.4 Community hall:

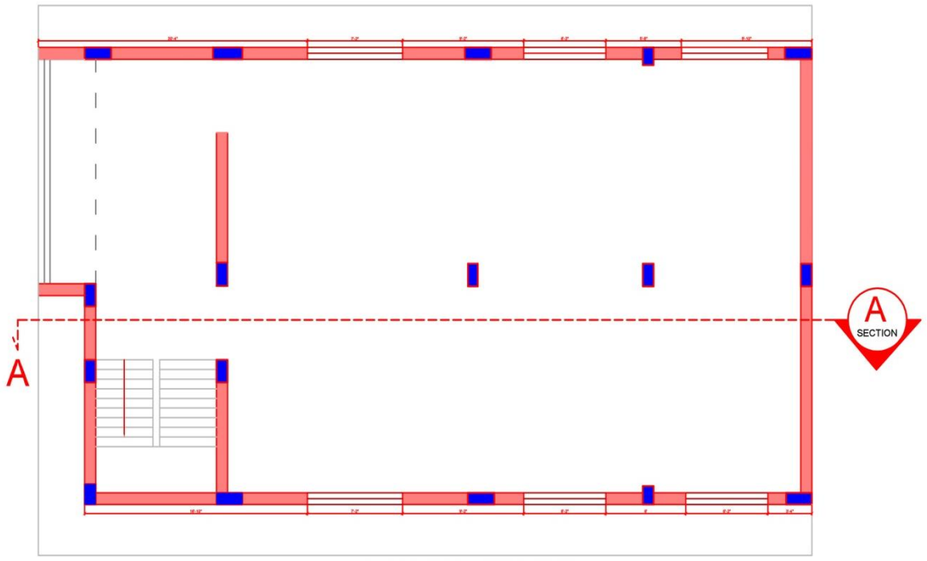


ELEVATION





GROUND FLOOR PLAN



TERRACE FLOOR PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	COMMUNITY HALL	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 10
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:34 Estimate Sheet of Community hall**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Width/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**
1	**Earthwork in Excavation in Foundation:**					
	L1 =11	3	11	1	1.5	49.50
	L2 =4.50	1	4.5	1	1.5	6.75
	S1 =15.5	2	15.5	1	1.5	46.50
	S2 =4	1	4	1	1.5	6.00
	S3 =5	1	5	1	1.5	7.50
				TOTAL QTY.		108.75
2	**pad footing upto plinth Foundation:**					
	L1 =10.7	3	10.7	1	0.3	9.63
	L1 =4.2	1	4.2	1	0.3	1.26
	S1 =11.9	2	11.9	1	0.3	7.14
	S1 =12.9	2	12.9	1	0.3	7.74
	S2 =4.5	1	4.5	1	0.3	1.35
	S2 =4.8	1	4.8	1	0.3	1.44
	S3 =5.5	1	5.5	1	0.3	1.65
	S3 =5.5	5.5	5.5	1	0.3	9.08
				TOTAL QTY.		12.18
3	**P.C.C Foundation:**					
	L1 =11	3	11	1	0.2	6.60
	L2 =4.5	1	4.5	1	0.2	0.90
	S1 =15.5	2	15.5	1	0.2	6.20
	S2 =4	1	4	1	0.2	0.80

	S3 =5	1	5	1	0.2	1.00
				TOTAL QTY.		14.50
3	**B.B.C.C Foundation:**					
	L1 =11	3	11	1	0.2	6.60
	L2 =4.5	1	4.5	1	0.2	0.90
	S1 =15.5	2	15.5	1	0.2	6.20
	S2 =4	1	4	1	0.2	0.80
	S3 =5	1	5	1	0.2	1.00
				TOTAL QTY.		14.50
4	**Brick Masonry above plinth**					
	up to slab in c.m (1:6)					
	L=11m	3	11	0.2	4	26.40
	L=4.5m	1	4.5	0.2	4	3.60
	S1=11.4m	2	15.5	0.2	4	24.80
	S2=4m	1	4	0.2	4	3.20
	S3=5m	1	5	0.2	4	4.00
				TOTAL QTY.		84.55
5	**Deduction for door window**					
	D1	2	3.5	0.2	3.5	4.90
	D2	1	1.2	0.2	3.5	0.84
	W1	4	1.2	0.2	1.4	1.34
	V1	2	0.6	0.2	0.6	0.14
				TOTAL QTY.		1.49
6	Deducation for lintel					
	window & door					
	D1	2	3.5	0.2	0.15	0.21
	D2	1	1.2	0.2	0.15	0.04
	W1	4	1.2	0.2	0.15	0.14
	V1	2	0.6	0.2	0.15	0.04
				TOTAL QTY.		0.18

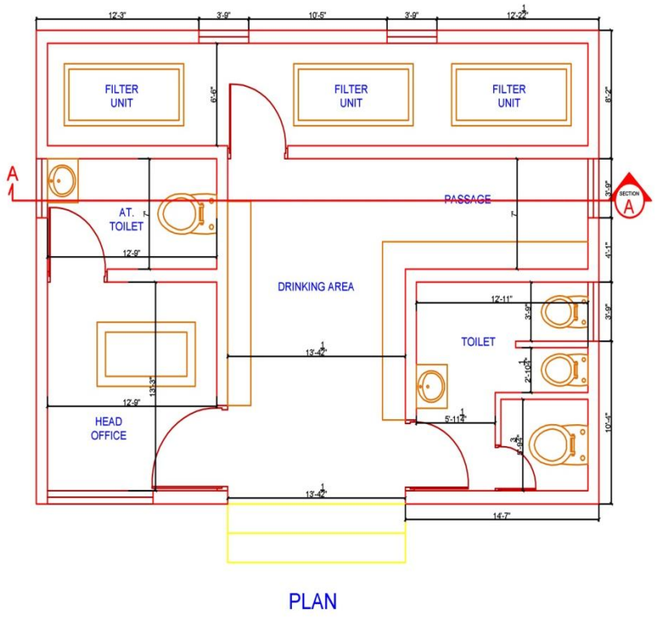
				NET QTY.(m2)		82.88
7	1:3 Plaster for wall					
	HALL	2	10.6	3.5		74.20
		2	9.2	3.5		64.40
	STORE ROOM	2	2.1	3.5		14.70
		2	3.3	3.5		23.10
	STAGE	2	8.3	3.5		58.10
		2	3.3	3.5		23.10
	Celling plaster					
	HALL	1	10.6	9.2		97.52
	STORE ROOM	1	2.1	3.3		6.93
	STAGE	1	8.3	3.3		27.39
				TOTAL QTY.		389.44
	Deducation for Door					
	Window					
	D1	2.5	3.5	02	3.5	6.13
	D2	2	1.2	0.2	3.5	1.68
	W1	1	1.2	0.2	0.4	0.10
	V1	2	0.6	0.2	0.3	0.07
				TOTAL QTY.(m2)		7.97
				NET QTY.(m2)		381.47
8	Inside Panit on Wall					
				TOTAL QTY.(m2)		381.47
9	Outside Panit on Wall					
	HALL	2	16.1	9.2	11.1	296.24
				TOTAL QTY.(m2)		677.71
	Deducation for Door and Window & Lintel			NET QTY. (m2)		669.73

10	paint work (white wash)					
				TOTAL QTY.(m2)		669.73
9	Paint work on outer wall					
				NET QTY.(m2)		670.00
11	Brick Masonry Parapet wall					
	L1 =16	2	16	0.2	1.5	9.60
	S1 =11.1	2	11.1	0.2	1.5	6.66
				TOTAL QTY		16.26

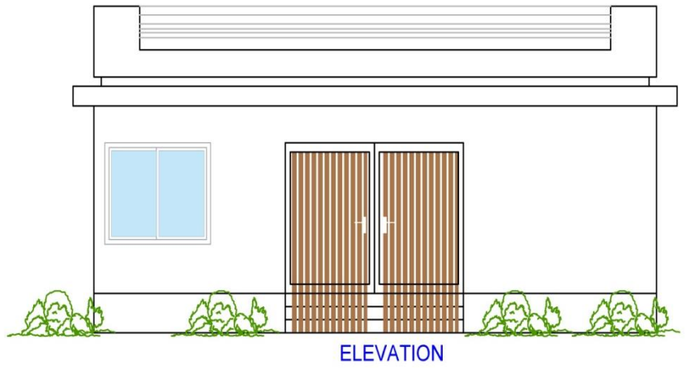
❖ **Table No:35 Abstract Sheet of Community hall**

Abstract Sheet of Community hall					
Sr. no	item Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	108.0 CUM	90	CUM	9720
2	Earth filling in plinth	126.0 CUM	2700	CUM	340200
3	Brick masonry up to plinth in CM (1:60	84.0 CUM	3500	CUM	294000
4	smooth plaster inside rooms & ceiling	82.9 SQ.M	150	SQ.M	12432
5	smooth plaster on outer wall	381.4 SQ.M	150	SQ.M	57210
6	paint work (white wash)	669.1 SQ.M	5	SQ.M	3345.5
7	paint work on outer wall	667.0 SQ.M	5	SQ.M	3335
8	Brick work for parapet wall	16.3 CUM	3500	CUM	56910
				Total Rs.	777152.5
			Add 1.5% Water Charge		11657
			Add 10% con. Charge		7771.525
			Total Estimate Cost in Rs.		796581

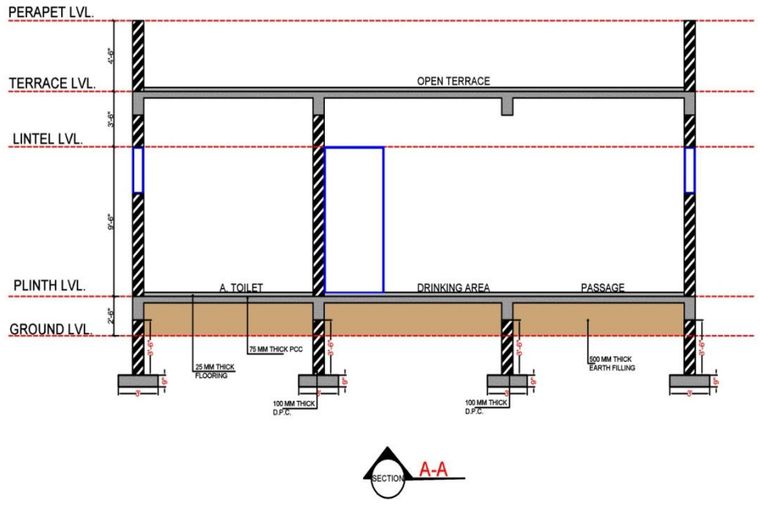
13.1.5 Drinking water facilities unit:



PLAN



ELEVATION



NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	DRINKING WATER FACILITY	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 11
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖ **Table No:36 Estimation of Drinking water facilities unit**

BUILDING ESTIMATE						
QUANTITY SHEET						
Sr. No.	**Item Description**	**No.**	**Length (m)**	**Widht/ Breadth (m)**	**Height/ Depth (m)**	**Quantity (CU M)**
1	**Earthwork in Excavation in Foundation:**					
	L1 =7.90	3	7.9	1	1.5	35.55
	S1 =3.8	2	3.8	1	1.5	11.40
	S2 =2.60	1	2.6	1	1.5	3.90
	S3 =2.10	1	2.1	1	1.5	3.15
		TOTAL QTY.				54.00
2	**P.C.C Foundation:**					
	L1 =7.90	3	7.9	1.5	0.3	10.67
	S1 =3.8	2	3.8	1.5	0.3	3.42
	S2 =2.60	1	2.6	1.5	0.3	1.17
	S3 =2.10	1	2.1	1.5	0.3	0.95
		TOTAL QTY.				16.20
3	**Pad footing in Foundation**					
STEP1	L1 =7.50	3	7.5	0.7	0.3	4.73
STEP2	L1 =7.25	3	7.25	0.15	1.6	5.22
STEP1	S1 =4.2	2	3.4	0.7	0.3	1.43
STEP2	S1 =4.45	2	3.15	0.15	1.6	1.51
STEP1	S2 =3.00	1	2.2	0.7	0.3	0.46
STEP2	S2 =3.25	1	1.95	0.15	1.6	0.47
STEP1	S3 =2.50	1	1.7	0.7	0.3	0.36
STEP2	S3 =2.75	1	1.45	0.15	1.6	0.35
		TOTAL QTY.				14.52
4	**Brickwork in S.S**					
	L1 =7.90	3	7.9	0.15	3.2	11.38
	S1 =3.8	2	3.8	0.15	3.2	3.65

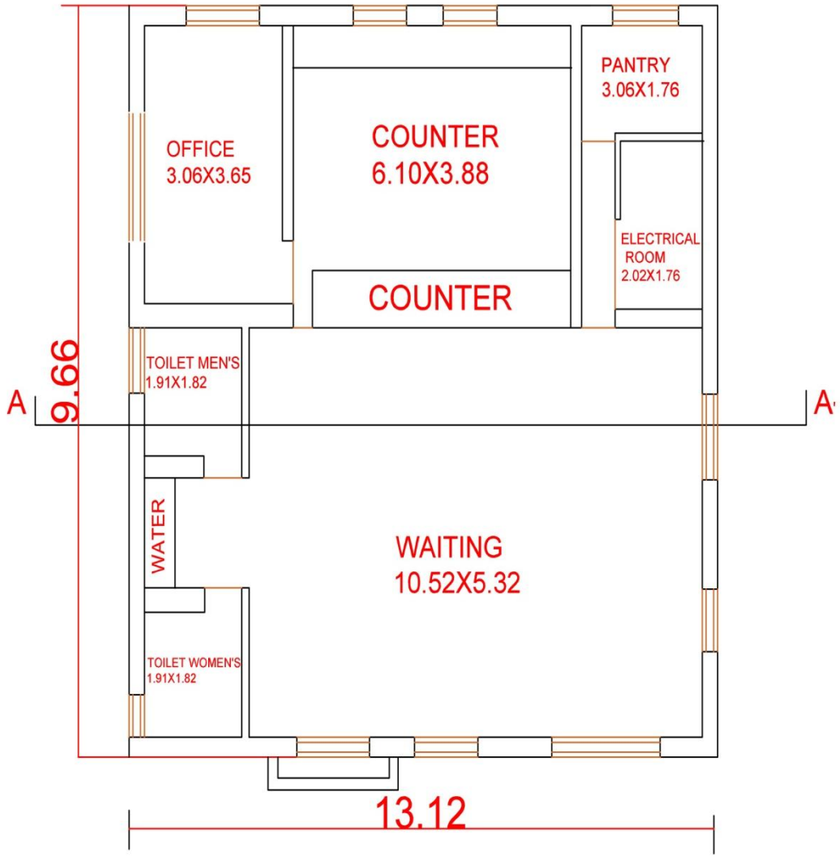
	S2 =2.60	1	2.6	0.15	3.2	1.25
	S3 =2.10	1	2.1	0.15	3.2	1.01
					TOTAL QTY.	17.28
5	**Staircase Qty**					
	L1 =2.10	1	2.1	0.6	0.15	0.19
	L1 =2.10	1	2.1	0.3	0.15	0.09
					TOTAL QTY.	0.28
6	**Deduction for D & W**					
	W1	1	1.3	0.15	1.5	0.29
	V1	5	0.6	0.15	0.15	0.07
					TOTAL QTY.	0.36
7	**Deduction for D & W**					
	W1	1	1.3	0.15	0.12	0.02
	V1	5	0.6	0.15	0.12	0.05
					TOTAL QTY.	0.08
					NET QTY.	21.59
8	**R.C.C Slab & Chajja**					
	L=7.00	1	7	5	0.12	4.20
	B=5.00	1				
	R.C.C Chaaja					
	W1	1	1.3	0.6	0.12	0.09
	V1	5	0.6	0.6	0.12	0.2 2
					TOTAL QTY.	4.51
9	**Plaster inside**					
	HEAD OFFICE	4	2.1		3	25.20
	TOILET	2	2.1		3	12.60
		2	1.1		3	6.60
	D.A	2	2.1		3	12.60
		2	2.9		3	17.40

	TOILET	2	2.1		3	12.60
		2	1.1		3	6.60
	F.U	2	6.7		3	40.20
		2	1		3	6.00
					TOTAL QTY.	139.80
10	**Celling Plaster**					
	HEAD OFFICE	2	1.2		2.1	5.04
	TOILET	2	2.1		1.1	4.62
	D.A	2	2.1		2.9	12.18
	TOILET	2	2.1		1.1	4.62
	F.U	2	6.7		1	13.40
					TOTAL QTY.	185.66
10	**Deduction for D & W**					
	W1	2	1.3		1.5	3.90
	V1	2	0.6		0.15	0.18
					TOTAL QTY.	4.08
					NET QTY.	321.38

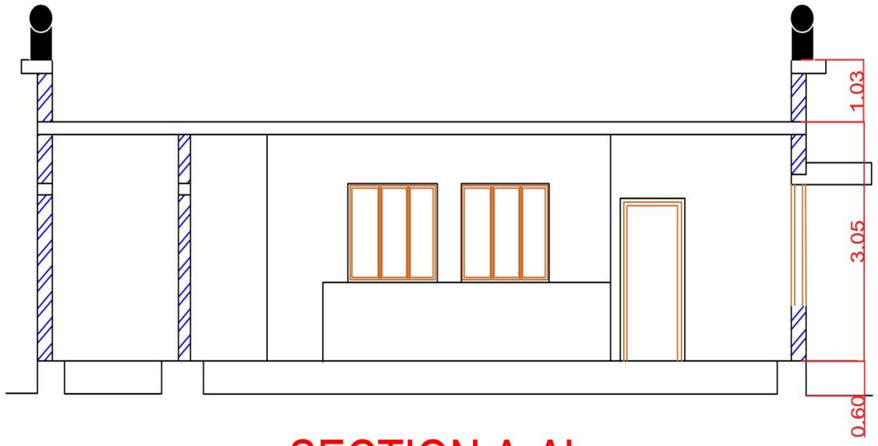
❖ **Table No:37 Abstract Sheet of drinking water facilities unit**

Sr. no	ltem Description	QTY	Rate	Per	Amount (Rs.)
1	Earthwork in excavation in foundation	54.0 CUM	90	CUM	4860
2	P.C.C foundation	16.2 CUM	2700	CUM	43740
3	Pad Footing Upto Plinth	14.1 CUM	3500	CUM	49420
4	Brick work for S.S	21.6 SQ.M	150	SQ.M	3238.5
5	R.C.C Slab & Chajja	4.5 CUM	150	SQ.M	676.5
6	Staircase Qty	0.3 CUM	5	SQ.M	1.4
7	smooth plaster on inter wall	321.4 SQ.M	5	SQ.M	1606.9
8	Brick work for parapet wall	10.0 CUM	5	CUM	50
			Total Rs.		103593.3
		Add 1.5% Water Charge			1554
		Add 10% con. Charge			1035.933
		Total Estimate Cost in Rs.			106183

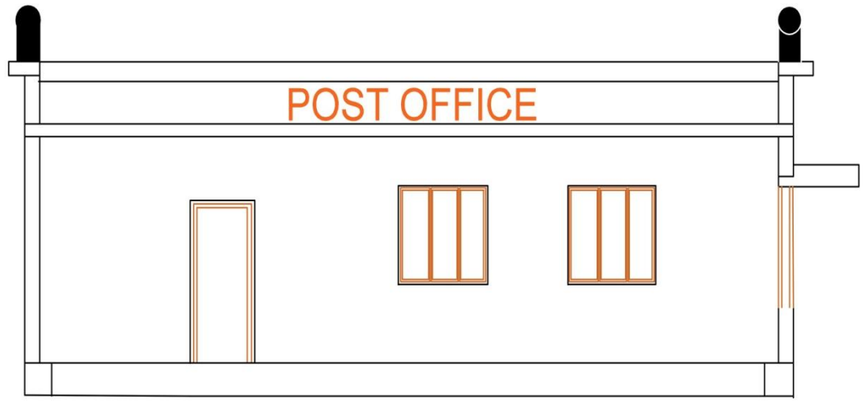
13.1.6 Post office:



PLAN



SECTION A-A'



ELEVATION

NOTES:

1. ALL DIMENSIONS ARE IN MM INTIL STATED.
2. DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
3. ALL CONCRETE SHALL BE MACHINE MIXED AND MACHINE VIBRATED.
4. ALL LOAD BEARING BRICK MASONARY WALL IN CEMENT MORTAR IN PROPORTION OF 1:6.
5. DESIGN IS PREPARED ONLY FOR EDUCATION PURPOSE, CORRECTED ALL DATA MUST BE CHECK BEFORE USE.

DESIGN OF:	POST OFFICE	
PREPARED BY:	Zeel Saraiya Ashish Tailor	SHEET NO: 12
PROJECT NAME:	Vishwakarma Yojana Phase-VIII	
INSTITUTE NAME:	Bhagwan Mahavir Collage Of Engineernig And Technology	
UNIVERSITY NAME:	Gujarat Technological University	

❖Table No:38 Estimate and Quantity sheet of post office:

Sr. No.	Description of Item	quantity	rate	per	estimated value
1	Excavation in foundation	49.64	100	m3	4964
2	Plain cement concrete (P.C.C.)	8.11	3500	m3	28385
	foundation in (1:3:6)				
3	first class brick work to plinth in C.M.	25.3	3500	m3	88550
	(1:6)				
4	Damp proof course (1:2:4) above	18.74	180	m3	3373
	plinth wall				
5	Earth filling in plinth	21.3	80	m3	1704
			8890		207404
		23.33		m3	
→	R.C.C work in slab,lintel and chajja		8890		112014
→	Cement concrete for slab (1:1.5:3)	12.6		m3	
→	Cantering and shuttering for slab		150		18339
→	12 mm diameter bar (HYSD bars)	122.26		m3	
→	6 mm diameter bars (Mild steel)			kg	
→	Labour for cutting bending and placing		45		82440
	steel	1832			
7		1832			
			8	kg	14656
→	Brick work for parapet wall 200 mm	13.89	3800	m3	52782
	thick				
8					
→	Brick work for steps	0.82	3500	m3	2870
→	Smooth plaster on side wall and celling	386.14	180	m2	69505
	in C.m. (1:3)				

9					
→	Plaster outside (1:6)	244	170	m2	41480
10					
→	Tiles flooring	110.48	800	m2	11048
11	Wood work for door-window and shutters	28.37	8100	m2	229797
12					
→	paint inside	386.14	100.72	m2	38892
→	paint outside	244	100.72	m2	24576
13	Toilet seat	2	3080	no	6160
		Total cost			1038939
		Add 3% Contingencies			31168
		Add 2% Work Charged Establishment			20779
			Total value		1090886

Chapter 14: Technical Option with Case Studies

14.1 Civil Engineering

14.1.1 Advanced Earthquake Resistant

Earthquake-resistant structures are structures designed to protect buildings from earthquakes. While no structure can be entirely immune to damage fromearthquakes, the goal of earthquake-resistant construction is to erect structures that fare better during seismic activity than their conventional counterparts. According to building codes, earthquake-resistant structures are intended to withstand the largest earthquake of a certain probability that is likely to occur at their location. Currently, there are several design philosophies in earthquake engineering, making use of experimental results, computer simulations and observations from past earthquakes to offer the required performance for the seismic threat at the site of interest.

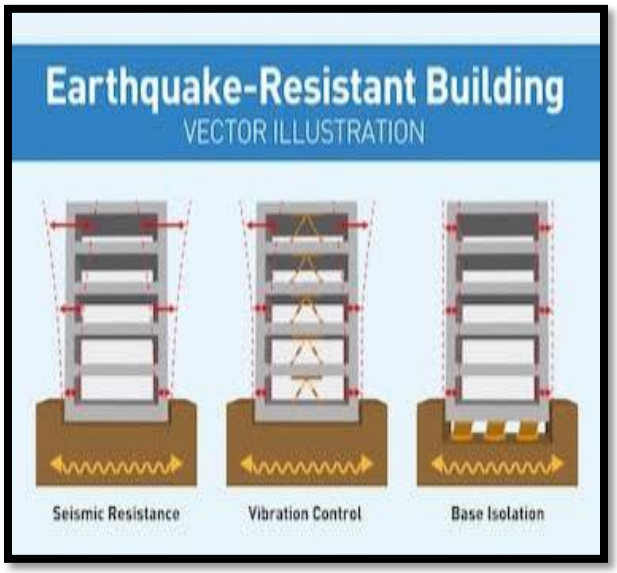


Fig. 43 Earthquake resistant building

These range from appropriately sizing the structure to be strong and ductile enough to survive the shaking with an acceptable damage. The conventional approach to earthquake resistant design of buildings depends upon providing the building with strength, stiffness and inelastic deformation capacity which are great enough to withstand a given level of earthquake-generated force. This is generally accomplished through the selection of an appropriate structural configuration and the careful detailing of structural members, suchas beams and columns, and the connections between them. But more advanced techniques for earthquake resistance is not to strengthen thebuilding, but to reduce the earthquake-generated forces acting upon it.

- Among the most important advanced techniques of earthquake resistant design and construction are:
- 1.Base Isolation
- 2.Energy Dissipation Devices

➢ **Base Isolation Method of Earthquake Resistant Design**

A base isolated structure is supported by a series of bearing pads which are placed between the building and the building's foundation. A variety of different types ofbase isolation bearing pads have now been developed. the bearing is very stiff and strong in the vertical direction, but flexible in the horizontal direction. To get a basic idea of how base isolation works, examine Figure. This shows an earthquakeacting on both a base isolated building and a conventional, fixed-base, building. As a result of an earthquake, the ground beneath each building begins to move. In Figure, it is shown moving to the left. Each building responds with

movement whichtends toward the right. The building undergoes displacement towards the right. The building's displacement in the direction opposite the ground motion is actuallydue to inertia. The inertial forces acting on a building are the most important of allthose generated during an earthquake. It is important to know that the inertial forces which the building undergoes are proportional to the building's accelerationduring ground motion. It is also important to realize that buildings don't actually shift in only one direction. Because of the complex nature of earthquake ground motion, the building actually tends to vibrate back and forth in varying directions. By contrast, even though it too displacing, the base-isolated building retains its original, rectangular shape. It is the lead-rubber bearings supporting the building that are deformed.

- **Energy Dissipation Devices**

The second of the major new techniques for improving the earthquake resistance of buildings also relies upon damping and energy dissipation, but it greatly extendsthe damping and energy dissipation provided by lead-rubber bearings. As we've said, a certain amount of vibration energy is transferred to the building by earthquake ground motion. Buildings themselves do possess an inherent ability to dissipate, or damp, this energy. However, the capacity of buildings to dissipate energy before they begin to suffer deformation and damage is quite limited. The building will dissipate energy either by undergoing large scale movement or sustaining increased internal strains in elements such as the building's columns and beams. Both of these eventually result in varying degrees of damage. So, by equipping a building with additional devices which have high damping capacity, we can greatly decrease the seismic energy entering the building, and thusdecrease building damage. Accordingly, a wide range of energy dissipation deviceshave been developed and are now being installed in real buildings. Energydissipation devices are also often called damping devices. The large number of damping devices that have been developed can be grouped into three broad categories: Friction Dampers: these utilize frictional forces to dissipate energy Metallic Dampers: utilize the deformation of metal elements within the damper Viscoelastic Dampers: utilize the controlled shearing of solids Viscous Dampers: utilized the forced movement (orificing) of fluids within the dampe.

- **Construction Methods**

1.Base-isolation are designed in buildings. It is a building designed to reduce amount of energy that reaches the building during earthquake.

2.Flexible joints and automatic shut off valves can be installed. Protecting Against Earthquake Damage Prepare a Seismic Risk Map for the globe which identifies rock types, liquefaction potential, landslide potential. Extensive geological surveying has to bedone to identify all active faults, including hidden faults. Earthquake Resistant Design of Structures Enact building codes to design and build earthquake-resistant structures in high seismic risk areas. wood, steel and reinforced concrete are preferred as they tend to move with the shaking ground (unreinforced concrete and heavy masonry tend to move independently and in opposition to the shaking, battering one another until the structure collapses)

- **GUIDELINES FOR EARTHQUAKE RESISTANT CONSTRUCTION**

In addition to the main earthquake design code 1893 the BIS (Bureau of Indian Standards) has

published other relevant earthquake design codes for earthquake resistant construction Masonry structures (IS-13828 1993)

• Horizontal bands should be provided at plinth, lintel and roof levels as per code

• Providing verticalreinforcement at important locations such as corners, internal and external wall junctions as per code.

• Grade of mortar should be as per codes specified for different earthquake zones.

• Irregular shapes should be avoided both in plan andvertical configuration.

• Quality assurance and proper workmanship must be ensured at all cost without any compromise. In RCC framed structures (IS-13920)

•In RCC framed structures the spacing of lateral ties should be kept closer as per the code

• The hook in the ties should be at 135 degrees instead of 90 degrees forbetter anchoragement.

• The arrangement of lateral ties in the columns should beas per code and must be continued through the joint as well.

14.1.2 Seismic Retrofitting of Buildings

- **Introduction:**

The aftermath of an earthquake manifests great devastation due to unpredicted seismic motion striking extensive damage to innumerable buildings of varying degree i.e., either full or partial or slight. This damage to structures in its turn causes irreparable loss of life with a large number of casualties. As a result, frightened occupants may refuse to enter the building unless assured of the safety of building from future earthquakes. It has been observed that majority of such earthquake damaged buildings may be safely reused if they are converted into seismically resistant structures by employing a few retrofitting measures. This proves to be a better option catering to the economic considerations and immediate shelter problems rather than replacement of buildings. Moreover, it has often been seen that retrofitting of buildings is generally more economical as compared to demolition and reconstruction even in the case of severe structural damage. Therefore, seismic retrofitting of building structures is one of the most important aspects for mitigating seismic hazards especially in earthquake prone countries. Various terms are associated to retrofitting with a marginal difference like repair, strengthening, retrofitting, remoulding, rehabilitation, reconstructionetc. but there is no consensus on them. The most common definition of these terms may be summarized.

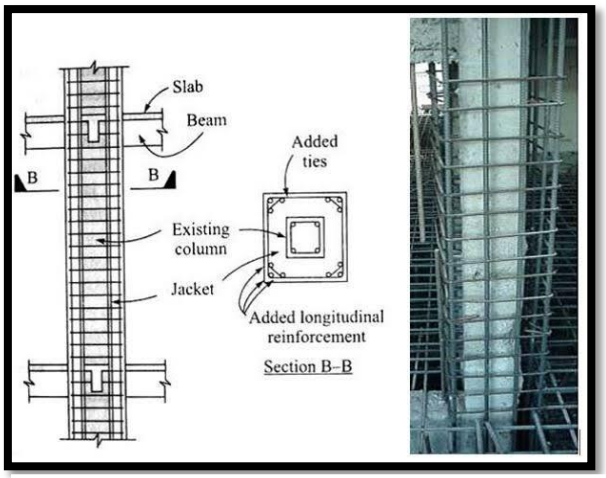


Fig.44 Seismic retrofitting of Conc.

- **Consideration in Retrofitting of Structures**

The method of retrofitting principally depends on the horizontal and vertical load resisting system of the structure and the type of materials used for parent construction. It also relies on the technology that is feasible and economical. Theunderstanding of mode of failure, structural behavior and weak and strong design aspects as derived from the earthquake damage surveys exercise considerable influence on selection of retrofitting methods of buildings. Usually,the retrofitting method is aimed at increasing the lateral resistance of the structure. The lateral resistance includes the lateral strength or stiffness and lateral displacement or ductility of the structures. The lateral resistance is often provided through modification or addition of retrofitting elements of an existingstructure in certain areas only. The remaining elements in the structure are usually not strengthened and are assumed to carry vertical load only, but in an earthquake, all components at each floor, retrofitted or not, will undergo essentially the same lateral displacements. While modified or added elements can be designed to sustain these lateral deformations, the remaining nonstrengthened elements could still suffer substantial damage unless lateral drifts are controlled. Therefore, caution must be taken to avoid an irregular stiffness distribution in the strengthened structure. Thus, the ability to predict initial and final stiffness of the retrofitted structure need clarification and quantification. Consequently, it is suggested that the design of retrofitted schemes should be based on drift control rather than on strength consideration alone. The use of three-dimensional analysis is recommended to identify andlocate the potential weakness of the retrofitted building.

- **Source of Weakness in RC Frame Building**

Earthquake engineering is not a pure science; rather it has been developed through the observation of failure of structure during earthquake (Otani, 2004). Damage survey reports of past earthquakes reveal the following main source of weakness in reinforced concrete moment resisting frame buildings. (a) Discontinuous load path/ interrupted load path/irregular load path (b) Lack of deformation compatibility of structural members (c) Quality of workmanship andpoor quality of material.

14.1.3 Advance Practices in Construction field in Modern Material, Techniques and Equipment's

- **Procurement**
  - The procurement practice involves:
  - Selecting Appropriate Method for Construction Management
  - Selection of Best team for the design
  - Selection of best team to deliver
  - Select best team to Operate the facility

- **Partnering**
  - When compared to the traditional approach of working, the partnering is an different working style. This takes a collaborative approach in working. It has been proved through great projects that working through partnering helps in achieving

- Greater value of money
- Higher Profits for the company
- Quality Improvement
- Prediction of project completion

- **Risk Management**

Risk in projected are always expected and it is necessary to maintain a "risk register". This will help to enter all the risk faced from the starting of the project to its end. Along the risk encountered, the method used to manage is also recorded. This helps to be applied in other projects. Risk assessing and analyzing will help to assign appropriate actions to different project team. The risk assessment is an activity that have to be performed in a regular basis and in no case be ignored. For all risk residual items, it is necessary to have some financial allowance. The cost of this item can be avoided by selecting a best solution for the problem faced.

- **Value Management**

❖ This key practice takes into account **time, cost** and **risk constraints,** in order to meet the client's business needs. The method of value management will involve complete collaboration with the team. The team is in charge of design and delivery of the project. This team will also include the end-users and the stake holders. The steps in value management are:

- Identify the need of client in terms of benefits and their priorities
- Different options to satisfy the needs are identified and evaluated
- Options assessed in terms of risk, cost, and satisfaction.

- **Supply Chain Management in Construction**

❖ In construction, this term is new. Here, all the operations of the organizations are integrated that is associated with the delivery of a product or a service. Hence, from the primary producer till the end user this is analyzed. Supply chain management in construction will involve analyzing from:

- Material
- Suppliers
- Manufacturer
- Distributors
- Installation
- Contractors Designers
- Client organization

14.1.4 Engineering Aspects of Soil mechanics- Environmental Impact Assessment

- Soil mechanics is a discipline of civil engineering that predicts the soil performance characteristics utilizing the engineering techniques of dynamics, fluid mechanics, and other technologies. Soil mechanics includes the study of soil composition, strength, consolidation, and the use of hydraulic principles to deal with issues concerning sediments and other deposits. Soil mechanicsis one of the major sciences for resolving problems related to geology and geophysical engineering. Soil mechanics studies are very important for civil engineers because based on the findings of soil mechanics studies, engineering structures are constructed. The type of construction, type of equipment to be used, type of foundation, support material, and many other aspects of construction works are largely affected by the soil mechanics studies. Basically, we study about soil formation modes, physical and chemical properties of soil, dynamic loading of soils, permeability, consolidation, etc. In the subsequent sections of this article, we will discuss indetail about major aspects of soil mechanics studies.

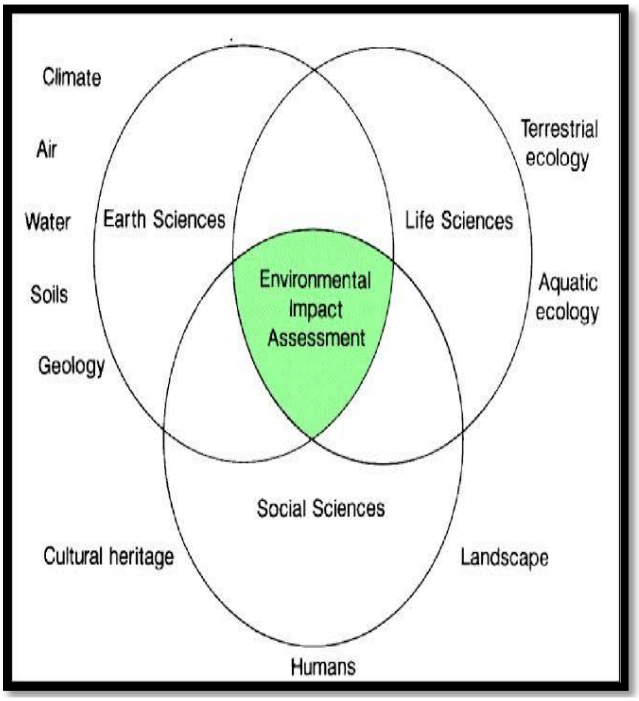


Fig.45 Environmental Impact Assessment

- In view of the colossal damage to the environment, there is a felt need for assessing the environmental impacts of developmental activities. EIA is a tool to anticipate the possible damage to the environment caused by developmental projects and schemes, and propose mitigation measures and strategies.
- EIA exerts to declare a national policy to encourage productive and enjoyable harmony between man and environment. It promotes efforts to prevent or eliminate damage to the environment and the biosphere, and stimulate the healthand welfare of man.
- It seeks to increase the understanding of ecological system and nature resourcesimportant to the nation and to provide for appropriate institutional structure to carryout the objectives.
- It provides a broad, integrated perspective of a region about to undergo or undergoing developments. EIA ascertains the cumulative impacts from the multiple development in the region. It establishes priorities for environmental protection. It also identifies the positive and negative aspects of any project as well as assesses the policy options and analyses the impact on the environment therein.

14.1.5 Water Supply-Sewerage system- Waste Water- Sustainabledevelopment techniques

Water was an important factor in the location of the earliest settled communities, and the evolution of public water supply systems is tied directly to the growthof cities. In the

development of water resources beyond their natural condition in rivers, lakes, and springs, the digging of shallow wells was probably the earliest innovation. As the need for water increased and tools were developed, wells were made deeper. Brick-lined wells were built by city dwellers in the Indus River basin as early as 2500 BCE, and wells almost 500 meters (more than 1,600 feet) deep are known to have been used in ancient China.

The need to channel water supplies from distant sources was an outcome of the growth of urban communities. Among the most notable of ancient water- conveyance systems are the aqueducts built between 312 BCE and 455 CE throughout the Roman Empire. Some of these impressive works are still in existence. The writings of Sextos Julius Frontinus (who was appointed superintendent of Roman aqueducts in 97 CE) provide information about the design and construction of the 11 major aqueducts that supplied Rome itself. Extending from a distant spring-fed area, a lake, or a river, a typical Roman aqueduct included a series of underground and aboveground channels. The longest was the Aqua Marcia, built in 144 BCE. Its source was about 37 km (23 miles) from Rome. The aqueduct itself was 92 km (57 miles) long, however, because it had to meander along land contours in order to maintain a steady flow of water. For about 80 km (50 miles) the aqueduct was underground in a covered trench, and only for the last 11 km (7 miles) was it carried aboveground on an arcade. In fact, most of the combined length of the aqueducts supplying Rome (about 420 km [260 miles]) was built as covered trenches or tunnels. When crossing a valley, aqueducts were supported by arcades comprising one or more levels of massive granite piers and impressive arches.

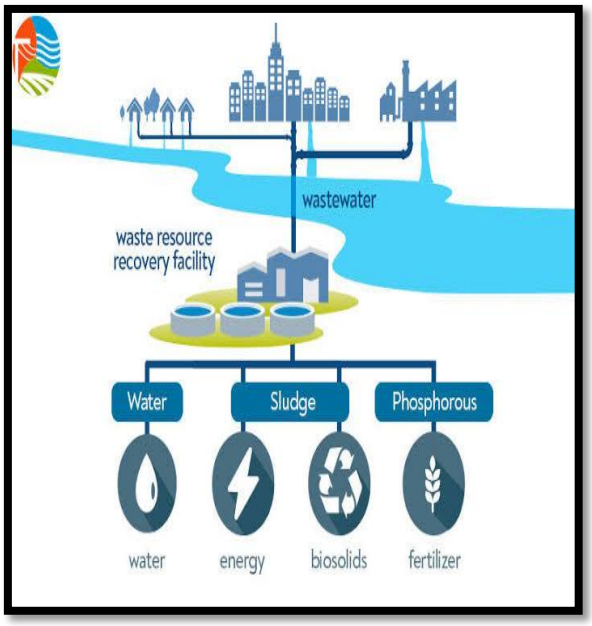


Fig.46 Waste water sustainable development techniques

Chapter-15: Smart /or Sustainable features of Chapter 8 & 13 designs, Impact on society.

Benefit –

a) Immediately b) Within 1 year c) Long term (3-5 years) along with cost estimation. If possible, List the sources of the funding available with the Village gram panchayat

Sr. No	Designs	Period	Amount Expenditure	Benefits
1.	Anganwadi	Immediately	Rs. 3,19,350/-	Aganwadi centers provides basic health care, basic health care activities include contraceptive counselling and supply, nutrition education and supplementation, as well as pre-school activities.
2.	Girl's Primary school	Immediately	Rs. 23,15,209/-	Primary education increases the knowledge of children which increase social and emotional development.
3.	Agro storage unit	Within 1 year	Rs.9,61544/-	Benefits to the farmers, they can easily storage their Auriculate production.
4.	Milk collection and distribution unit	Within 6 months	Rs. 4,13,089/-	Milk dairy unit very useful that you can produce more than product such as milk, cheese, butter and their economics benefits.
5.	Animal shelter	1 year	Rs.7,50,611 /-	To help break the cycle of pet overpopulation. to save life.
6.	Public toilet	Immediately	Rs. 1,80,008/-	To facilitates a toilet facility and promotes Swachh Bharat Yojana
7.	Public garden	Within 1 Year	Rs. 490970/-	For entertainment purpose Provide refreshment to the village peoples. Children use playground to improve their physical fitness.
8.	Public library	Within 1 year	Rs. 3943998/-	Increase education facilities. Learn about modern new technology.
9.	Mahilamandal	Within 1 to 2 year	Rs. 145158/-	To help women empowerment.

10.	Community hall	Within 1 year	Rs. 7,96,581/-	To increase and strengthen the villager's family bonds and offers valuable community info
11.	Drinking water facilities unit	Immediately	Rs. 1,06,183/-	Provide good quality of drinking water.
12.	Post office	Immediately	Rs.1090886\-	Provide risk free transaction and saving amoney of village people.

- **List the sources of the funding available with the Village Authority:**
  1. Taluka Panchayat
  2. Fund Collected by panchayat for development of village
  3. State Government
  4. Central Government
  5. Donation of any private organizations
  6. MLA(Member of Legislative Assembly) Grant
  7. Jilla Panchayat Sadasya Grant
  8. MGNREGA(Mahatma Gandhi National Rural Employment Act) Grant
  9. ATVT(Apno Taluko Vibrant Taluko) Grant

  Above are available sources are available with sarpanch and authority. other sources are available but not exact information are available.

Chapter-16: Survey By Interviewing With Talati And/Or Sarpanch

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Survey with Interviewing

SURVEY BY INTERVIEWING WITH TALATI AND/OR SARPANCH

Vishwakarma Yojana: Phase VIII

ALLOCATED VILLAGE SURVEY

An approach towards **"Rurbanisation for Village Development"**

CHAPTER- 16

Sr.	Questions	Yes/ No	Remarks
1	What are the sources of income in village?	Yes	farming
2	What are the chances of employment in village?	Yes	
3	What are the special technical facilities in village?	No	
4	Is any debt on village dwellers?	No	
5	Are village people getting agricultural help?	Yes	
6	Is women health awareness Program organized in village?	Yes	
7	Are women having opportunity to work and income?	Yes	farming,
8	Child girl education is appreciated in village?	Yes	in school
9	Facility of vaccination to child is available in village?	Yes	
10	Are village people aware about child vaccination and done to each and every child as per norms?	Yes	
11	Women help line number information is provided to village people?	Yes	
12	Is water scarcity in village? How many days per year?	No	
13	Is village under any debt?	No	
14	Is any serious issue due to debt from bank or any person happened in village?	No	
15	Is any suicide like incident observed in village due to government policy, debt or threatening?	No	
16	Is any death of patient occurred due to unavailability of medical facility in village?	No	
17	How many disabled (physically challenged) is observed in village? Provide list with Male/female/girl/boy with age and type of disability and reason of disability.	Yes	few changes
18	Is village improvement is observed in comparative scenario from past to present?	No	
19	Is any unavoidable difficulty village people are facing? Any natural calamity is there?	No	
20	Life Living standard of girls and women is appreciated and uplifted in village?	Yes	

Nodal officer and students can add more questions. This is a sample. Having Minimum requirement.

Administration queries/ Difficulties:
GTU VY Section
Contact No – 079-23267588
Email ID: rurban@gtu.edu.in

Chapter 17: Irrigation / Agriculture Activities and Agro Industry, Alternate Techniques and Solution

Another of the major modern trends in agriculture is increasing water efficiency in farming and food production. Whether for traditional rural irrigation, arid regions orurban farms, this represents a key metric in the face of global population growth and climate change.

Considered together, scarcity of freshwater resources and the fact that 71 per centof the Earth's surface is nevertheless covered in water, therefore make a compelling argument for desalination. The stumbling block, historically, has been its energy-hungry nature and prohibitively high running costs relative to agriculturalprofit margins.

One innovation in agriculture, offered by Sun drop Farms, draws on one of the few renewable resources in even more abundant supply than seawater – sunlight. Sun drop Farms harvests solar power to generate energy for desalination to supply hydroponic greenhouses.

Requiring no freshwater, farmland or fossil fuels, this potential game-changer for sustainable farming is creating 300 jobs in Port Augusta, South Australia, with a ten-year contract won to grow tomatoes for Cole's supermarkets.

Fig. Agricultural activity

DRIP IRRIGATION:

One approach to getting plants the moisture they need is by sending water directly to the roots with a drip irrigation system or a subsurface drip irrigation system. A drip system is made up of hoses with holes throughout that pump water directly to plant roots within the soil. While this irrigation method is more expensive, farmers see a reduction in water applied. Drip can also be beneficial to oddly shaped or sloped fields.

Sprinkler Irrigation:

An **Irrigation sprinkler** (also known as a **water sprinkler** or simply a **sprinkler**) is a device used to irrigate agricultural crops, lawns, landscapes and other areas. They are also used for cooling and for the control of airborne dust, Sprinkler irrigation is the method of applying water in a controlled manner in way similar to rainfall. The water is distributed through a network that may consist of pumps, valves, pipes, and sprinklers. Irrigation sprinklers can be used for residential, industrial, and agricultural usage. It is useful on uneven land where sufficient water is not available. It is useful for sandy soil. The perpendicular pipes, having rotating nozzles on top, are joined to the main pipeline at regular intervals of time. When water is allowed to flow through the main pipe under pressure with the help of pump it, escapes from the rotating nozzles. It gets sprinkled on the crop.

Subsurface textile irrigation:

Subsurface Textile Irrigation (SSTI) is a technology designed specifically for sub irrigation in all soil textures from desert sands to heavy clays. A typical subsurface textile irrigation system has an impermeable base layer (usually polyethylene or polypropylene), a drip line running along that base, a layer of geotextile on top of the drip line and, finally, a narrow impermeable layer on top of the geotextile (see diagram). Unlike standard drip irrigation, the spacing of emitters in the drip pipe is not critical as the geotextile moves the water along the fabric up to 2 m from the dripper. The impermeable layer effectively creates an artificial water table.

Centre pivot irrigation:

Centre-pivot irrigation (sometimes called central pivot irrigation) also called water-wheel and circle irrigation, is a method of crop irrigation in which equipment rotates around a pivot and crops are watered with sprinklers.

A circular area centered on the pivot is irrigated, often creating a circular pattern in crops when viewed from above (sometimes referred to as crop circles, not to be confused with those formed by circular flattening of a section of a crop in a field.)

Most centre pivots were initially water-powered, however today most are propelled by electric motors.

Chapter 18: Social Activities- Any Activities Planned by Students

Respected ma'am

We hereby Saraiya Zeel and Tailor Ashish mark and apology for not visiting Ilav village for social activities in current project work DPR, Part-II Due to Covid-19. As the second wave of novel corona virus was more fatal, we couldn't make it to visit the village. We tried many times to contest the village authority but the second wave of covid-19 spread in village much more times as expected. Due to this the gram panchayat decided to not let outsider enter in the village.

We planned to went school and do some kind of interactions but due to COVID- 19, schools are shut downed. And they also didn't allow us to meet any body and social gatherings in village. Though, hope you understand our situation. We thank you for your invaluable support.

Chapter-19:SAGY Questionnaire Survey form with the Sarpanch Signature

SAANSAD ADARSH GRAM YOJANA (SAGY) Baseline Household Survey Questionnaire

Village: Ilav Gram Panchayat: Ilav Ward No. -

Block: Hansot District: Bharuch

State: Gujarat L S Constituency: Bharuch

1. Family Identity and Size

Name of Head of Household	Kaushikbhai Rathod							Male/ Female	M
SECC Survey ID:		Family Size	5	Over 18	4	6 to 18	1	Under 6	-

2. Category & Entitlement Details (Tick as appropriate)

Social Category[1]	ST	Life Insurance ✓	1. All Adults 2. Some Adults 3. None	AABY	1. Yes 2. No	Kisan Credit Card	Yes / No
Poverty Status Year[2]:	1. ~~BPL~~ 2. APL	Health Insurance	1. All Adults 2. Some Adults 3. None	RSBY	1. Yes 2. No	MGNREGS Job Card Number	
PDS (If NFSA is not implemented)	Annapurna	Antyodaya	BPL	APL	Is any woman in the family		
PDS (If NFSA is implemented)	Annapurna	Antyodaya	Priority	Other	member of an SHG? Yes / No		

2. Adults (above 18 years)

Name	Age	Sex M/F/O	Disability Status Y/N	Marital Status[3]	Education Status[4]	Adhaar Card (Y/ N)	Bank A/C (Y/N)	Social Security Pension[5]
Neel kaushik	20	M		∝	Graduation	✓	✓	∝
Priyankaben	40	F		✓	12	✓	✓	∝
Parvatiben	60	F		✓	8	✓	✓	∝

3. Children from 6 years and up to 18 years

Name	Age	Sex M/F/O	Disability Y/N	Marital Code*	Level of Education: Code#	Going to School /College (Y/N)	Current Class	Computer Literate Y/N
Jonilbhai	17	M		∝	12th	✓	✓	∝

4. Children below 6 years

Name	Age	Sex M/F/O	Disability Yes/No	Going to School (Y/N)	Going to AWC Y/N	De-worming Done	Fully Immu-nised Y/N	Mother's Age at the time of Child's Birth

[1] Scheduled Caste 1, Scheduled Tribe 2, Other Backward Castes 3, Other 4

[2] Enter the BPL Survey round being used in the Gram Panchayat for identification of BPL Families (e.g. 1997/2002/2011)

[3] *Marital Status: Not Married – 1, Married – 2, Widowed – 3, Divorced/Separated – 4*

[4] *Level of Education: Not Literate – 01, Literate – 02, Completed Class 5 - 03, Class 8th – 04, Class 10th-05, Class 12th-06, ITI Diploma-07, Graduate-08, Post Graduate/Professional – 09 (write the highest level applicable)*

[5] No Pension – 0, Old Age Pension – 1, Widow Pension – 2, Disability Pension – 3, Other Pension – 4 (mention)

SAANSAD ADARSH GRAM YOJANA (SAGY) Baseline Household Survey Questionnaire

5. Hand washing

	Always		Sometimes		Never
After use of Toilet	Soap ✓	Other	Soap	Other	
Before Eating	Soap ✓	Other	Soap	Other	

6. Use of Mosquito Net

Children: Yes / ~~No~~ Adults: Yes / ~~No~~

7. Do members take Regular Physical Exercise

	Yoga	Games	Other Exercises
Adults	Yes / ~~No~~	Yes / ~~No~~	Yes / ~~No~~
Children	Yes / ~~No~~	Yes / ~~No~~	Yes / ~~No~~

8. Consumption of Tobacco

	Smoking	Chewing
Adults	✗	✗
Children	✗	✗

9. House & Homestead Data

Own House: Yes / No	No. of Rooms: 3
Type: Kutcha / Semi Pucca / Pucca	
Toilet: Private / Community / Open Defecation	
Drainage linked to House: Covered / Open / None	
Waste Collection System	Door Step / Common Point / No Collection System
Homestead Land: Yes / No	Kitchen Garden : Yes / No
Compost Pit: Individual/ Group/ None	Biogas Plant: Individual/ Group/ None

10. Source of Water (Distance from source in KMs)

Source of Water		Distance
Piped Water at Home	Yes / No	
Community Water Tap	Yes / No	
Hand Pump (Public / Private)	Yes / No	
Open Well(Public / Private)	Yes / No	
Other (mention):		

11. Source of Lighting and Power

Electricity Connection to Household: Yes / No
Lighting: Electricity/Kerosene/Solar Power
Mention if Any Other: _____
Cooking: LPG/Biogas/Kerosene/Wood/Electricity
Mention if Any Other: _____
If cooking in Chullah: Normal/ Smokeless

12. Landholding (Acres)

1. Total		2. Cultivable Area	
3. Irrigated Area		4. Uncultivable Area	

13. Principal Occupations in the Household

Livelihood	Tick if applicable
Farming on own Land	✓
Sharecropping /Farming Leased Land	✓
Animal Husbandry	
Pisciculture	
Fishing	
Skilled Wage Worker	
Unskilled Wage Worker	
Salaried Employment in Government	
Salaried Employment - Private Sector	✓
Weaving	
Other Artisan(mention)	
Other Trade & Business (mention)	

14. Migration Status

Does any member of the household migrate for Work: Yes / No. If Yes Entire Year / Seasonal

Does anyone below 18 years migrate for work: Y/N

15. Agriculture Inputs

Do you use Chemical Fertilisers	Yes/No
Do you use Chemical Insecticides	Yes/No
Do you use Chemical Weedicide	Yes/No
Do you have Soil Health Card	Yes/No
Irrigation: None/ Canal/ Tank/ Borewell/Other	
Drip or Sprinkler Irrigation: Drip /Sprinkler / None	

16. Agricultural Produce in a normal year (Top 3)

Name	Unit	Quantity

17. Livestock Numbers

Cows:_____	Bullocks:_____	Calves:_____
Female Buffalo:_____	Male Buffalo:_____	Buffalo Calves:_____
Goats/ Sheep:_____	Poultry/ Ducks:_____	Pigs:_____
Any other: Type _____		No._____
Shelter for Livestock: Pucca / Kutcha / None		
Average Daily Production of Milk(Litres):_____		

18. What games do Children Play

Indoor games, Cricket

19. Do children play musical instrument (mention)

Schedule Filled By: Saraiya Zeel

Principal Respondent:

Date of Survey: 15/07/2021

Saansad Adarsh Gram Yojana (SAGY) Panchayat Details Survey Questionnaire

(Note: Please aggregate information from village level questionnaires wherever relevant)

I. Basic Information

a. Gram Panchayat: Ilav

b. Block: -

c. District: Hansot

d. State: Gujarat

e. Lok Sabha Constituency: _____

f. Number of Wards in the Gram Panchayat: _____

g. Number of Villages in the Gram Panchayat: _____

h. Names of Villages:

Ilav

Demographic Information

Number of Households 718 Total Population 3201 Male 1656 Female 1545

SC HHs 1000 ST HHs 1300 OBC HHs 1200 Other HHs 601

I. Access to Infrastructure / Facilities / Services

	Infrastructure Facilities / Services	Located within the GP Yes (Y)/No (N)	If located elsewhere (N), distance from the GP office
a.	ANM/ Health Sub Centre	Yes	
b.	Nearest Primary Health Centre (PHC)	Yes	
c.	Nearest Community Health Centre (CHC)	Yes	
d.	Nearest Post Office	Yes	
e.	Nearest Bank Branch (Any)	No	
f.	Nearest Bank with CBS Facility	NO	
g.	Nearest ATM	Yes	
h.	Nearest Primary School	Yes	
i.	Nearest Middle School	Yes	
j.	Nearest Secondary School	Yes	
k.	Nearest Higher Secondary School / +2 College	NO	
l.	Nearest Graduate College	NO	
m	Nearest ITI / Polytechnic Centre	NO	
n	Kisan Seva Kendra	NO	

1

Saansad Adarsh Gram Yojana (SAGY) Panchayat Details Survey Questionnaire

(Note: Please aggregate information from village level questionnaires wherever relevant)

	Infrastructure Facilities / Services	Located within the GP Yes (Y)/No (N)	If located elsewhere (N), distance from the GP office
o	Agriculture Credit Cooperative Society	No	
p	Nearest Agro Service Centre	No	
p	MSP based Government Procurement Centre	No	
q	Milk Cooperative /Collection Centre	No	
r	Veterinary Care Centre	No	
s	Ayurveda Centre	No	
t	E – Seva Kendra	No	
u	Bus Stop	Yes	
v	Railway Station	No	
w	Library	No	
x	Common Service Centre	No	

IV. Sports Facilities in the Gram Panchayat

a. Number of Play Grounds in the GP: Total __— Public__— Private__—

b. Mini Stadium :__— Yes(Y) /No (N) *(Playground with equipment and sitting arrangement)*

V. Education, ICDS

a. Number of Angan Wadi Centres: 4

b. Number of villages without Angan Wadi Centres_____

Names of such villages: _____

c. Schools (Number)

Primary Private: ____ Primary Govt.: 1

Middle Private:_____ Middle Govt.:_____

Secondary Private:_____ Secondary Govt.:_____

Higher Secondary Private: _____ Higher Secondary Govt: _____

VI. Public Distribution System

	Item	Private Contractor	Women's SHG	Gram Panchayat	Cooperative	Other (Mention)	Location in GP (mention Location)	If outside GP, Location & distance from GP HQrs)
a.	Cereal (Rice/ Wheat/ Millets)			✓				
b.	Kerosene			✓				
c.	Other (mention)			✓				

2

Saansad Adarsh Gram Yojana (SAGY) Panchayat Details Survey Questionnaire

(Note: Please aggregate information from village level questionnaires wherever relevant)

VII. Coverage of Villages under different Facilities & Services

	Parameter	Villages Status[1]	Names of Villages Covered	Names of Villages not Covered
a.	Piped Water Supply Coverage to Villages	~~Covered~~ Good / Not Covered	Ilav	
b.	Hand Pump Coverage in Villages:	~~Covered~~ Good / Not Covered	Ilav	
c.	Coverage under Covered Drains:	~~Covered~~ / Not Covered	Ilav	
d.	Coverage under Open Drains:	~~Covered~~ Good / Not Covered	Ilav	
e.	Villages with Household Electricity Connection (Numbers)	~~Connected~~ Good / Not Connected	Ilav	

VIII. Land and Irrigation

	Private Land	Area in Acres		Common Land	Area in Acres		Irrigation Structure	No.
a.	Cultivable Land		d.	Pasture / Grazing Land		g.	Check Dam	
b.	Irrigated Land		e.	Forests/ Plantations		h.	Wells/Bore Wells	1
c.	Un-irrigated Land		f.	Other Common Land		i	Tanks /Ponds	1

[1] Mention the number of Villages Covered and Not Covered

3

Saansad Adarsh Gram Yojana (SAGY) Panchayat Details Survey Questionnaire

(Note: Please aggregate information from village level questionnaires wherever relevant)

IX. Parameters relating to Households & Institutions

		Number
a)	Number of eligible Households for pension (old age, widow, disability)	140
b)	Number of Households receiving pension (old age, widow, disability)	50
c)	Number of eligible Households who are not receiving pension	90
d)	Number of Households eligible for Ration Card	All
e)	Number of eligible HHs having ration cards	All
f)	Number of households covered under RSBY (Rashtriya Swasthya Bima Yojana)	—
g)	Number of HHs covered under AABY (Aam Aadmi Bima Yojana)	—
h)	Number of active Job Card holders under MGNREGA	10
i)	Number of Job Card holders who completed 100 days of work during 2013-14	—
j)	Number of shops selling alcohol	—
k)	Number of BPL families	—
l)	Number of landless households	100
m)	Number of IAY beneficiaries	—
n)	Number of FRA[2] beneficiaries	—
o)	Number of Community Sanitary Complexes	—
p)	Number of Households headed by single women	—
q)	Number of Households headed by physically handicapped persons	—
r)	Total number of Persons with Disability in the village	—
s)	Number of SHGs	—
t)	Number of active SHGs	—
u)	Number of SHG Federations	—
v)	Number of Youth Clubs	—
w)	Number of Bharat Nirman Volunteers	—

Name and Signature of Surveyor and Respondent'

Sarajiya Zeel Tailor Ashish Surveyor	PRI Respondent (Preferably Gram Panchayat Chairperson)	Official Respondent (Preferably seniormost Government official in the Gram Panchayat)	15/07/2021 Date of Survey

[2] The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

4

SAANSAD ADARSH GRAM YOJANA (SAGY) Village Details Survey Questionnaire

This questionnaire should be filled for each of the villages in the selected Gram Panchayat[1]

I. Basic Information

a. Village: Ilav

b. Ward Number: _____

c. Gram Panchayat: Ilav

d. Block: Hansot

e. District: Hansot

f. State: Gujarat

g. Lok Sabha Constituency: _____

h. Number of Habitations / Hamlets in the Gram Panchayat: _____

i. Names of Habitations / Hamlets:

Demographic Information

Number of Households 718 Total Population 3201 Male 1656 Female 1545

SC HHs 1000 ST HHs 1300 OBC HHs 1200 Other HHs 601

II. Access to Infrastructure/Amenities etc.

i.	Access to Infrastructure / Facilities / Services	Located in the Village Yes (Y)/No(N)	If located elsewhere (N), distance in kms from the village
a.	Nearest Primary School	Yes	
b.	Nearest Middle School	Yes	
c.	Nearest Secondary School	No	
d.	Kisan Seva Kendra	No	
e.	Milk Cooperative /Collection Centre	No	
g.	Health Sub Centre	Yes	
h.	Bank	No	
i.	ATM	Yes	
j.	Bus Stop	Yes	
k.	Railway Station	No	

[1] While filling this the surveyor must collect the information from the Ward Member/s and relevant government officials

1

SAANSAD ADARSH GRAM YOJANA (SAGY) Village Details Survey Questionnaire

i.	Access to Infrastructure / Facilities / Services	Located in the Village Yes (Y)/No(N)	If located elsewhere (N), distance in kms from the village
l	Library	No	
m	Common Service Centre	No	
n	Veterinary Care Centre	No	

ii. Road Connectivity

a. Habitations connected by All-weather Roads *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations where not available:_____

iii. Drinking Water Facilities

a.Piped Water Supply Coverage to Habitations:_____ *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

b.Hand Pump Coverage in Habitations: _____ *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

iv. Coverage of Habitations under Waste Management System

a. Coverage under Covered Drains: 1 *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

b. Coverage under Open Drains: 1 *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

c. Coverage under Doorstep Waste Collection: *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

v. Coverage of Habitations under Electrification

a. Coverage under Household Connections: *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

b.Coverage under Street Lighting: All *(1-All 2-None 3-Some)*

If 3 mention the name of the habitations not covered:_____

vi. Sports Facilities in the Village

a.Number of Play Grounds in the Village (minimum size 200 square meters): No

b.Mini Stadium : No Yes(Y) /No (N)

vii. Education, ICDS

a. Number of Anganwadi Centres: 4

c. Schools (Number)

Primary Private: ____ Primary Govt.: 1

Middle Private:_____ Middle Govt.:_____

Secondary Private:_____ Secondary Govt.:_____

Higher Secondary Private: _____ Higher Secondary Govt: _____

2

SAANSAD ADARSH GRAM YOJANA (SAGY) Village Details Survey Questionnaire

viii. Land Category		Area in Acres		Land Category	Area in Acres		Irrigation Structure	No.
a.	Cultivable Land		d.	Pasture / Grazing Land		g.	Check Dam	
b.	Irrigated Land		e.	Forests/ Plnatations	96	h.	Wells/Bore Wells	1
c.	Un-irrigated Land		f.	Other Common Land	16	I	Tanks /Ponds	1

ix. Entitlement Related Parameters		
1	Number of active Job Card holders under MGNREGA	10
2	Number of active Job Card holders who have completed 100 days of work	-
3	Number of shops selling alcohol	-
4	Number of BPL families	50
5	Number of landless households	-
6	Number of IAY beneficiaries	-
7	Number of FRA beneficiaries	-
8	Number of common sanitation complexes	-
9	Number of SHGs	-
10	Number of active SHGs	-
11	Existence of SHG Federation in the Village (Yes / No)	-
12	Number of Youth Clubs	-
13	Number of Bharat Nirman Volunteers	-

Name and Signature of Surveyor and Respondent

Surveyor	PRI Respondent (Preferably a ward member from a ward that is fully or partially covered under the Village)	Official Respondent (Preferably seniormost Government official in the Gram Panchayat)	Date of Survey
Saraiya Zeel Tailor Ashish			15/07/2021

Chapter-20:TDO-DDO-Collector email sending Soft copy attachment in the report

Apps Gmail YouTube Reading list

Gmail Zeel Saraiya <saraiyazeel@gmail.com>

(no subject)

Zeel Saraiya <saraiyazeel@gmail.com> Wed, Jul 21, 2021 at 9:42 AM
To: ddo-bha@gujarat.gov.in

Respected Sir,
I am Saraiya Zeel- 180063106101, Tailor Ashish- 180063106118 from Bhagwan Mahavir College of Engineering and Technology.
Purpose- We are sending this mail for our project in vishwakarma yojana phase VIII by GTU.

Vishwakarma Yojana phase VIII Ilav village.pdf
16514K

Apps Gmail YouTube Reading list

Gmail Zeel Saraiya <saraiyazeel@gmail.com>

(no subject)

Zeel Saraiya <saraiyazeel@gmail.com> Wed, Jul 21, 2021 at 10:39 AM
To: mam-Hansot@gujarat.gov.in

Respected Sir,
I am Saraiya Zeel- 180063106101, Tailor Ashish- 180063106118 from Bhagwan Mahavir College of Engineering and Technology.
Purpose- We are sending this mail for our project in vishwakarma yojana phase VIII by GTU.

VISWAKARMA YOJANA PHASE VIII ILAV VILLAGE.pdf
16492K

Chapter 21: Comprehensive report for the entire village

- In Vishwakarma Phase-VIII, we selected Baben Village as an Ideal Village. It is 40km away from Surat City. We visited Baben village. Roads of Baben village is Puccaand vehicle can pass easily. Panchayat building, Post Office, Public Health Center is in Good Condition. Pond is also developed Streets and Roads are very clean in Baben Village. So, we decided to make design of Public Toilet to clean the village and to maintain healthy life of villagers.
- Then We selected Ena Village as Smart Village. Its Electricity condition is Good. Sewage system is also good in Ena Village. It is 34 km away from Surat City.

- **Allocated Village: Ilav**

  - It is 42 km away from Surat City. We Visited Ilav Village, there we see Situations of buildings, roads, school, lake.
  - Then we met Sarpanch Jesangbhai C. Parmar and Upsarpanch Jayeshbhai D. Patel. We explained whole project and we take permission for survey.
  - We also ask them what they need in their Village. And during surveying we also ask that to the Villagers. They told usabout what they need in the village.
  - Village was not that good at cleaning. so, we explain villagers about Swatchh Bharat Abhiyan and cleanliness is also good for their and animals' health. So, we clean some of area and some of villagers alsohelp us.
  - Coronavirus disease is a contagious disease. Its Case is increasing day by day in all over world. Some of Villagers was not taking precautions so, we aware them about COVID-19 and precautions. We told them to wear mask when they are going somewhere. And sanitize their hand regularly.

  - **As per Gap analysis we decide to make designs that are as per below.**

    - Design of Anganwadi
    - Design of Girl's Primary School
    - Design of Agro storage unit
    - Design of milk collection and distribution unit
    - Design of Animal shelter
    - Design of Public toilet
    - Design of Public garden
    - Community hall
    - Public library
    - Post office
    - Water drinking facilities
    - Mahilamandal

❖ Problems in Ilav village

- Poverty.
- Unemployment.
- Inequality among people i.e. The upper caste people holds large lands and lower caste people have small lands or they work as a labor.
- Lower caste people holds Kuccha houses and facilities they received are less than that received by upper caste people.
- Lack of facilities like drinking water, Sewage disposal, Solid waste management etc.
- Unavailability of public transportation.
- Lack of awareness in people regarding Government Schemes.
- Lack of awareness in farmers regarding efficient methods in agriculture.
- Lack of education.

• Design Proposal

DPR part -I		
SR NO	**Design name**	**Estimation cost**
1	Anganwadi	Rs. 3,19,350/-
2	Girl's Primary school	Rs. 23,15,209/-
3	Agro storage unit	Rs.9,61544/-
4	Milk collection and distribution unit	Rs. 4,13,089/-
5	Animal shelter	Rs.7,50,611 /-
6	Public toilet	Rs. 1,80,008/-
DPR part -II		
7.	Public garden	Rs. 490970/-
8.	Public library	Rs. 3943998/-
9.	Mahilamandal	Rs. 145158/-
10.	Community hall	Rs. 7,96,581/-
11.	Drinking water facilities unit	Rs. 1,06,183/-
12.	Post office	Rs.1090886/-