DETAIL PROJECT REPORT

VISHWAKARMA YOJNA: VIII
AN APPROACH TOWARDS RURBANISATION
TORANIYA VILLAGE
RAJKOT DISTRICT

PREPARED BY

STUDENT NAME	BRANCH NAME	ENROLLMENT NO
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COLLEGE NAME

OM ENGINEERING COLLEGE

NODAL OFFICERS NAME

H. M. BHIMJIYANI

YEAR: 2020-21

GUJARAT TECHNOLOGICAL UNIVERSITY
Chandkheda, Ahmedabad – 382424 Gujarat

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CERTIFICATE

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

Detail Project Report for ,
VILLAGE TORNIYA
DISTRICT RAJKOT

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.

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College name:	OM ENGINEERING COLLAGE
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ABSTRACT

"Vishwakarma Yojana" is provide the benefits of real work experience to engineering students and simultaneously apply their technical knowledge in the development of infrastructure in rural development. Under this yojana, the villages are surveyed and this project was identified and selected for implementation.

Rurbanization is to bring peace of mind to the villagers by providing them the basic amenities and still keeping the village soul. This project gives one idea for Development of rural villages.

Torniya village is located at 11 km from Dhoraji and 93 km from Rajkot. The basic facility available in our located village like primary school, higher secondary school, aganwadi, milk cooperative society. Main occupants of the villagers are farming and animal husbandry.
Allotted village Torniya is 93 km far from the Rajkot and from Dhoraji the distance is 11 km. As it small village named Torniya is in Dhoraji taluka in Rajkot district.
Also gives procedure how they fulfill basic requirement of the villages. Village is connected with 24 hour electricity supply. The development of city will lead the people to develop their villages otherwise there will be more migration towards cities, which will setup RURBAN planning.

Keywords : Rural Development,
Rurbanization,
Reduce Migration,
Infrastructure Facilities,
Agricultural 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**, forhis encouragement and giving us the wonderful project.
We also express our gratitude to **Dr. K.N.Kher**, **Registrar, GujaratTechnological University-Ahmedabad** for giving us complete support.

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

We express our sincere thanks to **DDO, TDO, Sarpanch, Talati and staffmembers of Ahmadabad** District for providing us with requisite data wheneverwe 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.)**) **Dr. K H Raviya 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, **Dr./Mr./Mrs** Dr./Mr. H. M. BHIMJIANI OM Engineering Collage, Junagadh fortheir 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,** AssociateProfessor,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 TABLES

LIST OF FIGURES

ABBREVIATIONS

SHORT NAME / SYMBOL	FULL NAME
B	Bank
A	Anganwadi
AF	Anganwadi facilities
GP	Gram panchayat
ATP	Any Time Payment
PO	Post office
PDS	Public Distribution
NHM	National Health Mission
PDS	Public Distribution system
PMJDY	Pradhan Mantri Jan – Dhan Yojana
VDP	Village development plan
SBA	Swatchh Bharat Abhiyaan
MKSD	MahilaKisanSashaktikaranPariyojana
MKRE	Ministry of New and Renewable Energy
MHM	Menstrual Hygiene Management
MDWS	Ministry of Drinking Water and Sanitation
NRLM	National Rural Livelihood Mission
NABARD	National Bank for Agriculture and Rural Development
NDDB	National Daily Development Board
NFSA	National Food Security Act
NHM	National Health Mission
NIRD&PR	National Institute of Rural Development and Panchayat Raj
NLM	National Literacy Mission
NRDWP	National Rural Drinking Programmed
ODF	Open Defecation Free
PB	Panchayat Building
PO	Post Office
PDS	Public Distribution System
S	School
SAGY	Sansad Adarsh Gram Yojana
SIRD	State Institute of Rural Development
SSA	Sarva Shiksha Abhiyaan
SHGs	Self Help Groups
SAGJ	Sansad Adarsh Gram Yojana
SDGS	Sustainable Development Goals
SBM	Swatchh Bharat Abhiyaan
SOVDD	Schedule of Village Demographical detail
USPTO	US Patent Database

Chapter1:
Ideal village visit from District of Gujarat State

1.1 Background & Study Area Location

- This is a moviya village is Sarpanch
- name is Ms. Vagjibhai . The village is Rajkot District in the Gujarat state.
- There has been use of Advanced technology
- in primary and higher education System.

Fig, 1.1: Map of Moviya village

Table 1.1 Population in Moviya

SR NO.	CENSUS	POPULATION	MAIL	FEMAIL	TOTAL HOUSEHOLD
1.	2001	10903	5113	5790	2216
2.	2011	11008	5708	5300	2260

Study of Location

Table 1.2 : Study of Location

GRAM PANCHAYAT	MOVIYA
District	Rajkot
State	Gujarat
Area	16443 HR.
Population	11008
Household	2260

1.2 Concept: Ideal village, Normal village

The concept must be clear that to available resources in the project area and the most Important criteria that will make the project successfully. There must be commitment and good management of the project as well as full support from village resident to maintain this project in way of the future scope.

1.2.1 Objectives of ideal village

- To provide good sanitation and drainage system.
- Increase the irrigation system as well as drinking water system.
- Properly maintained all roads in village.
- Provide banking information for safety and security.
- To increase the wealth of people
- To set up a **global rural development grid** by sharing information, ideal
- and solution.
- To increase of the transportation facilities.
- Eco-friendly infrastructure.
- To increase of the health safety.

1.2.2 Case Study of Ideal Village of India/ Gujarat:

The government's philosophy of **'Aatma gaav Ki**, **Suvidha Sheher Ki' –** meaning Kipping the government's philosophy of our village alive while invigoration them With facility associate with world class cities.
A large majority of the Indians live the village area Hence should have an idea of an Ideal village

Clinical facilities:

In ideal village to development the hospital and clinic facility to increase the health protectionagainst the dangers disease in the environment through spread.Some clinic are provided in the village to reducethe time to travel the people in near towns and increase the reliability to people.

Fig 1.2.2(a) clinical facilities

Sanitation and drainage:

An ideal village has good system of sanitation and drainage. Because filth and rubbish ofthe village should be regularly removed away into the compost pits. An ideal village hasvery good drain so
that the dirty water of the village is properly drained away.

Education Facilities:

Shapur was education and cultural hub for neighbor villages. There village take pride to have one of the best education system, school, and teaching staffs in the district. There are primary school, high school in ideal village. Primary education is free and Compulsory.

Fig 1.2.2(b) drainage facilities

1.2.3 The Idea of a model/ Smart village

We provide general RO plant inside the village will provide good quality of water. This water drink people get good health. Provide underground electricity system it will provide safety and good locality.

Increase the irrigation facility for farmer it will provide water in farm on summer season.

Providing latest technology and information about crops for farmer it will give good quality and also give good quantity of crop.

Fig. 12.2(c) Education Facilities

1.2.4 Ancient history civil/ electrical concept about Indian village/foreign countries perspective and its development

Socio economic

The villagers are depending on agricultural activities. But other employment opportunities of income are also available because the gondal is nearest town from the moviya. so people go to there for another work. Bus stand and railway station are in 10 km radius.

Work (Economic system):

Local public investment is used to same development for village.

The use of money for exchange within the village eventually becomes unnecessary.

Village businesses are generating income for village and for village maintenance and innovation.

1.3 Detail study

1.3.1 Physical and Demographical

Moviya village has a **16297** People in**(2017), 11010** People **(2011).** In Moviya has more than **3010**householder. **1450** houses are Kutchhaand **1650** houses are Pucca. InMoviyavillage has **11010** people in which**5709** is Males and **5301** is Females in**2011** year. Moviya village most ofincome come from farming and otherincome is come from small industry,shops, private biasness, animalcarrying, etc. same people go to out ofvillag for getting work and moony. There peoples living standard is good au compare to other villages peoples. In Moviya has a good 929 sex ratio is good as compare to other village.

Fig. 1.2.4 Moviya Village Grampanchayat

Fig. 1.3.4(a) Demographical detail

1.3.2 Economic Profile:

In Moviya major income is come from farming and also pashupalan.
The second income source is transportation.
The third income source is small scale biasness.
The four income source is labor work.

1.3.3 Social Scenario:

The Moviya village is fast growing village which is developed and Reigned by Bhagavatshihji Maharaja.
The Literacy if the village is **100%**.
The total population of the village is fill **100%** taxes.
So the Government provides speedy development.
The development like **CCTV** Camera, **Wi-Fi** Facilities etc.

The village is free from Children Marries, Child Labor, Uneven Fighting's and any Ferias.are not allowed in afternoon time Zone and also free from Robbery Men's.In village the various programs are including like Vocational Training in Mechanism,\ Spoken English, Video Library, Tailoring, Sewing and Stitching classes, Basic Computer teaching are offered by the center.

1.3.4 Infrastructures Facilities (All types):

This village has very good and clean infrastructure facility.
The Moviya village has an ATM, Bank, Post office, Health center, panchay office, santirath and birth –death registration.
This available of the CCTV camera of the village.

Fig. 1.3.4(a) ATM

Fig. 1.3.4(b) Anganwadi

Key Word

Road
Electricity has become a necessity for every household
Housing
Education
Health
Drinking Water and Sanitation

1.4 SWOT analysis of Ideal village / Smart Village

Fig 1.4 SWOT Diagram

SWOT means Strength, W means Weakness, O means Opportunities, T means Threats. Strengths and weaknesses are internal factors and opportunities and a threat is an external factors.

1.STRENGTHS:
Fast return on investment.
Will shorten our time to market for new products.

2. WEAKNESSES:
Not as good ROI as project.
Don't have enough resources to do the work.

3. OPPORTUNITIES:
Make us more competitive against our main rival.
Can move into new geographic markets.

4. THREATS:
Have to meet new governance rules in this market.
We think our main competitor is working on a similar project.

1.5 Future prospects of village

Increase of the wealth of people.
Increase of the less energy system for irrigation technique.
To improve the rain water harvesting
Prospecting in deep waters.
Better agriculture prosperity.
Establishment of the R.O. plant for providing a pure drinking water.
Road network is improved of the village.
To provide in village the filter plant.

1.6 Benefits of the visits of Ideal village / Smart Village

How to develop rural area.
We know which facility need village people.
We know about actual village life.
We know about of village people problems.

1.7 Electrical Concept of Ideal village / Smart village

Fig 1.6 Smart village

No electrical student

Chapter 2:
Literature Review – (Civil & Electrical Concept)

2.1 Introduction: Urban & Rural:-

Fig. 2.1 Mawlynnong Village Image

The Mawlynnong village is located at east khasi hills Meghalaya state and the distance from shilong is approximately 90km. the Mawlynnong village is near the border of Bangladesh.The population of the Mawlynnong village is approx 500 people and the house holder is90. The all people main occupation is farming. Like a coffee tea etc. the literacy of this village is approximately 80% it is good for rural area.Human living settlement are classified in basis of rural and urban area this is depending on the infrastructure, population of people, educational criteria etc.The urban area includes more population or defines in terms of town for small urban area and cities for more population and metro city for the high facilities and main hub of India.Until the rural area have less population and it is placed in very small area. The main occupation of rural area is farming or connected in agriculture or animal compliance.Unlike the rural area the urban area are define by their some facilities like civic amenities, best education system, better transportation system, better hospital facilities. And betterliving standard has in urban area.The rural people have an animal like buffalo, cow, got, and ship etc. This maintain by rural farmer. The product of this animal is milk. The rural provide the milk for urban people.

2.2 Ancient Villages / Different Definition of: Rural Urban Villages:-

The ancient village is the Indian true culture. The mahatma Gandhi said the real Indianpeople are living in village. Now a present day the approximately 11% of people is living in urban area and 89% of people is living in rural area means India is a totally based on the agriculture.
The mahatma Gandhi said the development of India is in true world by development a village by reduce the illiteracy, some past rivaj, ignorance etc.
mahatma Gandhi has big effort for this.The ancient village is have proof the by valmiki Ramayana. by this Ramayana the village have two type gram or ghosh .
The gram is the bigger than the ghosh.According to Mahabharata the different name for group of the near villages like a for 20villages called dashi, group of 100 villages called vinshati and nearest 1000 villages calledshati.
In the ancient India village have its own measurement system for example distance between two villages is measured in Koss in Rajasthan. One Koss equal to 2miles or 3.219 km.

2.3 Scenario: Rural / Urban India & Gujarat as per Census 2011 and latest Population

According to survey of census Population of Gujarat:

The population of Gujarat state as per the data of census 2011 the total population of India is a 6.05 Crore. In Gujarat the sex ratio is the total population is 60,439,693 in this the male population is 31,491,259 and the female population is 28,948,434.
In 2001 the population of Gujarat according to census 2001 the population growth is19.28% and whiles the previous year growth is 22.485%.the population of Gujarat in2001 is 4.93% in 2001 and 4.99% in 2011.

Table 2.1 Census Data of India

Description	2001	2011
App. Population	5.08 Crore	6.05 Crore
Population	50,771,017	60,539,692
Male population	26,485,577	31,591,260
Female population	24,285,440	28,948,432
Population growth in (%)	22.49%	19.29%
(%) population of India	4.93%	4.99%
Sex ration	920	919
Child sex ratio	883	890
Literacy in (%)	69.14%	78.03%
Male literacy in (%)	79.66%	85.75%
Female literacy in (%)	57.80%	69.68%
Total literacy of Gujarat	29,827,750	41,093,358

Male literacy	**17,833,273**	**23,474,873**
Female literacy	**11,994,477**	**17,618,485**

Table 2.2 Literacy Data of census Of India

Discrimination	2001	2011
Population of India	**103 Crore**	**121 Crore**
Population in rural area	**74.5 Crore**	**83.3 Crore**
Population in urban area	**28.6 Crore**	**37.7 Crore**
Rural population in (%)	**72.19%**	**68.84%**
Urban population in (%)	**27.81%**	**31.16%**
Sex ratio in India	**933**	**940**
Sex ratio in rural area	**946**	**947**
Sex ratio in urban area	**900**	**926**
Child sex ration in India	**927**	**914**
Child sex ration in rural area	**934**	**919**
Child sex ratio in urban area	**906**	**902**
Literacy of India in (%)	**64.8%**	**74%**
Literacy of rural area in (%)	**58.7%**	**68.9%**
Literacy of urban area in (%)	**79.9%**	**85%**
Total male literacy of India in (%)	**64.8%**	**74%**
Male literacy in rural area in (%)	**70.7%**	**78.6%**
Male literacy in urban area in (%)	**86.3%**	**89.7%**
Total female literacy of India in (%)	**53.7%**	**65.5%**
Female literacy in rural area in (%)	**46.1%**	**58.8%**
Female literacy in urban area in (%)	**72.9%**	**79.9%**

2.4 Rural Issues & Concerns

2.4.1 Issues of Rural Area

This is particularly reflected in the disparity of cultural of the development between to theurban & rural Area. The above situation caused by the duplex segmentation based on the household registration System.

2.4.2 Issues of farmer

Its Includes improving of the level and income of the farmers.
To increase the culture qualities of the farmers.
To also increase the safeguarding the right of the farmers

2.4.3 Issues of Agricultural

changing the situation of smallholder economic agriculture.

It has to guaranties of the food security in marketing yards.
Poor marketing facility.
Small size of landholding.

2.4.4 Economic Problems

High Cost of input.
Under Privileged rural industries

2.4.5 Other issues

To improve the collection systems of the waste materials in the rural or urban areas.
Lack in the employment opportunity in the areas.

2.4.6Crime Free / Dispute Free

Kathrota village in gram Panchayat, Sarpanch and its channel people are good people and no any disappoint one to another or dispute process to another theirs. There is no crime againstwoman in the village as well. The people living in this village are so good and No any other crime. There is crime free village like rich-poor and village in woman to given enough respect.

2.4.7 Resources

This resources issue are the Water supply and health. Rural areas in Ireland hold much of the natural & cultural heritage that determines local identity, which in turn contribute to them quality of life of the individual and to the attraction of an area for inward investmentFurthermore, the rural environment forms the essential ingredient for tourism.

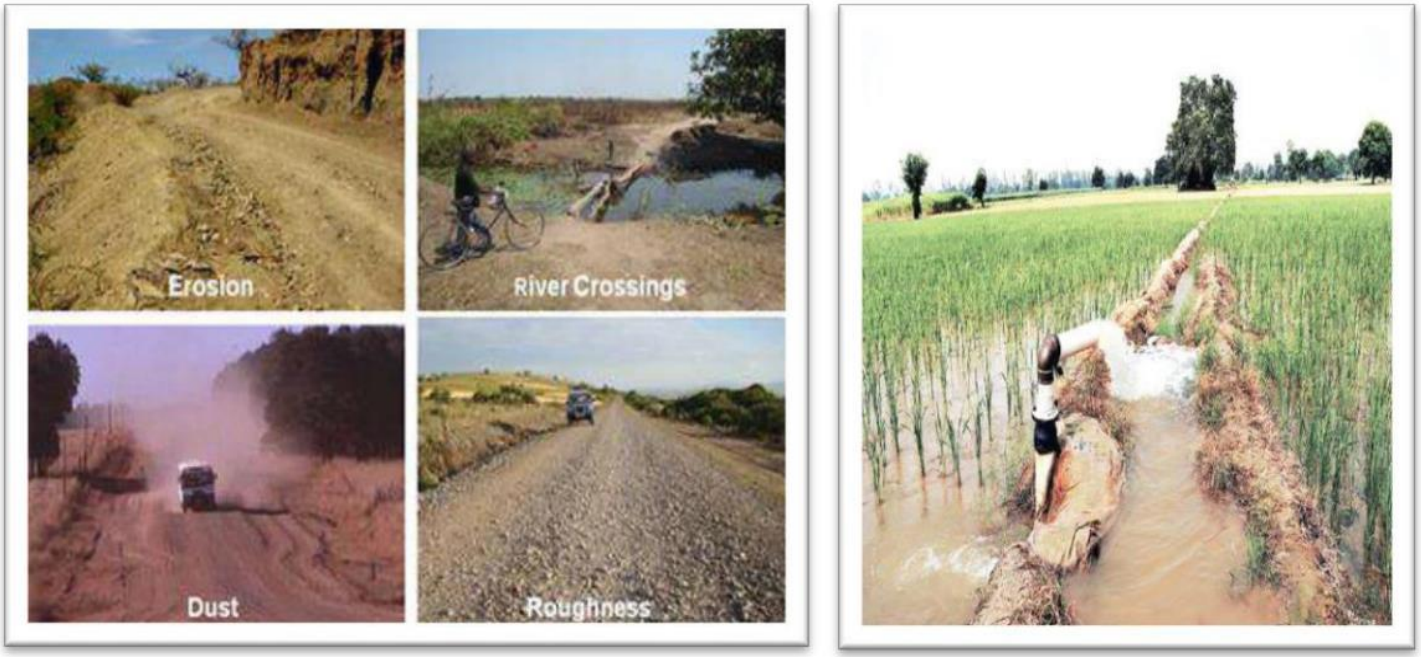

Fig 2.4.7 Resources issues in village

2.4.8 Women Empowerment

The empowerment and autonomy of women and the improvement of their political ,social, economic, and health status is a highly important and in itself. It is essential for the achievement of sustainable development. The full participation and partnership of both women and man is required in productive and reproductive life, including shared responsibilities for the care and nurturing of children and maintenance of the household. In all part of the world, women are facing threats to their lives, health and well-being as a result of being overburdened.

2.5 Various Measures for Rural Development

This is a rural development of the process of the improving the quality of life and economicwell-being of peoples living in rural area. To change the global production network and increase the urbanization which have to change the characters of the rural areas.
Various measurement of the rural development in the bellow
Azerbaijan Rural investment Project in Azerbaijan.
Tipperary Institute, Ireland.

USDA Rural Development (United State Development Agriculture)

Technical Centre for Agriculture and Rural Cooperation ACP-EU (CTA) whichprovide agriculture and rural informationIn Kathrota village is the measurement we are doing to development of the village like various types of surveys and interaction methods.
The various surveys like Techno Economic survey in which the all the data about the village are to be find like Geographical Details, Demographical Details, Social Infrastructure, Socio-culture Infrastructure, Transportation systems, Physical Infrastructure etc

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

for Government Building & any Building:-

In now day the fire safety is very important so provide the fire resistance system.
Provide ramp for handicap people.
Follow corporation roles and regulation.
Sufficient toilet and WC provide in building.
Set an open spec for children play ground and bhojan sala.
In government school create a library for children

2.7 Importance in rural context

Women's education, child immunization, and the importance of context in rural India:- The argument that maternal education is critical for child health is commonplace in academic and policy discourse, although significant facets of the relationship remain empirically and theoretically challenged.

While individual-level analyses consistently suggest that maternal education enhances child health outcomes, another body of literature argues that the observed causality at theindividual-level may, in fact, be spurious. This study contributes to the debate by examining the contextual effects of women's education on children's immunization in rural districts of India. Multilevel analyses of datafrom the 1994 Human Development Profile Index and the 1991 district-level Indian Census demonstrate that a positive and significant relationship exists between the proportion of literate females in a district and a child's complete immunization status within that district, above and beyond the child's own mother's education as well as district-level socioeconomic development and healthcare amenities.

2.8 Sustainable Village Development concept

Green concept:- Green concept includes use of Eco-friendly materials, energy conservation and preservation of environmental quality. Green concept is used to reduce adverse impact on environment due to manmade sources of pollution.

Fig. 2.8 Avas Yojana

Principles of green concept:-

1. Conserve energy, water and other natural resources.
2. Preserve our environment.
3. Strengthen local economy.

2.9 Other Projects / Schemes

Pradhan Mantri Awas Yojana (Gramin)/ Indira Awas Yojana is detail is given as Indira Awas Yojana revamped as Pradhan Mantri Gramin Awas Yojana in 2016 is a welfare programmed created by the Indian Government to provide housing to rural poor people in India.

The goal of this scheme is to provide home to all citizens till 2022. The cost of constructing the houses will be shared by the centre and the state. The scheme has been implemented in rural areas throughout India, except in Delhi and Chandigarh. Houses developed under this scheme will have basic amenities such as toilet, electricity connection, drinking water connection, LPG connection etc.

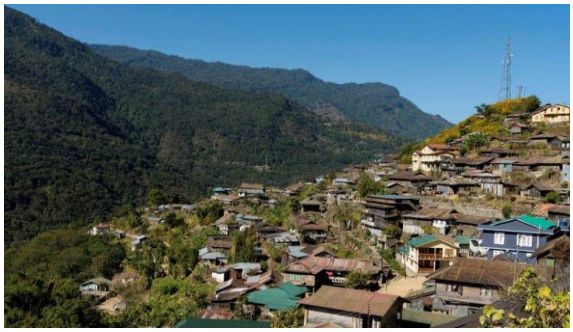

Fig. 2.9 Green Village

The allotted houses will be jointly under the name of husband and wife.

Goal of Pradhan Mantri Awas Yojana (PMAY) – Housing for All An extensive mission of PMAY Housing Scheme intends to make: Reasonable homes with water association, latrine offices, 24x7 power supply and finish get to.

crore houses to be worked over country's length and expansiveness Focusing on the Lower Income Groups (LIG) and Economically Weaker Section of our general public (EWS), fundamentally the urban poor constantly 2022. Million non-ghetto urban poor families are proposed to be secured under the Mission. Pradhan Mantri Awas Yojana (PMAY) Targeted gathering or recipient.

Chapter 3:
Smart Cities & Village Concept (Toraniya village)

3.1 Introduction

A smart city is an urban area of the different types of use of the city. This data collection of the city is water supply network, power plant, transportation system, water management, law enforcement, information system, school, li braries, hospital, and other community services.The smart city of the **"**Design to Delivery**"** solution for development of villages in **'**Rurban**'**areas. People in the rural area should have the quality of the life as is enjoyed by people byliving in sub urban to urban area.

3.1.1 Concepts

This smart city concept of the improving the building and infrastructure quality and improving the infrastructure management (digital technology). this smart city digital like this communication, social network, mobile, internet of things etc is the smart city.This is smart to improve the quality of life and economic competitiveness resourceefficient and environmentally friendly. like is potable water, clean air, security, efficient building, reliable power grid, mobility solution.The smart concepts is investment in human and social capital and tradition and modern communication infrastructure fuel sustainable economic development and a high quality oflife, with a wise management of natural resources of the smart city.

3.1.2 Definitions (civil)

"Smart Cities**"** means many things for many people. The one thing that remain constant is that **"**being smart**"** to a large extent is associated with.A city as smart when investment in human and social capital and tradition and Modern communications infrastructure fuel sustainable economic development and high quality of life, with a wise management of a natural resource, through participatory action and management.

3.1.3 Definition (Electrical)

Not participate electrical student

3.1.4 Need of smart cities / Village Development

The smart city is chacterized by an urban region having modern technological infrastructure, access to smart energy ultra-fast communication network smart public utility services. The smart city is available is benefit of its everybody-residents, business purpose and the government. The smart city is to the economic growth of the city.The need of the smart city of the available is like to smart motility, smart home, smart society, smart care, smart building, smart energy, smart retail, and smart working of the smart city. Smart city is available of the elements are WIFI connection, CCTV camera, health facility and another aspect are that smart cities have lower operating costs, whichmeans significant amounts of money can be redirected to other projects in real estate.

3.1.5 Practices (Civil)

As civil engineering work changes, a new kind of civil engineer will be required. Civil engineers will continue to take on many different roles, including project planner and advocate, regulator, analyst and designer, and builder, as well as working in any of several Technical areas. From applying new technologies and adapting new management strategies to becoming Internet-savvy and streamlining the construction process, civil engineers must master a different set of skills than in the past.Civil Engineering Practice in the Twenty-First Century details the essential skills and Strategies civil engineers need to be successful in the twenty-first century. Topics include: critical thinking; finance and economics; communications; management; design skill; lawand ethics; civil engineering heritage and future; consequences of civil engineering; workand careers of civil engineers; and engineering design and the infrastructure life-cycle.

3.1.6 Practices (Electrical)

Not participate electrical student

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

Smart Cities Bench Marks

The Smart City Maturity and Benchmark Model has been designed to capture the key aspects of a city's transformation journey to become a smarter city. A smart city is characterized by a high level of community and citizen engagement, by its attractiveness for businesses and by efficient and sustainable city operations.
The model allows a city to quickly assess its strengths and weaknesses in five key dimension areas related to city smartness and to set clear goals as how it wishes to transform over the next two to five years.

3.2.1 Smart City Development Vision- Goals-Activities

A smart city is development is vision of the long team vision, Focus is on citizens, strategic plan, governance model, opportunity to do things differently and more efficient resource allocation of the development vision.
The visions pointed our clearly the need for integrated approach and long-term goals as well as citizen engagement.
In addition, the vision states the transformation from internet of thing to internet of meaning, highlighting the importance to enrich the date to decision making to support city goals.

This smart village goals of the 24x7 electricity, water supply, health center, are available of the smart village.

3.2.2 Smart cities Standards

Smart city standards can be following Simplify complexity for cities Drive wider stakeholder engagement Support smart city leadership.
The amount of activity in Smart City standardization is truly over whelming – this is partly due to the breadth and scope of Smart City activities – from water pipes to people – and partly because it is early in the process and the standards bodies are still trying to understand how best to contribute.

3.2.3Smart Cities Performance Measurement Indicators

Key performance indicators represent a particular value or characteristic that is measured to assess whether an organization's goals are being achieved. The main benefit of a KPI is that itcollects all the

data from various individuals and combines it on a main data base. But does not address the constraints involved to achieve the goals is a setback for leaders to take decision.

Smart city is a complex system and attributes vary from state to state and city to city even with same IT system. In this context KPI metrics confuse the stake holders rather helping in promoting the sustainable smart city services. Hence combination of systems engineering methodology may help solving complexity involved in smart city performances.

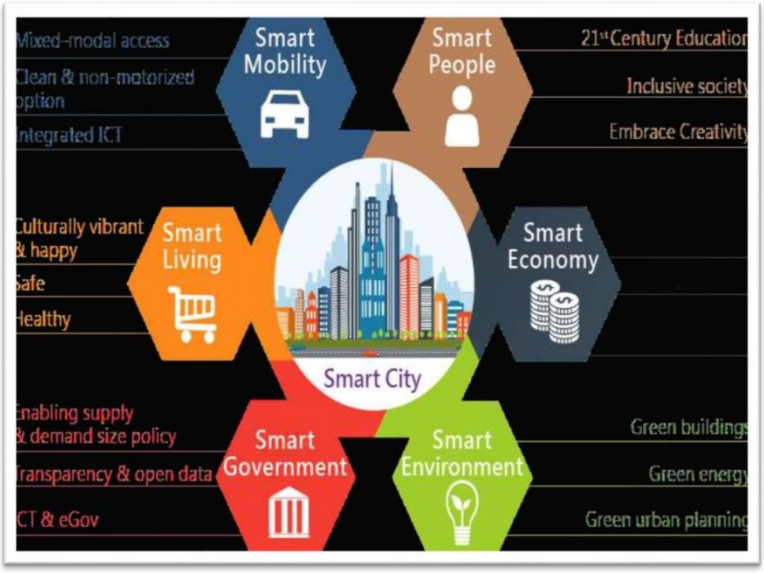

Fig 3.2.3 smart city Standards

3.2.4 Urban water and Sanitation Challenges

More than 90% of the urban population access to drinking water, and more than 60% of thePopulation has to access to basic sanitation.
However, access to reliable, sustainable and affordable water supply and sanitation (WSS)Service is lagging behind.
Operation and maintenance cost recovery through user charges in hardly 30 to 40%.
The urban water and sanitation are available of the water sources throughout the world Are becoming depleted and the main problem are increase of the rate at which population, especially in developing countries. This has brought into focus the urgent need for planned action to manage water resources effectively for sustainable development. Its challenge of the water and sanitation are.
urban Water system,
water scarcity,
global change,
sustainability capacity building

3.3 Technological Options:-

Smart cities have Healy workable technology. The technology purpose in not complete in one item but its technology is use in much purpose. Now days the one technology use in so many works.

Fig. 3.4 Smart city map

3.4 Road Map and Safe Guards:-

In our project we use some factor for road map and smart cites.

1. Proper planning and managements.
2. Public safety.
3. City planning.
4. Emergency services.
5. Traffic rules and regulation.
6. Disaster management.
7. Communication.
8. Truism.

3.5 Issues & Challenges:-

The quick development of Indian economy has put a weight on physical foundation, Social Infrastructure and Institutional Infrastructure since all these 3 noteworthy zones as of now experience the ill effects of a shortfall. Brilliant city could be a conceivable answer for every one of these issues. Savvy city is fundamentally worried about ―smart governance‖, ―smart energy‖, ―smart environment‖, ―smart people‖, ―smart transportation‖, ―smart IT and communications‖, ―smart buildings‖ and ―smart living‖ on the loose.

3.6 Smart Infrastructure:-

The shrewd city foundation is the starting advance for building up the general keen city structure and engineering. Not very many brilliant urban areas are as of late settled over the world.The extent of these urban areas is fundamentally constrained to build an innovation stop changing over the mechanical land to cutting edge data innovation utilizing the development in the telecom and IP systems including immaterial resource administrationcomputerization framework.The advancement foundation is to make an operational stage that would deal with the power utilization and operational assets with the end goal to decrease the general expense.

3.7 Cyber Security or any other concept as per the (ANNEXURE 1):-

Now day all payment is going to digital and smart user use net banking sell phone and computer. This facility is good for busy people but it has a disadvantage. Some people disuse his knowledge and going work for scam and frond. So this problem is the Cybersecurity. It protect and ewer to scam and frond. This save our data and protect our moony.Elements of cyber security include:

1. Application security
2. Information security
3. Network security
4. Disaster recovery / business continuity planning
5. Operational security

3.8 District Cooling and Heating / Green Building:-

Locale warming and cooling frameworks cover the age and dissemination of warm vitality in region systems. Savvy area warming and cooling matrices intend to enhance the administration of vitality request. Such systems are improved using new innovations including heat meters and warmth substations (warm exchangers). New vitality control elements of substations incorporate checking and control by means of the web or computerized radio. At the purchaser end, in boiling water and radiator frameworks, new gadgets, for example, factor speed radiator pumps might be required.These frameworks, providing overwhelmingly private structures and areas, can de-couple variances in the warmth request of structures from the system conditions – at the end of the day, they smooth interest tops – without detectable changes in solace. This permits the system's warmth request to be balanced out, vitality productivity to be enhanced, and warmth (or cooling) misfortune in the supply system to be decreased by up to 20%.

3.9 Strategic Options for Fast Development

Greenfield developments could be located either within the limits of the ULB or within thelimits of the local Urban Development Authority (UDA).Pan-city development envisages application of selected Smart Solutions to the existing city wide infrastructure. Application of Smart Solutions will involve the use of technology, information and data to make infrastructure and services better.Greenfield development will introduce most of the Smart Solutions in a previously vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor.

3.10 India's Urban Water and Sanitation Challenges and Role of Indigenous Technologies:-

Access to safe water is a standout amongst the most productive approaches to help individual and aggregate improvement. Notwithstanding, water ventures can flop because of the nonattendance of a coordinated methodology.Issues can run from improper starting plan to broken pumps, no upkeep preparing and defiled water focuses coming about because of absence of sanitation offices and undesirable cleanliness hones. To counteract and help take care of these issues, ONEDROP™ has built up the novel A·B·C for Sustainability™ intercession approach, a triumphant blend of key and operational activities intended to deliver manageable access to safe water.

3.11 Initiatives in village development by local self-government:-

Neighborhood individual’s reaction was acquired on biodiversity change in lower Mustang depending on social review and from different information hotspots for normal resources. The principle center was concentrated around the change in avifaunal and mammalian decent variety and the impact of ecological change on horticultural/domesticated animal’s woodland and additionally on brushing land.
The change was identified on untamed life development, domesticated animals theft, backwoods stock, tasteful species and flying creatures. Environmental change is the key issue in moderating biodiversity and connecting its objective in vocation. Change in vocation design appears to be more unfavorable factor for network improvement as urbanization is pervasive.

3.12 mart Initiatives by District Municipal Corporation:-

Smart city Mission was launched by Prime Minister Shri Narendra Modi on 25 June, 2015. Surat city was selected among 100 cities to be developed as smart city in India due to various achievements, initiatives and all-inclusive approach. Accordingly, Surat city had submitted "Smart City Proposal".
India, only a handful of ULBs are managing their solid waste management, while reinventing some of the age-old garbage disposal methods with a touch of new technologies.

Fig. 3.12 This solid municipal corporation management

3.13 Any Projects contributed working by Government / NGO / Other Digital

Country concept:-

Promoting use of digital tools to bring efficiency and large-scale impact among nonprofit communities by recognizing NGOs that are using for mass impact

The ENGO Challenge aspires to create an ecosystem of NGOs, which use Information Communication Technology (ICT) and digital media tools for good governance practices for the benefit of societies and communities at large. The challenge seeks to recognize, salute and honor best NGO practices using ICT in any part of the world. The objectives ofthe ENGO Challenge are:To promote and encourage best ICT practices by NGOs for community development.To create an ecosystem of NGOs who uses ICTs and digital media for good governancepractice for community serving purpose.To create and build a network of NGOs into innovative ICT practices for learning, experience sharing and promoting good practices.To encourage bottom up NGO led local content development and population, informationand community work experiences on ICT platforms through the web especially for wider access and partnership.To advocate the wider need for good ICT practice among NGOs as the third sectorworking partner hand in hand with the public and the private sectors, Over the years, ENGO Challenge has created a database of 647 ICT for Development interventions by NGOs from eight countries in Asia and Africa. In its three editions so far,the ENGO Challenge has honored and felicitated 27 winners.

3.14 How to implement other Countries smart villages projects in Indian village co text:-

Smart Villages is a relatively new concept. It will ensure good education, betterinfrastructure, proper sanitation facility, health facilities, waste management, renewableenergy, environment protection, clean drinking water, resource use efficiency etc.The emerging concept of Smart Villages refers to rural areas and communities which buildon their existing strengths and assets as well as on developing new opportunities. In SmartVillages traditional and new networks and services are enhanced by means of digital, telecommunication, internet technologies, innovations and the better use of knowledge, forthe benefit of inhabitants and businesses.

Chapter 4:
Introduction About Toraniya

4.1 Introduction

4.1.1 Introduction About Toraniya Village details:-

Toraniya is a Village in Dhoraji Taluka in Rajkot District of Gujarat State, India. It is located 88 KM towards from District head quarters Rajkot. 313 KM from State capital Gandhinagar.
Toraniya Pin code is 362315 and postal head office is Toraniya .
Dhoraji,jetpur, Junagadh, upaleta are the nearby Cities to Toraniya.

4.1.2 Justification/ need of the study:-

The advancement of the towns by the Government. All towns in the India and Gujarat are produced in provincial to urban city to meets the courtesies of the people groups through movement in country zones to urban territories.
For these reasons the Zampodad town is incorporated into the examination territories. Every one of the information to be finding in the offices in the town by the administration or Panchayat individuals. Some unique motivations to examine all Zampodad townsappeared in cry.
1. To think about existing offices gave in the town.
2. To study or think about the people groups luxuries.
3. To build the current in the towns offices.
4. To think about the foundation improvement in the town like Physical, Social, Green, Socio-Culture framework.
5. To build the Education offices, Communication offices, Road systems, Electric dispersion offices, Transportation offices, Health offices, Housing condition, Irrigation offices, Sanitation offices, Socio-culture offices, General market, Post office, Shops, Agriculture advancements, little scale organizations and so on…
6. To think about rural improvement for the expansion the abundance of the agriculturists and furthermore increment the general advancement of nation.
7. All new innovation created in the town to gather the greatest generation and expertise improvement.
8. To build the town Administration.
9. The every single above office created in the town to select in the keen town history.
10. To ensure the strength of individuals' ageist the ailment. This is improvement of the town doctor's facilities offices.

4.1.3 Study Area (Broadly define):-

Toraniya is a Village in Dhoraji Taluka in Rajkot District of Gujarat State, India. It is located 88 KM towards from District head quarters Rajkot. 313 KM from State capitalGandhinagar.
Toraniya Pin code is 362315 and postal head office is Kevadra .Dhoraji,jetpur, Junagadh, upaleta are the nearby Cities to Toraniya

4.1.4 Objectives of the study:-

The primary points or goal of the town consider are as cry…

1. Accumulations of the information about the town advancement and support to enhance the thought regarding your town.
2. To enhance and improvement of different in reverse towns.
3. Lessen the issues look by people groups.
4. Increment and enhancement information about perfect town.
5. Increment the way of life of people groups and security against wellbeing and harms.
6. Broad enhancement of the relational abilities of people groups.
7. Disconnection of town and Oneness of town is known.
8. to thought about the town foundation advancement and Social movement to build the abundance of people groups.
9. To build the framework improvement by giving development specialized techniques.
10. Increment the financial advancement of the town.

4.1.5 Scope of the Study:-

The different kinds of the extent of the town advancements are engineering degree, Agriculture extension and Management viewpoint

1. Engineering Scope:

The improvement of the town the different kinds of the designing tasks or innovations areEmployments.
First of all, in the town every one of the information about the Physical frameworks are gather.
After gathering of the information the following every one of the information areexaminations and gather every one of the issues and inquiries.
The issues are explained and actualize the arrangement on the field of the town.
In these sorts of overview the better specialists required than examination purposes.

2. Agriculture Scope:

In these kinds of the advancement overview every one of the information about the farming offices are to discover first.
After all information investigation and gather the real issues to created and increment theproductivities in the field by giving development innovation.
The measure by the agribusiness information through collaboration process with ranchers,give structures to the town agriculturists to fill all enhancements priding in claim ranches.
The advancement of the horticulture arrive the different kinds of Yojana distributed in themarket by the legislature.

3. Management Aspect:

In this sorts the administration of the all improvement offices by the Village Administrations.

4.1.6 Methodology Frame Work for development of your village:-

The strategies receive to contemplate the territory of the town are Techno EconomicSurvey, Various kind of Form, Interaction or Questionnaires with the Peoples andGovernment Offices and On Location contextual investigation (Live Study).
Above all the advancement strategies are executing to gather the information about thecurrent improvement and offices.

The techno Economic Surveys are disks in section number 4 in theme 4.6 which givesevery one of the information about framework of town.
Other two sorts of strategies are as roar…

Location Live contextual investigation:
In this sorts of the review every one of the information to be find at the area where improvement of any offices which are required present.

4.1.7 List of Objects Available related to Civil Methodology:-

Justification and viability of methodologies to expand the accessibility of water, monitor water, and cleansing of water.
Current Global activities to oversee/alleviate environmental change impacts. History of natural enactment in India and the discourse of ecological issues that requireadvancement of strategy and enactment.
Strategies, projects, and approaches to lessen the measure of waste and to decrease thedestructive impacts of waste.

4.2 Toraniya Study Area Profile

This Toraniya village is Dhoraji taluka, Rajkot district. The Toraniya village this 88 km thisnearest of the Rajkot. This village are available in panchayat office, education facilities, drinking facilities etc. in the village. Toraniya village are pin cord 362315 is and postal head office is Dhoraji.

4.2.1Study Area Location

Dhoraji,jetpur, Junagadh, upaleta are the nearby Cities to Toraniya.

4.2.2 Physical & Demographical Growth

This is village out of total population 2669 and the total workers in which is 1430 of themale and 1239 are females. This are literacy of the Toraniya village 74.05 % in which the male 80.13% and femaleliteracy is 68.35 %.

Table 4.1 History

Total Population	**A. Male : 1430** **B. Female : 1239**
Area of villageIrrigated area of village	17 hec 400 vigha
Occupation details	A. Farmer B .Labour
Physical infrastructure facilities	**A. Main source of drinking water by**

	borewell and pipe through **B. Water tank facilities:** **-Overhead tank and under ground sump**
Education facilities	A. Aanganvadi B. Primary school
Major crops grown in the village	A. Cotton B. Peanuts

4.2.3 Brief History

Nearest Statutory Town is Dhoraji in 11Km Distance. Toraniya Total area is17 hec. Ground Nut, Wheat and Cotton are agriculture commodities grow in this village. 8 hoursagricultural power supply in summer and 8 hours agricultural power supply in winter is available in this village.
This village are gram panchayat sarpanch of the **Ravjibhai** Torniya village. This village are all facilities are available of the Torniya like the health center, primary school, bank, post office, are available of the village.
This Village has a Power supply with 24 hour power supply in summer and 24 hour power supply in winter, Anganwadi centre, ASHA, Birth & Death registration office, Daily News Paper and Polling station are the other amenities in the village.

4.2.4 Economic Profile / Bank

This is the bank facilities but no online payment and government scheme development of the Toraniya village.
This Toraniya village main income of the agricultural filed. This village are development of the agricultural land of the village.

Bank

Saurashtra Gramin Bank

4.2.5 Actual Problem faced by Villagers and smart solution

Only 25% street lights are in the working condition.
drainage facility are able in village . Closed Drainage is needed to build.
Bank is also needed in the village. Free Wi-Fi Facility is needed to apply.

4.2.6 Social Scenario

Gram Panchayat meeting are held every month for bringing awareness amongthe people anddevelopment of village.
100% delivery registration.
108 is available at the convenience of mobile Ambulance District.

4.2.7 Preservation of traditions, Festivals, Cuisine

Due to many religions coexisting in the state, Gujaratis believe in various Gods and Goddesses. Embracing different religious faiths, Toraniya demonstrate a vibrant Hindusam and muslimsam.
This amalgamation of cultures is quite evident in their beliefs, customs, traditions, institutions, and practices.
The natives display a balanced lifestyle due to the perfect system of learning, a blend of religious practices and the development of artistic traits.
The cow is considered the mother God and hence worshipped devotedly by them. The majorly celebrated ceremonies of Gujaratis include birth, thread ceremony, marriage and death. All the rituals are performed by the highly ranked Brahmans.
There is many Tamples and Masjids . in Ramzan month every jumma there is fastivals people enjoy it so much.

4.2.8 To know the reasons of migration / trends of migration / problems and potentials of migrants

Reasons of Migration

Education; Rural areas, by and large, lack educational facilities, especially those of higher education and rural people have to migrate to the urban centres for this purpose. Many of them settle down in the cities for earning a livelihood after completing their education.

Employment; Lake of employment in the rural area.
Natural Calamity is also reason.
Trends of migration
For the facilities of the cities are attract the rural people that's also reason of migration. urban centers provide vast scope for employment in industries, transport, trade and other services. They also offer modem facilities of life. Thus, they act as **'**magnets**'** for the migrant population and attract people from outside. In other words, cities pull people from other areas. This is known as **"**pull factor**"**.

Problems and potentials of migrants

The problem include social, political and economic aspects; the effects also vary for both sending and host sexism and religion. Furthermore, people migrate from their homeland as political issues airs.
Poverty makes them unable to live a normal and healthy life. Children growing up in poverty have no access to proper nutrition, education or health. Migration increased the slum areas in cities which increase many problems such as unhygienic conditions, crime, pollution etc.

4.2.9 Study area land use details

This Torniya village is Dhoraji taluka, Rajkot district. The Torniya village this 88 km thisnearest of the Rajkot. This village are available in panchayat office, education facilities, drinking facilities etc. in the village. Torniya village are pin cord 362315 is and postal headoffice is Dhoraji. Torniya Total area is17 hec. Ground Nut, Wheat and Cotton are agriculture commodities grow in this village. 8 hours agricultural power supply in summer and 8 hours agricultural power supply in winter is available in this village.

4.3 DataCollection Torniya VILLAGE (Photograph/Graphs/Charts/Table)

4.3.1 Methods for data collection:-

To the accumulation of the town information by Registration, Questionnaires, Interviews, Direct observations type's review perform on the examination area regions.
Some different kinds of information to be find online programming utilizing like GoogleMicrosoft.

4.3.2 Primary survey details:-

Toraniya is a Village in Dhoraji Taluka in Rajkot District of Gujarat State, India. It is located 88 KM towards from District head quarters Rajkot. 313 KM from State capital Gandhinagar.
Toraniya Pin code is 362315 and postal head office is Kevadra .
Dhoraji,jetpur, Junagadh, upaleta are the nearby Cities to Toraniya.

4.3.3 Average size of the House:-

The average size of the house is1300 sq.ft. 4.3.4 Geo-Tagging of House;

Fig. 4.3.3 House Tagging

4.3.5 No of Human being in One House:-

In the one house around **4 to 5 members** are resides**.**
Approximately in house 3 ladder and 2 children.

4.3.6 Which Material used locally:-

The material used in the agriculture field is **Organic material** use as fertilizer.

4.3.7 Out Sourced Material:-
All market materials use for survival life.

4.3.8 Labor work doing:-
In the village 10% of labor workers in which 1100 are cultivator and 500 areagriculture labors.

4.3.9 Any Costing:-
The costing of the village labor is **Rs. 250 per day.**

Table 4.2 Labor Charge

Consulting and Service Charges	Prices Rs
Carpenters	600.00
Plumbers	750.00
Doctors	300.00
Civil Engineers	1.5L - 10L
Lawyers	10,000 - 2L
Computer Service Engineers	500 - 5,000
Web Designing Services	3,000 - 30,000

4.3.10 Geographical detail ;

Sr. No.	Description	Information
1.	Area of Village (Approx.) (In hector)	1200
2.	Agriculture Land Area (In hector)	1140
3.	Residential Area (In hector)	50
4.	Nearest Town with Distance	11.4 Km (kesod)

4.3.11. Demographical detail ;

Sr. No.	Census	Population	Male	Female	Total House Hold
1.	2011	6191	3201	2990	1379

4.3.12 Occupational Detail:-
The main occupation on the village is Farming.
Few people have a shop.
Some female working on Mahila Mandal.

4.3.13 Agricultural Details / Organic Farming / Fishery:-
In the agriculture field 80% to 85% peoples are engaged.
Only organic farming not works in fishery.

4.3.14 Manufacturing HUB / Ware Houses:-
In the village 80% Pucca & 20% Kutchha houses.

4.3.15 Tourism Cluster:-
Ram Mandir and Hanuman Mandir is the tourism place in the village.

4.3.16 Services Cluster:-
No Available.

4.3.17 Male / Female Details:-
Torniya town has populace of 2669 of which 1430 are guys while 1239 are females according to Population Census 2011.

4.3.18 Cast Wise Population Details / Which ID proof using by villagers:-
Most of people are SC.
Adhar card & Resan card use most of.

4.3.19 Occupation wise Details / Majority business:-
In the village 80% to 85% are agriculture field, 10% are labors, 5% are Business sector.

4.3.20 Physical Infrastructure Facilities:-
The different physical framework offices are Main Source of drinking water, Water tank offices, Drainage offices, Road Networks, Transportation offices, Electricity offices, Sanitation offices, Irrigation offices, Housing condition and so forth…

4.4 Infrastructure Details (With Exiting Photograph)

4.4.1 Drinking Water / Water Management Facilities
There are two water tanks available which have 1-2 lake litter storage capacityfor providing water to village.

4.4.2 Drainage Network / Sanitation Facilities
4.4.3Transportation & Road Network

Fig 4.4.2 No waste Management

Fig 4.4.3 Internal Road

4.4.4 Housing condition

The house condition is 60% of pucca and 40% of kutcha approximate. But all house condition is well & good and also some house condition is very bad.

4.4.5 Social Infrastructure Facilities , Health , Education , Community Hall Library

Fig 4.4.5 School, Health center, Grampanchaya

4.4.6Existing Conditionof Public Buildings & Maintenance of existing Public Ifrastructures

Average condition of 60% houses and other are in bad condition need services.

4.4.7 Technology Mobile/ WIFI / Internet Usage Details. In %

No government Wi-Fi available, privet network is good

4.4.8 Sports Activity as Gram Panchayat

No that kind of activity there.

4.4.9 Socio-Cultural Facilities,Public Garden /Park/Playground /Pond/ Other Recreation Facilities

There is one river passing through village.

Fig 4.4.9 Garden

4.4.10 Other Facilities

No other facilities is available in village.

4.4.11 Any other details

Everything is as the above details

4.5 Electrical Concept

No electrical student.

4.5.1 Renewable energy source planning particularly for villages

No electrical student.

4.5.2 Irrigation Facilities

No electrical student.

4.5.3 Electricity Facilities with Area

No electrical student.

4.6 Existing Institution like - Village Administration – Detail Profile

4.6.1 Bachat Mandali

There is no Bachat man

4.6.2 Doodah Mandali

There is one dudh mandala.

4.6.3 Mahila forum

No mahila forum is founded in village

4.6.4 Plantation for the Air Pollution

Highway is near t the village one air cleaning planttion is needed.

4.6.5 Rain Water Harvesting

There is not available for water Harvesting.

4.6.6 Agricultural Development

Agriculture awareness and Technology implement is needed for Best Irrigation Development.

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 methods of construction, techniques and technologies have changed little since Roman times. But the application of innovation in the construction industry is not straight forward.

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. In addition, the weather and other factors can prevent the application of previous experience effectively.

The term 'advanced construction technology' covers a wide range of modern techniques and practices that encompass the latest developments in materials technology, design procedures, quantity surveying, facilities management, services, structural analysis and design, and management studies.

5.1.2 Causes Prevention and Repair of Cracks in Building /rectification of building tilt / rehabilitation techniques:-

Cracks in Building:-

The common causes of cracks in building are: permeability of concrete, thermal movement, corrosion of reinforcement, chemical reaction, moisture changes, creep, foundation movement, soil settlement, shrinkage, elastic deformation, overloading, environmental stresses like nearby trains, earthquakes, faulty design, bad quality materials, poor construction practices, weather effects, lots of wear and tear, poor structural design, poor specification, poor maintenance, poor workmanship, etc. **To Prevent Cracks Due to Moisture Movement:-**

Select materials having small moisture movement e.g. bricks, lime stones, marble etc.

Plan for less rich cements content, larger size of aggregates and less water content.

Pours aggregates (from sand stone, clinker etc) prone for high shrinkage.

Plan for offsets in walls for length of more than 600 mm.

Use of composite cement-lime mortar of 1:1:6 mix or weaker for plastering work.

Plan for proper expansion/control/slip joints.

For brick work 2weeks time in summer and 3 weeks' time in winter should be allowed before using from the date of removal from kilns.

Delay plastering work till masonry dried after proper curing.Proper curing immediately on initial setting brings down drying shrinkage.

Techniques for Rehabilitation & Repair Of building:-

- Support the structural members properly as required.
- Remove all cracked, spelled and loose concrete.
- Clean the exposed concrete surfaces and steel reinforcement.
- Provide additional r einforcing bars, if the loss in reinforcement is more than 10%.

5.1.3 Disaster management in natural calamities:-

The planning, setting up and maintenance of emergency relief camps, provision ofadequate potable water supply adequate and hygienic sanitation facilities (WATSAN) are the main responsibilities of a Civil Engineer associated with the Disaster Management team.

An effective disaster management system consists of four main components – disaster warning , disaster management and disaster relief . Disaster warning is a basic prerequisite and in some cases to help in the prevention of disaster itself.

5.1.4 Various types of Roads / Intelligent transport system:-

Types of Roads:-

Earthen roads
Murrum roads
Gravel roads
Kankar roads
WBM roads
Bituminous roads
Concrete roads

Techniques for Rehabilitation & Repair Of building:-

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Types of Roads:-

Earthen roads
Gravel roads
Murrum roads
Kankar roads
WBM roads
Bituminous roads
Concrete roads

Intelligent transport system:-

An intelligent transportation system (ITS) is an advanced application which aims toprovide innovative services relating to different modes of transport and trafficmanagement and enable users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.

Some of these technologies include calling for emergency services when an accidentoccurs, using cameras to enforce traffic laws or signs that mark speed limit changesdepending on conditions.

Intelligent transport system aims to achieve traffic efficiency by minimizing traffic problem. It aims to reduce time of commuters as well as enhances their safety and comfort. The use is not just limited to traffic congestion control and imformation , but also for road safety and efficient infrastructure usage.

.

5.1.7 Various types of Environmental Factors:-

An identifiable element in the physical, cultural, demographic, economic, political, regulatory, or technological environment that affects the survival, operations, and growth of an organization.

Environment factors include temperature , food , pollutantr , population density , sound , light , and parasites. The diversity of environment stresses that have been shown to case an increase in asymmetry is probably not exclusive ; many other kinds of sress might provide similar effects.

5.1.8 E – waste disposal / Any West disposal:-

E – Waste disposal

Use a Certified E-Waste Recycler. Find an e-waste recycler certified through the Basel Action Network (BAN).

Visit Civil Institutions. Check with your local government, schools, and universities for additional responsible recycling options.

Explore Retail Options.

Donate Your Electronics.

Any West disposal:-

Preventing or reducing waste generation: Extensive use of new or unnecessary products is the root cause of unchecked waste formation. The rapid population growth makes it imperative to use secondhand products or judiciously use the existing ones because if not, there is a potential risk of people succumbing to the ill effects of toxic wastes. Disposing of the wastes will also assume formidable shape. A conscious decision should be made at the personal and professional level to judiciously curb the menacing growth of wastes.

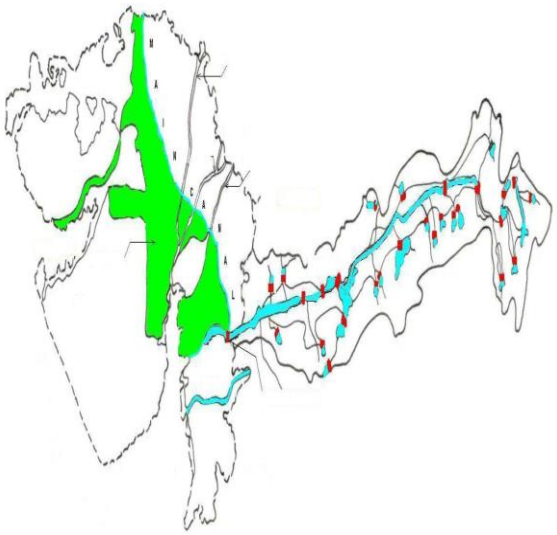
5.1.9 Corrosion Mechanism, Prevention & Repair Measures of RCC Structure:-

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 spilling of concrete cover thereby reducing durability of concrete structure. Repair has been suggested as the protective solution for damaged structure due to corrosion.

Corrosion mechanism , prevention and repair measures of RCC structure though concrete is quite strong mechanically . is 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 thr ingress of moisture or air may lead to corrosion of steel , cracking and spalling of concrete cover thereby reducing durability of concrete structure . repair has been suggested as the protective solution for damaged structure due to corrosion.

5.1.10 Technical Case Study On "Sardar Sarovar Dam:

The Sardar Sarovar Dam is a concrete gravity dam built on the Narmada river in Kevadiya near Navagam, Gujarat in India. Four Indian states, Gujarat, Madhya Pradesh, Maharashtra and Rajasthan, receive water and electricity supplied from the dam. The foundation stone of the project was laid out by Prime Minister Jawaharlal Nehru on 5th April 1961. The project took form in 1979 as part of a development scheme funded by the World Bank through their International Bank for Reconstruction and Development, to increase irrigation and produce hydroelectricity, using a loan of US$200 million.[3] The construction for dam begun in 1987, but the project was stalled by the Supreme Court of India in 1995 in the backdrop of Narmada Bachao Andolan over concerns of displacement of people. In 2000–01 the project was revived but with a lower height of 110.64 metres under directions from SC, which was later increased in 2006 to 121.92 meters and 138.98 meters in 2017.



5.1.10(a) INDEX MAP OF NARMADA VALLEY

The dam was inaugurated in 2017 by Prime minister Narendra Modi.
The water Level in the Sardar Sarovar Dam at Kevadia in Narmada district reached its highest capacity at 138.68 metres on 15 September 2019.

Geographical location:

To the south west Malwa plateau, the dissected hill tracts culminate in the Mathwar hills, located in Alirajpur district of Madhya Pradesh. Below these hills Narmada river flows through a long, terrific gorge. This gorge extends into Gujarat where the river is tapped by the Sardar Sarovar dam

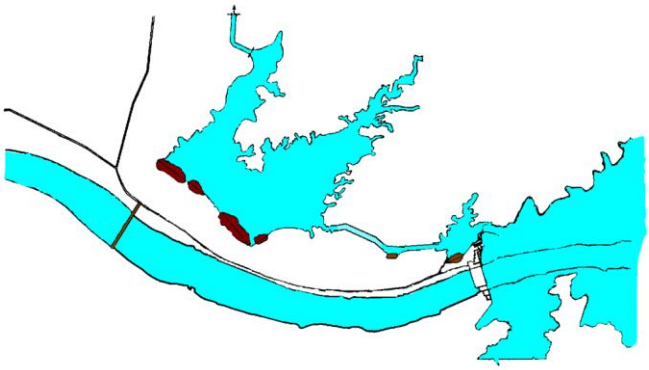
Narmada Canal:

The dam irrigates 17,920 km2 (6,920 sq mi) of land spread over 12 districts, 62 talukas, and 3,393 villages (75% of which is drought-prone areas) in Gujarat and 730 km2 (280 sq mi) in the arid areas of Barmer and Jalore districts of Rajasthan. The dam also provides flood protection to riverine reaches measuring 30,000 ha (74,000 acres) covering 210 villages and Bharuch city and a population of 400,000 in Gujarat.[13] Saurashtra Narmada Avtaran Irrigation is a major program to help irrigate a lot of regions using the canal's wate.

LAYOUT PLAN OF THE PROJEC
Kevadiacolony
Maincanal
SardarSarovarReservoir
RiverNarmada
Mainspillway

- Largest water resources project in indea in term of concrete volume
- Third highest concrete dam (163)
- Lenghth of dam – 1.21 km
- Two power houses –
  Main power house – 1200 MW
  Canal power house – 250 MW

Largest irrigation canal – length 468 km , carrying capacity 1133 m3/s , 35 branches.



Project under consideration
Auxiliary spillway completed

Main spillway completed up to El. 90 m

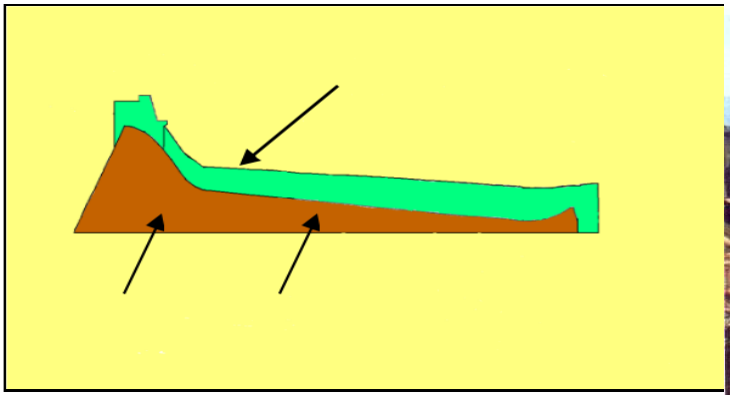
Canal Power House completed

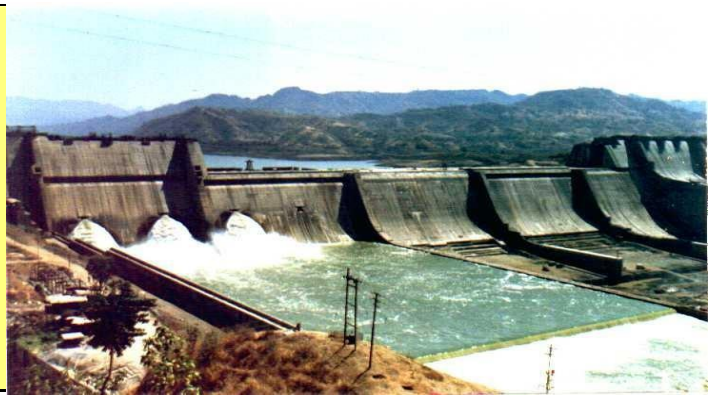
Studies conducted at CWPRS since 1978

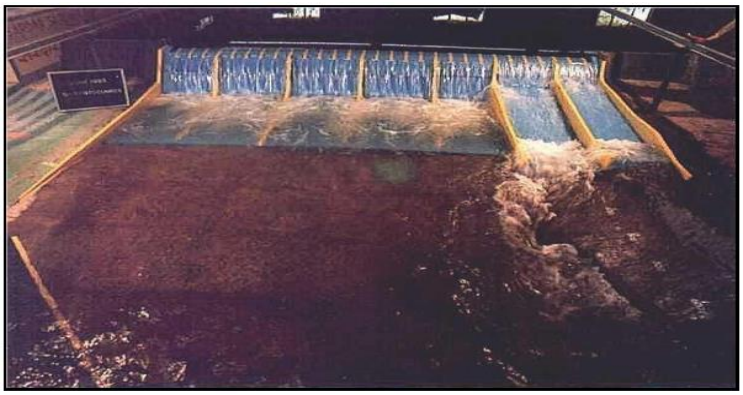
- **Two comprehensive models**

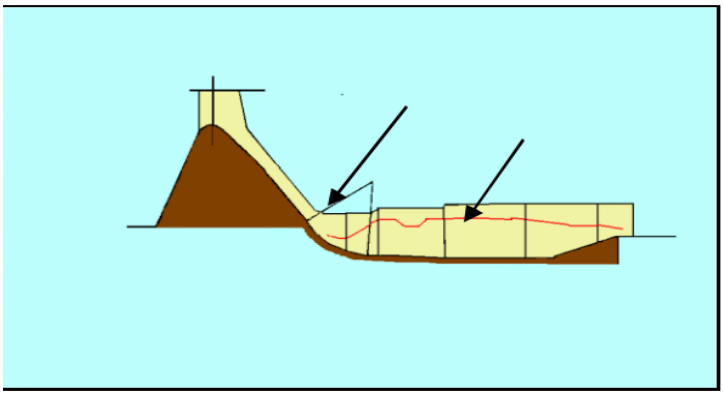
  Two sectional models

- **Finalised the arrangement of mainand auxiliary spillway**









- Finalised the design of appurtenances like training and divide walls in the stilling basin and aeration grooves Most interesting studies for estimation of hydrodynamic bending moments on divide walls, pullout forces on right training wall, uplift forces on stilling basin aprons.

- Various stages of construction studied on comprehensive and sectional model
- Evolved suitable design of low level hump through model studies

DISTRIBUTION SYSTEMS:

No. of branches (Gujarat)	42
Length of distribution system network	**75,000 KM**
Annual irrigation ➢ **Gujarat** ➢ **Rajasthan**	

POWER GENERON:

River bed power house (6 x 200 MW)	**1200 MW**
Canal head power house (5 x 50 MW)	**250 MW**

CURRENT STATUS

a) BRIEF DESCRIPTION

PROJECT Sardar Sarovar Project Benefits

1. Irrigation : 1.84 Mha (75% area drought prone) in Gujarat.
   : 0.246 Mha in desert districts of Rajasthan
2. Drinking Water : 25 Milion Population (by 2011)
   : 30 Milion Population (by 2021)

: 9490 Villages + 173 Urban centers in Gujarat

: 1336 villages & 3 towns in Rajasthan to a population of approx. 4.58 million

3. Hydro Power : Installed capacity : 1450MW

4. Irrigation Strategy : Through RWS & PIM, maximum water use efficiency can be achieved. Water hazards due to over watering – salinity and water logging – can be prevented leading to sustainable agricultural benefits to small and marginal farmers in the command area.

b) PROGRESS OF MAJOR COMPONENT OF THE PROJECT

➢ MAIN DAM

- The work of raising of dam up to 121.92 mt. is completed. The Narmada Control Authority has given the permission on 12.06.2014 to raise the Dam height from 121.91 m to 138.68 m for Phase-1 construction i.e. to raise piers up to full height, construction of bridge and installation of gates (to be kept in open position). The work has been started on 12.06.2014 and the same will be completed within 36 months.

- 66.42 LCM [97.39%] concrete work completed up to March-2015.
- Construction of Irrigation Bye Pass Tunnel is completed.
- Garudeshwar Weir : Excavation has been started and work of Coffer Dam is in progress. Theprogress of Excavation is 264740 m3 up to March-2015

5.1.10(b) SARDAR SOVER DAM

Particular	Unit	Upto Mar-2014	Mar-2015	During 2014-15 upto Mar-2015	Total
RBPH (River Bed Power House)	Million Units	28678.618	163.790	2297.760	30976.378
CHPH (Canal Head Power House)	Million Units	3914.794	52.736	611.673	4526.467
Total (A & B)	Million Units	32593.412	216.526	2909.433	35502.845

➢ **Progress of Canal System & Irrigation Potential Created**

Sr. No	Particular	Unit	Total	Upto Mar-2014	March-2015	During 2014-15	Total
(I) Canal System							
A	Main Canal	Km	458	458	- Completed -		458
B	Branch Canal	Km	2585	2304	30	104	2408
C	Distributary	Km	5112	3064	01	593	3657
D	Minor	Km	18413	8777	132	1445	10222
E	Sub-Minor	Km	48058	10217	101	227	10444
	Total:	**Km**	**74626**	**24820**	**264**	**2369**	**27189**
(II) Irrigation Potential							
(A)	Up to Minor	Ha.	1845655	948305	39280	162628	111093
(B)	Up to Sub-Minor	Ha.	1845000	369260	1159	1230	370490

c) NOTE ON SOCIAL AND ECONOMIC DEVELOPMENT

Name of State	Nos. of affected Villages	Total PAFs Likely to be resettled	Total PAFs resettled in	Balance PAFs to be resettled in
Gujarat	19	4765	11049	-----
Maharashtra	33	4300	3237	315
Madhya Pradesh	192	37757	32221	-----
Total:	244	46822	46507	315

d) ENVIRONMENTAL SAFEGUARD MEASURES

- Catchment Area Treatment works have been completed in the entire catchment area (29157 Ha) within Gujarat.
- Compensatory afforestation has been carried out in 4650 hectares of non-forest area in kachahh district as well as 9300 ha degtaded forest area. Plantation in 5252 hectares hasbeen completed in the vicinity of the dam, on canal banks nad in the colonies.

Chapter-6
Swatchh Bharat Abhiyan (Clean India)

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

In response to Prime Minister of India's call for Clean India (Swachh Bharat) by 2nd October 2019, every individual and organization in India has joined hands and is geared up towards realizing that splendid dream. For the size of the population (1.27 billion, in Jan. 2015), and given the culture of open defecation for decades, this deadline (2nd October 2019) puts across the typicality of a 'herculean or superhuman task'. Yet, we have our sleeves rolled up and are on the task.Central Government of India has proposed to the state governments a number of financing-options, technology-choices, and promotional strategies with a view to giving them the administrative freedom to be able to take on this task. This task entails construction of over 110 million toilets, and bringing over 600 million people to use toilets regularly. One must note that Swachh Bharat Abhiyan - SBA (Clean India Mission) is not merely about toilet construction and use, the focus of SBA is given in box – 1. SBA, by strategy, is a people's movement initiated by the government. Therefore, the government uses many strategies including 'social marketing techniques' in order to achieve Clean India by 2019.

Box – 1: Focus of Swachh Bharat Abhiyan
1. Elimination of open defecation
2. Conversion of insanitary latrines into pour flushes toilets
3. Eradication of manual scavenging
4. Prevention of pollution of water sources
5. Ensuring cleanliness and hygiene in public areas

Sanitation Marketing:
Sanitation marketing refers to efforts focused on influencing behavior towards sanitation and cleanliness, using some of the techniques employed in commercial marketing. The key features of sanitation marketing are: (i) influencing behavior; (ii) Putting to use a planning process that applies marketing principles and techniques; (iii) segment and focus on the target groups; and (iv)delivering a healthy environment for the society. The primary goal is public good, and not profit to the person marketing (Nancy R. Lee & Philip Kotler, 2012).
Similar to commercial sector marketers whose objective is to sell goods and services, sanitation marketers' objective is to successfully influence desired sanitation behaviors. The sanitation marketers are called 'sanitation motivators' [or Swachhata Doots / Swachhata Sena] in India.
The sanitation marketers (or sanitation motivators) typically want to influence targetaudiences to do one of the following things:

Sr. No.	What behavior influence we try?	Sanitation Behavior (For example)
1.	Accept a new behaviour	Accept that children and aged people should also use toilet, and it is not enough if only women in the family use toilet.

2.	Reject a potentially undesirable Behaviour	Reject throwing household /kitchen wastes in streets Corners.
3.	Modify a current behaviour	Keep the toilets at home clean. Leave the public toilets clean for the next user.
4.	Abandon an old undesirable behaviour	Abandon completely defecating on the streets; in railway tracks; and in open fields.
5.	Continue a desired behaviour	Continue to train every child in the family to use toilets, and demonstrate how to keep clean
6.	We want people to switch behaviour	aSwitch to hand-washing with soap after using a toilet, and before touching food items. Switch to using an improved sanitary latrines, from unimproved ones.

Sanitation marketers typically want to influence target audiences

Box - Cleanliness Pledge:

- Mahatma Gandhi dreamt of an India which was not only free but also clean and developed.
- Mahatma Gandhi secured freedom for Mother India.
- Now it is our duty to serve Mother India by keeping the country neat and clean.
- I take this pledge that I will remain committed towards cleanliness and devote time for
- this.I will devote 100 hours per year that is two hours per week to voluntary work for cleanliness.
- I will neither litter nor let others litter I will initiate the quest for cleanliness with
- myself, my family, my locality, my village and my work place.
- I believe that the countries of the world that
- appear clean are so because their citizens don't
- indulge in littering not do they allow it to happen With this firm belief, I will

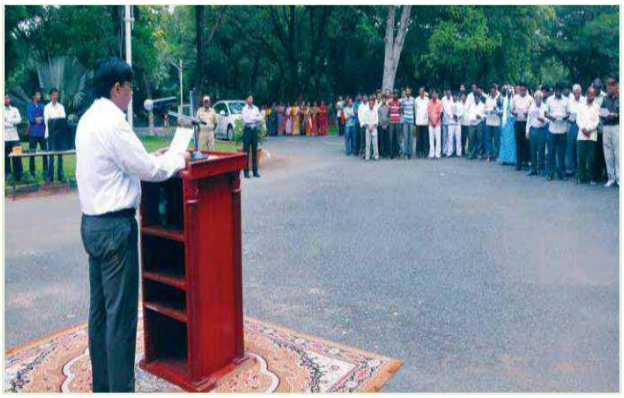


Fig. 6.1 No Dr. M.V. Rao, Director General Administering Swachh Bharat Pledge

- propagate the
- message of Clean India Mission in villages and towns.

Under the leadership of Dr. M.V. Rao, Director General, the Institute organizedspecial events on October 2, 2014. All employees of the Institute participated in

- NIRD&PR Campus cleanliness drive. It is a continuous process at the Institute and more events are planned for the ensuing months.

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

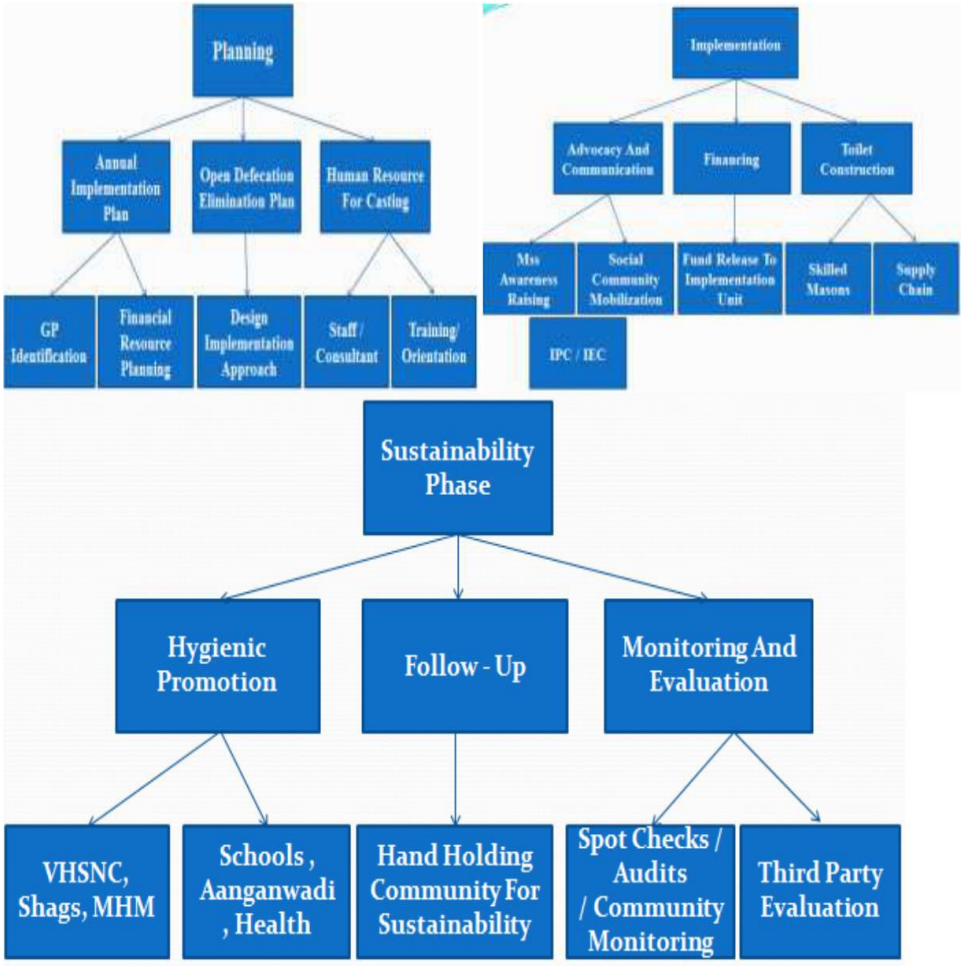


Fig. 6.2 Process of implementation of SBA

Action for making your village Clean:

Steps of clean village:

While travelling doesn't throw any wrapper paper or any dry waste on road, keep it your bag or pocket.
Keep paper bags with yourself to store wet waste and throw them in dustbin onlyAvoid spitting on roads (as it can be the reason of viral disease).
Avoid chewing pan-masala, gutka, and tobacco.
Avoid use of plastic bags.
Follow government's rules and regulations.
If someone is breaking the rule, they make aware of it.
Stop your friends if they are making such mistakes.
Spread awareness to keep our city clean.

Necessity steps should be taken by government:

Dustbin should be kept at all public places like bus- stand, railway station, gardens and theatre.
Dustbin should be kept at proper distance on roads.
Proper waste containers should be kept area.
Rules should be made and action should be taken if someone breaks the rules.
Proper public toilets are to be made and they should be maintained regularly.

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

NIRD&PR has undertaken a series of activities as part of Swachh Bharat Mission. To start with, Dr. M. V. Rao, Director General administered the Mission pledge to all the employees of the Institute, participants of training programmers and PGDRDM students. This was followed by campus cleaning drives with the participation of one and all including campus residents and children of BVB School (NIRD&PR Campus).

The details of various events are given below;

dministration of pledge on Swachh Bharat Mission by DG to all employees, students and participants of ongoing training programmers in the Institute.

Campus cleaning programmed with the participation of all employees, students and participants of ongoing training programmers.

Interactive meeting with NIRD&PR Youth Club to discuss about the ways to implement Swachh Bharat Mission effectively.

'Nukkad Natak' organized by students of BVBV School (NIRD&PR Campus) at various locations inside the campus to make aware the residents of the campus on the importanceof cleanliness in our day-to-day life.

Fig. 6.3 Collection of door to door garbage

Rural Technology Park (RTP) campus cleaning programmer undertaken by members ofNIRD&PR Mahila Mandali.

Campus-cum-office area cleaning programmer undertaken by employees and students of the Institute led by Director General.

Proposed Activities:

Collection of door to door garbage on daily basis from all staff quarters, office rooms, schools and Guest Houses.
Segegation of the waste into bio-degradable / semi-degradable / non-degradable andproper disposal.
residents, school children and employees about segregation of waste.
Helpline number and Nodal Officer to look into the matter and receive complaints about garbage collection / disposal etc., has been setup.
Putting up dustbins at major public areas for collection of public waste.

Chapter 7.

Village condition due to Covid-19 :

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.

With respect to COVID 19 pandemic, Ministry of Panchayati Raj, Government of India in close collaboration with State Governments has taken various initiatives. Close consultation and guidance of the State as well as District authorities is being maintained to ensure that lock down conditions are not violated and norms of social distancing are scrupulously followed to contain the spread of the disease.

India has overtaken Brazil and become the second-worst affected country in the world by the coronavirus pandemic, with more than 4 million cases.

The reason for this shift appears to be migrant workers who have been returning to their villages since lockdown was eased at the end of June.

The medical response to stop the spread and treat those infected has been inadequate, according to media reports. With one trained doctor for every 1,497 people, against the World Health Organization recommended one per 1,000, and public health expenditure for 2018 at just 1.3% of GDP, India faces an uphill struggle in dealing with the pandemic.

While two-thirds of India's population lives in rural areas, there are almost four times as many health workers per person in cities. Most rural communities rely on untrained health workers. Over two-thirds of these rural health providers have no formal medical training, but remain the only option of medical support for most of the rural population.

7.1Taken steps in Torniya village related to existing situation with photograph :

During interaction with the Talati, he told us that quarantine place and home quarantine facility were implemented during the lockdown. According to Talati, Sarpanch and villagers ; in the Torniya village the sanitization process was done during the lockdown period when first case of covid 19 came in the village.

Fig.7.1-Torniya quarantine centers

7.2 Activities Done by Students for Toraniya village with Photograph :

We have taken a permission from Talati and Sarpanch for doing one awareness regarding covid 19 in the Toraniya village and then we did awareness camp regarding covid 19.

In that awareness camp we have distributed some face masks to the villagers for the protection against covid 19 and aware them about covid 19 situation in India and told them to take precautionary measures like wear a mask perfectly, wash hands regularly, maintain social distancing in public and avoid crowdy area & firstly make yourself home quarantined if you fill any COVID-19 symptom in your body.

Fig.7.2-Covid 19 Awareness Activity Photos

7.3Any other steps taken by the students villagers :

During interaction with the Talati, he told us that quarantine place and home quarantine facility were implemented during the lockdown. In the COVID-19 situation cleaning, fogging and sanitization were done in the village.

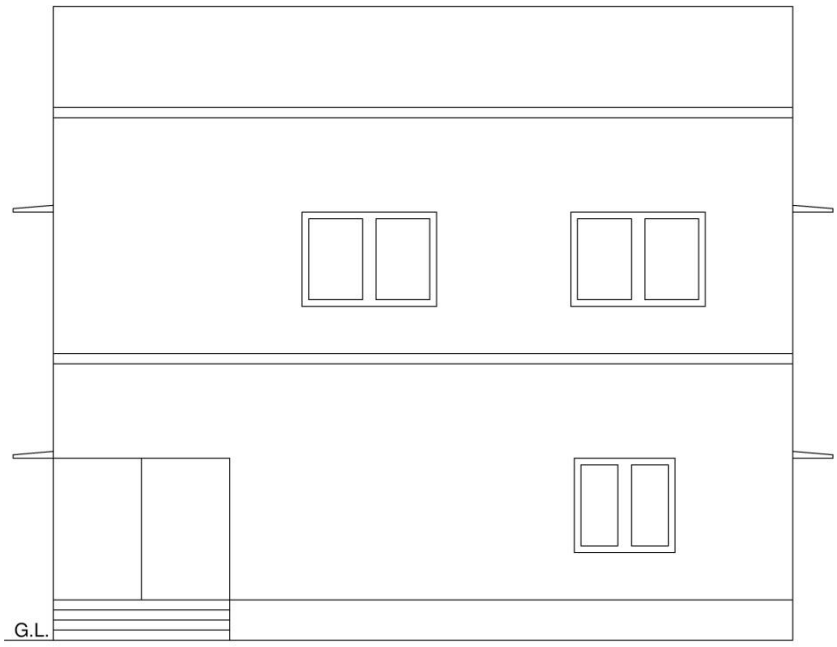
Chapter-8
Sustainable Design Planning Proposal (Prototype Design)- Part- I (Scenario / Existing Situation / Proposed Design in Autocad / Recapitulation Sheet / Measurement Sheet / Abstract Sheet / Sustainability of Proposal)

8.1.1 Design Proposals

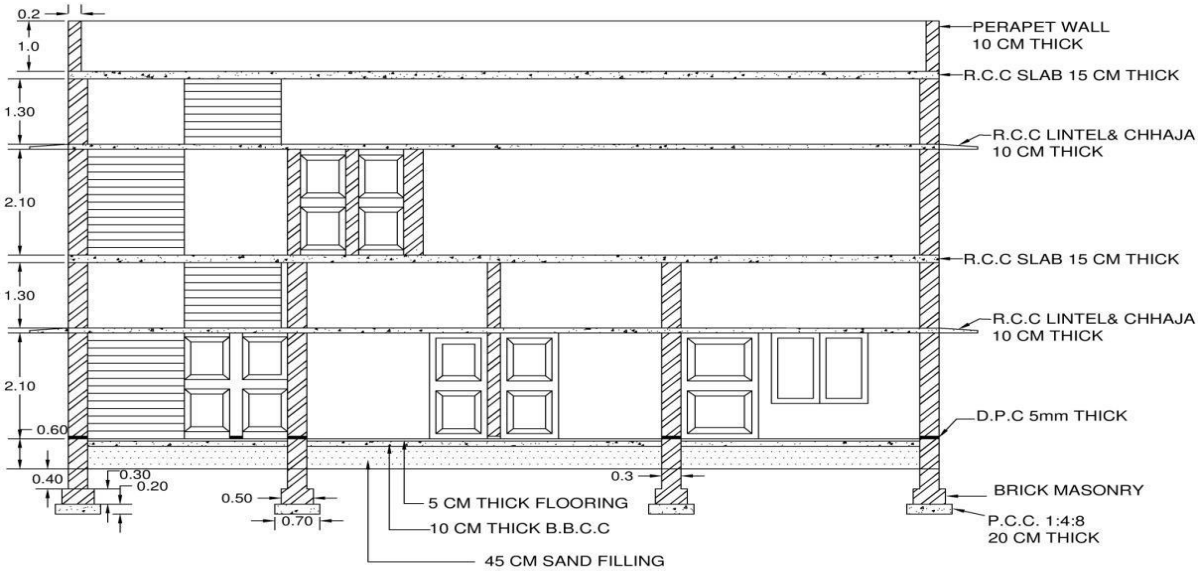
In Primary and techno-economical survey we collected information regarding to facilitieslike a primary facilities, social facilities, educational facilities and sanitations facilities etc.
Form we collect a data and observations, the information of new proposal as follows.

8.2 Sustainable Design (panchayat office building)

Gram panchayat



ELEVATION


0.2
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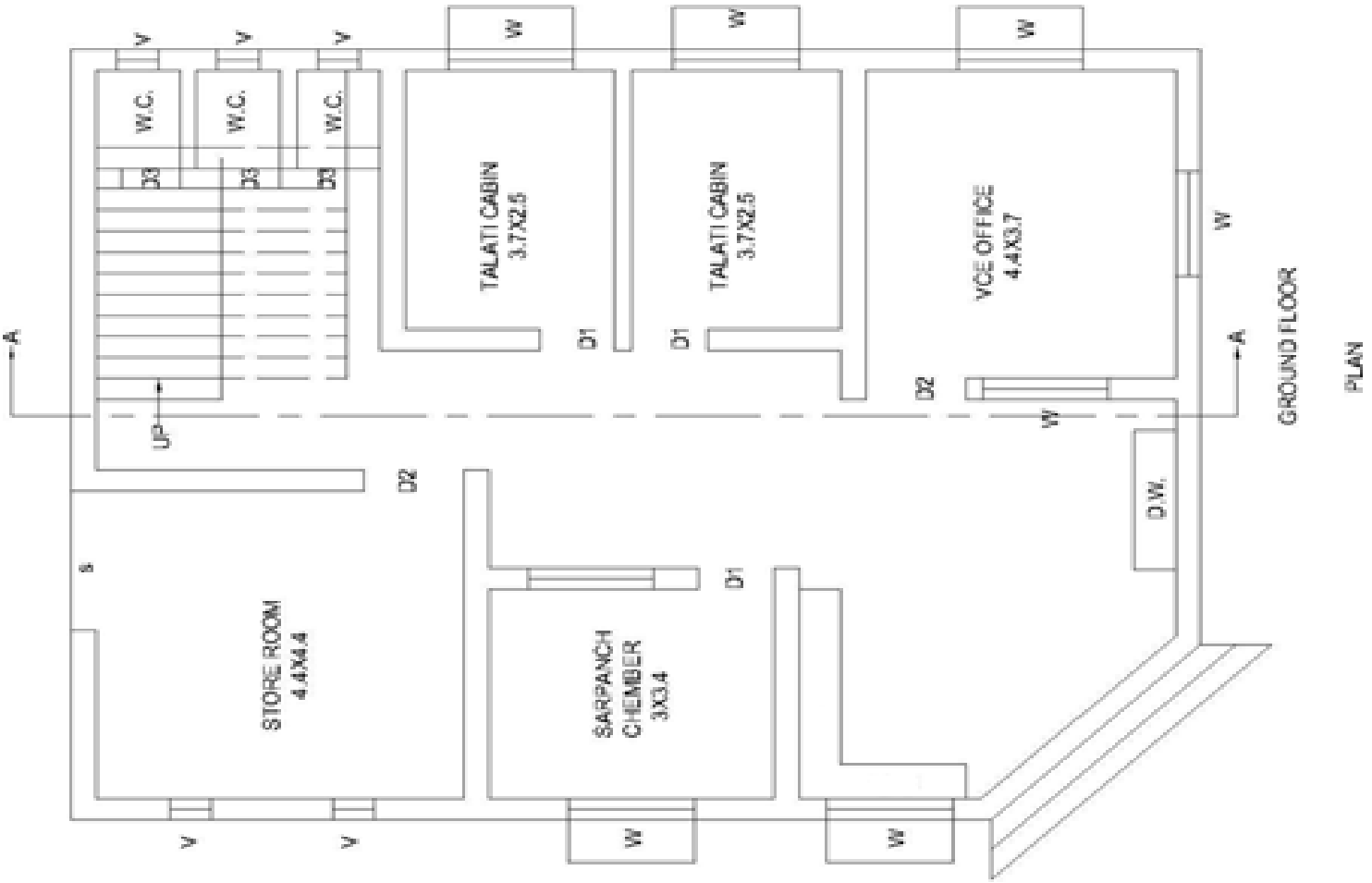
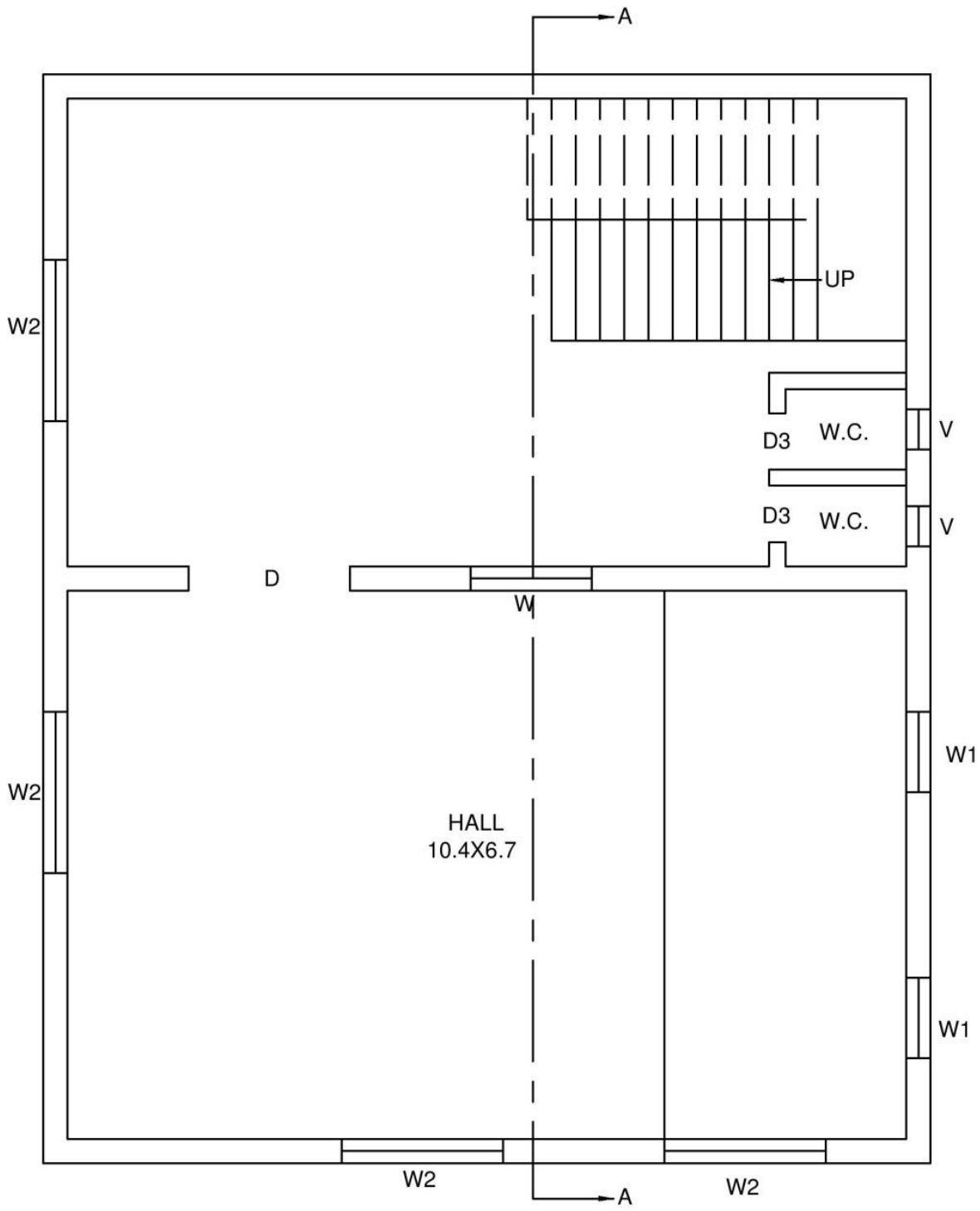
PERAPET WALL
10 CM THICK
R.C.C SLAB 15 CM THICK
R.C.C LINTEL& CHHAJA
10 CM THICK
R.C.C SLAB 15 CM THICK
R.C.C LINTEL& CHHAJA
10 CM THICK
D.P.C 5mm THICK
BRICK MASONRY
P.C.C. 1:4:8
20 CM THICK
5 CM THICK FLOORING
10 CM THICK B.B.C.C
45 CM SAND FILLING

SECTION A - A


W.C.
W.C.
W.C.
TALATI CABIN
3.7X2.5
TALATI CABIN
3.7X2.5
VCE OFFICE
4.4X3.7
STORE ROOM
4.4X4.4
SARPANCH
CHEMBER
3X3.4
D.W.
UP
GROUND FLOOR
PLAN



FIRST FLOOR

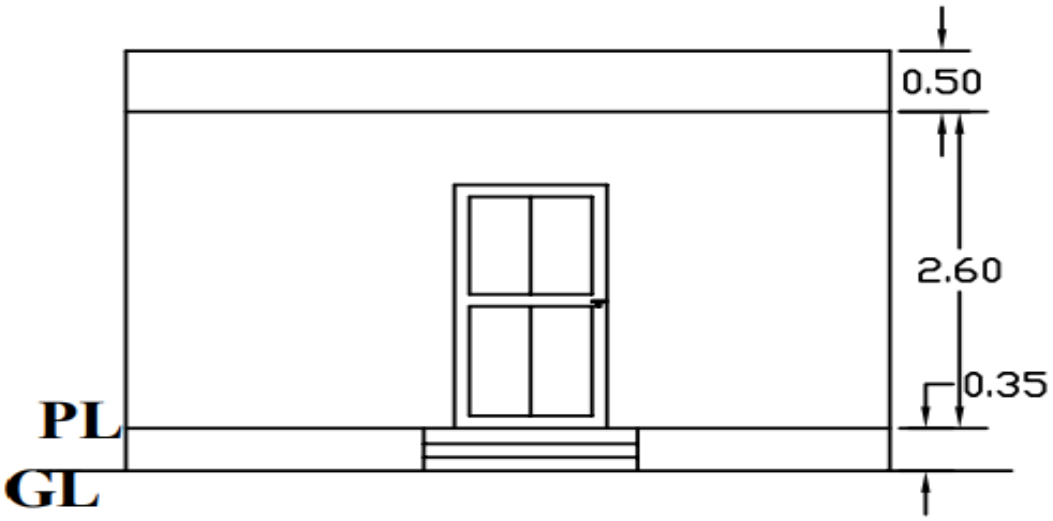
PLAN

ABSTRACT SHEET FOR GRAM PANCHAYAT

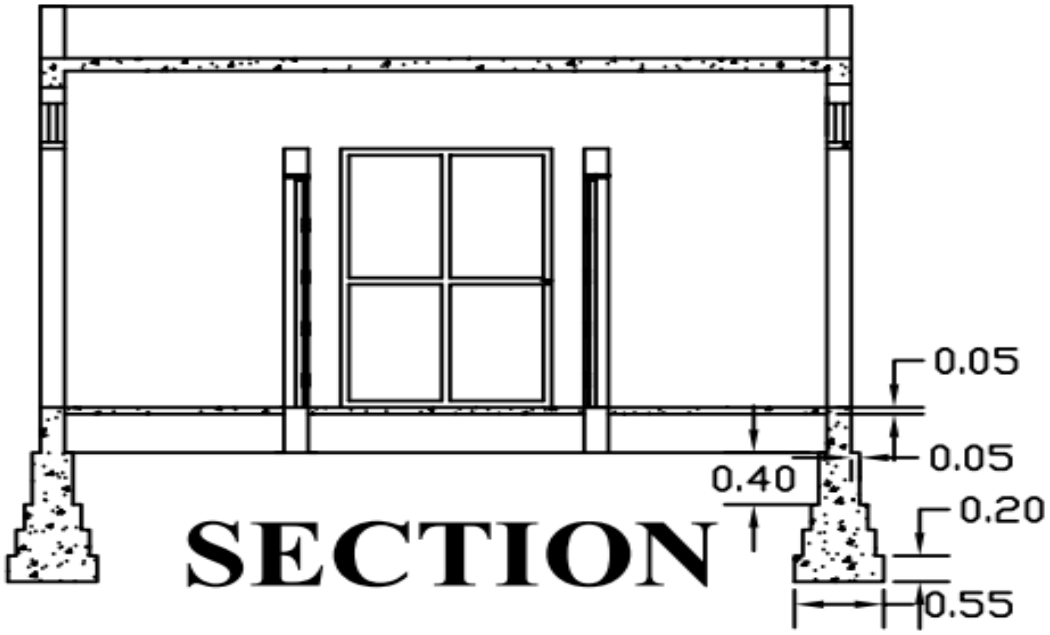
Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation work	79.065	85	m^3	8,56,720.5/-
2	PCC in Foundation	10.54	2550	m^3	26,877/-
3	RCC Work total	22.27	8800	m^3	1,95,976/-
4	DPC	23.07	330	m^3	76,131/-
5	Paint	472.94	92	m^2	43,510.48/-
6	brick work in super structure	57.97	4800	m^3	2,78,256/-
7	Earth filling	53.97	90	m^3	4,818.6/-
9	Glazed tiles	111.71	753	m^2	84,117/-
10	Brick work in sub structuere	32.18	4800	m^3	1,54,464/-
11	Plaster	472.94	92	m^2	43,510/-
Total cost					Rs. 1,764,380.58/-
10% contractor charges					Rs. 1,76,438.05/-
5 % extra charges like painters, mixer, transport & labour charges					Rs. 88,219.02/-
Overall cost					Rs. 2,029,037.65/-

Abstract sheet for planning gram panchayat

Public Toilet



ELEVATION



SECTION

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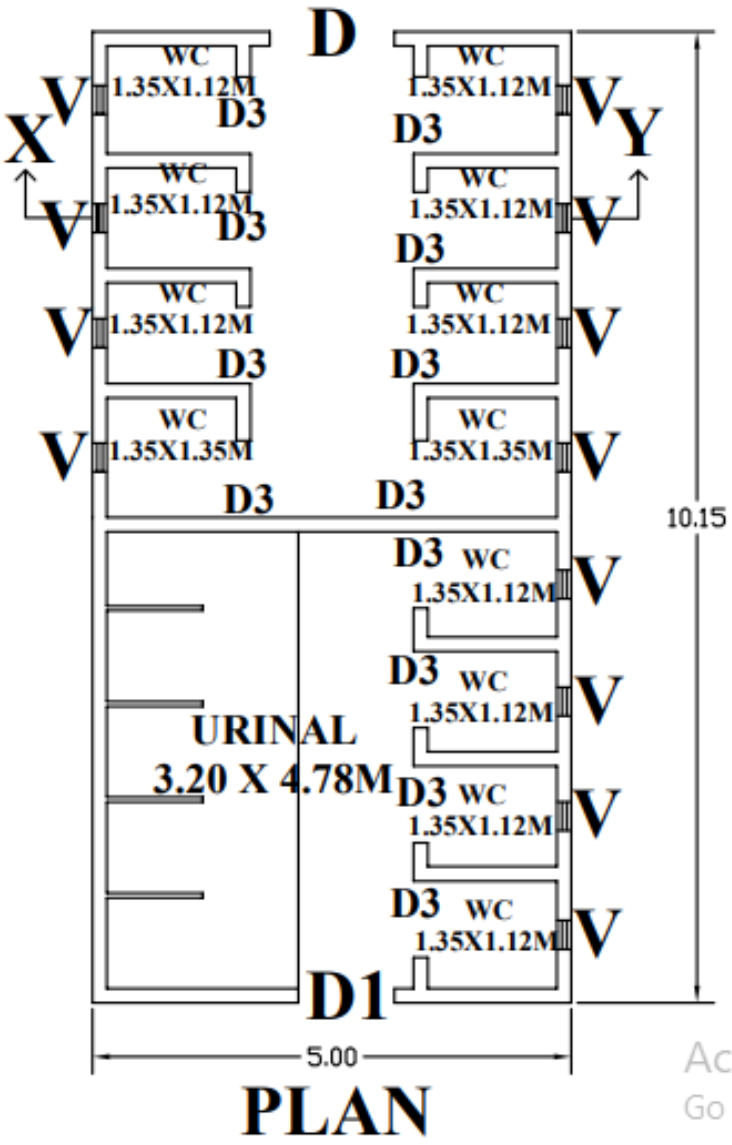
D1	2 X 1M
D3	1.8 X 0.8M



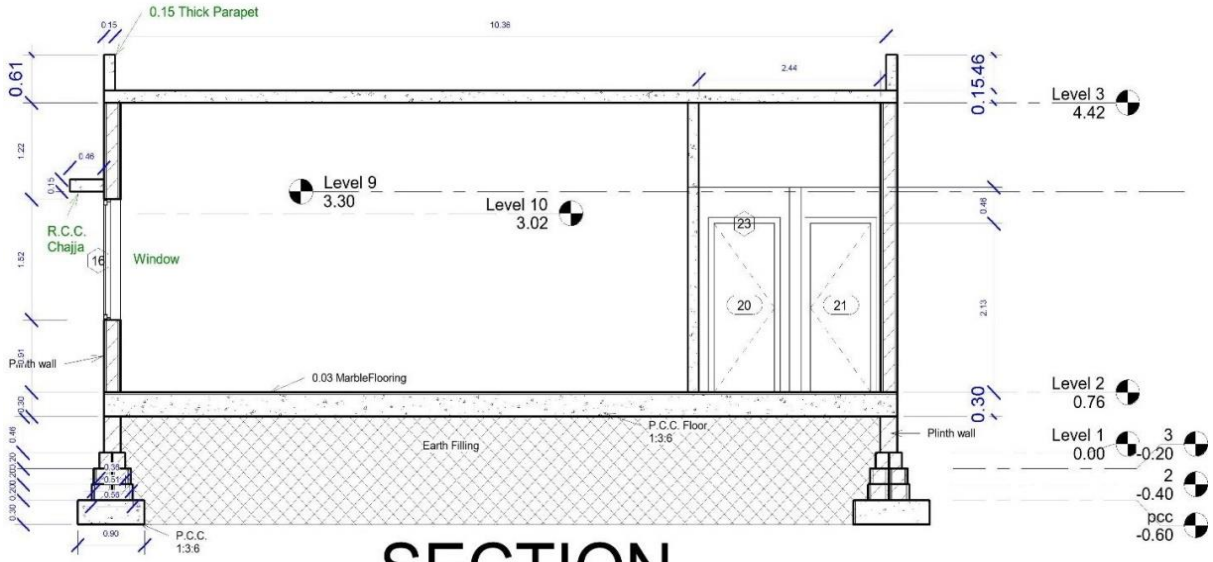
ABSTRACT SHEET FOR PUBLIC TOILET

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation work	25.45	85	m^3	2159.85/-
2	PCC in Foundation	17.88	3200	m^3	57,216/-
3	RCC Work total	45.87	8800	m^3	3,68,456/-
4	DPC	11.64	330	m^3	3,847.8/-
5	5mm thick flooring	23.88	130	m^2	3,104.4/-
6	2nd class brick work	36.19	4800	m^3	1,77,552/-
7	Earth filling	47.76	90	m^3	4,298.4/-
8	Skerting	29.4	150	m	4,410/-
9	Glazed tiles	86.70	120	m^2	10,404/-
10	Mosaic tiles	55.30	260	m^2	14,378/-
11	Plaster	47.24	150	m^2	7,086/-
12	Steel reinforcement work	109.12	50	kg	5,456
Total cost					Rs. 6,58,368.45/-
10% contractor charges					Rs. 65,836.84/-
5 % extra charges like painters, mixer, transport & labour charges					Rs. 32,918.42/-
Overall cost					Rs.7,57,123.71/-

Abstract sheet for planning public toilet

Community Hall

ELEVATION



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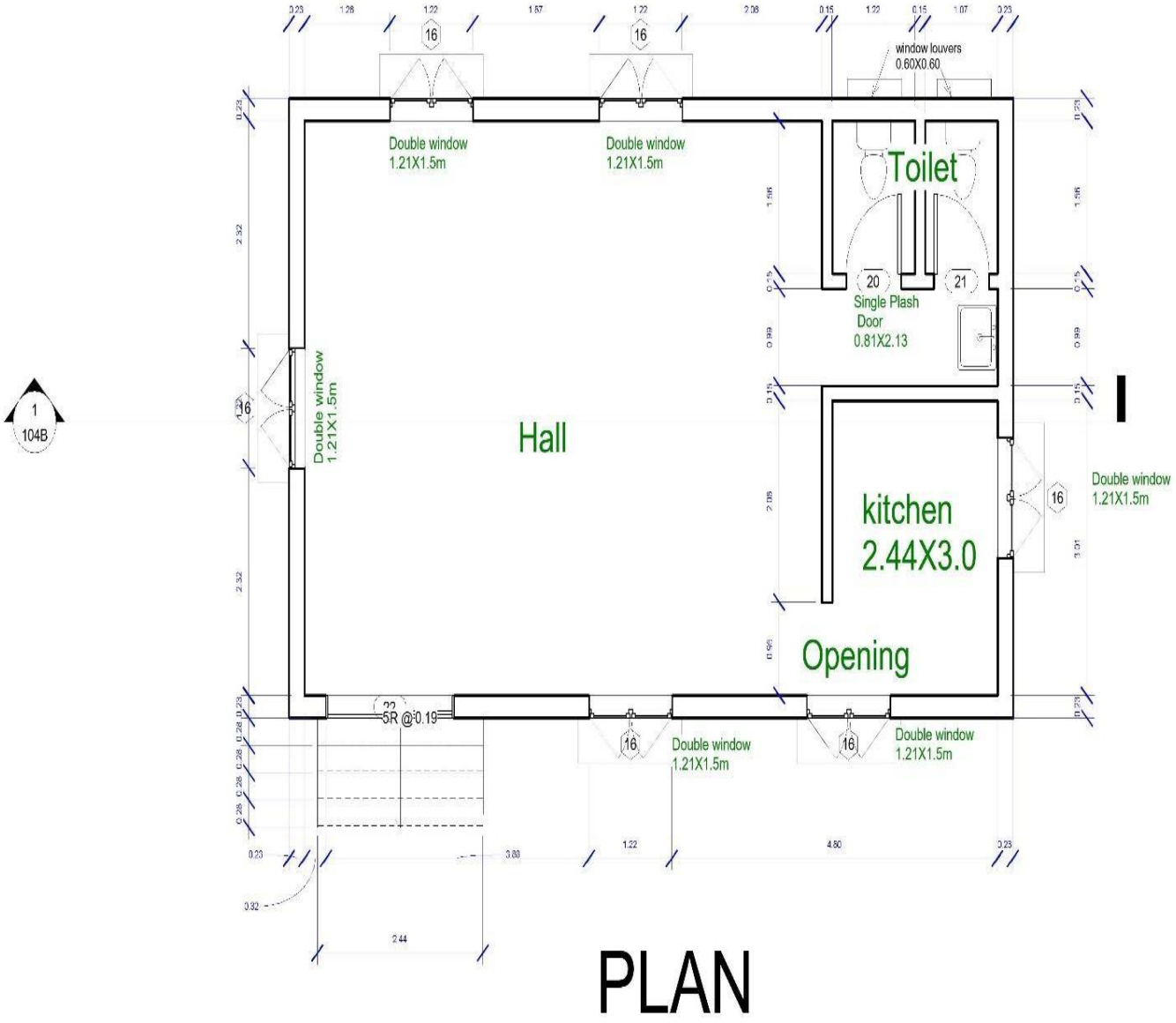
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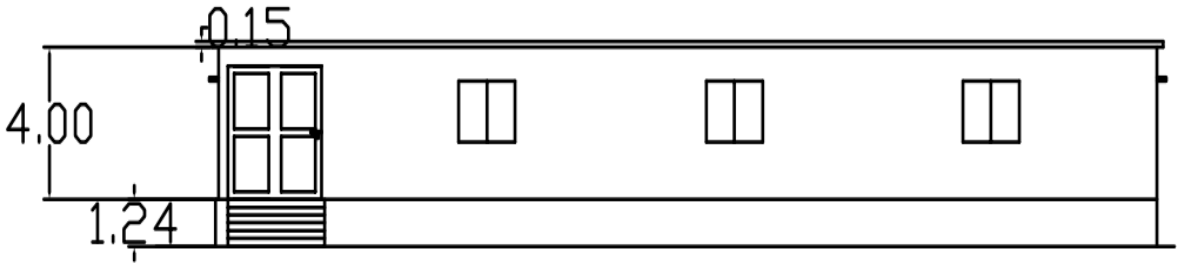
0.60X0.60
Double window
1.21X1.5m
Double window
1.21X1.5m
Toilet
20
21
Single Plash
Door
0.81X2.13
Double window
1.21X1.5m
Hall
kitchen
2.44X3.0
Double window
1.21X1.5m
Opening
22
5R @ 0.19
Double window
1.21X1.5m
Double window
1.21X1.5m
1
104B
PLAN

ABSTRACT SHEET FOR COMMUNITY HALL

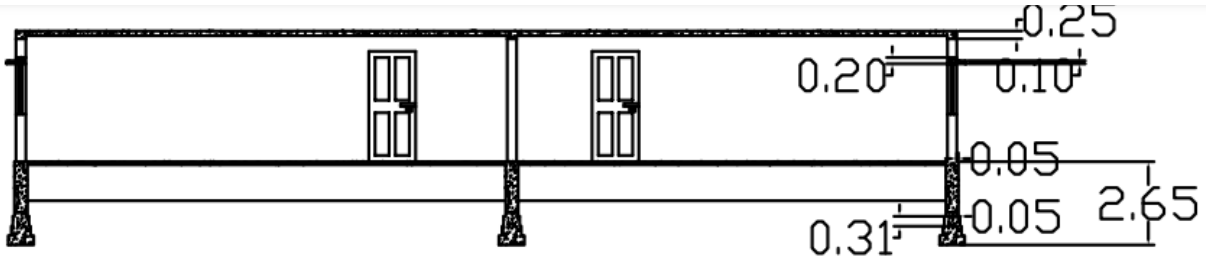
SR NO.	Description	Quantity (m^3)	rate	per	Amount
1	BASIC WALL: 9": 4	24.06	130	Ft^2	147289
2	BASIC WALL: 9" PL: 4	3.46	90	Ft^2	14647.5
3	BASIC WALL: GENERIC - 6": 5	3.62	90	Ft^2	23010.3
4	BASIC WALL: GENERIC - 6" 2: 4	2.32	90	Ft^2	14782.5
5	WINDOW-CASEMENT-DOUBLE: 48" X 60": 6	16ft2	220	-	26400
6	WINDOW-LOUVERS: 16" X 24": 2	384 inch2	75	-	2600
7	BASIC ROOF: GENERIC -6"	11.09	3500	m^3	38815
8	FLOOR: GENERIC - 10"	20.57	3500	m^3	71995
9	DOOR-INTERIOR-DOUBLE-SLIDING-2_PANEL-WOOD: 72" X 84"	-	-	-	6000
10	SINGLE-FLUSH: 30" X 80" 2	-	-	-	4200
11	EXCAVATION	1.215*4	350	m^3	1701
12	PCC	9.32	3500	m^3	32620
13	BASIC WALL: 00.30	4.08	90	Ft^2	13140
14	BASIC WALL: 0.40	5.44	90	Ft^2	13140
15	BASIC WALL: GENERIC - 0.50	6.78	90	Ft^2	13140
				GRAND TOTAL	423480

Abstract sheet for community hall

LIBRARY

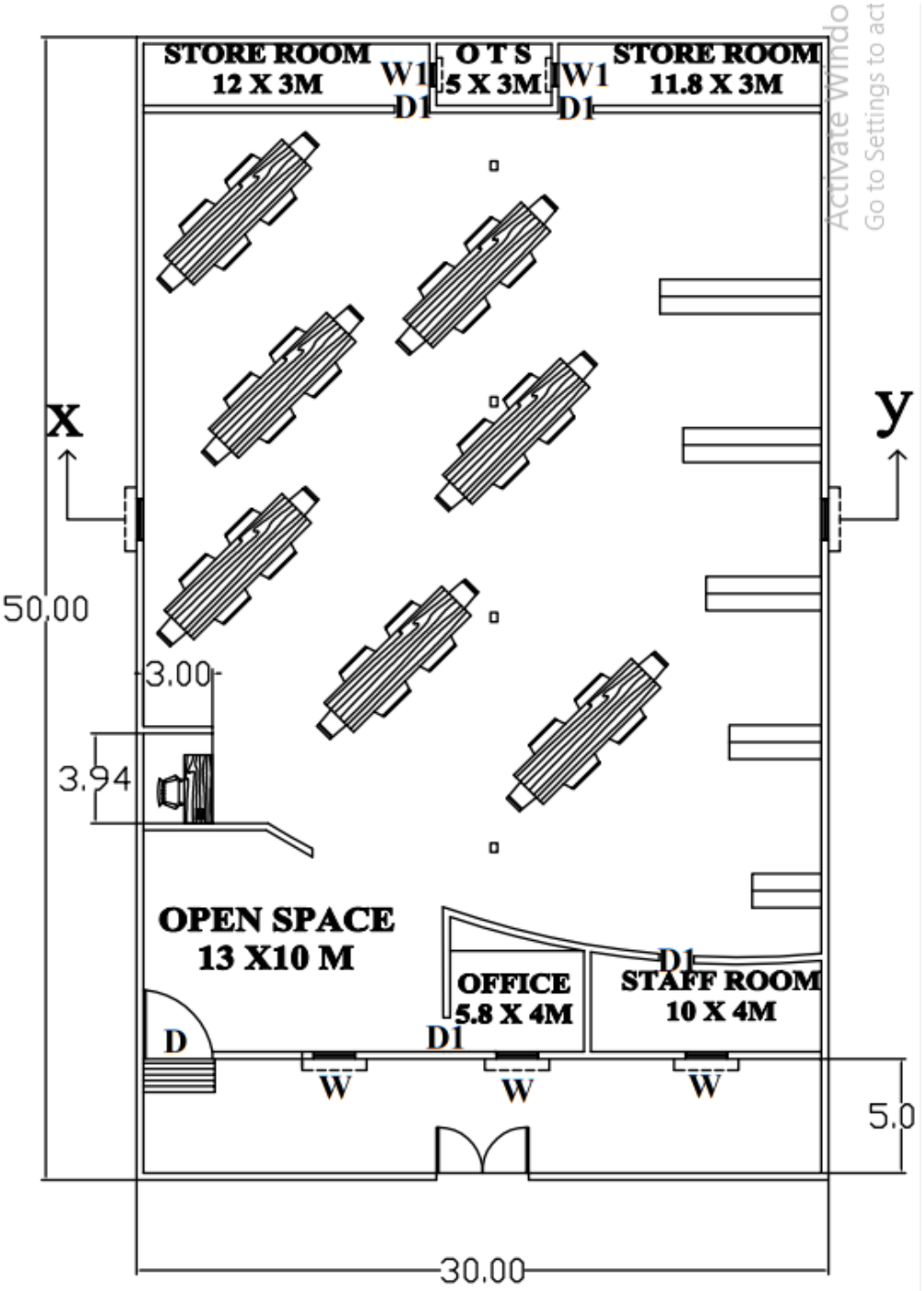


ELEVATION



SECTION

D	3 X 3.5M
D1	1.5 X3.5M
W	1.8 X 1.6M
W1	1 X 1.6 M


STORE ROOM
12 X 3M
W1
D1
O T S
5 X 3M
W1
D1
STORE ROOM
11.8 X 3M
X
Y
50.00
3.00
3.94
OPEN SPACE
13 X10 M
OFFICE
5.8 X 4M
D1
STAFF ROOM
10 X 4M
D
D1
W
W
W
5.0
30.00

PLAN

ABSTRACT SHEET FOR LIBRARY

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation work	130.54	85	m^3	11096.07/-
2	PCC in Foundation	59.78	3200	m^3	1,91,296/-
3	RCC Work total	187.5	8800	m^3	16,50,000/-
4	DPC	15	2400	m^3	36,000/-
5	Paint	1015.15	56	m^2	56,848.4/-
6	2nd class brick work	92.47	3500	m^3	3,23,645/-
7	Earth filling	60.63	50	m^3	3,031.5/-
8	Brick masonry up to plinth	25.53	3500	m^3	89,355/-
9	Glazed tiles	4879	80	m^2	3,90,320/-
10	Plaster	1015.15	40	m^2	40,606/-
Total cost					Rs. 2,792,197.97/-
10% contractor charges					Rs. 2,79,219.79/-
5 % extra charges like painters, mixer, transport & labour charges					Rs.1,39,609.89/-
Overall cost					Rs.3,211,027.65/-

Abstract sheet for planning library

HOSPITAL

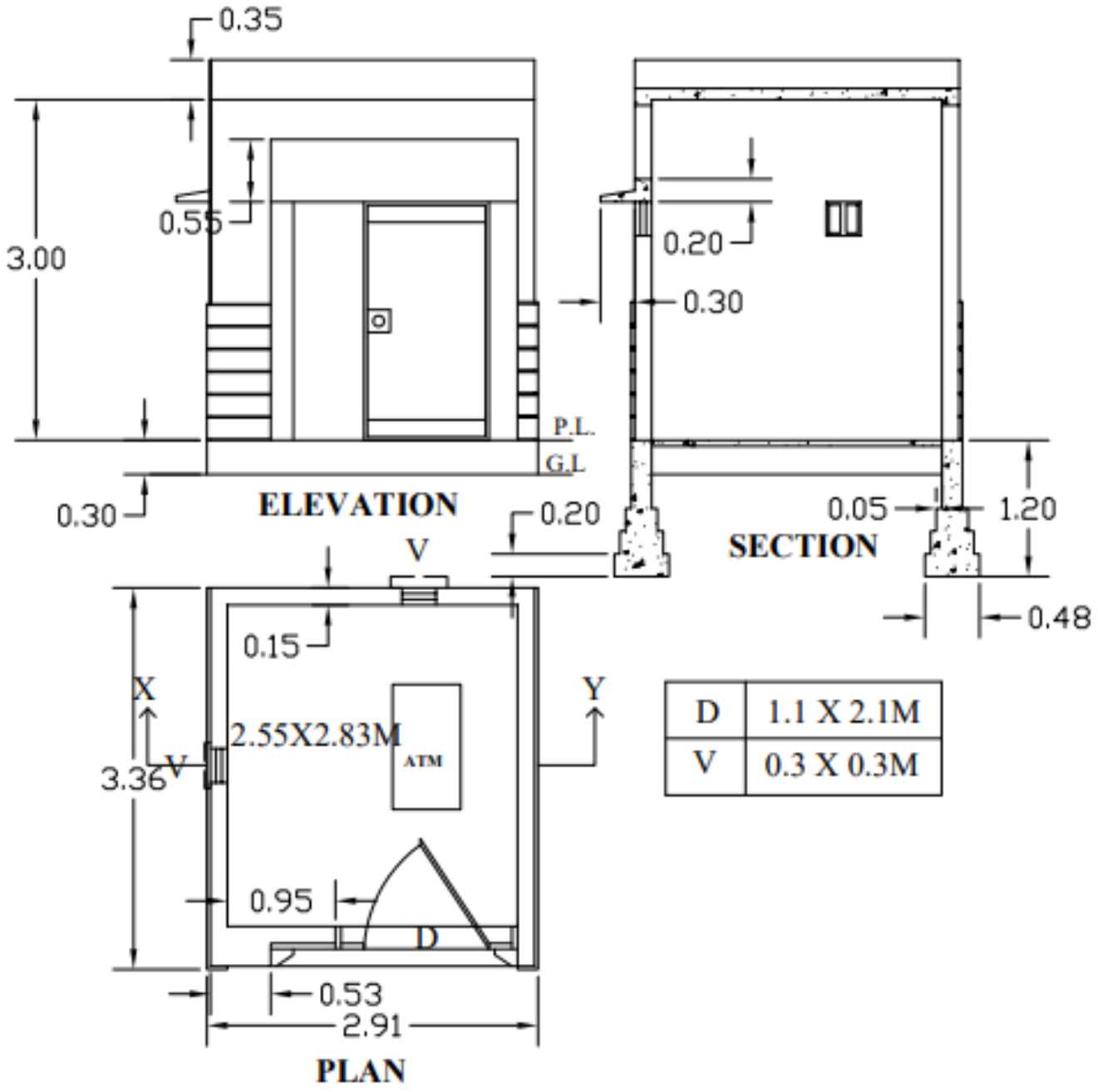
PLAN

ABSTRACT SHEET FOR HOSPITAL

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation work	425.25	170	m^3	72,292.5/-
2	PCC in Foundation	85.05	898	m^3	76,374.9/-
3	RCC Work total	48.762	340	m^3	16,579.08/-
4	DPC	13.80	2400	m^3	33,120/-
5	Paint	1096.14	56	m^2	61,200/-
6	2nd class brick work	314.63	850	m^3	267,435.5/-
7	Earth filling	66.32	52	m^3	3,448.64/-
8	Brick masonry up to plinth	215.49	860	m^3	185,321.4/-
9	Glazed tiles	86.70	120	m^2	10,404/-
10	Mosaic tiles	55.30	260	m^2	14,378/-
11	Plaster	1096.14	40	m^2	43,845.6/-
Total cost					Rs. 7,84,399.62/-
10% contractor charges					Rs. 78,439.96/-
5 % extra charges like painters, mixer, transport & labour charges					Rs. 39,219.98/-
Overall cost					Rs.9,02,059.56/-

Abstract sheet for planning hospital

ATM



D	1.1 X 2.1M
V	0.3 X 0.3M

ABSTRACT SHEET FOR ATM

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation work	13.91	85	m^3	1,182.35/-
2	Foundation concrete	5.48	2550	m^3	13,974/-
3	RCC Work total	5.87	8800	m^3	27,812.5/-
5	DPC	3.58	330	m^3	1,181.4/-
7	2nd class brick work	4.23	4800	m^3	20,304/-
8	Earth filling	9.78	90	m^3	880.2/-
9	Brick masonry up to plinth	1.95	4800	m^3	9,360/-
10	Glass door with aluminium fram	2.31	3000	M^2	6,930/-
11	Glazed tiles	4.89	600	Sq. M	2,934/-
12	Rolling shatter	5	2370	m^2	11,850/-
13	Plaster	51.74	150	m^2	7,761/-
Total cost					Rs. 1,04,169.45/-
10% contractor charges					Rs. 10,416.945/-
5 % extra charges like painters, mixer, transport & labour charges					Rs. 5,208.47 /-
Overall cost					Rs.1,19,794.87/-

Abstract sheet for planning atm

8.2 Recommendations of the Design

The Panchayat building is very useful component in now days' time
The internal stress road is very useful & also road connecting very better in daily life.
Public Toilet: In Torniya village there no any public toilet so many people face they problem so we decide proposed design of public toilet.
Library : In village we have provide a library for study and reading purpose.

8.3Suggestions / Benefit of the villagers

In the village there public toilet are available then village people not any face a problem needed.

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

In Future we will implement the new technologies to develop the facilities. And also try to catch the maximum economic output of a system. In the sense we will also try to give our best to complete our motto of Rurbanization.

In next semester we will provide Education Facilities design for the village. It will include the design of Primary School

We will also design community hall in the village.

High School Building

Fair and price shop

School equipped with facilities.

Proper design of the underground facilities.

Provided of the drinking water facilities.

Chapter-10
Conclusion (Entire Village Project)

he main objective is "**All the Village Developing with Rural Solution but the all Smart Urban Facilities may have**". To remember this objective to developed smart villagefacilities in suitable manner and reduce the migration and pollution in environment.

The **Smart Villages** have suitable energy resources or services for development to provision of good education, health facilities, clean water, sanitation and nutrition, to increase the productive enterprise to boost the income or wealth, security, generate equalities in both sides and many all types of infrastructures.

This all the facilities provide in the rural village to develop or carry it to urban cities. To use the **Smart village (Ideal village)** in reference to developed all the villages in the India.

To provide best infrastructure facilities in the village to promote the overall income wealth and economy in the areas. This main objective to carries **Vishwakarma Yojana:** to developed the entire village in one by one in the nearest cities to more away.

From the take good decision to develop the Good Economic Profile, Good Employment Solution from smart village examples.

The main aim is to implement the project to provide all the facilities in both sides rural & urban to decrease the migration. The rural sector will under developed in which there are many employments promote from the agriculture areas and also boost to all peoples to livelihoods in good or attempt infrastructure.

Benefits in Future

Peoples get benefits of bus stops for the purpose of waiting of bus with comfort
Create awareness to keep village clean
Train women in that village so that they can teach children in school
Wi-Fi system available in the village
Camera system is also available in the village
The project is to provide urban amenities in rural areas and maintaining the rural soul.

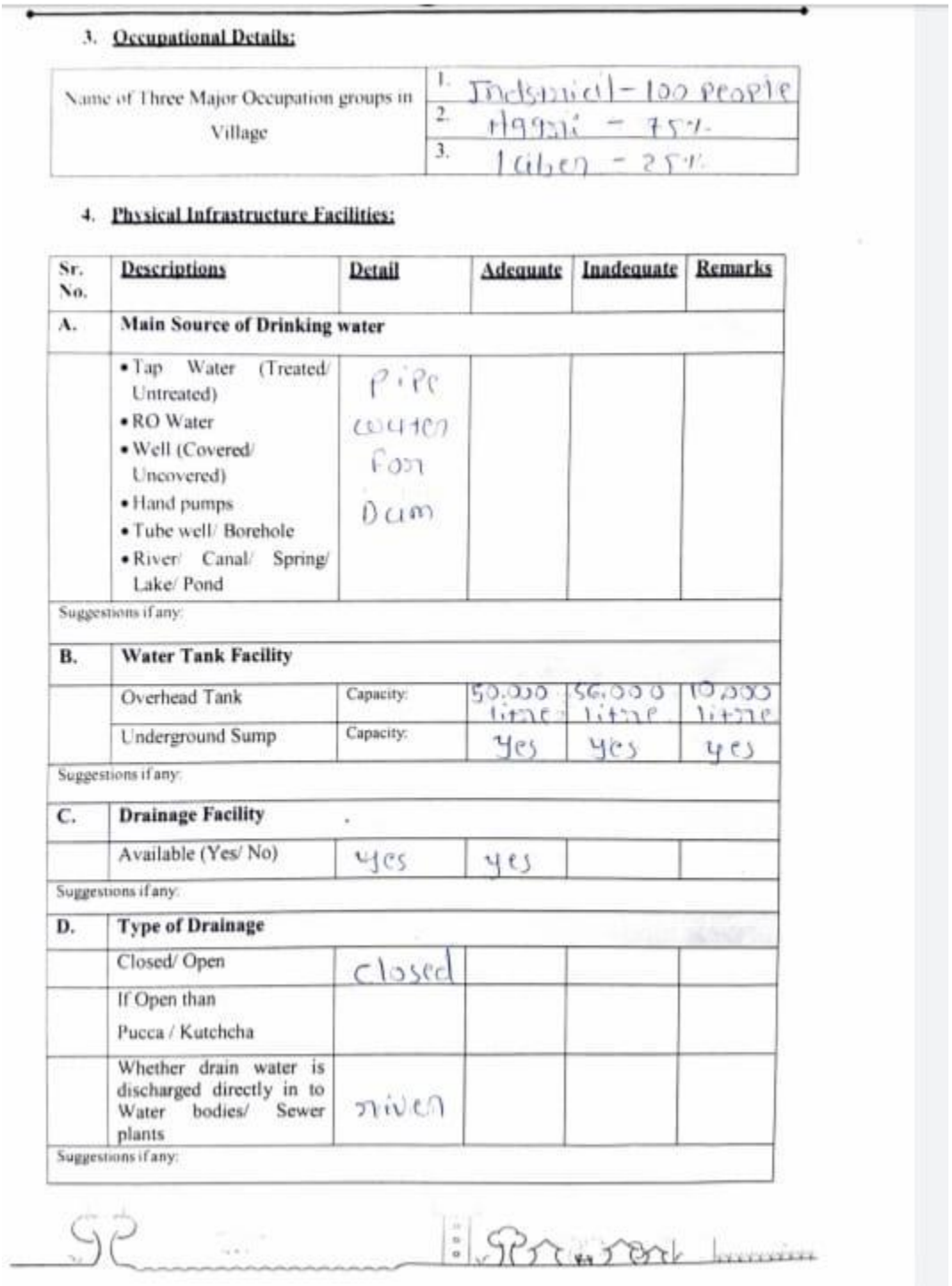
Chapter-11
References

GTU Innovation Council – Guideline for Final Year B. E. Project & PMMS Activities.
The India Patent Office Database – http://ipindiaservices.gov.in/publicsearch/
The US Patent Database (USPTO) – http://worldwise.espacenet.com/advanceSearch
Te Google Translate – www.translate.google.com
Business Model Canvas (BMC) Exercise –
http://files.gtu.ac.in/circulars/14SEP/09092014_04.pdf
For Patent Drafting Exercise (PDE) – http://projects.gtu.ac.in/
General Guidelines of Vishwakarma Yojana Phase – VI Academic B. E. Final Year Project for the management and the development solution – rurban@gtu.edu.in
To connected with the Nodal Officers to guideline for this project through the VY – VI guidelines.
All the research for the information of the project – http://vishwakarma yojana

a. Smart city practices - Google Search www. Smart city mission.gov.in
b. Local self-government in India - Wikipediaen.wikipedia.org
c. What is Smart City: SMART CITIES MISSION, www.Indiasmartcities.gov.in
d. Cyber security - Google Searchwww.google.co.in
e. Rural Development & Panchayat Raj - Panchayat Raj: Fund Release Details www.tnrd.gov.in
f. Rurban cluster gram panchayat - Google Searchwww.google.co.in
g. Award Winning Gram Panchayat Pradhan's - Google Searchwww.google.co.in

Chapter-12 Annexure

12.1 Scanned copy Ideal Village (Gujarati) Survey details



3. **Occupational Details:**

Name of Three Major Occupation groups in Village	1. Industrial - 100 people 2. Agri - 75% 3. Labor - 25%

4. **Physical Infrastructure Facilities:**

Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
	• Tap Water (Treated/ Untreated) • RO Water • Well (Covered/ Uncovered) • Hand pumps • Tube well/ Borehole • River/ Canal/ Spring/ Lake/ Pond	Pipe water for Dam			
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:	50,000 litre	56,000 litre	10,000 litre
	Underground Sump	Capacity:	yes	yes	yes
Suggestions if any:					
C.	**Drainage Facility**				
	Available (Yes/ No)	yes	yes		
Suggestions if any:					
D.	**Type of Drainage**				
	Closed/ Open	closed			
	If Open than Pucca / Kutchcha				
	Whether drain water is discharged directly in to Water bodies/ Sewer plants	river			
Suggestions if any:					

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E.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road	cement road			
	Main road	CC			
	Internal streets	CC			
	Nearest NH/SH/MDR/ODR Dist. in kms.	SH			
Suggestions if any:					
F.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	NO			
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	yes Two Bus station	yes	yes	
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	yes	yes		
Suggestions if any:					
G.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	yes more then 6 hrs	yes		
	Power supply for Domestic Use		yes		66 KV
	Power supply for Agricultural Use		yes		
	Power supply for Commercial Use		yes		
	Road/ Street Lights		yes		

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Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Electrification in Government Buildings/ Schools/ Hospitals	yes	yes		
	Renewable Energy Source Facilities (Y/ N)	yes	yes		
	LED Facilities				
Suggestions if any:					
H.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	yes			
	Location Condition	near bus station	yes		
	Community Toilet (With bath/ without bath facilities)		yes		
	Solid & liquid waste Disposal system available	NO		no	
	Any facility for Waste collection from road	NO		no	
Suggestions if any:					
I.	**Irrigation Facility:**				
	Main Source of Irrigation (Stream/River/ Canal/ Well/ Tube well/ Other)	Pond, river, canal	yes		
Suggestions if any:					
J.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)	Pucca	yes		

5. **Social Infrastructural Facilities:**

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks

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Techno Economic Survey

K.	**Health Facilities:**				
	Sub center/ PHC/ CHC /Government Hospital/ Child welfare & Maternity Homes (If Yes than specify No. of Beds) Condition:	PHC	yes		
	Private Clinic/Private Hospital/ Nursing Home		N	NO	
	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	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: .....kms.				
Suggestions if any:					
M.	**Socio- Culture Facilities**				
	Community Hall (With or without TV) Location:	without TV	yes		

	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:			NO	
	Birth & Death Registration Office Location: Condition:		yes		
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		yes		
	Telecommunication Network/ STD booth		yes		

	General Market		yes		
	Shops (Public Distribution System)		yes		
	Panchayat Building		yes		
	Pharmacy/Medical Shop		yes		
	Bank & ATM Facility		yes		
	Agriculture Co-operative Society		yes		
	Milk Co-operative Soc.		yes		
	Small Scale Industries		yes		
	Internet Cafes/ Common Service Center/Wi Fi		yes		
	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			No	
P.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System			No	
Q.	Any Other				

7. Data Collection From Village

Village Base Map Available: Hard Copy/Soft Copy	

Recent Projects going on for Development of Village	NO
Any NGO working for village development	yes

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)	School building Heith center Panchayat building Public Toilets	
2.	Additional Information/ Requirement		

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

સરપંચ
મોરિયા ગ્રામ પંચાયત

12.2 Scanned copy Smart Village (Gujarati) Survey details

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Techno Economic Survey

Vishwakarma Yojana: Phase VIII

SMART VILLAGE SURVEY

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

Name of District:	Junagadh
Name of Taluka:	Junagadh
Name of Village:	Choki
Name of Institute:	G.M. Engineering college
Nodal Officer Name & Contact Detail:	H.M Bhimgiyani sir
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	ભિખાભાઈ કિડલીયા (સરપંચ)
Date of Survey:	25-10-2020

I. DEMOGRAPHICAL DETAIL:

Sr. No.	Census	Population	Male	Female	Total Number of House Holds
1.	2001	3022	1528	1494	719
2.	2011	3419	1850	1569	721

II. GEOGRAPHICAL DETAIL:

Sr. No.	Description	Information/Detail
1.	Area of Village (Approx.) (In Hector)Coordinates for Location:	1282 hec
2.	Forest Area (In hect.)	4.50 hec.
3.	Agricultural Land Area (In hect.)	550 hec
4.	Residential Area (In hect.)	620 hec.
5.	Other Area (In hect.)	107.5 hec
6.	Distance to the nearest railway station (in kilometers):	10 Km

7.	Name of Nearest Town with Distance:	Jetpur - 14 Km
8.	Distance to the nearest bus station (in kilometers):	10 Km
9.	Whether village is connected to all road for the any facility or town or City?	NH

III. OCCUPATIONAL DETAILS:

Name of Three Major Occupation groups in Village	1. 2. 3.
Major crops grown in the village:	1. 2. 3.

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	Piped into Dwelling	yes		
2.	**DUG WELL** Protected Well Un Protected Well	Protected well	yes		
3.	**WATER FROM SPRING** Protected Spring Unprotected Spring				
4.	Rainwater Tanker Truck Cart With Small Tank **SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/** Irrigation Channel Bottled Water Hand Pump Other(Specify)**Lake/ Pond**	Irrigation Canal Lake/ Pond	yes		

	Overhead Tank	Capacity:	Yes		
	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	open with outlet	Yes		
Suggestions if any:					
D.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road	Sat Pucca			Sat. Kutcha
	Main road				
	Internal streets	Kutcha			
	Nearest NH/SH/MDR/ODR Dist. in kms.	NH & MDR 10 Km			
Suggestions if any:					
E.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	Yes 10 Km			
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	Yes	Yes		
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	Yes	Yes		
Suggestions if any:					
F.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	Yes Gov. no Not than 6 hrs.	Yes		

3

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Techno Economic Survey

	Power supply for Domestic Use	Yes	Yes		
	Power supply for Agricultural Use	Yes	Yes		
	Power supply for Commercial Use	Yes	Yes		
	Road/ Street Lights	Yes	Yes		
	Electrification in Government Buildings/ Schools/ Hospitals	Yes	Yes		
	Renewable Energy Source Facilities (Y/ N)			NO	
	LED Facilities			No	
Suggestions if any:					
G.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	Yes	Yes	1	
	Location Condition	[illegible]			
	Community Toilet (With bath/ without bath facilities)	Yes without bath			
	Solid & liquid waste Disposal system available	Yes	Yes		Door to Door collect.
	Any facility for Waste collection from road	No.		No	
Suggestions if any:					
H.	**Main Source of Irrigation Facility:**				
	TANK/POND STREAM/RIVER CANAL WELL TUBE WELL OTHER (SPECIFY)	Tube well other	Yes		
Suggestions if any:					
I.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)	Pucca	Yes		50+

V. SOCIAL INFRASTRUCTURAL FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
J.	**Health Facilities:**				
	ICDS (Anganwadi)	Anganwadi			
	Sub-Centre				
	PHC	PHC			
	BLOCK PHC				
	CHC/RH	Private			
	District/ Govt. Hospital	Clinic			
	Govt. Dispensary				
	Private Clinic	Nursing			
	Private Hospital/	Home			
	Nursing Home				
	AYUSH Health Facility				
	sonography /ultrasound facility				
	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	Anganwadi	Yes	3	Good condition
	Primary School	Yes	Yes	1	
	Secondary school	Yes	Yes	1	
	Higher sec. School	No		No.	
	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: .....kms.				

51

Gujarat Technological University, Ahmedabad, Gujarat

Vishwakarma Yojana: Phase VIII
Techno Economic Survey

Suggestions if any:

L.	Socio- Culture Facilities	Condition	Location	Available (YES)	Available (NO)
	Community Hall (With or without TV)	Yes	choki	Yes	
	Public Library (With daily newspaper supply: Y/N)	No			No
	Public Garden	Yes	choki		
	Village Pond	No			No
	Recreation Center	No			No
	Cinema/ Video Hall	No			No
	Assembly Polling Station	Yes	choki	Yes	
	Birth & Death Registration	Yes	choki	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	Good	choki	Yes	
	Telecommunication Network/ STD booth	Good	choki	Yes	
	General Market				No
	Shops (Public Distribution System)			Yes	
	Panchayat Building	Good		Yes	
	Pharmacy/Medical Shop			Yes	
	Bank & ATM Facility	Yes		Yes	
	Agriculture Co-operative Society				
	Milk Co-operative Soc.	No			
	Small Scale Industries	No			No
	Internet Cafes/ Common Service Center/Wi Fi	No			No
	Youth Club				No
	Mahila Mandal			Yes	

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

VI. SUSTAINABLE /GREEN INFRASTRUCTURE FACILITIES:

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

VII. DATA COLLECTION FROM VILLAGE

Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
1.	Village Base Map Available: Hard Copy/Soft Copy	Yes	Yes		
2.	Recent Projects going on for Development of Village			No	
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	

VIII. ADDITIONAL INFORMATION/ REQUIREMENT:

Sr. No.	Descriptions	Information/ Detail	Remarks

18

1.	Repair & Maintenance of Existing Public Infrastructure facilities, School Building Health Center Panchayat Building Public Toilets & any other	School buildings Panchayat buildings	
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

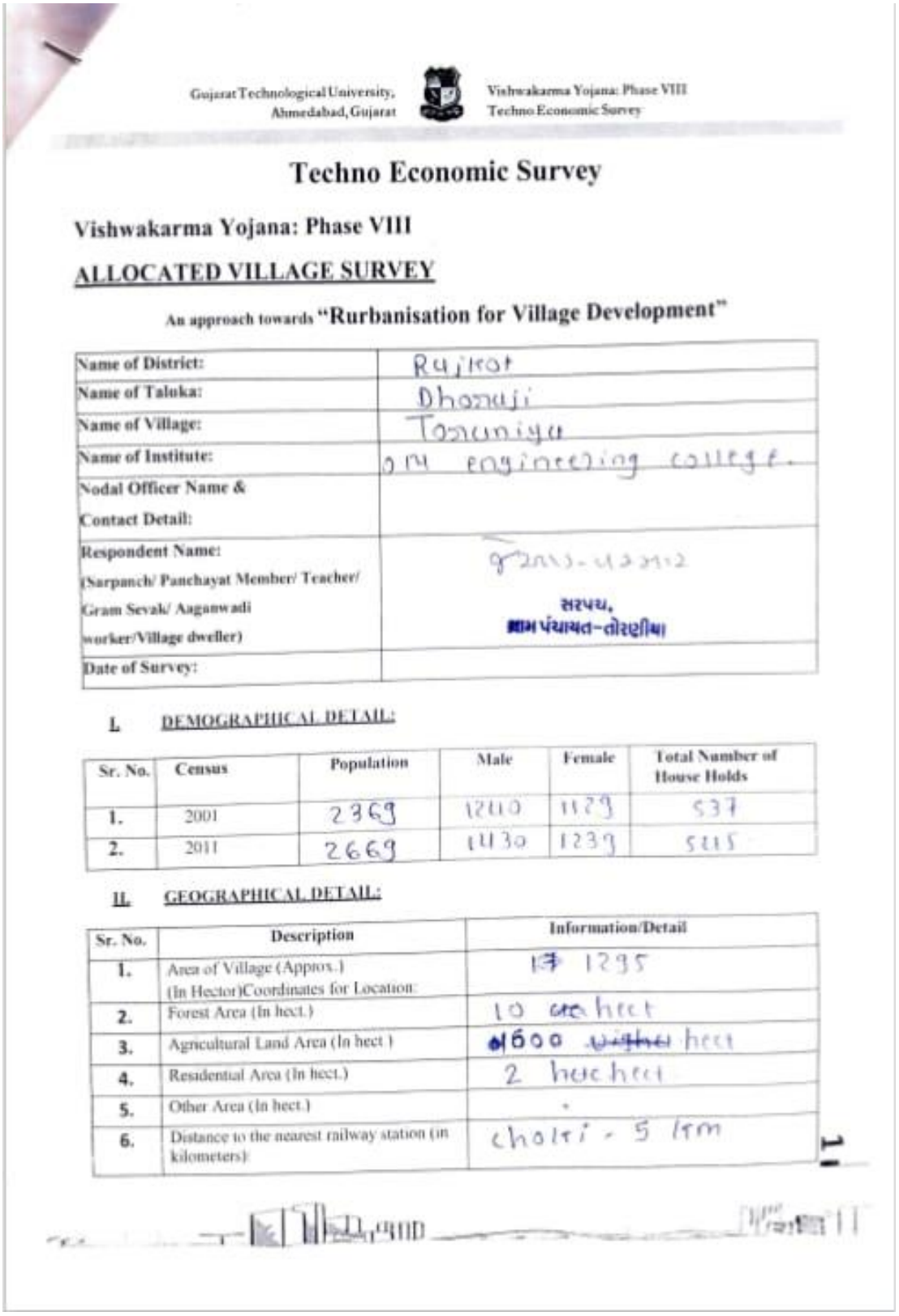
Sr. No.	Descriptions	Information/ Detail	Remarks
1.	IS THEIR ANY THING FOR THE VILLAGE ENHANCEMENT POSSIBLE ?		

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

16

12.3Scanned copy Allocated 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:	Rajkot
Name of Taluka:	Dhoraji
Name of Village:	Toraniya
Name of Institute:	GM engineering college.
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	સરપંચ, ગ્રામ પંચાયત-તોરણિયા
Date of Survey:	

I. DEMOGRAPHICAL DETAIL:

Sr. No.	Census	Population	Male	Female	Total Number of House Holds
1.	2001	2369	1210	1159	537
2.	2011	2669	1430	1239	515

II. GEOGRAPHICAL DETAIL:

Sr. No.	Description	Information/Detail
1.	Area of Village (Approx.) (In Hector)Coordinates for Location:	1295
2.	Forest Area (In hect.)	10 hect
3.	Agricultural Land Area (In hect.)	1600 hect
4.	Residential Area (In hect.)	2 hechect
5.	Other Area (In hect.)	
6.	Distance to the nearest railway station (in kilometers):	Chotri - 5 km

7.	Name of Nearest Town with Distance:	Dhanuji - 10 km.
8.	Distance to the nearest bus station (in kilometers):	village.
9.	Whether village is connected to all road for the any facility or town or City?	

III. OCCUPATIONAL DETAILS:

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

Major crops grown in the village:	1.
	2.
	3.

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.		
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	yes.	yes		

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Vishwakarma Yojana: Phase VIII
Techno Economic Survey

	Other(Specify)**Lake/ Pond**			NO	
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:	1 lakh		
	Underground Sump	Capacity:	2.5 lak		
Suggestions if any:					
C.	**The Type of Drainage Facility**				
	A. UNDERGROUND DRAINAGE	yes.	yes		
Suggestions if any:					
D.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road		yes		
	Main road			No	
	Internal streets		yes		
	Nearest NH/SH/MDR/ODR Dist. in kms.	chokri NH	yes		
Suggestions if any:					
E.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	NO.		No	
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	yes.	yes		
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	yes.	yes		
Suggestions if any:					
F.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	More than 6 hrs	yes		

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Techno Economic Survey

	Power supply for Domestic Use	yes.	yes		
	Power supply for Agricultural Use	yes	yes		
	Power supply for Commercial Use	yes	yes		
	Road/ Street Lights	yes	yes		
	Electrification in Government Buildings/ Schools/ Hospitals	yes.	yes		
	Renewable Energy Source Facilities (Y/ N)	NO.		NO	
	LED Facilities	NO.		NO	
Suggestions if any:					
G.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	1	yes.		
	Location Condition	good			
	Community Toilet (With bath/ without bath facilities)		yes.		
	Solid & liquid waste Disposal system available		yes.		
	Any facility for Waste collection from road		NO.	NO	
Suggestions if any:					
H.	**Main Source of Irrigation Facility:**				
	TANK/POND STREAM/RIVER CANAL WELL TUBE WELL OTHER (SPECIFY)		yes		
Suggestions if any:					
I.	**Housing Condition:**				
	Kutchha/Pucca (Approx. ratio)				

41

V. SOCIAL INFRASTRUCTURAL FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
J.	**Health Facilities:**				
	ICDS (Anganwadi)	3	yes.		
	Sub-Centre				
	PHC				
	BLOCK PHC				
	CHC/RH				
	District/ Govt. Hospital	1	yes		
	Govt. Dispensary				
	Private Clinic				
	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: .....kms.				
Suggestions if any:					
K.	**Education Facilities:**				
	Aganwadi/ Play group	3	yes		
	Primary School	1	yes.		
	Secondary school		NO.	NO	
	Higher sec. School		NO.	NO	
	ITI college/ vocational Training Center		NO.	NO	
	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities		NO.	NO	

5

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Vishwakarma Yojana: Phase VIII
Techno Economic Survey

If any of the above Facility is not available in village than approx. distance from village: Dhasuji 10 kms.

Suggestions if any:

L.	**Socio- Culture Facilities**	Condition	Location	Available (YES)	Available (NO)
	Community Hall (With or without TV)	1	yes.	yes	
	Public Library (With daily newspaper supply: Y/N)		NO		NO
	Public Garden		yes.	yes	
	Village Pond		yes.	yes	
	Recreation Center		yes.	yes	
	Cinema/ Video Hall		NO		NO
	Assembly Polling Station		NO		NO
	Birth & Death Registration Office		yes.	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		yes	yes	
	Telecommunication Network/ STD booth			NO	NO
	General Market			NO	NO
	Shops (Public Distribution System)			yes	
	Panchayat Building			yes	
	Pharmacy/Medical Shop			NO	NO
	Bank & ATM Facility			NO	NO
	Agriculture Co-operative Society			yes	
	Milk Co-operative Soc.			yes	
	Small Scale Industries			NO	NO
	Internet Cafes/ Common Service Center/Wi Fi			NO	NO
	Youth Club			NO	NO
	Mahila Mandal			yes	

19

	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 Drinkang 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)				NO

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		YES.		
2.	Recent Projects going on for Development of Village		NO.	NO	
3.	Any NGO working for village development		NO	NO	
4.	Any natural calamity in the village during the last one year: EARTHQUAKES FLOODS CYCLONE DROUGHT LANDSLIDES AVALANCHE OTHER (SPECIFY)		NO	NO	

8

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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		NO
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.

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91

12.4 Gap Analysis

VILLAGE GAP Analysis

Village Facilities	Planning Commission/UDPFI Norms	Village Name: Toraniya Population:			
		Existing	Required as per Norms	Smart Village / Cities / Heritage Future Projection Design	Gap
Social Infrastructure Facilities					
Education					
Anganwadi	Each or Per 2500 population	6	3		3
Primary School	Each Per 2500 population	1	1		0
Secondary School	Per 7,500 population	1	0		1
Higher Secondary School	Per 15,000 Population	1	0		1
College	Per 125,000 Population	0	0		1
Tech. Training Institute	Per 100000 Population	0	0		0
Agriculture Research Centre	Per 100000 Population	0	0		0
Skill Development Center	Per 100000 Population	0	0		0
Health Facility					
Govt/Panchyat Dispensary or Sub PHC or Health Centre	Each Village	1	1		0
Primary Health & Child Health Center	Per 20,000 population	0	1		-1
Child Welfare and Maternity Home	Per 10,000 population	1	1		0
Multispecialty Hospital	Per 100000 Population	0	0		0
Public Latrines	1 for 50 families (if toilet is not there in home, specially for slum pockets & kutcha house)	45	46		1
Physical Infrastructure Facilities					
Transportation		Adequate / Inadequate			
Pucca Village Approach Road	Each village	Adequate			
Bus/Auto Stand provision	All Villages connected by PT (ST Bus or Auto)		Inadequate	YES	
Drinking Water (Minimum 70 lpcd)		Adequate / Inadequate			
Over Head Tank	1/3 of Total Demand	Adequate			
U/G Sump	2/3 of Total Demand	Adequate			
Drainage Network - Open		Adequate / Inadequate	Inadequate		
Drainage Network - Cover			Inadequate		
Waste Management System		Adequate / Inadequate	Inadequate		
Socio- Cultural Infrastructure Facilities					
Community Hall	Per 10000 Population	1	1		0
community hall and Public Library	Per 15000 Population	0	0		0
Cremation Ground	Per 20,000 population	0	1		-1
Post Office	Per 10,000 population	1	1		0
Gram Panchayat Building	Each individual/group panchayat	1	1		0
APMC	Per 100000 Population	0	0		0
Fire Station	Per 100000 Population	0	0		0
Public Garden	Per village	0	1		-1
Police post	Per 40,000Population	0	0		0
Shopping Mall		0			
Electrical Design					
Electricity Network		Adequate / Inadequate			
		Adequate			
Any Smart Village Facility					
Technology					
		ESR cap	0		
		Sump cap	50,000		
		Lat	0		

12.5 Summary of All Villages Designs as Part-I and Part-II, in Table Format

Om Engineering

Sr. No.	Village Name	Discipline	Part-1	Part-2
1	Khambhaliya	Civil	Primary health center	Public toilet
			Primary school	Post office
			Garden	ATM
			Bus stop	Bank
			door to door waste collection	
			Soak pit &Septic tank	
2	Toraniya	Civil	Gram panchayat	Primary health center
			ATM	Bank/ATM
			Public toilet	Post office
			Library	Street light
			Hospital	
			Community Hall	
3	Moti Parabadi	Civil	Bus stand	Primary health center
			Public toilet	Post office
			Garden	Library
			High school	Gram panchayat

Drawings A3 (If, A4 design is not visible then Only)

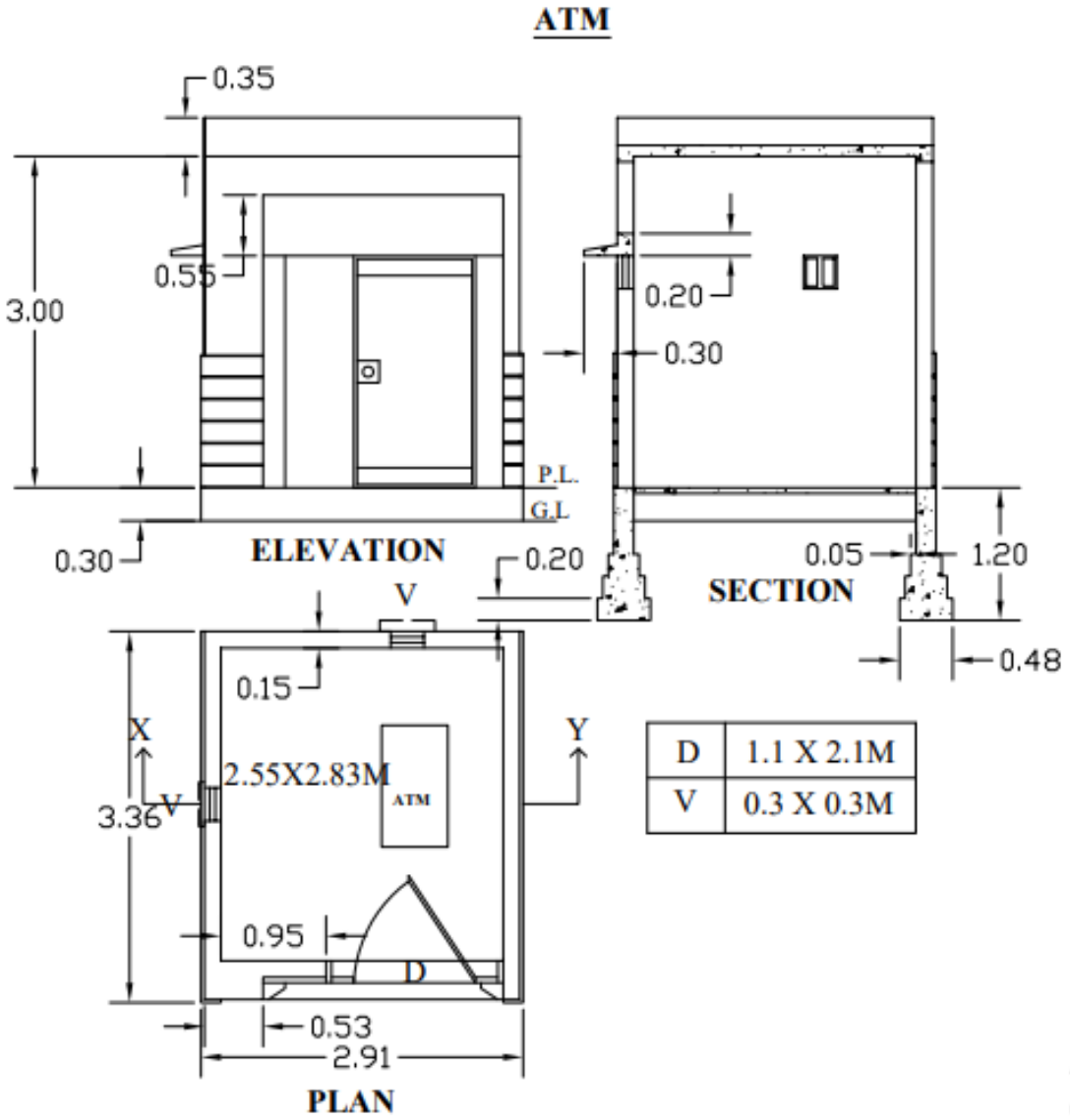


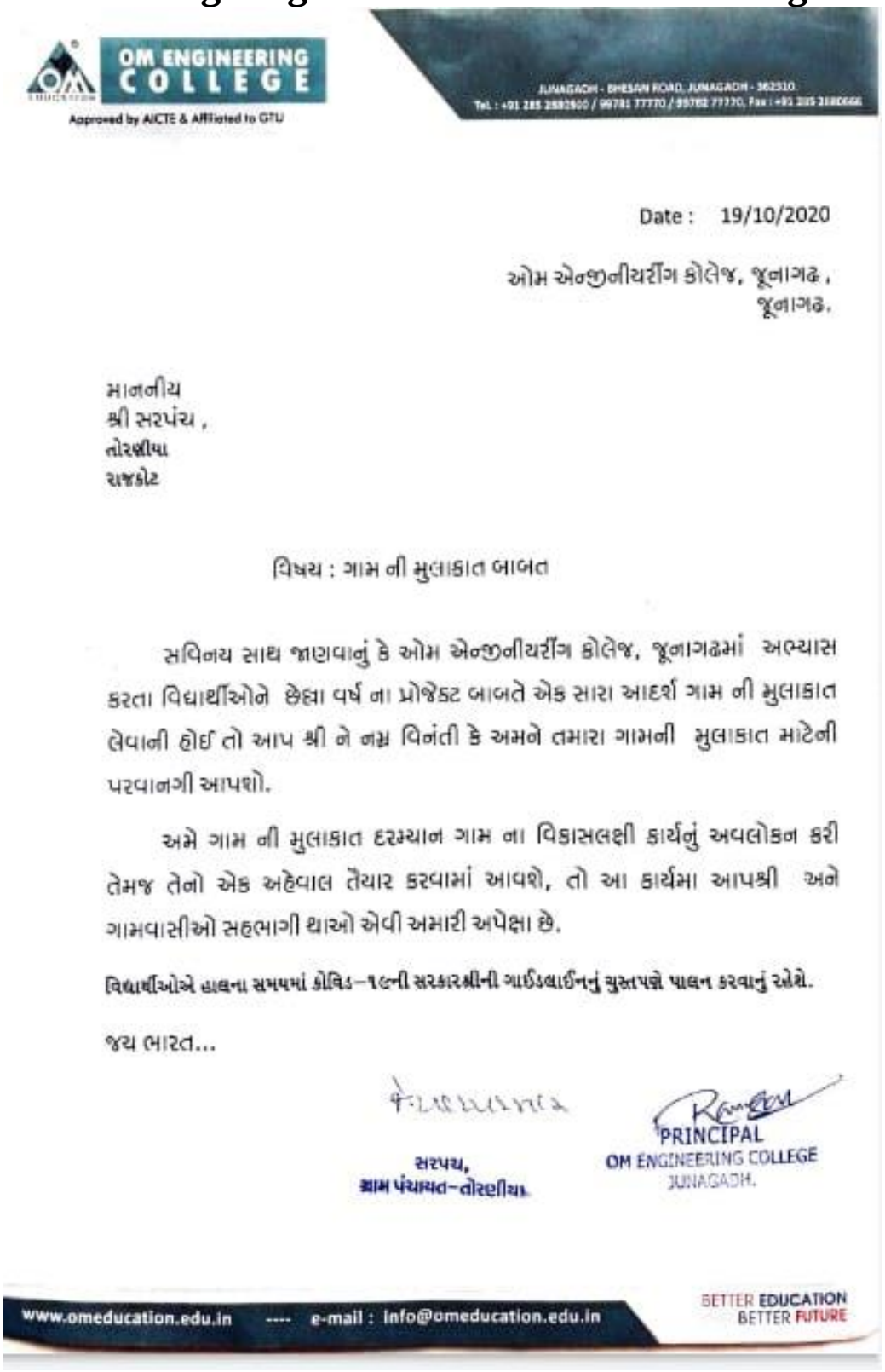
FIG 12.6 ATM

12.6 Summary of Good Photographs in Table Format (village visits, Ideal, Smart Village or any other)

Photo of village	Village Name
	**Ideal Village Moviya**
	**Smart Village Vadal**
	**Allocated Village Torniya**

12.7 Village Interaction Report with the photograph as a report format

12.8 Sarpanch Letter giving information about the village development



OM ENGINEERING COLLEGE
Approved by AICTE & Affiliated to GTU

JUNAGADH - BHESAN ROAD, JUNAGADH - 362310.
Tel. : +91 285 2882600 / 99781 77770 / 99782 77770, Fax : +91 285 2680666

Date : 19/10/2020

ઓમ એન્જીનીયરીંગ કોલેજ, જૂનાગઢ,
જૂનાગઢ.

માનનીય
શ્રી સરપંચ,
તોરણીયા
રાજકોટ

વિષય : ગામ ની મુલાકાત બાબત

સવિનય સાથ જાણવાનું કે ઓમ એન્જીનીયરીંગ કોલેજ, જૂનાગઢમાં અભ્યાસ કરતા વિદ્યાર્થીઓને છેલ્લા વર્ષ ના પ્રોજેકટ બાબતે એક સારા આદર્શ ગામ ની મુલાકાત લેવાની હોઈ તો આપ શ્રી ને નમ્ર વિનંતી કે અમને તમારા ગામની મુલાકાત માટેની પરવાનગી આપશો.

અમે ગામ ની મુલાકાત દરમ્યાન ગામ ના વિકાસલક્ષી કાર્યનું અવલોકન કરી તેમજ તેનો એક અહેવાલ તૈયાર કરવામાં આવશે, તો આ કાર્યમા આપશ્રી અને ગામવાસીઓ સહભાગી થાઓ એવી અમારી અપેક્ષા છે.

વિદ્યાર્થીઓએ હાલના સમયમાં કોવિડ-૧૯ની સરકારશ્રીની ગાઈડલાઈનનું ચુસ્તપણે પાલન કરવાનું રહેશે.

જય ભારત...

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ગ્રામ પંચાયત-તોરણીયા.

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Vishwakarma Yojana: Toraniya Village, Rajkot District Gujarat Technological University Page 1 DETAIL PROJECT REPORT PREPARED BY STUDENT NAME BRANCH NAME ENROLLMENT NO PADAYAVISHAL CIVIL 181023106039 BHUT RUSHITA CIVIL 181023106006 COLLEGE NAME OM ENGINEERING COLLEGE NODAL OFFICERS NAME H. M. BHIMAJIYANI YEAR: 2020-21 GUJARAT TECHNOLOGICAL UNIVERSITY Chandkheda, Ahmedabad – 382424 Gujarat VISHWAKARMA YOJNA: VIII AN APPROACH TOWARDS

RURBANISATION TORNIYA Village RAJKOT District Vishwakarma Yojana: Toraniya Village, Rajkot District Gujarat Technological University Page 2 DETAIL PROJECT REPORT ON Prepared By STUDENT NAME BRANCH NAME ENROLLMENT NO PADAYAVISHAL CIVIL 181023106039 BHUT RUSHITA CIVIL 181023106006 COLLEGE NAME OM ENGINEERING

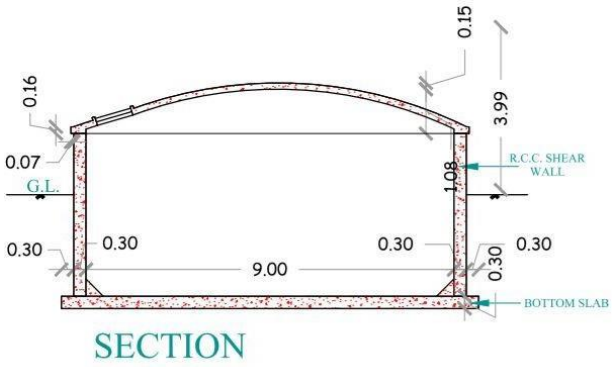
COLLEGE NODAL OFFICERS NAME H. M. BHIMAJIYANI Year: 2020-21 Gujarat Technological University, Chandkheda, Ahmedabad – 382424 Gujarat Vishwakarma Yojana: Phase VIII AN APPROACH TOWARDS RURBANISATION TORNIYA Village RAJKOT District Vishwakarma Yojana: Toraniya Village, Rajkot District Gujarat Technological University Page 3 CERTIFICATE This is to certify that the following students of Degree/ Diploma Engineering successfully submitted Detail Project Report for , VILLAGE TORNIYA DISTRICT RAJKOT 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. STUDENT NAME BRANCH NAME ENROLLMENT NO PADAYAVISHAL CIVIL 181023106039 BHUT RUSHITA CIVIL 181023106006 Date of Report Submission: Principal Name and Signature: H V Paghdar VY-Nodal Office

Chapter13:
From the Chapter- 9 future designs of the aspects

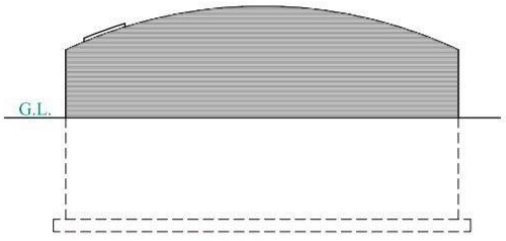
13.1 Design Proposals

In Primary and techno-economical survey we collected information regarding to facilitieslike a primary facilities, social facilities, educational facilities and sanitations facilities etc.
Form we collect a data and observations, the information of new proposal as follows.

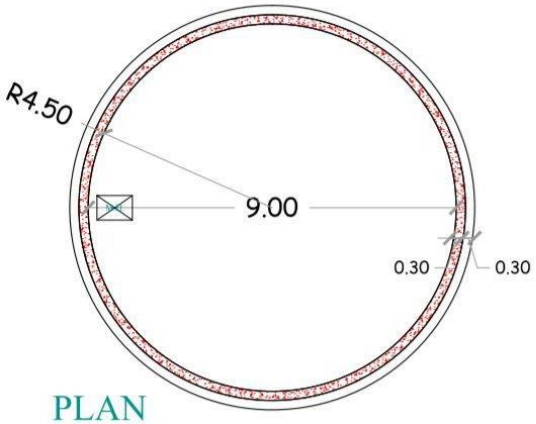
13.1.1 Civil Design 1(Design of Underground Sump)



SECTION



ELEVATION



PLAN

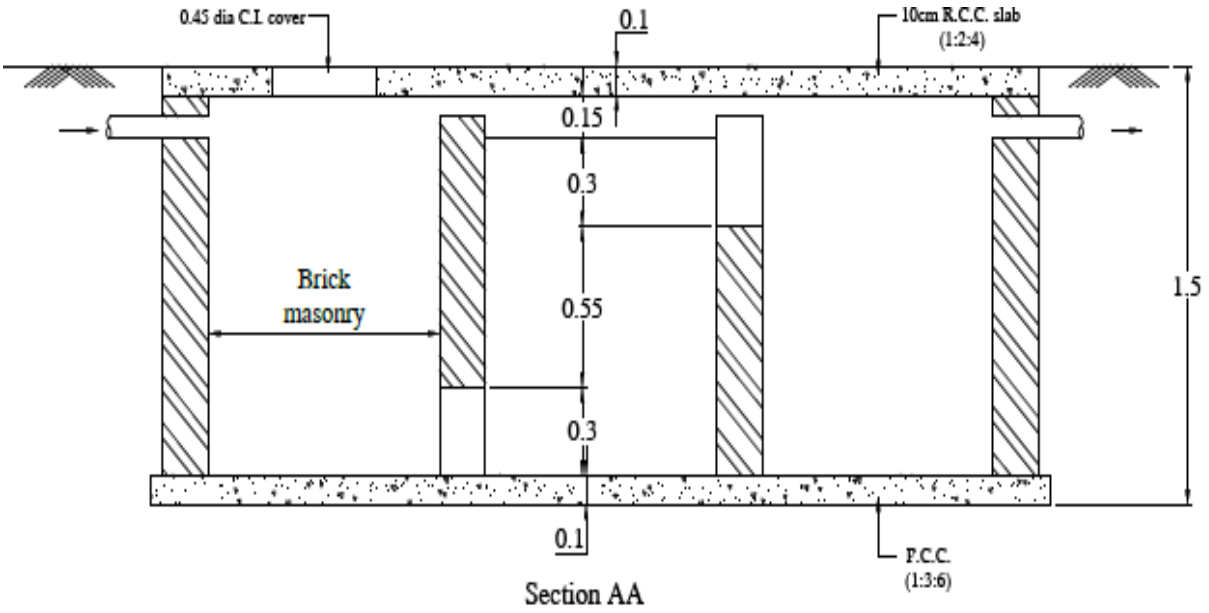
ABSTRACT SHEET FOR UNDERGROUND SUMP

Sr No.	Item Description	Unite	SOR	Total Quantity	Total Rate
1	**Excavation**				
	Excavation for foundation up to 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff up to 50 Meter lead.(B) Dense or Hard soil	cu.m	152	122.57	18630.64
	Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff up to 50 Meter lead.(B) Dense or Hard soil	cu.m	165	106.22	17526.3
2	**RCC Work**				
	RCC Work In Base Slab	cu.m	5620	24.52	137802.4
	RCC Work Cylindrical wall	cu.m	6210	35.06	217722.6
	RCC Work Top Dom	cu.m	5960	10.1	60196
3	**Plaster Work**				
	Out-Side Plaster				

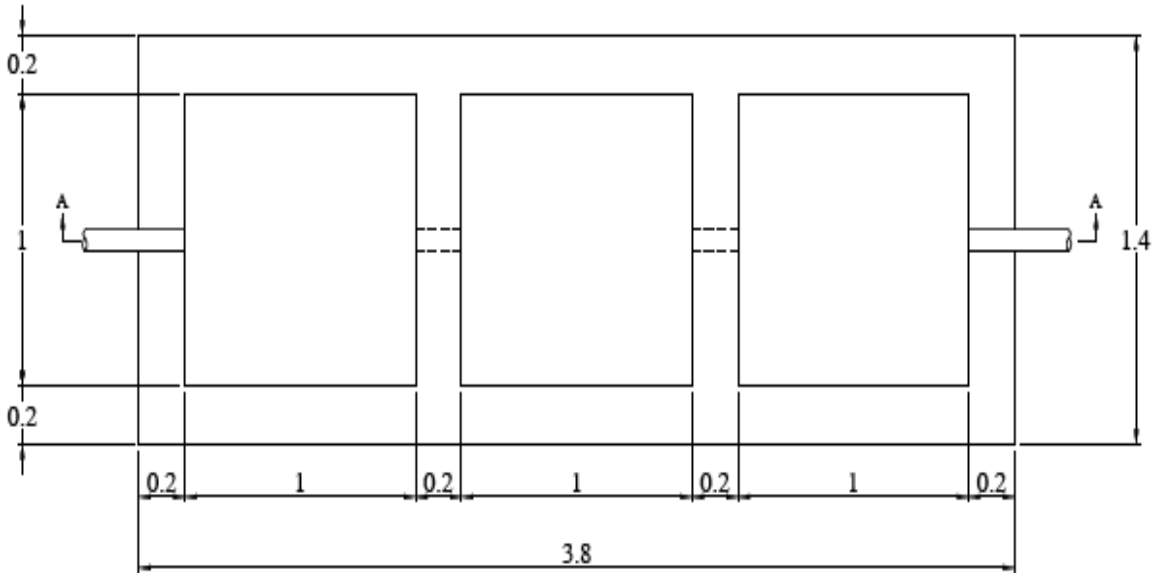
	20mm thick sand faced cement plaster on walls up to height 10 meters above ground level consisting of 12mm thick backing coat of C.M. 1:3 (1-cement : 3-sand) and 8mm thick finishing coat of C.M. 1:1(1-cement : 1-sand) etc. complete.	Sq.m	189	111.55	21082.95
	In-side Plaster				
	Providing 15mm thick cement plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering up to floor two level and finished even and smooth in (I) Cement mortar 1:3 (1-cement:3-sand)	Sq.m	108	248.2	26805.6
	Total Estimated Cost of Main Items				204321.59
	Add 20% cost of Miscellaneous Building Items				40864.318
	Add 10% contractor profit				24518.5908
	Final Estimated Cost Building				**269704.4988**

Abstract sheet for planning septic tank

13.1.2 Civil Design 2 (Septic Tank)



Section AA



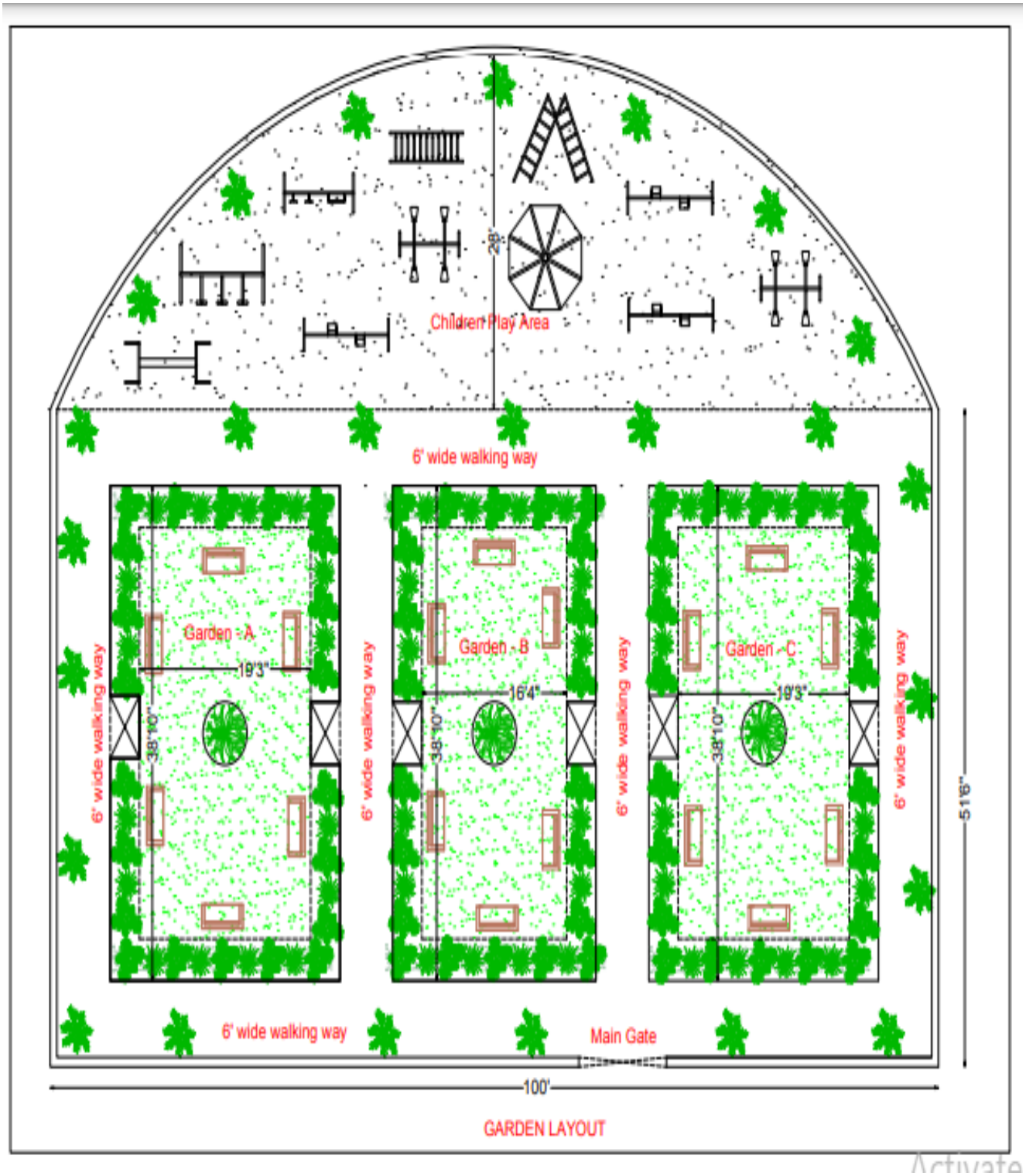
PLAN

ABSTRACT SHEET FOR SEPTIC TANK

Sr. No.	Item	Quantity	Per	Rate (Rs.)	Amount (Rs.)
1	Excavation work	8.78	m3	130.00	1,141.40
2	(1:3:6) cement concrete flooring	0.59	m3	2,010.00	1,185.90
3	First class brick masonry in C.M. (1:6)	2.96	m3	3,500.00	10,360.00
4	P.C.C. in proportion (1:2:4) for 10 cm. thick R.C.C slab	0.53	m3	6,058.00	3,210.74
5	Steel reinforcement in slab				
	20% mild steel	8.35	Kg	41.75	348.61
	80% HYSD steel	33.41	Kg	39.45	1,318.03
				Total	17,564.68
				Add 5% Contingencies	878.23
				Grand Total	18,442.91
				Say	**Rs. 20,000**

Abstract sheet for planning septic tank

13.1.3 Civil Design 3 (GARDEN)

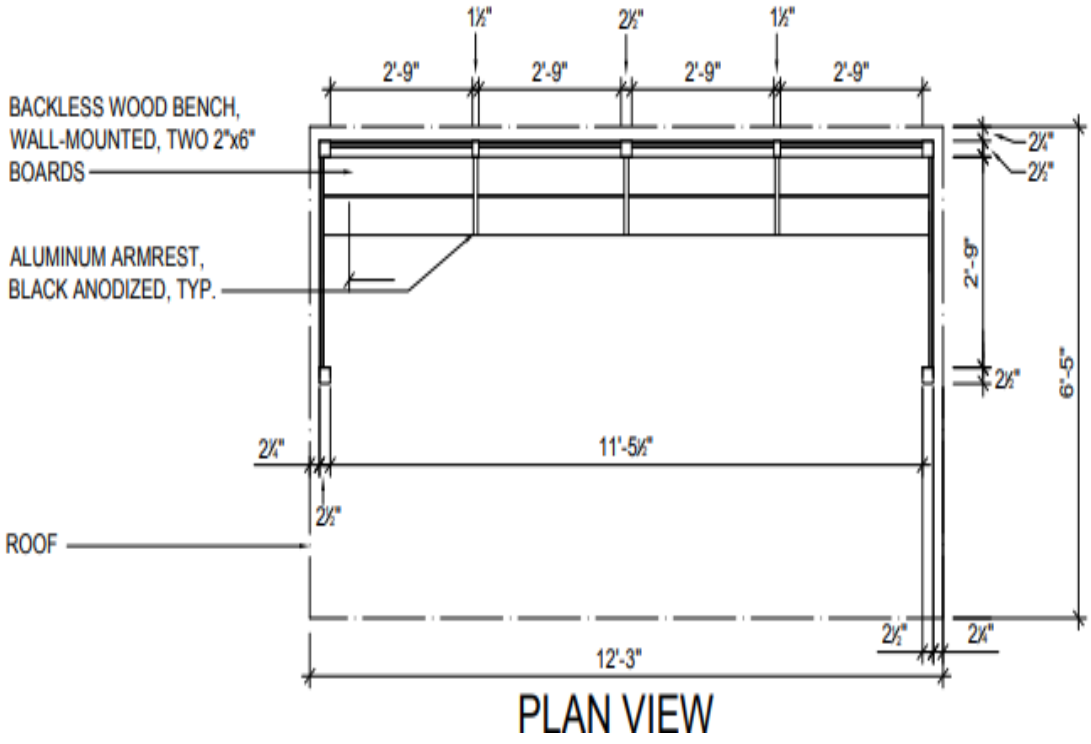


ABSTRACT SHEET FOR GARDEN

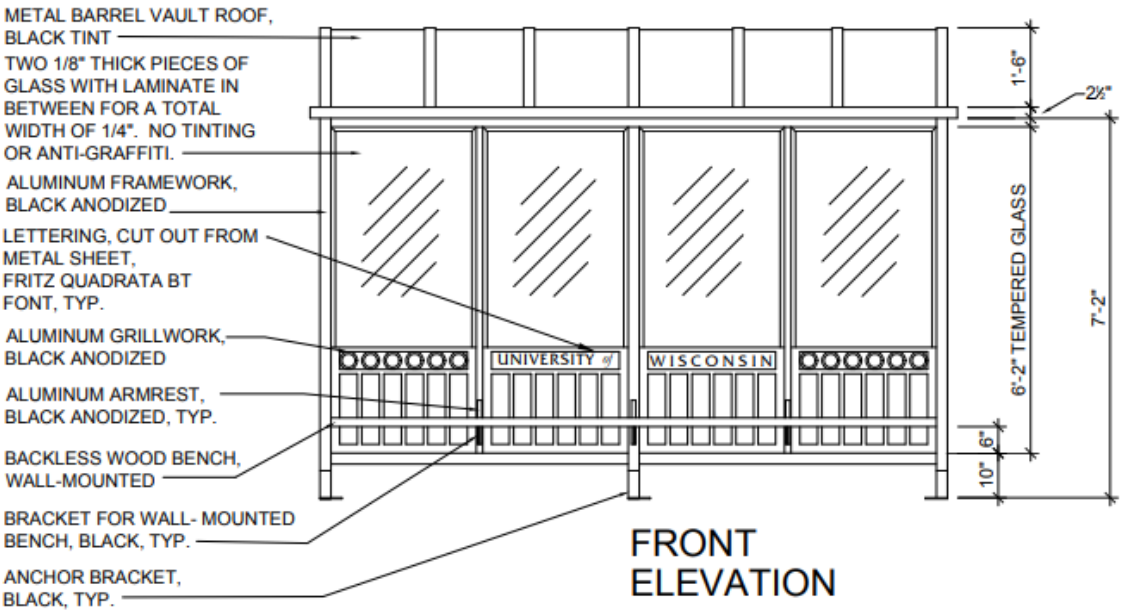
Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation in foundation	254.58	85	m^3	21,639.3/-
2	PCC in Foundation	255.49	3200	m^3	8,17,568/-
3	DPC in foundation	121.05	330	m^3	39,946.5/-
4	1th class brickwork in super structare	251.96	4800	M^2	1,209,408,/-
5	Masonary work in foundation up to plinth level	85.56	1300	m^3	1,11,228/-
6	Plastering work	5037.90	130	m^2	6,58,827/-
7	Sand filling in garden	5182.76	90	m^3	4,66,448.4/-
Total cost					Rs. 3,325,700/-
10% contractor charges					Rs. 3,32,570/-
5 % extra charges like painters, mixer, transport & labour charges					Rs.1,66,285/-
Overall cost					Rs.3,824,555/-

Abstract sheet for planning garden

13.1.4 Civil Design 4 (BUS STATION)

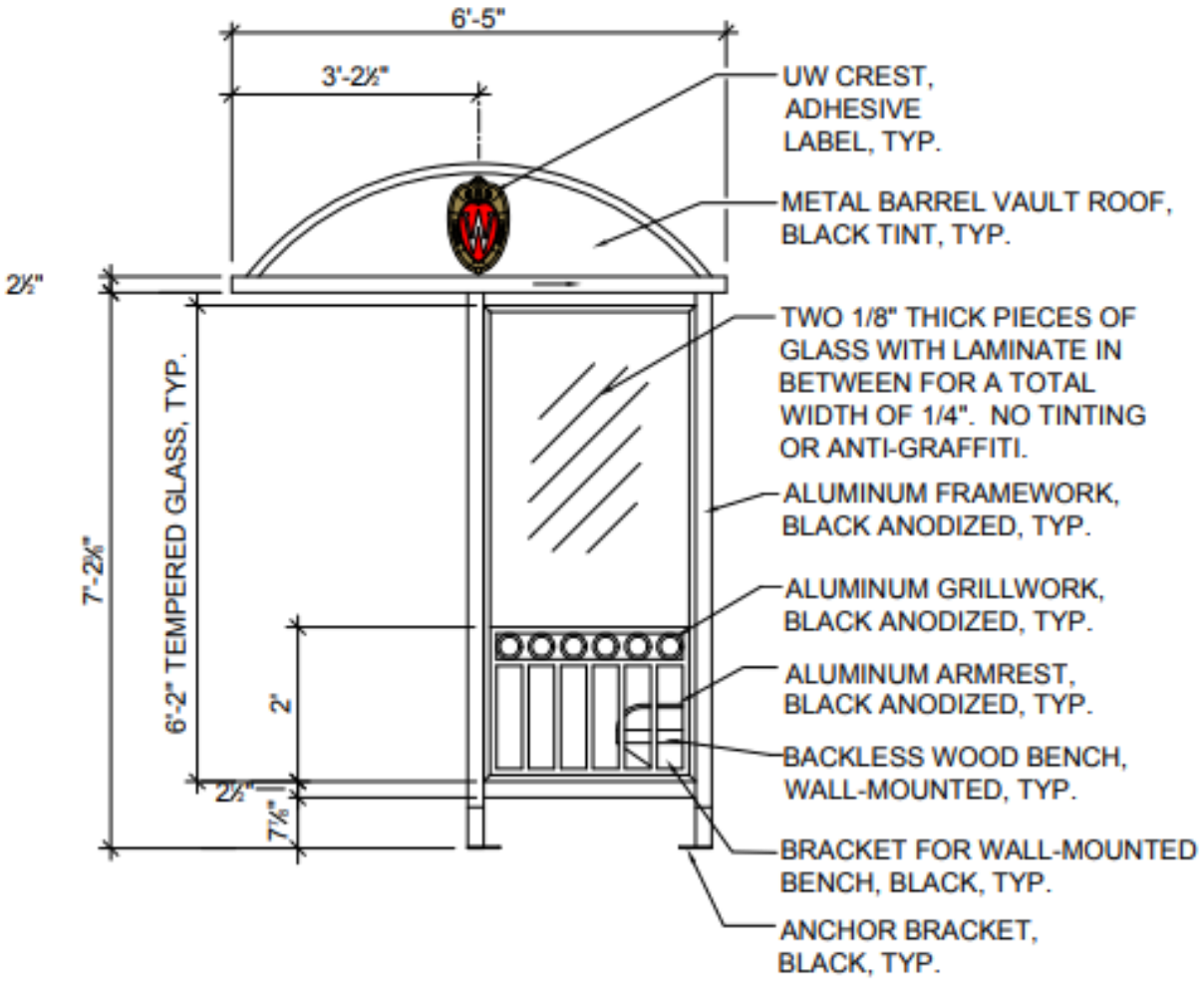


PLAN VIEW



FRONT ELEVATION

SIDE ELEVATION (OPTION B)

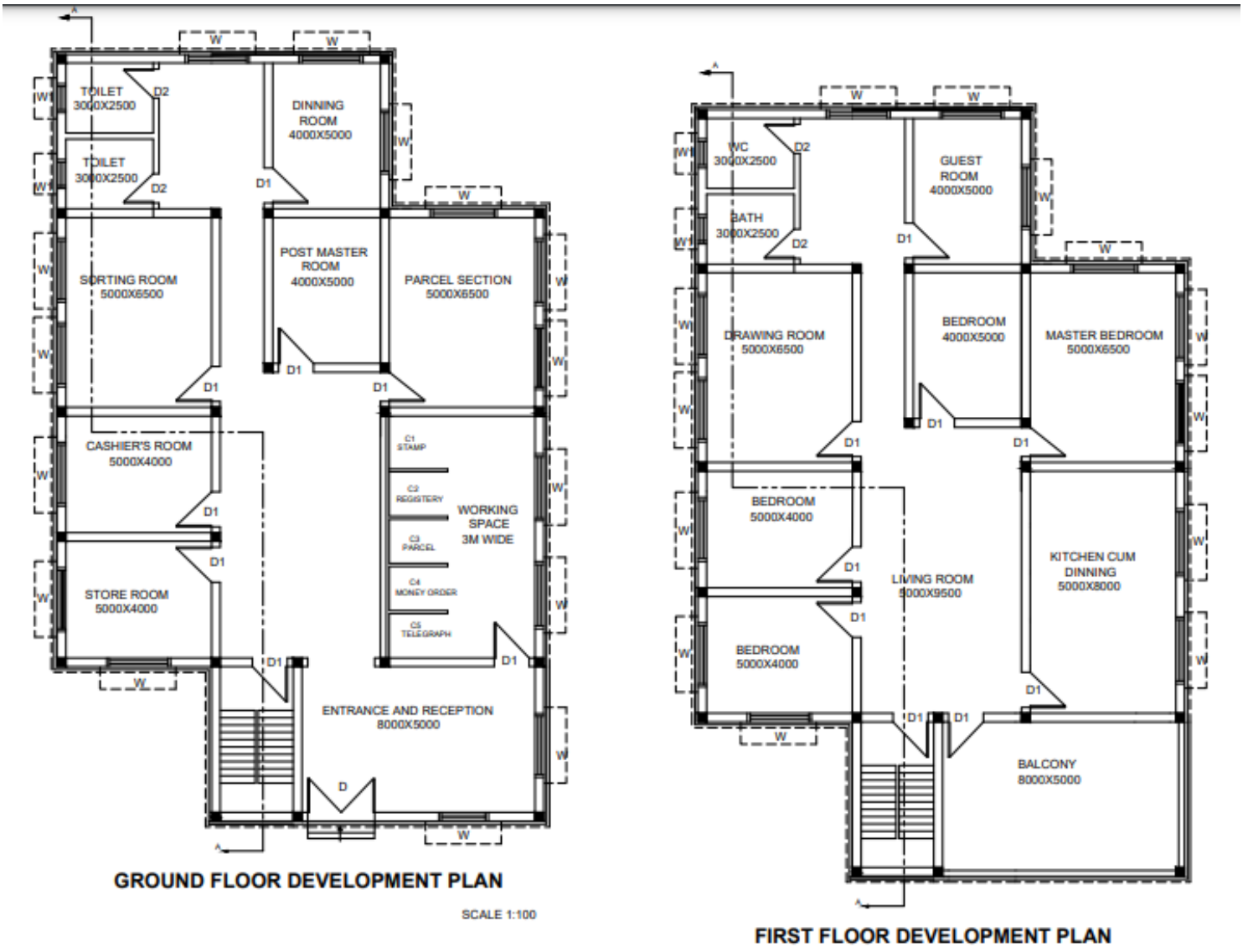


ABSTRACT SHEET FOR BUS STATION

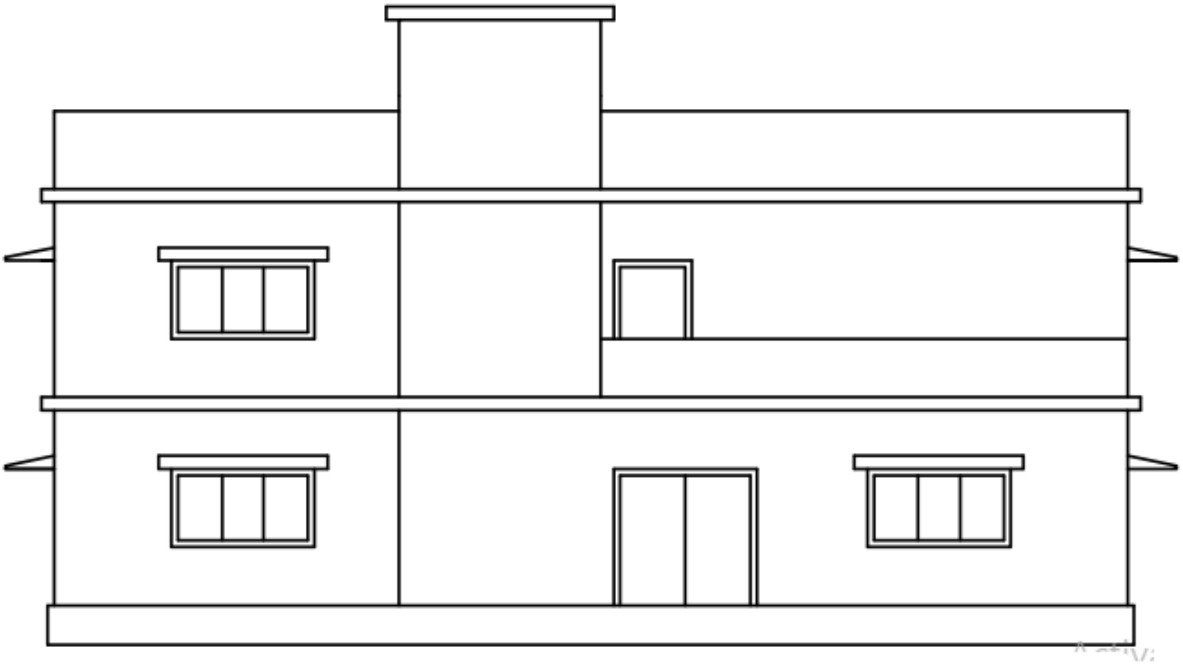
Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation in foundation	10.84	85	m^3	888.88/-
2	PCC in Foundation	7.86	3200	m^3	25,152/-
3	DPC in foundation	5.90	330	m^3	1,947/-
4	Sand filling in plinth	34.23	90	m^3	3,080.7/-
5	1th class brickwork in super structare	12.52	4800	m^2	60,096/-
6	Cement concret Rcc (lintle,slab)	1.64	8800	m^3	14,432/-
7	Steel reinforcement work including bending and placing in position	109.115	50	KG	5,455.75/-
8	12mm thick plaster	137.35	150	m^2	20,602.5/-
9	5mm thick flooring	30.81	130	M^2	4,005.3/-
10	White washing as per plastering	137.35	50	m^2	6,867.5/-
Total cost					Rs. 1,42,528/-
10% contractor charges					Rs. 14,252.8/-
5 % extra charges like painters, mixer, transport & labour charges					Rs.7,126.4/-
Overall cost					Rs.1,63,907.2/-

Abstract sheet for planning bus station

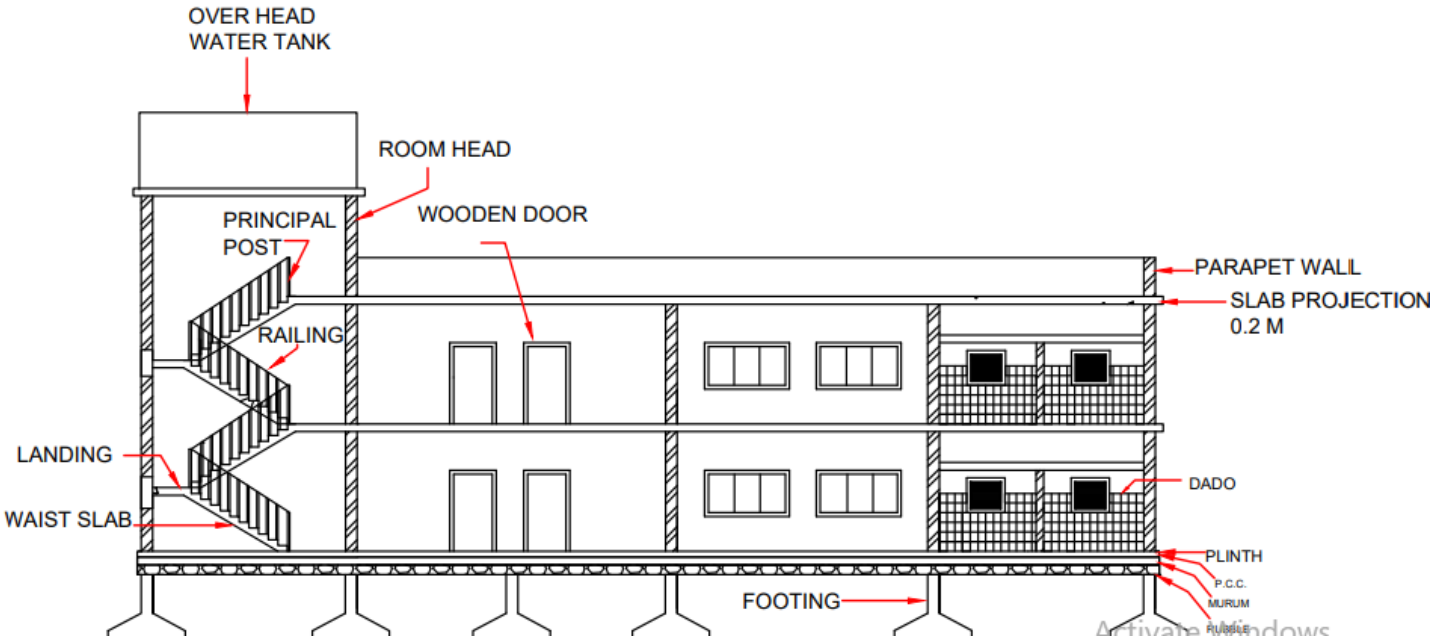
13.1.5 Civil Design 5 (POST OFFICE)



PLAN



ELEVATION

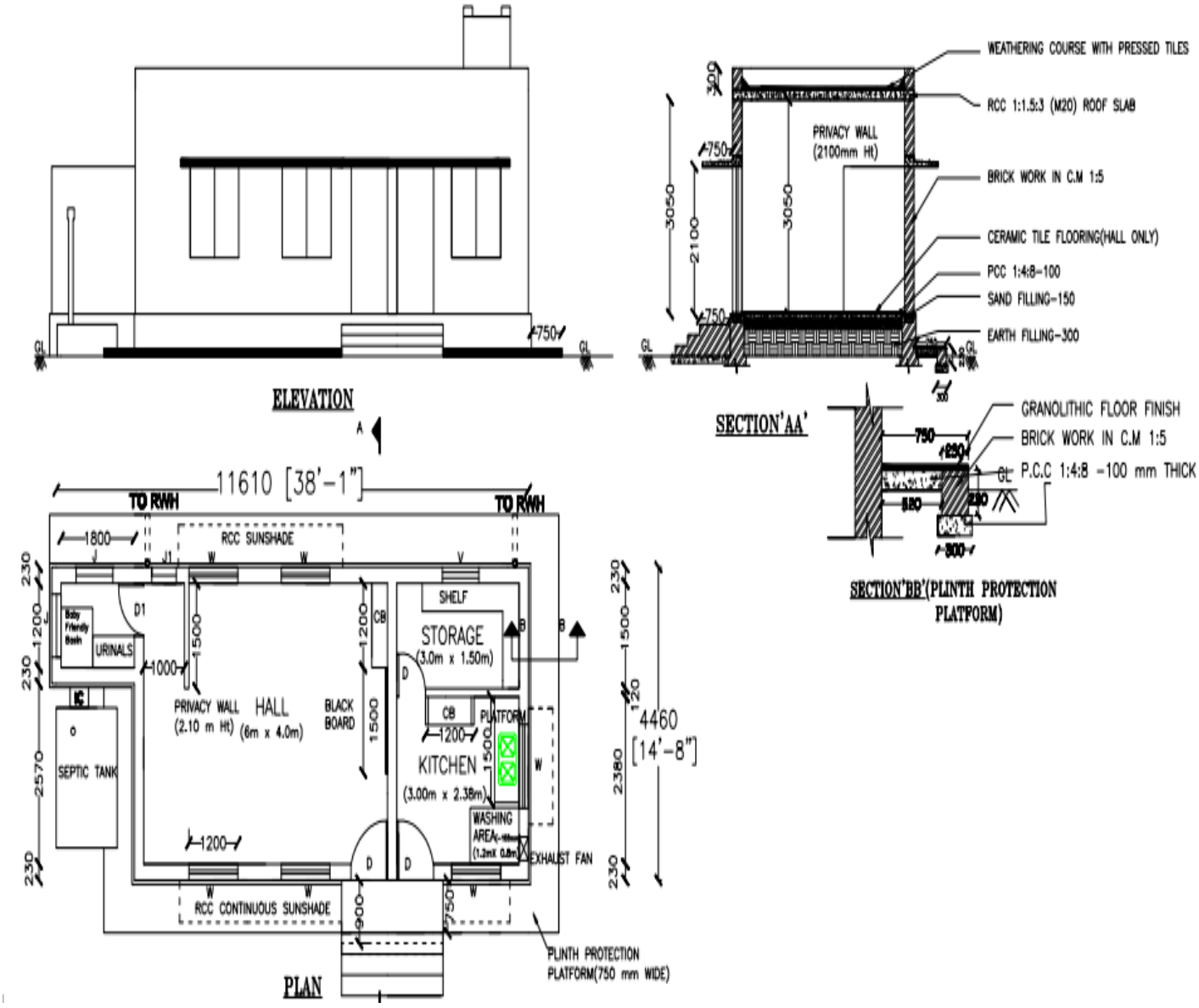

OVER HEAD
WATER TANK
ROOM HEAD
WOODEN DOOR
PRINCIPAL
POST
RAILING
LANDING
WAIST SLAB
PARAPET WALL
SLAB PROJECTION
0.2 M
DADO
PLINTH
P.C.C.
MURUM
RUBBLE
FOOTING

ABSTRACT SHEET FOR POST OFFICE

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation in foundation	108.42	85	m^3	8,890.44/-
2	PCC in Foundation	76.87	3200	m^3	2,45,984/-
3	DPC in foundation	51.81	330	m^3	17,097.3/-
4	Sand filling in plinth	373.44	90	m^3	33,609.6/-
5	1th class brickwork in super structare	97.7	4800	m^2	4,68,960/-
6	Cement concret Rcc (lintle,slab)	36.26	8800	m^3	3,19,088/-
7	Steel reinforcement work including bending and placing in position	109.115	50	KG	5,455.75/-
8	12mm thick plaster	1324.65	150	m^2	1,98,697.5/-
9	5mm thick flooring	336.10	130	M^2	43,693/-
10	White washing as per plastering	1324.65	50	m^2	66,232.5/-
Total cost					Rs. 14,07,710/-
10% contractor charges					Rs. 1,40,771/-
5 % extra charges like painters, mixer, transport & labour charges					Rs.70,385.5/-
Overall cost					Rs.1,618,866.5/-

Abstract sheet for planning post office

13.1.6 Civil Design 5 (ANGANWADI)



ANGANWADI

ABSTRACT SHEET FOR ANGANWADI

Item Number	Item description	Quantity	Rate in Rs	Per	Amount in Rs.
1	Excavation in foundation	22.47	85	m^3	1,842.54/-
2	PCC in Foundation	16.12	3200	m^3	51,584/-
3	DPC in foundation	10.88	330	m^3	3,590.4/-
4	Sand filling in plinth	54.16	90	m^3	4,874.4/-
5	1th class brickwork in super structare	25.41	4800	m^2	1,21,9668/-
6	Cement concret Rcc (lintle,slab)	10.82	8800	m^3	95,216/-
7	Steel reinforcement work including bending and placing in position	109.115	50	KG	5,455.75/-
8	12mm thick plaster	156.55	150	m^2	38,482.5/-
9	5mm thick flooring	48.75	130	M^2	6,337.5/-
10	White washing as per plastering	256.55	50	m^2	12,827.5/-
Total cost					Rs. 3,42,178/-
10% contractor charges					Rs. 34,217.8/-
5 % extra charges like painters, mixer, transport & labour charges					Rs.17,108.9/-
Overall cost					Rs.3,93,504.7/-

Abstract sheet for planning anganwadi

Chapter14:
Technical Options with Case Studies

14.1 Civil Engineering

14.1.1 Advanced Earthquake Resistant

Earthquake-resistant or aseismic structures are designed to protect buildings to some or greater extent from earthquakes. While no structure can be entirely immune to damage from earthquakes, 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. This means the loss of life should be minimized by preventing collapse of the buildings for rare earthquakes while the loss of the functionality should be limited for more frequent ones.

To combat earthquake destruction, the only method available to ancient architects was to build their landmark structures to last, often by making them excessively stiff and strong.

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. These range from appropriately sizing the structure to be strong and ductile enough to survive the shaking with an acceptable damage, to equipping it with base isolation or using structural vibration control technologies to minimize any forces and deformations. While the former is the method typically applied in most earthquake-resistant structures, important facilities, landmarks and cultural heritage buildings use the more advanced (and expensive) techniques of isolation or control to survive strong shaking with minimal damage. Examples of such applications are the Cathedral of Our Lady of the Angels and the Acropolis Museum.

Combined vibration control solution

Designed by architect Merrill W. Baird of Glendale, working in collaboration with A. C. Martin Architects of Los Angeles, the Municipal Services Building at 633 East Broadway, Glendale was completed in 1966. Prominently sited at the corner of East Broadway and Glendale Avenue, this civic building serves as a heraldic element of Glendale's civic center.

In October 2004 Architectural Resources Group (ARG) was contracted by Nabih Youssef & Associates, Structural Engineers, to provide services regarding a historic resource assessment of the building due to a proposed seismic retrofit.

In 2008, the Municipal Services Building of the City of Glendale, California was seismically retrofitted using an innovative combined vibration control solution: the existing elevated building foundation of the building was put on high damping rubber bearings.

Earthquake Generated Forces

Earthquake**,** any sudden shaking of the ground caused by the passage of seismic waves through Earth's rocks. Seismic waves are produced when some form of energy stored in Earth's crust is suddenly released, usually when masses of rock straining against one another suddenly fracture and "slip." Earthquakes occur most often along geologic faults, narrow zones where rock masses move in relation to one another. The major fault lines of the world are located at the fringes of the huge tectonic plates that make up Earth's crust. (*See* the table of major earthquakes.)

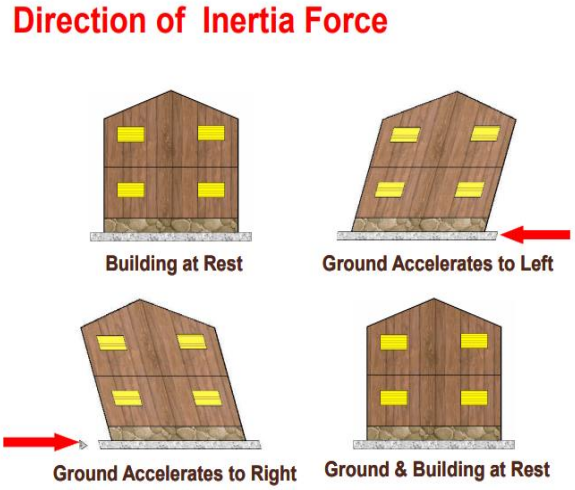


Fig14.1.1(a) Earthquake Generated Forces

Basic Principles of Energy Dissipation Systems for Seismic Applications

The main reason to use passive energy dissipation devices in a structure is to limit damaging deformations in structural components. The degree to which a certain device is able to accomplish this goal depends on the inherent properties of the basic structure, the properties of the device and its connecting elements, the characteristics of the ground motion, and the limit state being investigated. Given the large variations in each of these parameters, it is usually necessary to perform an extensive suite of nonlinear response-history analyses to determine which particular passive energy dissipation system is best suited for a given case. To illustrate the effect of incorporating passive energy dissipation systems in structures, the idealized structure of Fig. 1 will be analyzed when subjected to a single historical earthquake record. Although a complete engineering analysis of a real structure would require much more comprehensive analyses than that described in this simplified example, the example serves as a vehicle to illustrate the basic principles of energy dissipation systems for seismic applications. The idealized structure consists of a onestory, one-bay moment resisting frame having weight WO, mass MO, lateral stiffness KO, and lateral strength YO. The lateral strength of the frame is 0.2 times the weight of the frame, and the postyield stiffness is equal to 2.0% of the initial stiffness. The period of vibration of the structure, TO, is 0.535 s and its inherent damping in the absence of any passive energy dissipation device is assumed to be 5% of critical. The results from nonlinear response-history analysis of the bare frame Fig. 1a when it is subjected to the horizontal component of a certain earthquake ground motion reveals that plastic hinges form in the girder, the maximum drift is 1.03% of the height of the structure, and the corresponding displacement ductility demand is 3.08. At the end of the earthquake, the structure has a residual drift of 0.12% of the story height. The damage in the frame can be quantified via a damage measure DM such as that given by DM = Demand Capacity + 4 EDemand ECapacity 1 where Demand and EDemand=maximum displacement ductility demand and cumulative hysteretic energy dissipation demand, respectively, on the system or component; Capacity and ECapacity = ductility capacity and hysteretic energy capacity for one full cycle of inelastic deformation, respectively, of the system or component; and =calibration factor. The calibration

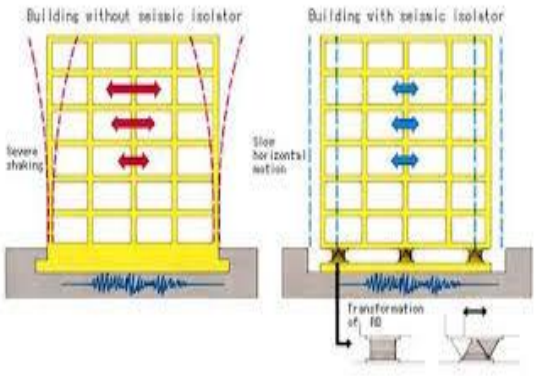


Fig 14.1.1(b) Seismic Applications

factor set equal to 0.15 for this example is material dependent, and is selected to produce a damage measure value of 0.0 when the structure is undamaged, and 1.0 when the damage is severe near or at incipi ent collapse. Damage measure values in excess of 0.4 are generally considered unacceptable. For the bare frame of Fig. 1a, the value of DM is 0.955 and thus the bare frame is severely damaged. Note from Eq. 1 that a DM value of near 1.0 may be obtained by a single monotonic deformation demand that is equal to the deformation capacity, or as is most common by undergoing numerous cycles of deformation demand that are significantly less than the deformation capacity. Note that Eq. 1 is modeled after a similar equation developed by Park et al. 1985. Many other and more comprehensive damage measures are available in the literature e.g., see Chung et al. 1987; Sorace 1998; and Mehanny and Deierlein 2000. It is important to recognize that Eq. 1 is typically applied to a critical element or component of a structure, and not to the complete structure. However, in the current example, the equation is applied to the entire frame due to the simplicity of the system. For this example, in Eq. 1 the energy dissipation demand is equal to the cumulative hysteretic energy dissipated by the plastic hinges in the girder. This energy is but one part of the total energy demand in the system. The complete energy balance is given by Uang and Bertero 1990 EI = ES + EK + ED + EH 2 where, at a given instant in time, t, EI=cumulative input energy; ES=instantaneous strain energy stored by the structure; EK=instantaneous kinetic energy of the moving mass; ED =cumulative viscous damping energy; and EH =cumulative hysteretic energy. At the end of the earthquake t=tf, the kinetic energy is zero, the strain energy is zero for an elastic system and zero or near zero for an inelastic system, and the cumulative hysteretic energy is equal to the energy demand i.e., Ehtf =EDemand. The damage measure of Eq. 1 indicates that damage to the structure can be reduced by decreasing the ductility or hysteretic energy demand or by increasing the ductility or hysteretic energy capacity. Assuming that it is not economically feasible to increase the ductility or hysteretic energy capacity of the structure under consideration, the performance may only be improved by reducing the ductility or hysteretic energy dissipation demand. If a passive energy dissipation device in the form of a viscous fluid damper is used, the reduction in ductility demand is facilitated through displacement reductions that come with increased damping. When metallic yielding devices are utilized, the reduction in ductility demand is provided by reduced displacements that arise from increased stiffness of the system and from hysteretic energy dissipation within the devices. In structures that employ passive energy dissipation devices, the hysteretic energy dissipation demand on critical components of the structure can be reduced by transferring the energy dissipation demand to the passive energy dissipation devices. For systems incorporating passive energy dissipation systems, it is useful to recast the viscous damping energy and the hysteretic energy terms of Eq. 2 as follows ED = ED,Structure + ED,Devices 3a EH = EH,Structure + EH,Devices 3b In Eq. 3a, the viscous damping energy is separated into damping that is inherent in the structure and added damping from passive energy dissipation devices. In Eq. 3b, the first term represents the part of the hysteretic energy dissipated by the main structural and nonstructural elements, and the second part is that dissipated by the added passive energy dissipation devices.

14.1.2 Seismic Retrofitting of Buildings

Abstract

In many seismically active regions of the world there are large numbers of masonry buildings. Most of these buildings have not been designed for seismic loads. Recent earthquakes have shown that many such buildings are seismically vulnerable and should be considered for retrofitting. Different conventional retrofitting techniques are available to increase the strength and/or ductility of unreinforced masonry walls. This paper reviews and discuses the state-of-the-art on seismic retrofitting of masonry walls with emphasis on the conventional techniques. The paper reviews retrofitting procedures, advantages, disadvantages, limitations, effect of each retrofitting technique.

Key Words

Retrofitting, rehabilitation, repair, seismic

Introduction

Matthys and Noland (1989) estimated that more than 70% of the buildings inventory worldwide is masonry buildings. Moderate to strong earthquakes can devastate complete cities and villages resulting in massive death toll and cause extensive losses. Most of these losses are caused by failure of unreinforced masonry (URM) buildings.

Since demolition and replacement of these masonry structures is generally not feasible due to several factors this rises the question whether such buildings should be retrofitted. Nuti and Vanzi (2003) proposed a simple procedure to make a decision whether it is economically pertinent to retrofit a structure or not. Although a variety of technical solutions have been implemented for seismic retrofitting, there exists little information or technical guidelines with which an engineer can judge the relative merits of these methods. Furthermore, no reliable analytical techniques are available to evaluate the seismic resistance of retrofitted masonry structures.

Starting in the late 1990s, the Reinforced Concrete (RC) buildings of the postwar rebuilding and the following construction boom began to reach fifty years of age, the point at which in Italy they typically become eligible for heritage protection (while the first generation RC buildings had already reached that age). Along with the growing appreciation of those structures, and not only in the case of seminal buildings, is the search for a new approach to conservation for the buildings constructed in the twentieth century, as the traditional conservation theories and techniques are devoted to masonry constructions and, as such, are not suited .The building represented a typical RC framed structure of the 1960s. Although not being a ‘Listed Building’, the edifice was of interest and importance, since it was of good quality design and appearance. Moreover, not only was the building attractive in its own right, but also it contributed to the character and appearance of the area where it was (and is) located. In fact, the building, which was the only elementary school of the town, illustrated, and was reminder of, the historical development of that area. For those reasons, the building was worthy of recognition and retention as much as possible.

The paper presents the key features of the structural work — design and construction — that provided that building with the capacity of resisting the loads prescribed by the current Italian code. That work saved the school from demolition, maintaining the building's architectural integrity. Now the building continues to serve as the public school of the town and conserves the original character and appearance, since the new structures neither gave the building a new look nor hid the original building nor even obscured it. Part of the addition was concealed behind the suspended ceiling or was placed in the attic, while the design made the other part identifiable.

The design was the result of mental conceptual models and simple manual analytical calculations, by which the author comprehended and explained how the design would have worked in reality, governed the relationships between existing and new structures, and obtained realistic assessments. Neither numerical modeling nor code compliance checking was performed during the design process. When the entire structure had been completely defined at the end of the design process, the author assessed the design of the structural work he had planned to do and provided a certificate, in the form of a signed report, stating that the entire structure had been designed to comply with the Italian structural code. Assessment was accomplished according to the provisions of the Italian code and certified that the designed structure guaranteed the prescribed safety levels.The study's statement of purpose is to provide useable and reproducible recipes for structural work on existing RC buildings. The emphasis is placed on developing both theory and practice relevant to the field of structural steel, with appropriate links established to design and construction. One leading idea that the paper is going to propose about the topic is that structural designers should borrow the solutions directly from the scientific domain, which is the source of creativity and innovation, as opposite to the prevailing tendency among present practitioners towards replacing structural design with finite element modeling

Base Isolation

A “smart” base isolation strategy is proposed and shown to effectively protect structures against extreme earthquakes without sacrificing performance during the more frequent, moderate seismic events. The proposed smart base isolation system is composed of conventional low-damping elastomeric bearings and “smart” controllable (semiactive) dampers, such as magnetorheological fluid dampers. To demonstrate the advantages of this approach, the smart isolation system is compared to lead-rubber bearing isolation systems. The effectiveness of the isolation approaches are judged based on computed responses to several historical earthquakes scaled to various magnitudes. The limited performance of passive systems is revealed and the potential advantages of smart dampers are demonstrated. Two- and six-degree-of-freedom models of a base-isolated building are used as a test bed in this study. Smart isolation is shown to achieve notable decreases in base drifts over comparable passive systems with no accompanying increase in base shears or in accelerations imparted to the superstructure. In contrast to passive lead-rubber bearing systems, the adaptable nature of the smart damper isolation system provides good protection to both the structure and its contents over a wide range of ground motions and magnitudes.

14.1.3 Advance Practices in Construction field in Modern Material, Techniques andEquipment’s

The construction industry is repeatedly criticised for being inefficient and slow to innovate. The basic methods of construction, techniques and technologies have changed little since Roman times. But the application of innovation in the construction industry is not straight forward.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. In addition, the weather and other factors can prevent the application of previous experience effectively.

The term 'advanced construction technology' covers a wide range of modern techniques and practices that encompass the latest developments in materials technology, design procedures, quantity surveying, facilities management, services, structural analysis and design, and management studies.

Incorporating advancedconstructiontechnology into practice canincrease levels of quality, efficiency, safety, sus tainability 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 the 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.

INTRODUCTION

Now a days the construction technology and equipments becomes very advanced. The advanced construction techniques such as under water construction , trenchless technology and many new innovative materials used in advanced construction techniques and equipments to speed up the construction of any building works. So that we will discuss about few techniques and materials used in that.

UNDER WATER CONSTRUCTION

During the construction of bridges, dams or any other structure where foundation part of the structure is mostly like to lie underwater, we have to opt for underwater construction. Construction in water poses many difficulties especially in the places where there the depth is considerable During underwater construction our main objective is to create a dry and water free environment for working in such a manner that the structural stability of the structure is not compromised.

CAISSONS

Caissons are the structure used in underwater construction work, consisting of an air tight chamber, open at the bottom and containing air under sufficient pressure to exclude the water. The term caisson is derived from Latin, which means box or case. Caissons are hollow inside and usually constructed at site and sunk in place into a hard bearing stratum. It's a prefabricated hollow box or cylinder. It is sunk into the water to some desired depth and then filled with concrete thus forming a foundation. There are different types of caissons box caisson, open caisson, suction caisson, pneumatic caisson etc.

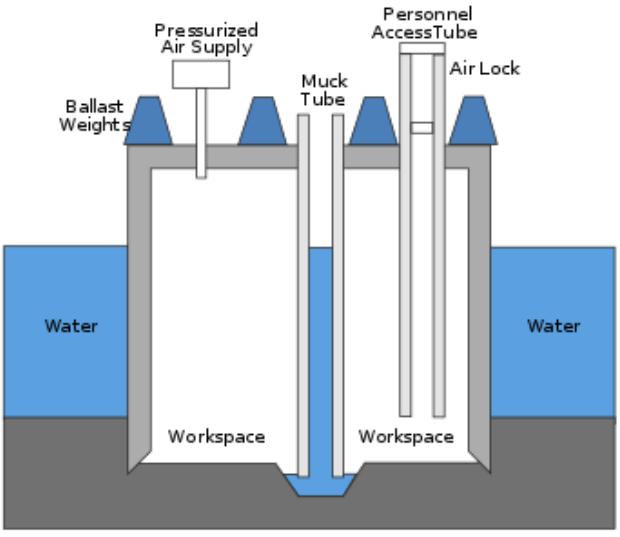


Fig 14.1.3 (a) CAISSONS

Cofferdam

A cofferdam, also called a coffer is an enclosure built within, or in pairs across, a body of water to allow the enclosed area to be pumped out. This pumping creates a dry working environment so that the work can be carried out safely. Enclosed coffers are commonly used for construction or repair of permanent dams, oil platforms, bridge piers etc., built within or over water. These cofferdams are usually welded steel structures, with components consisting of sheet, piles, wales and cross braces. Such structures are usually dismantled after the construction work is completed. There are different types of cofferdams earthen cofferdam, rockfill cofferdam, single-walled cofferdam, double-walled cofferdam, Cellular cofferdam, braced cofferdam etc.

Fig 14.1.3 (b) Cofferdem

Objectives

1)To find the materials which can be used for the construction of underwater building.

2)To study about the different methods of underwater constructions.

3)To study about the challenges of underwater construction and its remedies.

14.1.4Engineering Aspects Of Soil mechanics - Environmental Impact Assessment

An Environmental Impact Assessment is a formal method of judging the impact that any new developmental project would have on the environment and its constituents. This can include changes that the project would create in the physical aspects of existing geography, chemical changes to the atmosphere including air and water, biological changes that affect plant, animal and human life, cultural impact of a project on the society in the area, and other socio-economic effects that the project can have. Such an assessment allows problems to be foreseen, so that the design and planning of the projects is modified to reduce any negative effects. It is now fashionable to build green buildings which have a positive effect on the environment.There is historical precedent for the now mandatory Environmental Impact Assessments (EIA). Past efforts by governments have resulted in bans on activities that caused noxious odors, garbage dumps were positioned at places far away from habitation, and commercial activities were restricted to town centers.

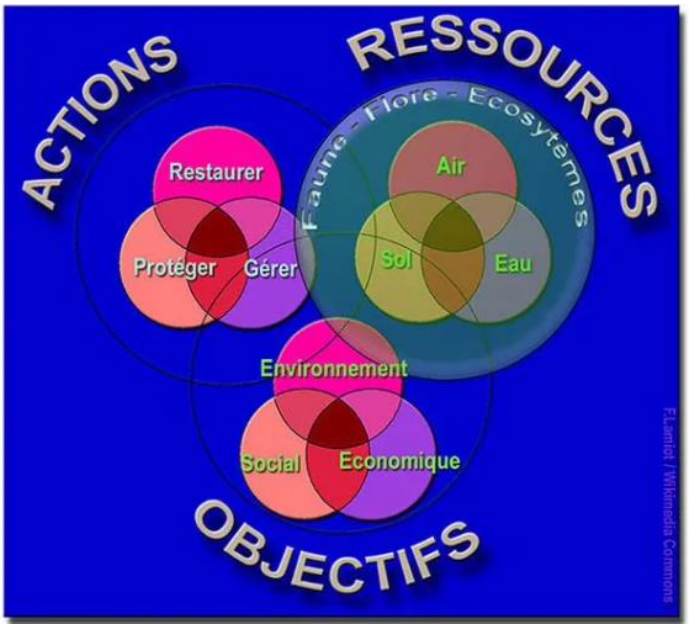


Fig 14.1.4 Enviromental Impact Diagram

Objectives of Environmental Impact Assessment

The objective of an EIA is to predict the environmental impact project would have on all aspects of the environment. Once this is done, a study has to be made to see if the impacts can be reduced in any way. The project has then to be modified to suit the local environment and all predictions and likely options presented to decision makers for final decisions.You can gain a better understanding of EIA by understanding how any typical project can affect the environment of a particular area. Take for example the building of a new road in a city.

The alignment of the road may require that certain lands have to be leveled or new embankments created. Cutting of the land and the new embankments would affect the geography of the area and probably upset its drainage pattern. This would require re-planning existing methods of treating the run-off and could cause existing watercourses to be modified. The new road may require the removal of existing green cover and this could affect the living conditions in that area. The traffic going through that area can cause pollution problems from vehicles which also includes an increase in sound pollution. The emissions from the vehicles can affect already existing atmospheric pollutants which in turn could affect human health, animal health and affect greenery in the area. The road may affect existing structures in the area which may have to be removed and can cause changes in the economic wellbeing of the persons who are using those structures.

A positive impact of the new road may mean a reduction in traffic congestion, its positive effect on pollution, and the economic advantage of these two aspects.For any environmental impact assessment, complete data on all these aspects as they are at present has to be made so that any changes can be reasonably judged to existing standards required for good living. The deterioration or increase in these living standards has then to be highlighted by the EIA before any final decision on the project can be undertaken.

Keywords:
Environmental impact assessment
flowstation
environmental pollution
civil engineering infrastructure
impact mitigation

14.1.5 Water Supply-Sewerage system -Waste Water- Sustainable development techniques

Water supply

Water supply is the provision of water by public utilities, commercial organisations, community endeavors or by individuals, usually via a system of pumps and pipes. Aspects of service quality include continuity of supply, water quality and water pressure. The institutional responsibility for water supply is arranged differently in different countries and regions (urban versus rural). It usually includes issues surrounding policy and regulation, service provision and standardization.

Fig 14.1.5 (a) Water Supply

The cost of supplying water consists, to a very large extent, of fixed costs (capital costs and personnel costs) and only to a

small extent of variable costs that depend on the amount of water consumed (mainly energy and chemicals). Almost all service providers in the world charge tariffs to recover part of their costs.Water supply is a separate topic from irrigation, the practice and systems of water supply on a larger scale, for a wider variety of purposes, primarily agriculture.

Water supply systems get water from a variety of locations after appropriate treatment, including groundwater (aquifers), surface water (lakes and rivers), and the sea through desalination. The water treatment steps include, in most cases, purification, disinfection through chlorination and sometimes fluoridation. Treated water then either flows by gravity or is pumped to reservoirs, which can be elevated such as water towers or on the ground (for indicators related to the efficiency of drinking water distribution see non-revenue water). Once water is used, wastewater is typically discharged in a sewer system and treated in a sewage treatment plant before being discharged into a river, lake or the sea or reused for landscaping, irrigation

Sewerage system

Sewage system is the infrastructure that conveys sewage or surface runoff (stormwater, meltwater, rainwater) using sewers. It encompasses components such as receiving drains, manholes, pumping stations, storm overflows, and screening chambers of the or sanitary sewer. Sewerage ends at the entry to a sewage treatment plant or at the point of discharge into the environment. It is the system of pipes, chambers, manholes, etc. that conveys the sewage or storm water.ssss

In many cities, sewage (or municipal wastewater) is carried together with stormwater, in a combined sewer system, to a sewage treatment plant. In some urban areas, sewage is carried separately in sanitary sewers and runoff from streets is carried in storm drains. Access to these systems, for maintenance purposes, is typically through a manhole. During high precipitation periods a sewer system may experience a combined sewer overflow event or a sanitary sewer overflow event, which forces untreated sewage to flow directly to receiving waters. This can pose a serious threat to public health and the surrounding environment.

The system of sewers is called sewerage or sewerage *system* in British English and *sewage system* in American English.Systems that carry a mixture of both domestic sewage and storm sewage are called combined sewers. Combined sewers typically consist of large-diameter pipes or tunnels, because of the large volumes of storm water that must be carried during wet-weather periods. They are very common in older cities but are no longer designed and built as part of new sewerage facilities. Because wastewater treatment plants cannot handle large volumes of storm water, sewage must bypass the treatment plants during wet weather and be discharged directly into the receiving water. These combined sewer overflows, containing untreated domestic sewage, cause recurring water pollution problems and are very troublesome sources of pollution.

Fig 14.1.3 (b) Sewerage System

In some large cities the combined sewer overflow problem has been reduced by diverting the first flush of combined sewage into a large basin or underground tunnel. After temporary storage, it can be treated by settling and disinfection before being discharged into a receiving body of water, or it can be treated in a nearby wastewater treatment plant at a rate that will not overload the facility. Another method for controlling combined sewage involves the use of swirl concentrators.

Waste Water

An important paradigm shift is necessary at multiple levels to advance sustainable sanitation services toward a circular economy in which wastewater is considered a valuable resource rather than a liability. Energy, clean water, fertilizers, and nutrients can be extracted from wastewater—and used to help achieve the SDGs. In 2018 the World Bank launched the "Wastewater: From Waste to Resource" initiative in the LAC region, to address the wastewater challenge and raise awareness among decision makers about the potential of wastewater as a resource. The initiative also provides guidance on improving the planning, management, and financing of wastewater treatment and resource recovery and promoting the measures needed to make the shift a reality. The initiative has involved a participatory process, including multiple consultations and workshops with stakeholders working on wastewater management projects in the LAC region. The initiative's findings have been presented and validated at several international conferences, raising awareness of the issue and promoting dialogue among governments, international organizations, and the private sector.The challenges faced in the LAC region are not unique. The initiative's final report is published so that countries in the region and around the world can learn from best practices in the sector and promote the paradigm shift toward a circular economy, fostering resource reuse and recovery and ensuring sustainable wastewater management.Given the increasing interest in and importance of the issue, the World Bank aims to expand this regional initiative into a global one, providing on-demand solutions to implement circular economy principles in wastewater projects worldwide.Wastewater is used water that has been affected by domestic, industrial and commercial use. ... Wastewater effluents are released to a variety of environments, such as lakes, ponds, streams, rivers, estuaries and oceans.

Sustainable development techniques

Introduction

Water is an essential resource that is required to sustain life, it has to be availed in an adequate, safe and easily accessible manner. Wastewater managers around the world have the responsibility to ensure that the effluent that is eventually released into the environment does not degrade the quality of the recipient water bodies. (Mendes and Domingues 2015; Venesa et al., 2015). The increasing identification of different kinds of contaminants in wastewater has been one of the key challenges to environmental integrity and sustainability worldwide (Schwarzenbach, 2006). Indeed, increase in human population coupled with climate change phenomena have consequently lead to rise in pressures applied to wastewater handling facilities (Rop et al 2016), and as a consequence, the existing freshwater resources are increasingly becoming polluted and unavailable. In fact, the crucial issues regarding the quality of water is the presence of several environmental contaminants, including endocrine disrupters compounds, pharmaceuticals and personal care products and other pathogenic organisms and dangerous substances, all of which have been identified in most waste water handling facilities. The concern with all these contaminants is the uncertainty surrounding their adverse effects (Venesa et al., 2015). Therefore, wastewater managers should employ an holistic and comprehensive risk assessment techniques and risk management approach in dealing with water pollution issues to ensure the safety and sustainability of all aquatic systems (WHO, 2011 a, b; Harikishore and Lee, 2012).

Keywords:

Quality, Improvement, Management, Sustainability, Treatment, Wastewater

Chapter 15.

Smart and/or Sustainable features of Chapter 8 & 13 designs, Impact on society

(For toraniya village development, villagers' happiness, comfortable and forenhancement of the village)

Sr. No	Design Name	Period to Implement	Amount (Rs)	Benefit
1	**PHYSICAL INFRASRUCTURE**			
	Public Toilet	Immediately	7,57,123.71/-	Decrease health issue andimprove cleanliness in village.
	Bus Station	Immediately	9,10,771.25/-	Easy access of Transportation
2	**SOCIAL INNFRASTRUCTURE**			
	Community Hall	Within 1 year	4,23,480/-	To do social work
	Post Office	Within 1 year	1,618,866.5/-	Improve in Social life
	Hospital	Immediately	9,02,059.56/-	Batter health care for the village
3	**SUSTAINBLE INFRASTRUCTURE**			
	Underground sump	Immediately	2,69,704.49/-	Development in economy and e-banking
	ATM	Within 1 year	19,794.87/-	Development in economy and e-banking
	Anganwadi	Within 1 year	3,93,504.7/-	learning will be better foundation
4	**SOICIO – CULTURE INFRASTRUCTURE**			
	Septic Tank	Within 1 year	20,000/-	Improvement in health and body
	Gram panchayat	Immediately	2,029,037.65	People will get better facility

	Library	Within 1 year	3,211,027.65	Education facility will increase
5	**SMART VILLAGE DESIGN**			
	Garden	Within 1 year	3,824,555/-	Playing for village children and other activity

A) If possible, List the sources of the funding available with the Village gram panchayat:

- Member of Parliament Grant
- MGNREGA Grant (Mahatma Gandhi National Rural Employment Guarantee Act 2005)
- Fourteen (14^{th}) finance commission.
- ATVT Grant (Apno Taluko Vibrant Taluko)
- MLA Grant
- NREGA (National Rural Employment Guarantee act)
- Gram Panchyat Grant

Chapter 16.
Survey By Interviewing With Talati And/Or Sarpanch

Vishwakarma Yojana: Phase VIII

TORANIYA VILLAGE SUREY

As approach towards **"Rurbanisation for village development"**

Sr.	Questions	Yes/ No	Remarks
1	What are the sources of income in village?	Yes	Agricultural production
2	What are the chances of employment in village?	No	
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	
8	Child girl education is appreciated in village?	Yes	
9	Facility of vaccination to child is available in village?	Yess	
10	Are village people aware about child vaccination and doneto each and every child as per norms?	Yes	
11	Women help line number information is provided tovillage people?	Yes	women help line no.1091
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 personhappened in village?	No	
15	Is any suicide like incident observed in village due togovernment policy, debt or threatening?	No	
16	Is any death of patient occurred due to unavailability ofmedical facility in village?	yes	Average 30 to 40
17	How many disabled (physically challenged) is observed invillage? Provide list with Male/female/girl/boy with age and type of disability and reason of disability.	No	
18	Is village improvement is observed in comparative scenario from past to present?	Yes	
19	Is any unavoidable difficulty village people are facing?Any natural calamity is there?	Yes	
20	Life Living standard of girls and women is appreciatedand uplifted in village?	Yes	

સરપચ,
ગ્રામ પંચાયત-તોરણિયા

Chapter 17.
Irrigation / Agriculture Activites And Agro Industry, Altenate Technics And Solution

Sprinkler irrigation

Introduction

In the sprinkler method of irrigation, water is sprayed into the air and allowed to fall on the ground surface somewhat resembling rainfall. The spray is developed by the flow of water under pressure through small orifices or nozzles. The pressure is usually obtained by pumping. With careful selection of nozzle sizes, operating pressure and sprinkler spacing the amount of irrigation water required to refill the crop root zone can be applied nearly uniform at the rate to suit the infiltration rate of soil.

Fig 17 (a) Sprinkler Irrigation

Sprinkler irrigation system allows application of water under high pressure with the help of a pump. It releases water similar to rainfall through a small diameter nozzle placed in the pipes. Water is distributed through a system of pipes, sprayed into air and irrigates in most of the soil type due to wide range of discharge capacity.

A typical sprinkler irrigation system consists of the following components:

1. Pump unit
2. Mainline and sometimes sub-mainlines
3. Laterals
4. Sprinklers

Application rate:

This is the average rate at which water is sprayed onto the crops and is measured in mm/hour. The application rate depends on the size of sprinkler nozzles, the operating pressure and the distance between sprinklers. When selecting a sprinkler system it is important to make sure that the average application rate is less than the basic infiltration rate of the soil (see Annex 2). In this way all the water applied will be readily absorbed by the soil and there should be no runoff.

Sprinkler drop sizes:

As water sprays from a sprinkler it breaks up into small drops between 0.5 and 4.0 mm in size. The small drops fall close to the sprinkler whereas the larger ones fall close to the edge of the wetted circle. Large drops can damage delicate crops and soils and so in such conditions it is best to use the smaller sprinklers.Drop size is also controlled by pressure and nozzle size. When the pressure is low, drops tend to be much larger as the water jet

does not break up easily. So to avoid crop and soil damage use small diameter nozzles operating at or above the normal recommended operating pressure.

Advantages

- Suitable in all types of soil except heavy clay.
- Water saving up to 30% - 50 %.
- Suitable for irrigation where the plant population per unit area is very high.
- Helps to increase yield.
- Reduces soil compaction.
- Mobility of system helps system operation easy.
- Suitable for undulating land.
- Saves land as no bunds required.
- Soluble fertilizers and chemicals use are possible.
- Provides frost protection & helps in alteration of micro climate.
- Reduces labour cost.

Response of Different Crops to Sprinkler Irrigation System

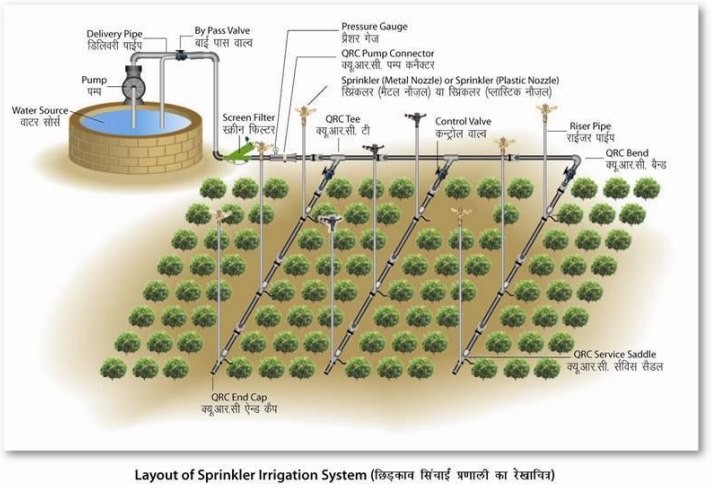
Crops	Water Saving (%)	Yield increase (%)
Chilli	33	24
Cotton	36	50
Fenugreek	29	35
Gram	69	57
Jowar	55	34
Maize	41	36
Onion	33	23
Sunflower	33	20

Rotating head:

Small size nozzles are placed on riser pipes fixed at uniform intervals along the length of the lateral pipe and the lateral pipes are usually laid on the ground surface. They may also be mounted on posts above the crop height and rotated through 90 0 , to irrigate a rectangular strip. In rotating type sprinklers, the most common device to rotate the sprinkler heads is with a small hammer activated by the thrust of water striking against a vane connected to it. A sprinkler system must be designed to apply water uniformly without runoff or erosion. The application rate of the sprinkler system must be matched to the infiltration rate of the most restrictive soil in the field. If the application rate exceeds the soil intake rate, the water will runoff the field or relocate within the field resulting in over and under watered areas.

Perforated pipe system:

This method consists of drilled holes or nozzles along their length through which water is sprayed under pressure. This system is usually designed for relatively low pressure (1 kg/cm2). The application rate ranges from 1.25 to 5 cm per hour for various pressure and spacing.



Layout of Sprinkler Irrigation System (छिड़काव सिंचाई प्रणाली का रेखाचित्र)

Fig 17 (b) Layout fo Sprinkler Irrigation System

components

1) Pumping Station or Header Assembly
2) Fertilizer tank
3) Pressure Gauges
4) HDPE / PVC Pipes
5) Sprinkler Nozzles
6) By-Pass Valve
7) Filtration system
8) Control Valves
9) QRC Pump Connector
10) Service Saddle

1) Pumping Unit:

Sprinkler irrigation systems distribute water by spraying it over the fields. The water is pumped under pressure to the fields. The pressure forces the water through sprinklers or through perforations or nozzles in pipelines and then forms a spray. A high speed centrifugal or turbine pump can be used for operating sprinkler irrigation for individual fields. Centrifugal pump is used when the distance from the pump inlet to the water surface is less than eight meters. For pumping water from deep wells or more than eight meters, a turbine pump is suggested. The driving unit may be either an electric motor or an internal combustion engine.

2) Tubings:

Mains/submains and laterals: The tubings consist of mainline, submanins and laterals. Main line conveys water from the source and distributes it to the submains. The submains convey water to the laterals which in turn supply water to the sprinklers. Aluminum or PVC pipes are generally used for portable systems, while steel pipes are usually used for center-pivot laterals. Asbestos, cement, PVC and wrapped steel are usually used for buried laterals and main lines.

3) Couplers:

Couplers are used for connecting two pipes and uncoupling quickly and easily. Essentially a coupler should provide
(a) a reuse and flexible connection
(b) not leak at the joint
(c) be simple and easy to couple and uncouple
(d) be light, non-corrosive, durable.

(iv) Sprinkler Head:

Sprinkler head distribute water uniformly over the field without runoff or excessive loss due to deep percolation. Different types of sprinklers are available. They are either rotating or fixed type. The rotating type can be adapted for a wide range of application rates and spacing. They are effective with pressure of about 10 to 70 m head at the sprinkler. Pressures ranging from 16 to 40 m head are considered the most practical for most farmers. Fixed head sprinklers are commonly used to irrigate small lawns and gardens. Perforated lateral lines are sometimes used as sprinklers. They require less pressure than rotating sprinklers. They release more water per unit area than rotating sprinklers. Hence fixed head sprinklers are adaptable for soils with high intake rate.

(v) Fittings and accessories:

The following are some of the important fittings and accessories used in sprinkler system.

(a) Water meters: It is used to measure the volume of water delivered. This is necessary to operate the system to give the required quantity of water.

(b) Flange, couplings and nipple used for proper connection to the pump, suction and delivery.

(c) Pressure gauge: It is necessary to know whether the sprinkler system is working with desired pressure to ensure application uniformity.

(d) Bend, tees, reducers, elbows, hydrants, butterfly valve and plugs.

(e) Fertilizer applicator: Soluble chemical fertilizers can be injected into the sprinkler system and applied to the crop. The equipment for fertiliser application is relatively cheap and simple and can be fabricated locally. The fertilizer applicator consists of a sealed fertilizer tank with necessary tubings and connections. A venturi injector can be arranged in the main line, which creates the differential pressure suction and allows the fertilizer solution to flow in the main water line.

Chapter 18.
Social Activities – Any Activates Planned By Students e.g Teaching Learning activities, awareness camp, business idea for SELF HELP GROUP OR ANY OTHER

Swachh Bharat Abhiyan

Introduction:

"Cleanliness is next to Godliness." It is the mantra of Mahatma Gandhiji, Father of Nation. He demonstrated, propagated and insisted for individual and community cleanliness throughout his life. Following his footprints, Swachh bharat Mission campaign achieved encouraging results. This vision will be translated into action by bringing in community participation for clean toilets and integrated waste management to make Gujarat open defecation free, zero waste, dust free, plastic free and green. 4 th year B.Sc Nursing students have organised rally to bring awareness to keep surrounding clean among community people residing at Madodhar village under the guidance of Ms. Ekta Patel, Asst.Professor, SNC . Swachh Bharat Mission (SBM), Swachh Bharat Abhiyan, or Clean India Mission is a country-wide campaign initiated by the Government of India in 2014 to eliminate open defecation and improve solid waste management. It is a restructured version of the Nirmal Bharat Abhiyan launched in 2009 that failed to achieve its intended targets. Phase 1 of the Swachh Bharat mission lasted till October 2019. Phase 2 will be implemented between 2020–21 and 2024-25.

Initiated by the Government of India, the mission aimed to achieve an "open-defecation free" (ODF) India by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi.[5] The objectives of the first phase of the mission also included eradication of manual scavenging, generating awareness and bringing about a behavior change regarding sanitation practices, and augmentation of capacity at the local level. The second phase of the mission aims to sustain the open defecation free status and improve the management of solid and liquid waste.[6] The mission is aimed at progressing towards target 6.2 of the Sustainable Development Goals Number 6 established by the United Nations in 2015.

The campaign's official name is in Hindi. In English, it translates to "Clean India Mission". The campaign was officially launched on 2 October 2014 at Rajghat, New Delhi by Prime Minister Narendra Modi. It is India's largest cleanliness drive to date with three million government employees and students from all parts of India participating in 4,043 cities, towns, and rural communities. At a rally in Champaran, the Prime minister called the campaign *Satyagrah se Swachhagrah* in reference to Gandhi's *Champaran Satyagraha* launched on 10 April 1916.

The mission was split into two: rural and urban. In rural areas "SBM - Gramin" was financed and monitored through the Ministry of Drinking Water and Sanitation; whereas "SBM - urban" was overseen by the Ministry of Housing and Urban Affairs.

As part of the campaign, volunteers, known as *Swachhagrahis*, or "Ambassadors of cleanliness", promoted indoor plumbing and community approaches to sanitation (CAS) at the village level. Other activities included national real-time monitoring and updates from non-governmental organizations such as The Ugly Indian, Waste Warriors, and SWaCH Pune (Solid Waste Collection and Handling).

The government provided subsidy for construction of nearly 110 million toilets between 2014 and 2019, although some Indians especially in rural areas choose to not use them. The campaign was criticized for using coercive approaches to force people to use toilets.

ACTIVITIES:

It is everybody's responsibility and one should keep themselves and their surroundings clean and hygienic. It also brings good and positive thoughts in the mind which slows down the occurrence of diseases. Final year nursing students have organised rally to promote swachh bharat mission. Mass awareness created with Various slogan : " ham sb ka aek nara- saaf sutra des hamara, sathi re hath batana- gandki ko he dur bhagana, apni mitti apna des- swachh bharat swasth bharat…etc. Shramdan activites also been carried out at various streets of madodhar village. Students have encouraged community people to join in swachhta activity. They have participated in shramdan activity and shown their willingness and interest to keep surrounding clean.

Launch

Fig 18 (a) Swachh Bharat Abhiyan

Swachh Bharat Abhiyan campaign, launched on 2 October 2014 on birth anniversary of Mahatma Gandhi, aimed to eradicate open defecation by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi, by constructing 90 million toilets in rural India at a projected cost
of ₹1.96 lakh crore (US$27 billion). The national campaign spanned 4,041 statutory cities and towns. conceived in March 2014 at a sanitation conference organised by UNICEF India and the Indian Institute of Technology as part of the larger Total Sanitation Campaign, which the Indian government launched in 1999

Awareness of Vaccination

Vaccination is the administration of a vaccine to help the immune system develop protection from a disease. Vaccines contain a microorganism or virus in a weakened, live or killed state, or proteins or toxins from the organism. In stimulating the body's adaptive immunity, they help prevent sickness from an infectious disease. When a sufficiently large percentage of a population has been vaccinated, herd immunity results. Herd immunity protects those who may be immunocompromised and cannot get a vaccine because even a weakened version would harm them. The effectiveness of vaccination has been widely studied and verified.[2][3][4] Vaccination is the most effective method of preventing infectious diseases; widespread immunity due to vaccination is largely responsible for the worldwide eradication of smallpox and the elimination of diseases such as polio and tetanus from much of the world. However, some diseases, such as measles outbreaks in America, have seen rising cases due to relatively low vaccination rates in the 2010s — attributed, in part, to vaccine hesitancy.

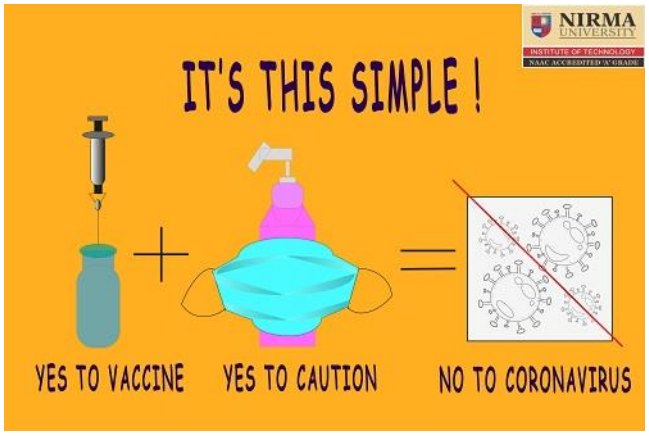


Fig 18 (b) Awareness of Vaccination

The first disease people tried to prevent by inoculation was most likely smallpox, with the first recorded use of variolation occurring in the 16th century in China. It was also the first disease for which a vaccine was

produced. Although at least six people had used the same principles years earlier, the smallpox vaccine was invented in 1796 by English physician Edward Jenner. He was the first to publish evidence that it was effective and to provide advice on its production.[13] Louis Pasteur furthered the concept through his work in microbiology. The immunization was called vaccination because it was derived from a virus affecting cows (Latin: vacca 'cow'). Smallpox was a contagious and deadly disease, causing the deaths of 20–60% of infected adults and over 80% of infected children.[14] When smallpox was finally eradicated in 1979, it had already killed an estimated 300–500 million people in the 20th century.

Vaccination and immunization have a similar meaning in everyday language. This is distinct from inoculation, which uses unweakened live pathogens. Vaccination efforts have been met with some reluctance on scientific, ethical, political, medical safety, and religious grounds, although no major religions oppose vaccination, and some consider it an obligation due to the potential to save lives. In the United States, people may receive compensation for alleged injuries under the National Vaccine Injury Compensation Program. Early success brought widespread acceptance, and mass vaccination campaigns have greatly reduced the incidence of many diseases in numerous geographic regions.

Side effect

The Centers for Disease Control and Prevention (CDC) has compiled a list of vaccines and their possible side effects. The risk of side effects varies from one vaccine to the next, but below are examples of side effects and their approximate rate of occurrence with the diphtheria, tetanus, and acellular pertussis (DTaP) vaccine, a common childhood vaccine.

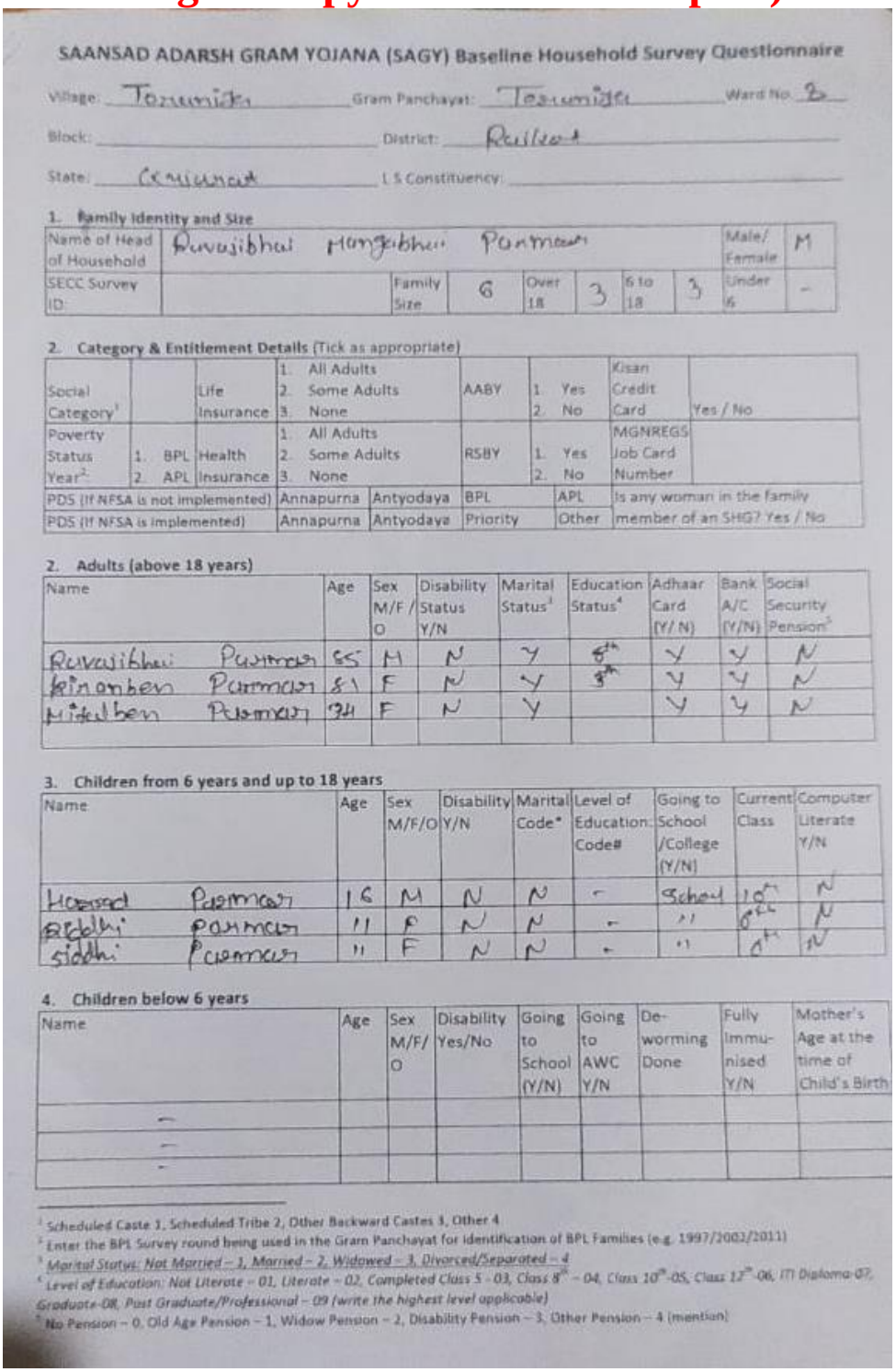
Vaccine development and approval Just like any medication or procedure, no vaccine can be 100% safe or effective for everyone because each person's body can react differently.[32][33] While minor side effects, such as soreness or low grade fever, are relatively common, serious side effects are very rare and occur in about 1 out of every 100,000 vaccinations and typically involve allergic reactions that can cause hives or difficulty breathing. However, vaccines are the safest they ever have been in history and each vaccine undergoes rigorous clinical trials to ensure their safety and efficacy before FDA approval.

Prior to human testing, vaccines are run through computer algorithms to model how they will interact with the immune system and are tested on cells in a culture. During the next round of testing, researchers study vaccines in animals, including mice, rabbits, guinea pigs, and monkeys. Vaccines that pass each of these stages of testing are then approved by the FDA to start a three-phase series of human testing, advancing to higher phases only if they are deemed safe and effective at the previous phase. The people in these trials participate voluntarily and are required to prove they understand the purpose of the study and the potential risks.

During phase I trials, a vaccine is tested in a group of about 20 people with the primary goal of assessing the vaccine's safety. Phase II trials expand the testing to include 50 to several hundred people. During this stage, the vaccine's safety continues to be evaluated and researchers also gather data on the effectiveness and the ideal dose of the vaccine. Vaccines determined to be safe and efficacious then advance to phase III trials, which focuses on the efficacy of the vaccine in hundreds to thousands of volunteers. This phase can take several years to complete and researchers use this opportunity to compare the vaccinated volunteers to those who have not been vaccinated to highlight any true reactions to the vaccine that occur.

If a vaccine passes all of the phases of testing, the manufacturer can then apply for licensure of the vaccine through the FDA. Before the FDA approves use in the general public, they extensively review the results to the clinical trials, safety tests, purity tests, and manufacturing methods and establish that the manufacturer itself is up to government standards in many other areas. However, safety testing of the vaccines never ends.

Chapter 19.
Toraniya SAGY Questionnaire Survey form with the Sarpanch Signature (Scanned copy attachment in the soft copy report and Original copy in hardbound report)



SAANSAD ADARSH GRAM YOJANA (SAGY) Baseline Household Survey Questionnaire

Village: Toraniya Gram Panchayat: Toraniya Ward No: 2

Block: District: Rajkot

State: Gujarat L S Constituency:

1. Family Identity and Size

Name of Head of Household	Ravajibhai Mangabhai Parmar							Male/ Female	M
SECC Survey ID:		Family Size	6	Over 18	3	6 to 18	3	Under 6	-

2. Category & Entitlement Details (Tick as appropriate)

Social Category[1]		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 member of an SHG? Yes / No		
PDS (If NFSA is implemented)	Annapurna	Antyodaya	Priority	Other			

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]
Ravajibhai Parmar	65	M	N	Y	5th	Y	Y	N
Jiyaben Parmar	61	F	N	Y	5th	Y	Y	N
Mitalben Parmar	31	F	N	Y		Y	Y	N

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
Harsad Parmar	16	M	N	N	-	School	10th	N
Riddhi Parmar	11	F	N	N	-	"	6th	N
Siddhi Parmar	"	F	N	N	-	"	4th	N

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	No	Yes
Children	No	No

9. House & Homestead Data

Own House: Yes / ~~No~~	No. of Rooms: 2
Type: Kutcha / Semi Pucca / ~~Pucca~~	
Toilet: Private / Community / Open Defecation No	
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	Yes
Community Water Tap	Yes / No	No
Hand Pump (Public / Private)	Yes / No	No
Open Well(Public / Private)	Yes / No	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	Yes
Sharecropping /Farming Leased Land	-
Animal Husbandry	Yes
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
cotton	1 acre	08 Ton

17. Livestock Numbers

Cows: 1	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
Video game in mobile

19. Do children play musical instrument (mention)
No

Schedule Filled By: Vishal, Rushita
Principal Respondent:
Date of Survey: 26-06-2021

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: Toraniya

b. Block: -

c. District: Rajkot

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: Toraniya

Demographic Information

Number of Households _____ Total Population _____ Male _____ Female _____

SC HHs _____ ST HHs _____ OBC HHs _____ Other HHs _____

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	No	0 km
b.	Nearest Primary Health Centre (PHC)	Yes	1 km
c.	Nearest Community Health Centre (CHC)	No	
d.	Nearest Post Office	Yes	
e.	Nearest Bank Branch (Any)	Yes	
f.	Nearest Bank with CBS Facility	No	
g.	Nearest ATM	No	
h.	Nearest Primary School	Yes	
i.	Nearest Middle School	No	
j.	Nearest Secondary School	No	
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	✓	
p	Nearest Agro Service Centre	✗	
p	MSP based Government Procurement Centre	✗	
q	Milk Cooperative /Collection Centre	✓	
r	Veterinary Care Centre	✗	
s	Ayurveda Centre	✓	
t	E – Seva Kendra	✗	
u	Bus Stop	✓	
v	Railway Station	✗	
w	Library	✗	
x	Common Service Centre	✗	

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: 1

b. Number of villages without Angan Wadi Centres –

Names of such villages: –

c. Schools (Number)

Primary Private: ___ Primary Govt.: ✓

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)			no	Toraniya			
b.	Kerosene			NO				
c.	Other (mention)			no				

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 ✓ / Not Covered		
b.	Hand Pump Coverage in Villages:	Covered ✓ / Not Covered		
c.	Coverage under Covered Drains:	Covered / Not Covered ✓		
d.	Coverage under Open Drains:	Covered / Not Covered ✓		
e.	Villages with Household Electricity Connection (Numbers)	Connected ✓ / Not Connected		

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	2 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)	
b)	Number of Households receiving pension (old age, widow, disability)	
c)	Number of eligible Households who are not receiving pension	
d)	Number of Households eligible for Ration Card	
e)	Number of eligible HHs having ration cards	
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	
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	
m)	Number of IAY beneficiaries	
n)	Number of FRA[1] 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'

Surveyor	PRI Respondent (Preferably Gram Panchayat Chairperson)	Official Respondent (Preferably seniormost Government official in the Gram Panchayat)	Date of Survey
		તોરાણીયા ગ્રામ પંચાયત	

[1] 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: Toramiya

b. Ward Number: _____

c. Gram Panchayat: Toramiya

d. Block: _____

e. District: Rajkot

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 _____ Total Population _____ Male _____ Female _____

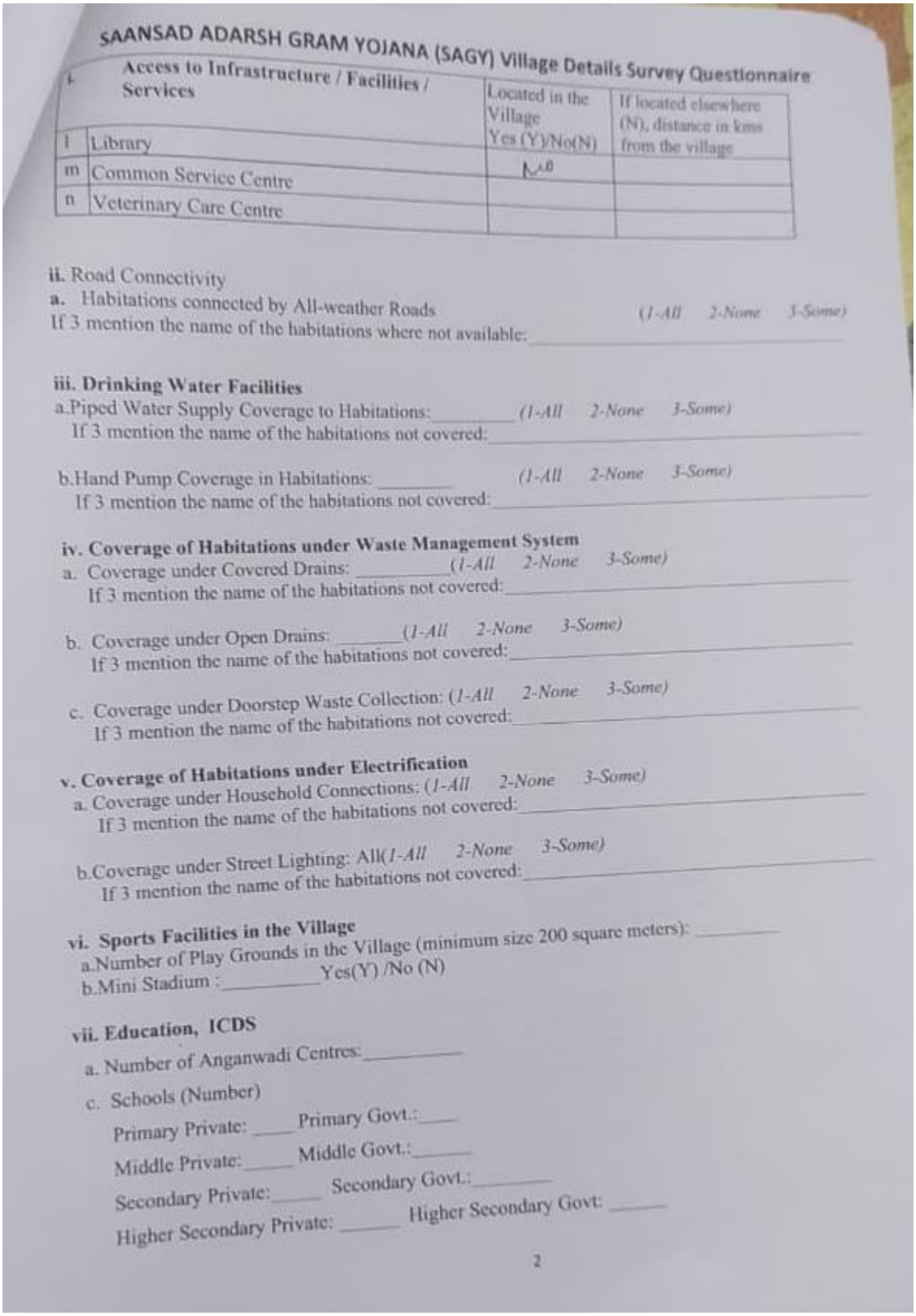
SC HHs _____ ST HHs _____ OBC HHs _____ Other HHs _____

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		
b.	Nearest Middle School		
c.	Nearest Secondary School		
d.	Kisan Seva Kendra		
e.	Milk Cooperative /Collection Centre		
g.	Health Sub Centre		
h.	Bank		
i.	ATM		
j.	Bus Stop		
k.	Railway Station		

[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	N.O	
m	Common Service Centre		
n	Veterinary Care Centre		

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-All 2-None 3-Some)*

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

b. Coverage under Open Drains: _____ *(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): _____

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

vii. Education, ICDS

a. Number of Anganwadi Centres: _____

c. Schools (Number)

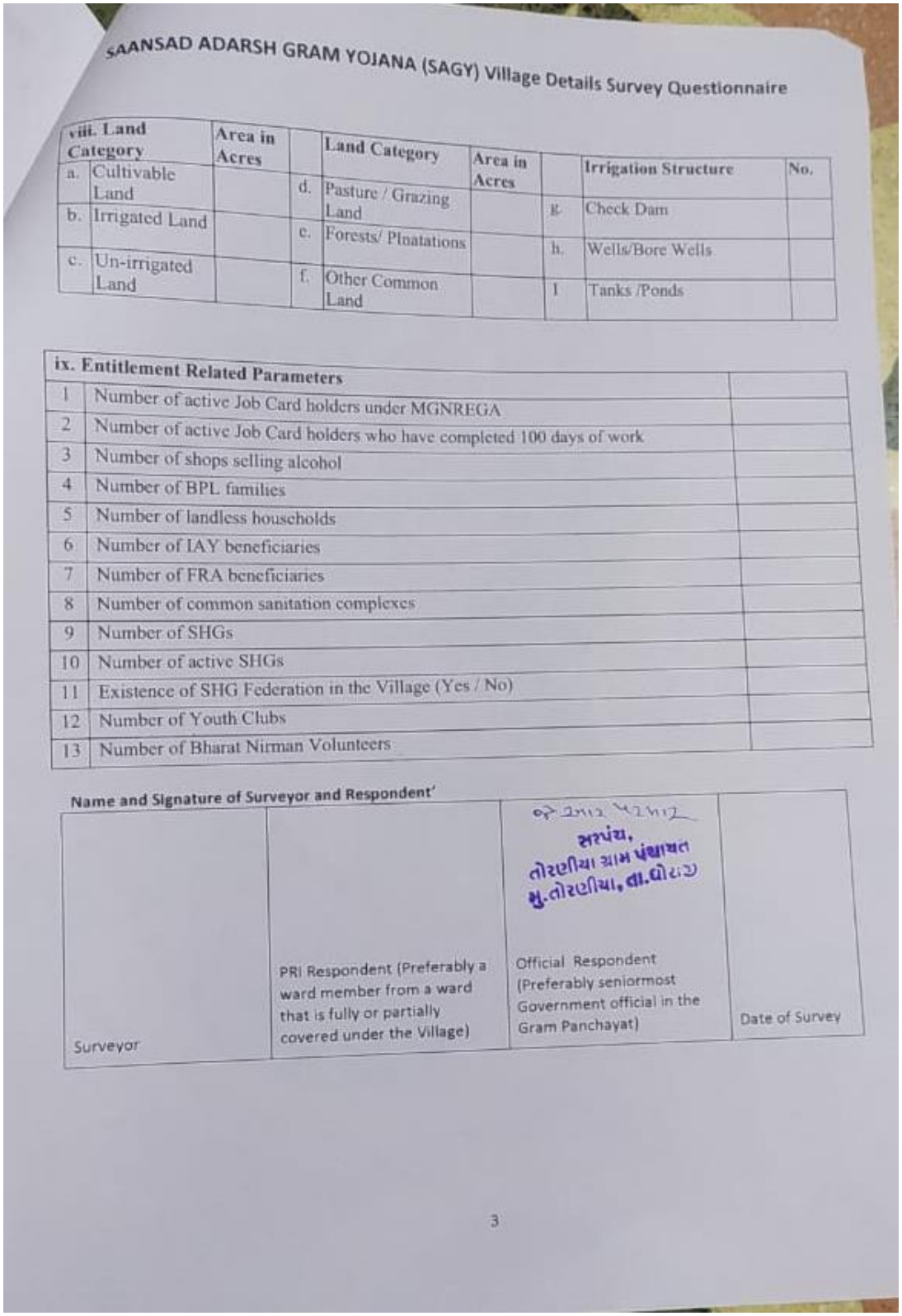
Primary Private: ____ Primary Govt.: ____

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		h.	Wells/Bore Wells	
c.	Un-irrigated Land		f.	Other Common Land		I	Tanks /Ponds	

ix. Entitlement Related Parameters		
1	Number of active Job Card holders under MGNREGA	
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	
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

સરપંચ,
તોરણિયા ગ્રામ પંચાયત
મુ.તોરણિયા, તા.ધોરાજી

3

Chapter 20.
TDO-DDO-Collector email sending Soft copy attachment in thereport

27/07/2021 Gmail - (no subject)

Gmail

Padaya Vishal
<padayavishal28199@gmail.com>

(no subject)

1 message

Padaya Vishal <padayavishal28199@gmail.com> Tue, Jul 27, 2021 at 11:48 AMTo: anandagravat63@gmail.com

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VISHWAKARMA YOJANA V 7 V - Copy 2.pdf

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Chapter 21.
Comprehensive report for the entire village

INTRODUCTION

As part of the field work module of Village Study Segment course, we conducted survey of village Toraniya in Rajkot district of Madhya Gujarat. We were assigned a host organization, a non government organization named Vishwakarma yojana working in the Rajkot district of Gujarat. We had the opportunity to closely observe the various forms of interventions and interactions taking place within the village and understand the impact of such interventions on the lives of the people of the village.

As per the guideline of Vishwakarma yojana VIII we visited Toraniya village is a Dhoraji taluka in Rajkot district of Gujarat state, India. It is located12 Km from Dhoraji. Toraniya village population is 7320.

To know or to understand the actual necessities of village and interact with Sarpanch, Talati and other village dowelled.

Techno-economic surrey forms give much information about village by interacting with Sarpanch and Talati. But interactions with village dealers and observation of village condition are required.

We visited all the internal part of the village and interacted with villagers directlyand ask them about the present situation of village. We conducted a techno- economic the gap analysis and provide the necessary facilities to village. We sawthat as per UDPEI Norma there are some non-adequate facilities.

We provide gram panchayt, Hospital, Public-toilet, Bank with ATM and Postoffice, Library. We explained all the parameters of various design such as sustainable, physical, social, socio-culture, smart and heritage village design.

OBJECTIVES

The main objective of village study segment is:

- To get insight into the socio-economic and cultural realities of rural life.
- To understand the dynamics of various village level institution in addressing the developmental work
- To understand the status of women; their contribution and the role played by them in developing rural entrepreneurship
- To understand the dynamics of social structure, infrastructure, resources, and various intervention on the villagers and how it effects them
- To blend class room learning with the field experience

METHODOLOGY

The data collected are on demography, social structure, infrastructure facilities, agro-climatic resources, village economy, village organizations and people's institutions and the issues of development. Both Quantitative and Qualitative data were collected. The quantitative data were on population, land holding, literacy rate. The qualitative data were quality of drinking water, quality of the road, housing pattern, sanitation, food habit.

SOURCE OF DATA

The required data were collected from both primary source and secondary source.
The primary data were collected from direct interaction with villagers during household surveys (through questionnaire given by college), PRA exercise, focused group discussions, informal interviews, SHGs meeting, non- participatory observation and other village meetings.
The secondary data were collected from Gram Panchayat Office, veterinary hospital, Revenue Office, Patwari, Anganwadi, Primary School, Sarpanch and Internet.

DATA ANALYSIS

Statistical tools like tables, graphs, bar charts, averages, percentages etc. were used to analyze the data collected on various things like, caste, sex ratio, different occupations, livestock, assets, land holding pattern, literacy level, and different infrastructure like road, electrification etc

LIMITATIONS OF DATA COLLECTION

a). People hesitate to tell about the details regarding income and assets.
b). Most of the people are working under MNREGA therefore they are available only in the evening.
c). People are not clear about the present value of their asset.